United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with
The Pennsylvania State
University, College of
Agricultural Sciences;
the Pennsylvania
Department of
Environmental Protection;
and the Pennsylvania
Department of Agriculture

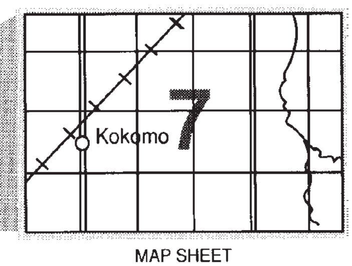
Soil Survey of Adams County, Pennsylvania

How to Use This Soil Survey

General Soil Map

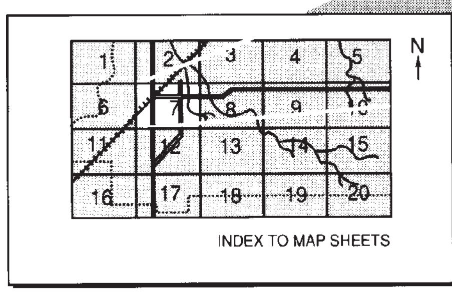
The general soil map, which is the color map preceding the detailed soil maps, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

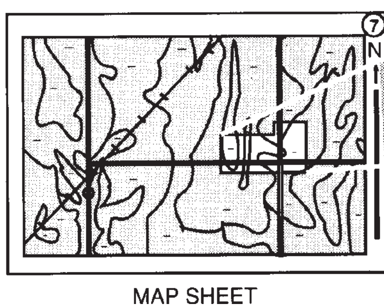


Detailed Soil Maps

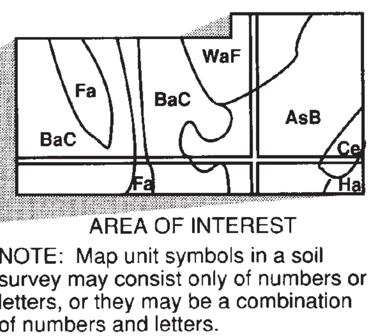
The detailed soil maps follow the general soil map. These maps can be useful in planning the use and management of small areas.



To find information about your area of interest, locate that area on the **Index to Map Sheets**, which precedes the soil maps. Note the number of the map sheet and turn to that sheet.



Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.



The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.

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 Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1988. Soil names and descriptions were approved in 1991. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1988. This survey was made cooperatively by the Natural Resources Conservation Service and The Pennsylvania State University, College of Agricultural Sciences; the Pennsylvania Department of Environmental Protection; and the Pennsylvania Department of Agriculture. The survey is part of the technical assistance furnished to the Adams County Conservation District.

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.

The first soil survey for Adams County, Pennsylvania, was published by the United States Department of Agriculture in 1904. The next soil survey, also published by the United States Department of Agriculture, was issued in 1967 (USDA, 1967). The present soil survey updates the previous soil survey. It provides additional information, such as updated soil delineations on orthophotographs, more detailed map unit descriptions, and interpretive information.

Cover: Apple trees in blossom on Arendtsville gravelly loam, 8 to 15 percent slopes.

Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service homepage on the World Wide Web. The address is http://www.nrcs.usda.gov.

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Issued 2005

Foreword

This soil survey presents information that affects land use planning in this survey area. It makes predictions of soil behavior for selected land uses. The survey also highlights soil limitations, 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, 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 ensure 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.

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

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 Natural Resources Conservation Service or the Cooperative Extension Service.

Robin Heard
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Adams County, Pennsylvania

By Robert V. Smith, Natural Resources Conservation Service

Fieldwork by Robert V. Smith, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
The Pennsylvania State University, College of Agricultural Sciences;
Pennsylvania Department of Environmental Protection;
and Pennsylvania Department of Agriculture

Adams County is located in the south-central part of Pennsylvania (fig. 1). The county has an area of 333,894 acres, or about 522 square miles. Adams County is bordered on the east by York County, on the north by Cumberland County, and on the west by Franklin County. The southern boundary is the Mason-Dixon line, separating Adams County from Carroll and Frederick Counties, Maryland.

Adams County lies mostly in the Piedmont province of Pennsylvania. Most of the county is dominantly undulating to rolling, and is dissected by many drainageways and streams. Some of the county is nearly level. Hills are scattered throughout much of the Piedmont area. South Mountain, in the western and northern parts of the county, is in the Blue Ridge province, which has hills, ridges, and narrow valleys. Of the county's two main watersheds, the northern half drains into the Susquehanna River largely by way of the Conewago Creek and its many tributaries. Most of the southern half drains into the Potomac River through Toms, Middle, Marsh, Rock, and Alloway Creeks and their tributaries.

More than 100 different kinds of soil are in Adams County. These soils range widely in texture, natural drainage, depth, slope, and other characteristics. The soils in the South Mountain area are dominantly deep, well drained, and commonly very stony. In this area slope and stones are major limitations to use of the soils. In the rest of the county the soils have more variable characteristics, including wetness, depth to bedrock, and slope, which are major limitations to their use.

The land area is divided as follows: cropland, about 45 percent; woodland, 30 percent; pasture, 10 percent; and urban, industrial, commercial, and other land, 15 percent.

General Nature of the County

This section provides general information about history and development; agriculture and industry; physiography; mineral resources; and climate of Adams County.

History and Development

In 1681, William Penn received the royal charter of the "Penn's Woods" province from the Duke of York, who later became King Charles II of England. The first divisions of the province were Philadelphia, Bucks, and Chester Counties. In 1727, Lancaster County was formed from Chester County, and in 1736 Lancaster County was extended to include a wide area west of the Susquehanna River. In 1749, the area west of the river was separated from Lancaster County and was named for the Duke of York. The Calverts of Maryland claimed the southern part of York County until the Mason-Dixon line was first surveyed, between 1763 and 1767. On January 22, 1800, Adams County, separated from York County and named for President John Adams, was organized as the 27th county in Pennsylvania.

The early settlers of the area now called Adams County came to America seeking religious liberty. Among those in the settlement were German Mennonites, Moravians, Dunkards, Scotch-Irish family

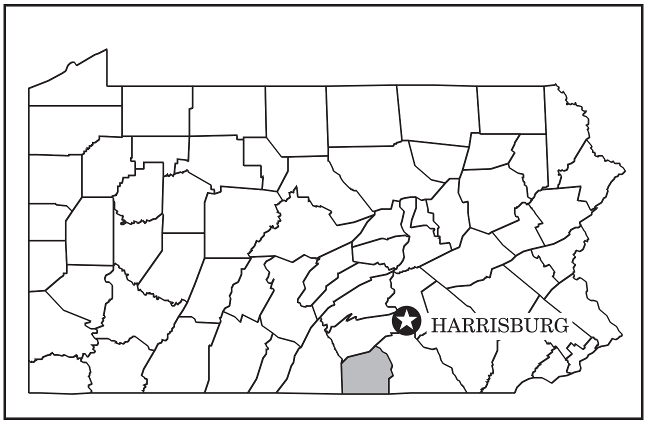

Figure 1.—Location of Adams County in Pennsylvania.

Presbyterians, English, Irish Quakers, and Catholic members of the Church of England. Farms and towns were built in the rapidly cleared wilderness. Roads reached into all parts of the county.

In 1786, Gettysburg was laid out and named for the of General James Gettys. It is the county seat and the largest borough in Adams County.

Gettysburg had a population of 1,473 in 1830, 2,200 in 1860, and 7,194 in 1980. For 3 days in 1863, Gettysburg was the site of one of the decisive battles of the Civil War. In 1895 Congress created Gettysburg National Military Park, encompassing 3,865 acres surrounding the borough (fig. 2). The 690-acre farm that President Dwight D. Eisenhower owned southwest of Gettysburg is now the Eisenhower National Historical Park.

The population of Adams County was 13,172 in 1800 and 68,292 in 1980 (Commonwealth of Pennsylvania, 1987). It is about 19 percent urban and 81 percent rural. Every year, however, farmland is lost to urbanization as homes, factories, and commercial developments trend into many parts of the county.

Agriculture and Industry

After the settlement of Adams County, subsistence farming prevailed. Transportation of necessities from the East was slow, expensive, and irregular, but the forests provided fuel, lumber, tannin, and charcoal. Natural deposits of limestone, clay, sand, iron, and stone were raw materials. The soils and climate were suitable for growing corn, wheat, rye, buckwheat, and grass. Livestock provided food, leather, and wool. The larger streams powered grist mills and sawmills and eased transportation.

The county from its earliest settlement was primarily agricultural. Fields were cultivated continuously in one crop without the use of manure or fertilizer. As productivity decreased the fields were abandoned. New fields were cleared and cultivated. By 1750, farmers recognized the importance of lime, and most farms had kilns for burning limestone. The commercial lime industry began about 1840. Crop rotation began about the same time, along with extensive use of fertilizer and lime. In the late 1800's, agriculture became specialized, particularly in the growing of fruit. The first large commercial orchard, with some 2,000 apple trees, was planted near Cashtown in 1878. The first carlot of apples shipped from this orchard in 1893.

Agriculture has remained an important part of the economy of the county. According to the 1982 Census of Agriculture (U.S. Department of Commerce, 1984) about 1,199 farms occupied nearly 60 percent of the county. The average size was about 164 acres. Orchards took in 21,435 acres. The principal agricultural crops were corn, hay, wheat, soybeans, oats, and barley. The main fruit crops were apples, peaches, cherries, and grapes.

In 1987, Adams County was the leading producer in Pennsylvania of apples and was second in peaches, eggs, and chickens, excluding broilers (Pennsylvania Department of Agriculture, 1988). It was fifth in Pennsylvania in agricultural receipts and sixth in wheat production. The Hanover Shoe Farms, founded in 1926, was the world's largest breeder of standard breed horses.

Early industries included grist mills, sawmills, woolen mills, tanneries, shoe making, ceramics, bricks, and iron works. The iron industry began in the early 1800's, flourished until the Civil War, and continued on a less important scale until abandonment in the early 1870's. During this period nearly all trees were cut in the vast woodlands that covered the South Mountain area (Stose, 1932). The trees were used primarily to make charcoal for the iron industry. Since that time trees in the area have reached marketable size. Commercial forestland takes in about 104,000 acres. Limestone was quarried largely for agricultural use and as flux for the iron works. The limestone industry is still very active. Following development of the county as an important fruit growing area, the fruit processing industry became the leading single industry in the county.

Today, manufacturing is the largest industry in the county. In 1982, 108 manufacturing companies had total sales of more than $535 million (Commonwealth of Pennsylvania, 1987). Prominent among them are producers of processed foods. Other important industries are book printing and publishing, elevators and moving stairways, ceramic wall and floor tile,

Figure 2.—Gettysburg National Military Park. Little Round Top is on the far left and Round Top is on the right.

poultry and poultry products, footwear, fiber boxes, wood kitchen cabinets, and petroleum products.

Physiography

Adams County lies in two physiographic provinces, the Piedmont province, and the Southern section of the Blue Ridge province (Patrick and others, 1924). The Piedmont province is divided into the Piedmont Uplands section, Conestoga Valley section, and Triassic Lowland section.

The Piedmont Upland section, which takes in about 3 percent of the county, is in the southeastern corner of the county and in the Pigeon Hills south of Abbottstown. It consists of rolling to hilly uplands with broad ridgetops at an elevation of 700 to 800 feet. It is drained dominantly by the South Branch Conewago Creek and its tributaries. Schist and phyllite bedrock underlie most of this section. The Glenelg-Mt. Airy general soil map unit is in this section. The Pigeon Hills crest at about 900 feet, and the highest peak is 1,021 feet. Metabasalt, quartzite, and phyllite bedrock underlie the Pigeon Hills. The Edgemont-Highfield-Catoctin general soil map unit is in the Pigeon Hills.

The Conestoga Valley section of the Piedmont province, which takes in about 4 percent of the county, is in the southeastern part of the county, north of the Piedmont Upland section. It extends from Hanover and Midway at the York and Adams County line westward to Littletown. This section has undulating, low uplands at an elevation of 500 to 600 feet. The South Branch Conewago Creek is the major stream. Limestone bedrock dominantly underlies this section. The Conestoga-Clarksburg-Penlaw general soil map unit is in this section.

The Triassic Lowland section of the Piedmont province, which takes in about 67 percent of the county, occupies all the county south and east of South Mountain and west and north of the Conestoga Valley section. This section consists of undulating and rolling lowlands and many higher hills and ridges. The elevation is dominantly 500 to 600 feet, but ridges and hills crest at 700 to 1,000 feet. The area is drained by the Conewago, South Branch Conewago, Rock, Plum, Bermudian, and Marsh Creeks and their tributaries. The low uplands are underlain dominantly by red shale, sandstone, and conglomerate bedrock. The Penn-Klinesville-Croton and Penn-Abbottstown-Readington general soil map units are in this section. The hills and ridges are underlain dominantly by diabase, metamorphosed shale and sandstone, and conglomerate bedrock. The Lehigh-Neshaminy and the Highfield-Arendtsville-Rohrersville general soil map units are in this section.

The South Mountain section of the Blue Ridge province takes in about 26 percent of the county. A highly dissected area that is 1 to 7 miles wide extending along the western and northern boundaries of the county, it is on hilly uplands. The ridges and hills crest at an elevation of 1,200 to 2,000 feet. Among the many streams that drain the area are Middle, Toms, Bermudian, Latimore, Birch, Carbaugh, and Antietam

Creeks. The South Mountain section is underlain by quartzite, metabasalt, and metarhyolite bedrock. The Edgemont-Highfield-Catoctin and Highfield-Arendtsville-Rohrersville general soil map units are in this section.

Mineral Resources

Mineral resources have greatly influenced the development of Adams County. The dominant materials are limestone, slate, iron, clay, sand, and stone. Currently, quarrying of limestone, metabasalt (greenstone), and shale is the major industry.

Limestone was first used for building purposes, burned for lime, and used as flux for the local iron furnaces. Small, abandoned quarries dug for lime burning and building stone are scattered throughout the limestone areas. Large quarries were opened between Hanover and New Oxford, between Orrtanna and Fairfield, between Yellow Ridge and Wolf Hill, and at York Springs (Stose, 1932). At this time, quarrying is dominantly at Bittinger and near Fairfield. Most of the limestone is used as flux for the iron industry or it is crushed, screened, and sized for road building.

The few slate quarries are all now abandoned. Slate quarried on the south slope of Piney Mountain near Wenksville was used to line the furnace at Pine Grove. Some slate was also quarried near Virginia Mills, Mount Hope, and Bridgeport.

Iron mining to supply the local iron industry during the early 1800's was abandoned in 1870. For a short time copper was mined near Hunterstown and Stone Jug.

Clay and clay shale used in making bricks and tile are extracted southeast of New Oxford. White paper clay was mined near South Mountain for use as filler in paper and paint.

Greenstone, often called "ironstone" or "Gettysburg granite," metarhyolite, and metabasalt, are quarried near Gladhill. There it is crushed and used as roofing granules and as filler in composition stone and flooring.

Climate

The National Climatic Center, Asheville, North Carolina, helped to prepare this section.

Adams County is rather cold in the winter and hot in summer. Winter precipitation frequently occurs on most soils, results in a good accumulation of soil moisture by spring, and minimizes drought in summer. Normal annual precipitation is adequate for all crops that are adapted to the temperature and length of growing season in the area.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Harrisburg, Pennsylvania, in the period 1951-88. 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 23 degrees. The lowest temperature on record, which occurred at Harrisburg, Pennsylvania, on January 17, 1985, is -11 degrees. In summer, the average temperature is 73 degrees, and the average daily maximum temperature is 84 degrees. The highest recorded temperature, which occurred at Harrisburg, Pennsylvania, on July 4, 1966, is 102 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.

Of the total annual precipitation, about 22 inches, or 50 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 18 inches. The heaviest 1-day rainfall during the period of record was 5.75 inches at Gettysburg on June 22, 1972. Thunderstorms occur on about 32 days each year, and most occur in summer.

The average seasonal snowfall is 28 inches. The greatest snow depth at any one time during the period of record was 23 inches. On the average, 14 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 50 percent. Humidity is higher at night and the average at dawn is about 70 percent. The sun shines 60 percent of the time possible in summer and 50 percent in winter. The prevailing wind is from the west-northwest. The average highest wind speed is 10 miles per hour, in summer.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

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

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

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

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

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

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

Map Unit Composition

A map unit delineation on a soil map represents an area dominated by one major kind of soil or an area dominated by several kinds of soil. A map unit is identified and named according to the taxonomic classification of the dominant soil or soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural objects. In common with other natural objects, they have a characteristic variability in their properties. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of soil of other taxonomic classes. Consequently, every map unit is made up of the soil or soils for which it is named and some soils that belong to other taxonomic classes. These latter soils are called inclusions or included soils.

Most inclusions have properties and behavioral patterns similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called non-contrasting (similar) inclusions. They may or may not be mentioned in the map unit descriptions. Other inclusions, however, have properties and behavior divergent enough to affect use or require different management. These are contrasting (dissimilar) inclusions. They generally occupy small areas and cannot be shown separately on the soil maps because of the scale used in mapping. The inclusions of contrasting soils are named and mentioned in the map unit descriptions. A few inclusions may not have been observed and consequently are not mentioned in the map unit descriptions, especially where the soil pattern was so complex that it was impractical to make enough observations to identify all of the kinds of soil on the landscape.

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

General Soil Map Units

The general soil map in this publication shows the soil associations in this survey area. Each association has a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, an association consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one unit can occur in another 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, drainage, and other characteristics that affect management.

Soil Descriptions

1. Penn-Klinesville-Croton

Nearly level to very steep, shallow to deep, well drained, somewhat excessively drained and poorly drained soils that formed in residuum derived from red shale, siltstone, and fine-grained sandstone; on short, steep ridges, hills, and nearly level lowlands

These soils are on highly dissected uplands and associated drainageways. The landscape is dominantly undulating to rolling and has some short, steep ridges; hills; and nearly level to gently rolling lowlands (fig. 3).

This map unit makes up about 26 percent of the county. It is about 35 percent Penn soils, 25 percent Klinesville soils, 20 percent Croton soils, and 20 percent minor soils.

Penn soils are gently sloping and strongly sloping. They are on broad to narrow ridgetops and on the sides of ridges. They are underlain by red shale, siltstone, and fine-grained sandstone at a depth of 20 to 40 inches. They are moderately deep and well drained.

Klinesville soils are gently sloping to very steep. They are on ridges and hills. They are underlain by red shale, siltstone, and fine-grained sandstone at a depth of 10 to 20 inches. They are shallow and somewhat excessively drained.

Croton soils are nearly level and gently sloping. They are in depressions on lowlands and in drainageways. These soils are underlain by dominantly red shale, siltstone, and fine-grained sandstone at a depth of 40 to 60 inches. They are deep and poorly drained.

Minor soils in the map unit are moderately well drained Readington and Reaville soils in shallow depressions and along drainageways and somewhat poorly drained Abbottstown soils on slight rises of uplands. Moderately well drained Rowland soils are on bottom lands. A few small areas of Urban land are scattered throughout.

Most areas of this map unit are used as cropland or woodland. Some areas are used for urban development. A few areas are idle. The major crops are corn, soybeans, small grain, hay, and pasture. Erosion is the main hazard if cultivated crops are grown.

The soils of this map unit are well suited to poorly suited to cultivated crops and specialty crops. They are well suited to hayland, pasture, and woodland. On Penn soils, depth to bedrock and slope are severe limitations for onsite waste disposal. Slope is a moderate limitation to use of the soils in this map unit for urban development. On Klinesville soils, depth to bedrock and slope are severe limitations for onsite waste disposal and most urban development. On Croton soils, wetness and very slow and slow permeability are severe limitations for onsite waste disposal and urban development. Penn and Klinesville soils are well suited and Croton soils are poorly suited to the more intensive types of recreational development.

2. Lehigh-Neshaminy

Nearly level to very steep, deep and very deep, somewhat poorly drained and well drained soils that formed in residuum derived from porcelanite and diabase; on undulating to rolling ridges and hills

These soils are dominantly in elongated or rounded areas adjacent to lowlands (fig. 4).

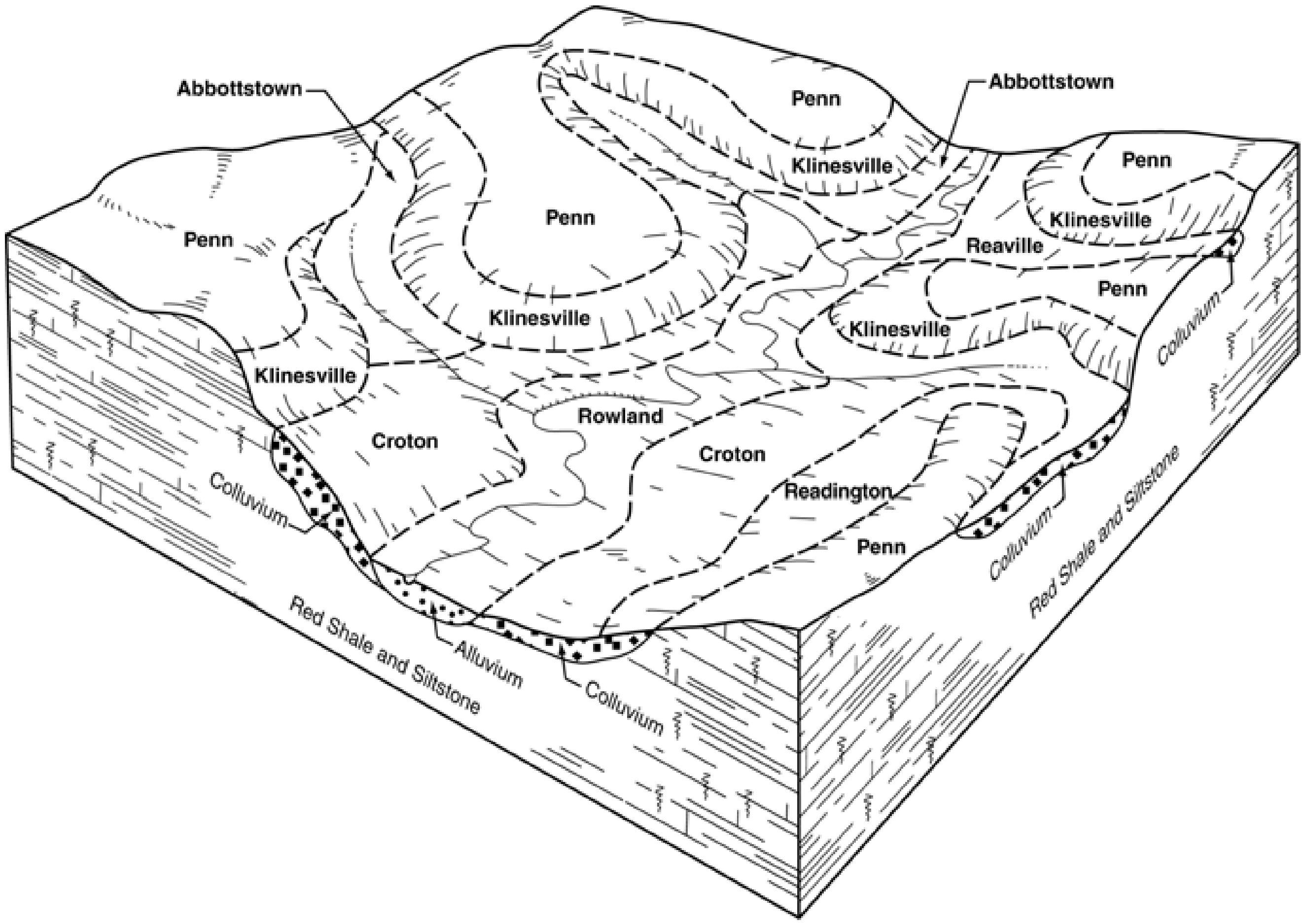

Figure 3.—Typical pattern of soils and parent material on the Penn-Klinesville-Croton general soil map unit.

This map unit makes up about 20 percent of the county. It is about 55 percent Lehigh soils, 30 percent Neshaminy soils, and 15 percent minor soils.

Lehigh soils are nearly level to strongly sloping. They are on ridgetops and side slopes. They are channery throughout. They are underlain by porcelanite bedrock at a depth of 40 to 60 inches. They are deep and somewhat poorly drained.

Neshaminy soils are gently sloping to very steep. They are on ridges and hills. They are underlain by diabase bedrock at a depth of 5 feet or more. They are very deep and well drained.

Minor soils in this map unit are well drained Brecknock and Penn soils on broad ridgetops and somewhat poorly drained Mount Lucas soils and poorly drained Croton and Watchung soils in depressions and in drainageways on lowlands. A few small areas of Urban land are scattered around Gettysburg.

Most areas of this map unit are used as cropland, pasture, orchards, woodland, or recreation areas, but some areas are in urban use. The Gettysburg National Battlefield is dominantly in this map unit. The major crops are corn, soybeans, small grain, fruit, hay, and pasture. Slope is the major limitation, and erosion is the major hazard.

The soils of this map unit are well suited to generally unsuited to cultivated crops and specialty crops. They are fairly well suited to improved pasture. Erosion is a severe hazard; thus, growing hay crops on the steeper slopes is impractical. These soils are suited to use as woodland. The steeper slopes, however, restrict the use of logging roads and skid trails.

Neshaminy soils are generally unsuited to urban uses because slope is a severe limitation. On Lehigh soils, depth to bedrock and wetness are severe limitations to urban development and onsite waste disposal. Neshaminy and Lehigh soils are poorly suited to the more intensive types of recreational development because of slope and wetness, respectively.

3. Edgemont-Highfield-Catoctin

Gently sloping to very steep, very deep to moderately deep, well drained and somewhat excessively drained soils that formed in residuum derived from quartzite, metabasalt, and metarhyolite; on ridges and hills of South Mountain

The landscape is dominantly rolling and hilly, and, on South Mountain, has narrow, undulating ridgetops (fig. 5).

This map unit makes up about 19 percent of the county. It is about 40 percent Edgemont soils, 30 percent Highfield soils, 20 percent Catoctin soils, and 10 percent minor soils.

Edgemont soils are channery and generally very stony. They are underlain by quartzite and conglomerate at a depth of 5 feet or more. These soils are very deep and well drained.

Highfield soils are channery. They are underlain by metabasalt and metarhyolite at a depth of 40 to 60 inches. They are deep and well drained.

Catoctin soils are channery. Generally, they are extremely stony. They are underlain by metabasalt and metarhyolite at a depth of 20 to 40 inches. These soils are moderately deep and somewhat excessively drained.

The minor soils in the map unit are well drained Myersville, Ravenrock, and Mt. Zion soils on ridges below Edgemont, Highfield, and Catoctin soils, somewhat poorly drained Rohrersville and Buchanan soils on footslopes and in depressions and drainageways, and moderately well drained Codorus soils on bottom lands.

Most areas of this map unit are woodland. Some areas on some footslopes are used as cropland or orchards. Part of South Mountain is in Michaux State Forest. A few urban developments and towns are scattered along major roads and on some ridgetops and footslopes in this unit. Trees for pulpwood and lumber are the major crop. Fruit, corn, soybeans, small grain, hay, and pasture are grown in a few areas.

The soils of this map unit are either well suited or generally suited or they are unsuited to cultivated crops and specialty crops. They are fairly well suited to improved pasture. Growing hay crops is impractical on the steeper slopes because erosion is a severe hazard. These soils are suited to use as woodland and wildlife habitat. The steeper slopes, however, restrict the use of logging roads and skid trails. These soils generally are unsuited to urban uses because slope, rock fragments in the soil, and depth to bedrock are severe limitations, and are difficult to overcome. They are poorly suited to the more intensive types of recreational development because of slope.

4. Highfield-Arendtsville-Rohrersville

Gently sloping to moderately steep, deep and very deep, well drained soils that formed in residuum derived from metabasalt, metarhyolite, and conglomerate; on footslopes of South Mountain

These soils are on footslopes of South Mountain. The landscape is dominantly undulating and rolling, but some parts are hilly (fig. 6).

This map unit makes up about 12 percent of the county. It is about 55 percent Highfield soils, 25

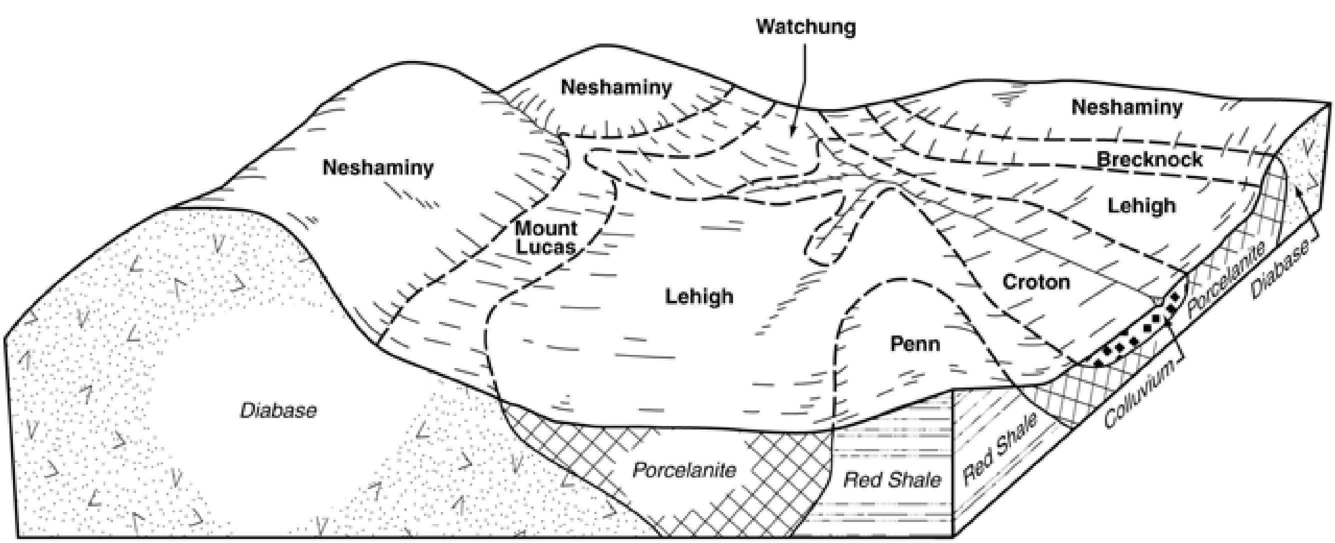

Figure 4.—Typical pattern of soils and parent material on the Lehigh-Neshaminy general soil map unit.

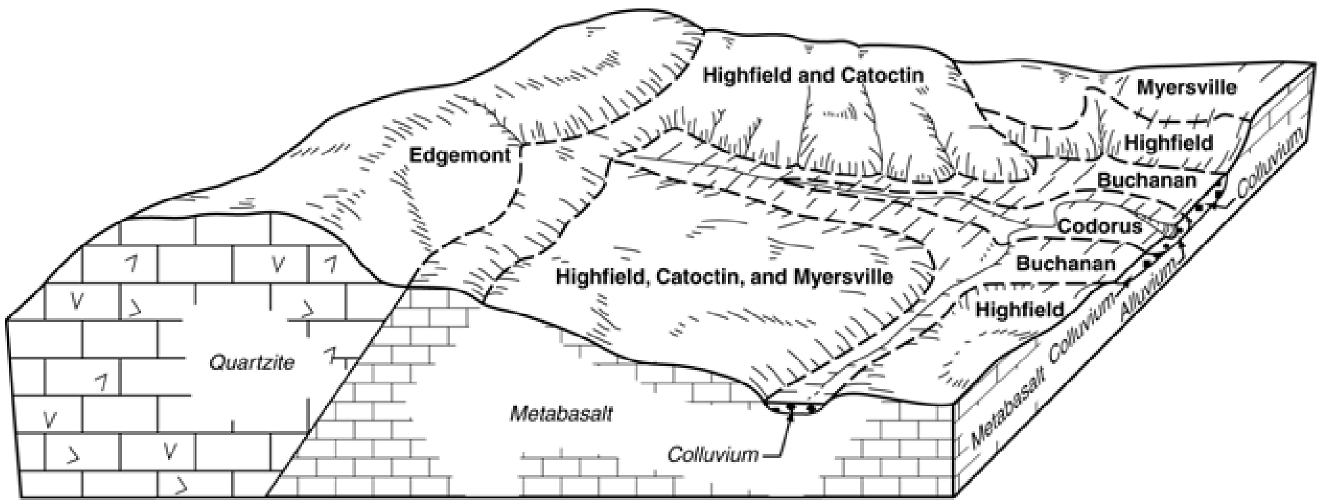

Figure 5.—Typical pattern of soils and parent material on the Edgemont-Highfield-Catoctin general soil map unit.

percent Arendtsville soils, 10 percent Rohrersville soils, and 10 percent minor soils.

Highfield soils are channery. They are underlain by metabasalt and metarhyolite at a depth of 40 to 60 inches.

Arendtsville soils are gravelly and generally very stony. They are underlain by quartzite, metabasalt, and metarhyolite at a depth of 5 feet or more.

Rohrersville soils are silty and in wooded areas are very stony. They are underlain by metabasalt and metaandesite at a depth of more than 6 feet.

Minor soils in the map unit are somewhat excessively drained Catoctin soils on sides of ridges and hills above Arendtsville soils; well drained Legore and Penn soils on broader ridgetops below Highfield soils; moderately well drained Readington soils, somewhat poorly drained Abbottstown soils, and poorly drained Croton soils in depressions and drainageways on lowlands. Moderately well drained Codorus and Rowland soils, somewhat poorly drained Bowmansville soils, and poorly drained Hatboro soils are on bottom lands.

Most areas of this map unit are used as orchards, cropland, or woodland. The major cash crops are timber, apples, cherries, peaches, corn, soybeans, small grain, hay, and pasture. Urban developments are scattered along the major roads in the area.

The soils of this map unit, depending on slope, are well suited or generally unsuited to cultivated crops and specialty crops. They are fairly well suited to improved pasture. On the steeper slopes erosion is a severe hazard and growing hay crops is impractical. The soils are suited to use as woodland. The steeper slopes, however, restrict use of logging roads and skid trails. The soils are suited to use as wildlife habitat.

These soils generally are unsuited to urban uses because slope, rock fragments in the soils, and depth to bedrock are severe limitations, and are difficult to overcome. Suitability of these soils for the more intensive types of recreational development is poor because of slope.

5. Penn-Abbottstown-Readington

Nearly level to strongly sloping, moderately deep and deep, well drained to somewhat poorly drained soils that formed in residuum derived from shale, siltstone, and sandstone; on broad, dissected uplands

These soils are on broad, dissected uplands. The landscape is dominantly nearly level to rolling but has many depressions and drainageways and some low ridges that have steep side slopes.

This map unit makes up about 14 percent of the county. It is about 40 percent Penn soils, 25 percent Abbottstown soils, 20 percent Readington soils, and 15 percent minor soils.

Penn soils are gently sloping and strongly sloping. They are on broad to narrow ridgetops and on the sides of ridges. They are underlain by red shale, siltstone, and sandstone at a depth of 20 to 40 inches. They are moderately deep and well drained.

Abbottstown soils are nearly level and gently sloping. They are on broad ridgetops, depressions, and drainageways. They are underlain by red shale, siltstone, and fine-grained sandstone at a depth of 40 to 60 inches. They are deep and somewhat poorly drained.

Readington soils are nearly level and gently sloping. They are on broad ridgetops, in depressions, and along drainageways. They are underlain by dominantly red shale, siltstone, and sandstone at a depth of 40 to 60 inches. They are deep and moderately well drained.

Minor soils in the map unit are somewhat excessively drained Klinesville soils and well drained Lansdale and Steinsburg soils on highly dissected ridges and hills and moderately well drained Reaville soils and poorly drained Croton soils in depressions and drainageways on lowlands. Well drained Bermudian soils, moderately well drained Rowland soils, and somewhat poorly drained Bowmansville soils are on bottom lands.

Most areas of this map unit are used for crops, hay, and pasture; some areas are used for urban development; and a few areas remain in woodland use. A few small areas of urban land are scattered throughout. The major crops are corn, soybeans, small grain, hay, and pasture. Erosion is the main hazard in areas where cultivated crops are grown.

The soils of this map unit are well suited to poorly suited to cultivated crops and specialty crops. They are well suited to hay, pasture, and woodland. On Penn soils, depth to bedrock is a severe limitation for onsite waste disposal. These soils are fairly well suited to most urban developments, but depth to bedrock and slope are limitations. On Abbottstown and Readington soils, wetness is a severe limitation for onsite waste disposal and urban development. Penn soils are fairly well suited to the more intensive types of recreational development.

6. Conestoga-Clarksburg-Penlaw

Nearly level to strongly sloping, very deep, well drained to somewhat poorly drained soils that formed in residuum derived from limestone and calcareous schist; on valley ridges

These soils are on nearly level to rolling uplands, on lowlands, and in drainageways. The landscape is undulating and has a few low ridges.

This map unit makes up about 5 percent of the county. It is about 45 percent Conestoga soils, 20 percent Clarksburg soils, 20 percent Penlaw soils, and 15 percent minor soils.

Conestoga soils are nearly level to strongly sloping. They are on smooth and undulating uplands. These soils are underlain by limestone and calcareous schist bedrock at a depth of 5 feet or more. They are very deep and well drained.

Clarksburg soils are nearly level to gently sloping. They are in depressions on lowlands. These soils are underlain by limestone bedrock at a depth of 5 feet or more. They are very deep and moderately well drained.

Penlaw soils are nearly level. They are in depressions and drainageways on lowlands.

Figure 6.—Typical landscape of the Highfield-Arendtsville-Rohrersville general soil map unit. Arendtsville soils extend from the foreground to Highfield soils on hills in the background. Croton soils are in drainageways.

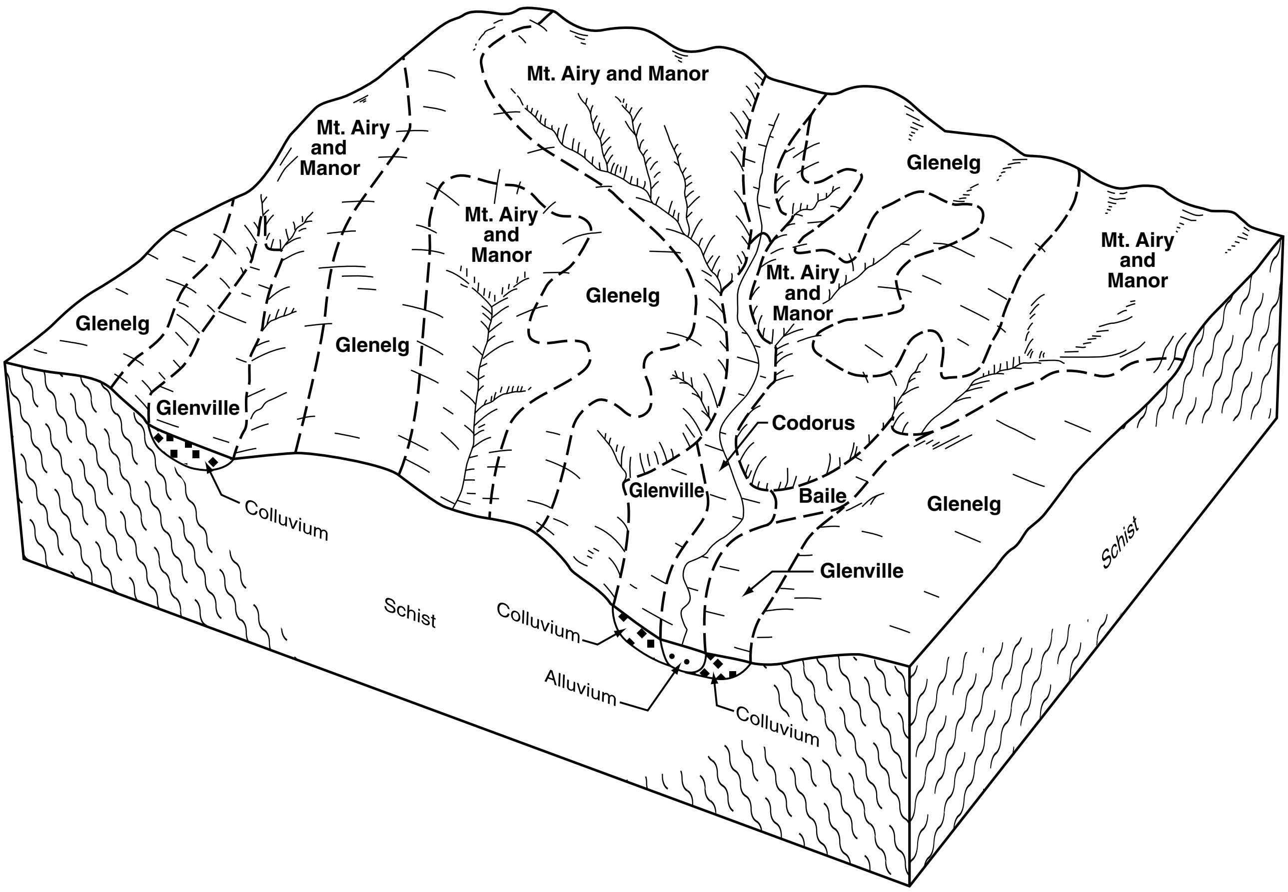

Figure 7.—Typical pattern of soils and parent material on the Glenelg-Mt. Airy general soil map unit.

They are underlain by limestone, schist, shale, and sandstone at a depth of 5 feet or more. They are very deep and somewhat poorly drained.

Minor soils in the map unit are moderately well drained Glenelg and Penn soils on ridges and hills similar to those of Clarksburg soils and moderately well drained Readington and Abbottstown soils on broad ridgetops and in depressions and drainageways on lowlands. Lindside and Dunning soils are on bottom lands. A large area of Pits, quarries, is near Bittinger. Urban land is in the vicinity of Littlestown and McSherrystown.

Most areas of soils in the map unit are cropland or pasture. Pasture for race horses is an important use. A few ridges are used as woodland. The major cash crops are corn, soybeans, small grain, hay, and pasture. Conestoga soils are fairly well suited to onsite waste disposal and most urban developments; moderate permeability and slope are limitations. On Clarksburg and Penlaw soils, wetness is a severe limitation to onsite waste disposal and urban development. Suitability is good for the more intensive type of recreational development on Conestoga soils and, because of wetness, fair on Clarksburg soils and very limited on Penlaw soils.

7. Glenelg-Mt. Airy

Gently sloping to moderately steep, moderately deep and deep, well drained and somewhat excessively drained soils that formed in residuum derived from schist and phyllite; on ridges and hills

These soils are on dissected uplands and in depressions and drainageways. The landscape is undulating to rolling, but some areas are hilly and moderately steep (fig. 7).

This map unit makes up about 3 percent of the county. It is about 55 percent Glenelg soils, 35 percent Mt. Airy soils, and 10 percent minor soils.

Glenelg soils are gently sloping to moderately steep. They are on narrow ridgetops and on side slopes. They are underlain by schist and phyllite bedrock at a depth of 40 to 60 inches. They are deep and well drained.

Mt. Airy soils are gently sloping to moderately steep. They are on ridges and hills and on narrow side slopes. They are channery throughout. They are underlain by schist and phyllite bedrock at a depth 20 to 40 inches. They are moderately deep and somewhat excessively drained.

Minor soils in the map unit are somewhat excessively drained Manor soils on narrow ridges and hills and moderately well drained Glenville soils and poorly drained Baile soils on lowlands. Moderately well drained Codorus soils are on bottom lands.

Most areas of this map unit are cropland, pasture, or woodland, but some areas are used for urban development or recreation. The major crops are corn, soybeans, small grain, hay, and pasture. Slope is the major limitation; erosion is the major hazard.

The soils of this map unit are either well suited or generally suited or they are unsuited to cultivated crops and specialty crops. They are fairly well suited to improved pasture. Erosion is a severe hazard on the steeper slopes, and growing hay crops is impractical. This soil is suited to use as woodland. The steeper slopes, however, restrict use of logging roads and skid trails. The soils generally are unsuited to urban uses because slope and depth to bedrock are severe limitations and are difficult to overcome. The soils are poorly suited to the more intensive types of recreational development because of slope.

8. Athol-Penlaw-Clarksburg

Nearly level to strongly sloping, very deep, well drained to somewhat poorly drained soils that formed in residuum derived from limestone and limestone conglomerate; on uplands

These soils are on dissected uplands, on lowlands, and in drainageways. The landscape is dominantly nearly level to rolling.

This map unit makes up about 1 percent of the county. It is about 45 percent Athol soils, 25 percent Penlaw soils, 20 percent Clarksburg soils, and 10 percent minor soils.

Athol soils are nearly level to strongly sloping. They are on dissected uplands. They are underlain by quartz, sandstone, and shale bedrock at a depth of 5 feet or more. They are very deep and well drained.

Penlaw soils are nearly level. They are on lowlands and in depressions and drainageways. They are underlain by limestone, schist, shale, and sandstone at a depth of 5 feet or more. They are very deep and somewhat poorly drained.

Clarksburg soils are nearly level and gently sloping. They are on lowlands and in depressions. They are underlain by limestone bedrock at a depth of 5 feet or more. They are very deep and moderately well drained.

Minor soils in the map unit are well drained Highfield, Myersville, and Penn soils on highly dissected ridges and hills and moderately well drained Readington and Buchanan soils on lowlands. Moderately well drained Lindside soils and very poorly drained Dunning soils are on bottom lands.

Most areas of this map unit are used as cropland, pasture, or orchards. The major crops are corn, soybeans, small grain, apples, peaches, and pasture. Erosion is the main hazard if cultivated crops are grown.

The soils of this map unit are well suited to poorly suited to cultivated crops and specialty crops. They are well suited to hay, pasture, and woodland. Many dairy farms in the county are on these soils. On Athol soils, suitability for onsite waste disposal and most urban development is fair, because moderate permeability and slope are limitations.

On Clarksburg and Penlaw soils, wetness is a severe limitation for onsite waste disposal and urban development. Suitability is good for the more intensive type of recreational development on Athol soils and fair on Clarksburg and Penlaw soils.

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

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

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

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

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives 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, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Conestoga silt loam, 3 to 8 percent slopes, is a phase of the Conestoga series.

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

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Penn-Klinesville channery silt loams, 8 to 15 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Highfield, Catoctin, and Myersville soils, 8 to 25 percent slopes, very stony, 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. These dissimilar soils are described in each map unit. Also, some of the more unusual or strongly contrasting soils are identified by a special symbol on the soil maps.

This survey includes some *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits, quarries, is an example. Some miscellaneous areas are large enough to be delineated on the soil map. Some that are too small to be delineated are identified by a special symbol on the soil maps.

The name, descriptions, and delineations of soils on the detailed soil maps of Adams County do not always agree or join fully with those of the soils identified on the maps of adjoining counties published at an earlier date. Some differences are the result of changes in concepts of soil series. Other differences result from variations in the extent of the soils. Others are the result of variations in the slope range allowed in the map units of adjoining counties.

Table 4 gives the acreage and proportionate extent of each map unit. Other 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 or miscellaneous areas.

Soil Descriptions

AbA—Abbottstown silt loam, 0 to 3 percent slopes

This is a nearly level, deep, somewhat poorly drained soil on broad uplands and in depressions and drainageways. Slopes are smooth or concave. Areas of this soil are irregular or long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is dark reddish gray, friable silt loam about 10 inches thick. The subsoil is about 30 inches thick. In the upper 5 inches it is reddish brown, mottled, friable silty clay loam. In the next 5 inches it is reddish gray, mottled, firm silty clay loam. In the next 5 inches it is weak red, mottled, very firm silty clay loam. In the lower 15 inches it is weak red, mottled, very firm and brittle silt loam and channery silt loam. The substratum, to a depth of 45 inches, is weak red, firm extremely channery silt loam. Weak red sandstone bedrock is at a depth of 45 inches. In some areas this soil is gently sloping. In some areas it does not have a fragipan, and in other areas it is not as red throughout.

Included with this soil in mapping are a few, small, scattered areas of shallow, excessively drained Klinesville soils on narrow, elongated ridges and on sides of ridges and well drained Penn soils on broad ridges and hills above the Abbottstown soil. Also included are a few areas of moderately well drained, deep Readington soils and moderately deep Reaville soils in positions on the landscape similar to those of the Abbottstown soil. Also included are some small areas of poorly drained Croton soils on low-lying rises slightly above bottom lands. Included soils make up about 15 percent of the map unit.

Permeability is moderate in the solum above the fragipan, slow in the fragipan, and moderately slow or slow in the substratum. The available water capacity is moderate, and surface runoff is very high. The seasonal high water table is at a depth of 6 to 18 inches. The fragipan is at a depth of 15 to 30 inches. In unlimed areas this soil is extremely acid to strongly acid in the upper part of the solum and strongly acid to slightly acid in the lower part and in the substratum. The seasonal high water table and fragipan restrict root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or are idle land. A few areas are in urban development.

This soil is fairly well suited to corn, soybeans, small grain, and most specialty crops. The main limitation is the seasonal high water table, which interferes with seeding and harvesting of some crops. Existing subsurface drains allow timely tillage. Leaving stubble on the surface and adding other organic material help to conserve moisture. Crop residue management, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Fall-sown grasses and legumes are subject to losses over winter because of frost heaving and wetness. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods, help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Water-tolerant species are favored in timber stands. The equipment limitation is the main management concern. The high water table restricts use of equipment to midsummer, when the soil is dry, or to midwinter, when the soil is frozen or has an adequate snow cover. Machine planting of trees is practical in large areas.

Wetness and slow or moderately slow permeability are the main limitations of the soil for urban uses, especially as a site for septic tank absorption fields or buildings. If buildings are constructed on this soil, installing foundation drains with proper outlets will prevent water from seeping into basements. The soil is severely limited as a site for local roads and streets. Providing adequate side ditches and culverts helps to prevent the damage of wetness and frost action.

The land capability classification is 3w. The woodland ordination symbol is 4W.

AbB—Abbottstown silt loam, 3 to 8 percent slopes

This is a gently sloping, deep, somewhat poorly drained soil on broad uplands and in depressions and drainageways. Slopes are smooth or concave. Areas of this soil are irregular or long and narrow in shape and range from 5 to 100 acres in size.

Typically, the surface layer is dark reddish gray, friable silt loam about 10 inches thick. The subsoil is about 30 inches thick. In the upper 5 inches it is reddish brown, mottled, friable silty clay loam. In the next 5 inches it is reddish gray, mottled, firm silty clay loam. In the next 5 inches it is weak red, mottled, very firm silty clay loam. In the lower 15 inches it is weak red, mottled, firm and brittle silt loam and channery silt loam. The substratum, to a depth of 45 inches, is weak red, very firm extremely channery silt loam. Weak red sandstone bedrock is at a depth of 45 inches. In some areas this soil is nearly level. In some areas it does not have a fragipan, and in other areas it is not as red throughout.

Included with this soil in mapping are a few small areas of shallow, excessively drained Klinesville soils on narrow, elongated ridges and on sides of ridges and well drained Penn soils on broad ridges and hills above the Abbottstown soil. Also included are a few areas of moderately well drained, deep Readington soils and moderately deep Reaville soils in positions on the landscape similar to those of the Abbottstown soil. Also included are some small areas of poorly drained Croton soils on low-lying rises slightly above bottom lands. Included soils make up about 15 percent of the map unit.

Permeability of the Abbotstown soil is moderate in the solum above the fragipan, slow in the fragipan, and moderately slow or slow in the substratum. Available water capacity is moderate, and surface runoff is very high. The seasonal high water table is at a depth of 6 to 18 inches. The fragipan is at a depth of 15 to 30 inches. In unlimed areas this soil is extremely acid to strongly acid in the upper part of the solum and strongly acid to slightly acid in the lower part and in the substratum. The seasonal high water table and the fragipan restrict root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or for urban development.

This soil is fairly well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard and the seasonal high water table is the main limitation if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth. The seasonal high water table interferes with seeding and harvesting of some crops; however, existing subsurface drains allow timely tillage.

This soil is well suited to pasture. Fall-sown grasses and legumes are subject to losses over winter because of frost heaving and wetness. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Water-tolerant species are favored in timber stands. The equipment limitation is the main management concern. The high water table restricts use of equipment to midsummer, when the soil is dry, or to midwinter, when the soil is frozen or has an adequate snow cover. Machine planting of trees is practical in large areas.

Wetness and slow or moderately slow permeability are the main limitations of the soil for urban uses, especially as a site for septic tank absorption fields or buildings. If buildings are constructed on this soil, installing foundation drains with proper outlets will prevent seepage into basements. The soil is severely limited as a site for local roads and streets. Providing adequate side ditches and culverts helps to prevent the damage of wetness and frost action.

The land capability classification is 3w. The woodland ordination symbol is 4W.

ArB—Arendtsville gravelly loam, 3 to 8 percent slopes

This is a gently sloping, very deep, well drained soil on ridgetops. Slopes are smooth or convex. Areas are irregular in shape and range from 5 to 100 acres in size.

Typically, the surface layer is dark reddish brown, friable gravelly loam about 9 inches thick. The subsoil is about 44 inches thick. In the upper 7 inches it is reddish brown, friable gravelly loam. In the next 24 inches it is dark reddish brown and dark red, friable gravelly sandy clay loam. In the lower 13 inches it is dark red, friable gravelly sandy loam. The substratum to a depth of 72 inches is reddish brown and weak red, friable gravelly sandy loam. In some areas the soil is nearly level and strongly sloping. In some areas it contains more silt and clay. In some areas the subsoil is yellowish brown and brown. In other areas bedrock is at a depth of less than 60 inches.

Included with this soil in mapping, in depressions on broad uplands, are a few scattered areas of deep, moderately well drained Readington soils that have gray mottles in the middle and lower parts of the subsoil. Also included are a few gullied areas and areas where a few large sandstone fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Arentsville soil is moderate or moderately rapid. Available water capacity is moderate. Surface runoff is low. In unlimed areas this soil is extremely acid to moderately acid in the upper part of the solum and extremely acid to strongly acid in the lower part and in the substratum.

Most areas of this soil are used as orchards or woodland. A few areas are used as cropland or pasture or are idle.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

The soil is not limited as a site for septic tank absorption fields. It is suitable for use as a site for buildings and most other urban uses. Frost action limits the soil as a site for local roads and streets. Providing a coarse textured subgrade or base material helps to prevent the damage of frost action.

The land capability classification is 2e. The woodland ordination symbol is 4A.

ArC—Arendtsville gravelly loam, 8 to 15 percent slopes

This is a strongly sloping, very deep, well drained soil on ridgetops and side slopes. Slopes are smooth or convex. Areas of this soil are irregular or long and narrow in shape and range from 5 to 100 acres in size.

Typically, the surface layer is dark reddish brown, friable gravelly loam about 9 inches thick. The subsoil is about 44 inches thick. In the upper 7 inches it is reddish brown, friable gravelly loam. In the next 24 inches it is dark reddish brown and dark red, friable gravelly sandy clay loam. In the lower 13 inches it is dark red, friable gravelly sandy loam. The substratum, to a depth of 72 inches, is reddish brown and weak red, friable very gravelly sandy loam. In some areas this soil is nearly level and moderately steep. In some areas it contains more silt and clay. In some areas it is yellowish brown and brown in the subsoil. In other areas bedrock is at a depth of less than 60 inches.

Included with this soil in mapping are a few scattered areas of deep, moderately well drained Readington soils that have gray mottles in the middle and lower parts of the subsoil and that are in depressions on broad uplands. Also included are a few gullied areas and areas where a few large sandstone fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of this Arendtsville soil is moderate or moderately rapid. Available water capacity is moderate. Surface runoff is low. In unlimed areas this soil is extremely acid to moderately acid in the upper part of the solum and extremely acid to strongly acid in the lower part and in the substratum.

Most areas of this soil are used as orchards (fig. 8). Some areas are used as cropland, pasture, or woodland.

This soil is well suited to specialty crops. It is fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping system that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

Slope is the main limitation of the soil for use as a site for septic tank absorption fields, buildings, and most other urban uses. Land shaping is necessary in some areas. Frost action and slope limit the soil as a site for local roads and streets. Providing a coarse textured subgrade or base material helps to prevent the damage of frost action. Land shaping and building on the contour help to overcome slope.

The land capability classification is 3e. The woodland ordination symbol is 4A.

ArD—Arendtsville gravelly loam, 15 to 25 percent slopes

This is a moderately steep, very deep, well drained soil on ridges and hillsides. Slopes are smooth or convex. Areas are irregular or long and narrow in shape and range from 5 to 50 acres in size.

Typically, the surface layer is dark reddish brown, friable gravelly loam about 9 inches thick. The subsoil is about 44 inches thick. In the upper 7 inches it is reddish brown, friable gravelly loam. In the next 24 inches it is dark reddish brown and dark red, friable gravelly sandy clay loam. In the lower 13 inches it is dark red, friable gravelly sandy loam. The substratum, to a depth of 72 inches, is reddish brown and weak red, friable very gravelly sandy loam. In some areas the soil is strongly sloping and steep. In some areas the solum has more silt and clay. In some areas the subsoil is yellowish brown and brown. In other areas bedrock is at a depth of less than 60 inches.

Included with this soil in mapping are a few scattered areas of deep, moderately well drained Readington soils that have gray mottles in the middle and lower parts of the subsoil and that are in depressions on broad uplands. Also included are a few gullied areas and areas where a few large sandstone fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Arendtsville soil is moderate or moderately rapid. Available water capacity is moderate. Surface runoff is medium. In unlimed areas this soil ranges from extremely acid to moderately acid in the upper part of the solum and from extremely acid to strongly acid in the lower part and in the substratum.

Most areas of this soil are used as orchards or woodland. Some areas are used as cropland or pasture.

This soil is well suited to specialty crops. It is poorly suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The erosion hazard, equipment limitation, and seedling mortality are the main management concerns. Thinning or removing undesirable species and constructing roads on the contour to reduce slope are suitable management

Figure 8.—Peach orchard on Arendtsville gravelly loam, 8 to 15 percent slopes. Highfield soils are on the hills in the background.

practices. Slope restricts use of equipment. Machine planting of trees is practical in large areas.

Slope is the main limitation of the soil for most urban uses, especially as a site for septic tank absorption fields, buildings, or local roads and streets. Buildings or roads should be designed to conform to the natural slope of the land. Land shaping is needed.

The land capability classification is 4e. The woodland ordination symbol is 4R.

ArE—Arendtsville gravelly loam, 25 to 40 percent slopes

This is a steep, very deep, well drained soil on ridges and hills. Slopes are convex. Areas are long and narrow in shape and range from 5 to 50 acres in size.

Typically, the surface layer is dark reddish brown, friable gravelly loam about 9 inches thick. The subsoil is about 44 inches thick. In the upper 7 inches it is reddish brown, friable gravelly loam. In the next 24 inches it is dark reddish brown and dark red, friable gravelly sandy clay loam. In the lower 13 inches it is dark red, friable gravelly sandy loam. The substratum, to a depth of 72 inches, is reddish brown and weak red, friable very gravelly sandy loam. In some areas this soil is moderately steep and very steep. In some areas the solum has more silt and clay. In some areas the subsoil is yellowish brown and brown. In other areas bedrock is at a depth of less than 60 inches.

Included with this soil in mapping are a few scattered areas of deep, moderately well drained Readington soils that have gray mottles in the middle and lower parts of the subsoil and that are in depressions on broad uplands. Also included are a few gullied areas and areas where a few large sandstone fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of this Arendtsville soil is moderate or moderately rapid. Available water capacity is moderate. Surface runoff is medium. In unlimed areas this soil ranges from extremely acid to moderately acid in the upper part of the solum and from extremely acid to strongly acid in the lower part and in the substratum.

Most areas of this soil are used as woodland or brushland. Some areas are used as orchards or pasture.

This soil is fairly well suited to pasture and poorly suited to specialty crops. It generally is unsuited to corn, soybeans, and small grain. Slope is a limitation, and erosion is the main hazard. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The erosion hazard, the equipment limitation, and seedling mortality are the main management concerns. Thinning or removing undesirable species and constructing roads on the contour to reduce slope are suitable management practices. Slope restricts use of equipment. Machine planting of trees is practical in large areas.

Because of seepage and slope, this soil is severely limited as a site for septic tank absorption fields. The soil is severely limited as a site for dwellings and most other urban uses, including local roads and streets, because of slope.

The land capability classification is 6e. The woodland ordination symbol is 4R.

AtA—Athol gravelly silt loam, 0 to 3 percent slopes

This is a nearly level, very deep, well drained soil on broad upland flats. Areas are irregular in shape and range from 5 to 75 acres in size.

Typically, the surface layer is dark reddish brown, friable gravelly silt loam about 10 inches thick. The subsoil is about 42 inches thick. In the upper 14 inches it is reddish brown, friable silt loam. In the lower 28 inches it is reddish brown, friable silty clay loam. The substratum, to a depth of 60 inches, is reddish brown, firm gravelly silt loam. In some areas the soil is gently sloping. In some areas it contains more sand. In some areas the subsoil is yellowish brown and brown. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few scattered areas of nearly level, somewhat poorly drained Penlaw soils on broad uplands and in depressions on lowlands and moderately well drained Clarksburg soils at the base of ridges and hills. Also included are a few, narrow, elongated areas of moderately well drained Readington soils and somewhat poorly drained Abbottstown soils in shallow depressions on broad uplands. Included soils make up about 15 percent of the map unit.

Permeability of this Athol soil is moderate. Available water capacity is moderate or high. Surface runoff is low. In unlimed areas, this soil is strongly acid to slightly acid in the upper part of the solum, very strongly acid or moderately acid in the lower part, and strongly acid to slightly acid in the substratum.

Most areas of this soil are used as cropland. A few areas are used as orchards, as pasture, or for urban development. This soil is well suited to corn, soybeans, small grain, and most specialty crops. A conservation tillage system that leaves protective amounts of crop residue on the surface, cover crops, green manure, and crop residue help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

Because of moderate permeability, this soil is moderately limited as a site for septic tank absorption fields. It is suitable as a site for dwellings and most other urban uses. It is moderately limited as a site for local roads and streets because of frost action.

The land capability classification is 1. The woodland ordination symbol is 4A.

AtB—Athol gravelly silt loam, 3 to 8 percent slopes

This is a gently sloping, very deep, well drained soil on undulating, broad uplands and benches. Areas are irregular in shape and range from 5 to 50 acres in size.

Typically, the surface layer is dark reddish brown, friable gravelly silt loam about 10 inches thick. The subsoil is about 42 inches thick. In the upper 14 inches it is reddish brown, friable silt loam. In the lower 28 inches it is reddish brown, friable silty clay loam. The substratum, to a depth of 60 inches, is reddish brown, firm gravelly silt loam. In some areas the soil is nearly level and strongly sloping. In some areas the soil contains more sand. In some areas the subsoil is yellowish brown and brown. In some areas depth to bedrock is less than 60 inches. In some areas the surface layer is silt loam, loam, gravelly loam, or gravelly sandy loam.

Included with this soil in mapping are a few scattered areas of nearly level, somewhat poorly drained Penlaw soils on broad uplands and in depressions on lowlands and moderately well drained Clarksburg soils at the base of ridges and hills. Also included are a few narrow, elongated areas of moderately well drained Readington soils and somewhat poorly drained Abbottstown soils in shallow depressions on broad uplands. Included soils make up about 15 percent of the map unit.

Permeability is moderate and available water capacity is moderate or high. Surface runoff is medium. In unlimed areas this soil is strongly acid to slightly acid in the upper part of the solum, strongly acid or moderately acid in the lower part, and strongly acid to slightly acid in the substratum.

Most areas of this soil are used as cropland. A few areas are used as orchards, as pasture, or for urban development.

This soil is well suited to corn (fig. 9), soybeans, small grain, and most specialty crops. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a system of conservation tillage that leaves protective amounts of crop residue on the surface, diversions, contour stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is moderately limited as a site for septic tank absorption fields because of moderate permeability. It is suitable as a site for dwellings without basements, dwellings with basements, and most other urban uses. The soil is moderately limited as a site for local roads and streets because of frost action.

The land capability classification is 2e. The woodland ordination symbol is 4A.

AtC—Athol gravelly silt loam, 8 to 15 percent slopes

This is a strongly sloping, very deep, well drained soil on footslopes, benches, and side slopes. Areas are irregular or long and narrow in shape and range from 5 to 100 acres in size.

Typically, the surface layer is dark reddish brown, friable gravelly silt loam about 10 inches thick. The subsoil is about 42 inches thick. In the upper 14 inches it is reddish brown, friable silt loam. In the lower 28 inches it is reddish brown, friable silty clay loam. The substratum, to a depth of 60 inches, is reddish brown, firm gravelly silt loam. In some areas this soil is gently sloping and moderately steep. In some areas it has more sand. In some areas the subsoil is yellowish brown and brown. In some areas depth to bedrock is less than 60 inches. In some areas the surface layer is channery silt loam, channery loam, or gravelly loam.

Included with this soil in mapping are a few scattered areas of nearly level, somewhat poorly drained Penlaw soils on broad uplands and in depressions on lowlands. Also included are a few, narrow, elongated areas of moderately well drained Readington soils in shallow depressions on broad uplands. Included soils make up about 15 percent of the map unit.

Permeability of the Athol soil is moderate. Available water capacity is moderate or high. Surface runoff is medium. In unlimed areas this soil is very strongly acid to slightly acid in the upper part of the solum, strongly acid or moderately acid in the lower part, and strongly acid to slightly acid in the substratum.

Most areas of this soil are used as cropland or pasture. A few areas are used as orchards or woodland, or for urban development.

This soil is well suited to most specialty crops. It is fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is moderately limited as a site for septic tank absorption fields, for dwellings, and for most other urban uses because of slope. The soil is moderately

Figure 9.—An area of Athol gravelly silt loam, 3 to 8 percent slopes, planted to corn. Edgemont channery loam, 25 to 70 percent slopes, very stony, is on Jacks Mountain in the background.

limited as a site for local roads and streets because of slope and frost action.

The land capability classification is 3e. The woodland ordination symbol is 4A.

Ba—Baile silt loam

This is a nearly level, very deep, poorly drained soil on lowlands and in depressions. Slopes are smooth or concave and range from 0 to 3 percent. Areas of this soil are irregular in shape and range from 5 to 50 acres in size.

Typically, the surface layer is dark grayish brown, mottled, friable silt loam about 4 inches thick. The subsurface layer is light brownish gray, mottled, friable silt loam 8 inches thick. The subsoil is grayish brown, mottled, friable silt loam 28 inches thick. The substratum, to a depth of 60 inches, is grayish brown, mottled, friable channery silt loam. In some areas the soil is gently sloping. In some areas the subsoil is brown. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few small areas of very deep, moderately well drained Codorus soils and poorly drained Hatboro soils that are in the lower, nearly level or slightly depressional areas on bottom lands. Also included, where slope is more than 3 percent, are a few small areas of moderately well drained Glenville soils. Also included are some areas where a few large sandstone fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Baile soil is moderately slow in the surface layer, slow in the subsoil, and slow or moderately slow in the substratum. Available water capacity is high, but the high water table restricts rooting depth. The seasonal high water table is within 6 inches of the surface for most of the year. Surface runoff is negligible. In unlimed areas this soil is extremely acid to strongly acid.

Most areas of this soil are used as pasture or woodland or are idle land.

This soil is unsuited to cultivated crops and permanent pasture because of wetness and ponding.

Potential productivity for trees on this soil is moderate. Water-tolerant species are favored in timber stands. The equipment limitation and seedling mortality are the main management concerns. The high water table restricts use of equipment to midsummer, when the soil is dry, or to midwinter, when the soil is frozen or has an adequate snow cover. Special site preparation, such as bedding before planting, can reduce the seedling mortality rate. Seedlings survive and grow well if competing vegetation is controlled, especially during the first few years, and if livestock is excluded from wooded areas. Machine planting of trees is practical in large areas.

This soil is unsuited as a site for septic tank absorption fields and dwellings because wetness and ponding are severe limitations. It is severely limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 5w. The woodland ordination symbol is 4W.

Be—Bermudian silt loam

This is a nearly level, very deep, well drained soil on flood plains. Slopes are smooth and range from 0 to 3 percent. Areas are long and narrow in shape and range from 5 to 100 acres in size.

Typically, the surface layer is dark reddish brown, friable silt loam about 8 inches thick. The subsoil is about 42 inches thick. In the upper 22 inches it is dark reddish brown, friable silt loam. In the lower 20 inches it is reddish brown, friable silty clay loam. The substratum, to a depth of 72 inches, is reddish brown, loose, stratified sand and gravel. In some areas the solum is loam or sandy loam. In some areas the soil has more sand, and in other areas depth to stratified sand and gravel is less than 40 inches.

Included with this soil in mapping are a few small areas of Birdsboro soils on narrow stream terraces and along tops of breaks to bottom lands. Also included are some areas that are subject to rare flooding. Included soils make up about 10 percent of the map unit.

Permeability of the Bermudian soil is moderate or moderately rapid in the solum and rapid in the substratum. Available water capacity is moderate. Potential surface runoff is very low. This soil is subject to occasional flooding for brief periods, mainly late in winter and early in spring. In unlimed areas it is very strongly acid to moderately acid.

Most areas of this soil are used as cropland. Some small areas are used as pasture or woodland or are idle land.

This soil is well suited to corn and soybeans. It is not as well suited to small grain, however, because floodwater can cause severe crop damage. The main hazard is occasional flooding. Already established dikes and levees in large areas help to reduce flooding. Crop residue management, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

Flooding is a severe limitation. This soil is unsuited as a site for septic tank absorption fields and dwellings. It is severely limited as a site for local roads and streets because of flooding and frost action.

The land capability classification is 1. The woodland ordination symbol is 4A.

BgA—Birdsboro silt loam, 0 to 3 percent slopes

This is a nearly level, very deep, well drained soil on terraces and benches above flood plains of large streams. Slopes are smooth. Areas of this soil are oval or elongated in shape and range from 5 to 25 acres in size.

Typically, the surface layer is dark reddish brown, friable silt loam about 10 inches thick. The subsoil is about 40 inches thick. In the upper 8 inches it is reddish brown, friable gravelly silt loam. In the next 12 inches it is reddish brown, friable silt loam. In the lower 20 inches it is yellowish red, firm silty clay loam. In the lower 10 inches it has mottles. The substratum, to a depth of 60 inches, is reddish brown, very firm silt loam. In some areas the soil is gently sloping or has more sand. In some areas the solum is loam or sandy loam. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few small areas of Bermudian soils, poorly drained Lamington soils, and moderately well drained Raritan soils. Bermudian soils are in narrow drainageways and on small flats on bottom lands. Lamington and Raritan soils are on low terraces. Also included are areas that are ponded during periods of heavy rainfall. Included soils make up about 15 percent of the map unit.

Permeability of this Birdsboro soil is moderate. Available water capacity is moderate or high. Surface runoff is low. In unlimed areas this soil is extremely acid to strongly acid.

Most areas of this soil are used as cropland or pasture. Some areas are used for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. A conservation tillage system that leaves protective amounts of crop residue on the surface, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is somewhat iimited as a site for septic tank absorption fields because of slow permeability and the seasonal high water table. It is suited as a site for dwellings. The soil is moderately limited as a site for local roads and streets because of frost action.

The land capability classification is 1. The woodland ordination symbol is 4A.

BgB—Birdsboro silt loam, 3 to 8 percent slopes

This is a gently sloping, very deep, well drained soil on terraces and benches above flood plains of large streams. Slopes are smooth and convex. Areas of the soil are irregular in shape and range from 5 to 100 acres in size.

Typically, the surface layer is dark reddish brown, friable silt loam about 10 inches thick. The subsoil is about 40 inches thick. In the upper 8 inches it is reddish brown, friable gravelly silt loam. In the next 12 inches it is reddish brown, friable silt loam. In the lower 20 inches it is yellowish red, firm silty clay loam. In the lower 10 inches it has mottles. The substratum, to a depth of 60 inches, is reddish brown, very firm silt loam. In some areas the soil is nearly level. In some areas the subsoil is brown or yellowish brown. In some areas the soil has more sand. In some areas the solum is loam or sandy loam. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few small areas of Bermudian soils, poorly drained Lamington soils, and moderately well drained Raritan soils. Bermudian soils are in narrow drainageways and on small flats of bottom lands. Lamington and Raritan soils are on low terraces. Also included are areas that are ponded during periods of heavy rainfall. Included soils make up about 15 percent of the map unit.

Permeability of the Birdsboro soil is moderate. Available water capacity is moderate or high. Surface runoff is medium. In unlimed areas this soil is extremely acid to strongly acid.

Most areas of this soil are used as cropland or pasture. Some areas are used for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is somewhat limited as a site for septic tank absorption fields because of restricted permeability and the seasonal high water table. It is not limited as a site for dwellings without basements. It is somewhat limited for as a site for dwellings with basements because of wetness. It is moderately limited as a site for local roads and streets because of frost action.

The land capability classification is 2e. The woodland ordination symbol is 4A.

BgC—Birdsboro silt loam, 8 to 15 percent slopes

This is a strongly sloping, very deep, well drained soil on side slopes of terraces and benches above flood plains of large streams. Slopes are convex. Areas are long and narrow in shape and range from 5 to 15 acres in size.

Typically, the surface layer is dark reddish brown, friable silt loam about 10 inches thick. The subsoil is about 40 inches thick. In the upper 8 inches it is reddish brown, friable gravelly silt loam. In the next 12 inches it is reddish brown, friable silt loam. In the lower 20 inches it is yellowish red, firm silty clay loam. In the lower 10 inches it has mottles. The substratum, to a depth of 60 inches, is reddish brown, very firm silt loam. In some areas it is gently sloping or moderately steep or the subsoil is brown and yellowish brown. In some areas the soil contains more sand or the solum is loam or sandy loam. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few small areas of Bermudian soils, poorly drained Lamington soils, and moderately well drained Raritan soils. Bermudian soils are in narrow drainageways and on small flats on bottom lands. Lamington and Raritan soils are on low terraces. Also included are small areas where large sandstone fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Birdsboro soil is moderate. Available water capacity is moderate or high. Surface runoff is medium. In unlimed areas this soil is extremely acid to strongly acid.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or are idle land.

This soil is well suited to most specialty crops. It is fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping system that includes grasses and legumes, a system of conservation tillage that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is high. No major hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is moderately limited as a site for septic tank absorption fields because of slope, restricted permeability, and wetness. It is moderately limited as a site for dwellings and most other urban uses because of slope. The soil is moderately limited as a site for local roads and streets because of slope and frost action.

The land capability classification is 3e. The woodland ordination symbol is 4A.

Bo—Bowmansville silt loam

This is a nearly level, very deep, somewhat poorly drained soil on flood plains. Slopes are smooth and range from 0 to 3 percent. Areas of this soil are long and narrow in shape and range from 5 to 100 acres in size.

Typically, the surface layer is dark brown, very friable silt loam about 11 inches thick. The subsoil is about 23 inches thick. In the upper 3 inches it is reddish brown, mottled, friable silt loam. In the lower 20 inches it is reddish gray, mottled, friable silt loam. The substratum extends to a depth of 72 inches or more. In the upper 21 inches it is pinkish gray, mottled, firm stratified silt loam and silty clay loam. In the lower 17 inches it is dark reddish gray, mottled, firm gravelly sandy loam. In some areas the solum has more sand. In some areas the subsoil is brown. In some areas depth to bedrock is less than 60 inches. In some areas stratified sand and gravel is at a depth of less than 40 inches.

Included with this soil in mapping are a few small areas of poorly drained Croton and Lamington soils on lowlands and broad flats on uplands. These soils are grayish throughout. Also included are moderately well drained Rowland soils on slightly higher parts of bottom lands that are subject to rare flooding. Included soils make up about 15 percent of the map unit.

Permeability of this Bowmansville soil is moderate in the surface layer, moderately slow in the subsoil, and moderately rapid in the substratum. Available water capacity is high, but the high water table restricts rooting depth. The seasonal high water is a depth of 6 to 18 inches for most of the year. Surface runoff is very high. This soil is subject to frequent flooding for brief periods, mainly in late winter or early spring. In unlimed areas this soil is strongly acid to slightly acid in the solum and strongly acid to neutral in the substratum.

Most areas of this soil are used as pasture or woodland or are idle land.

This soil is fairly well suited to corn, soybeans, and most specialty crops. It is unsuited to small grain because floodwater causes severe crop damage. Wetness is the major limitation, and flooding is the major hazard. Existing, well maintained drainage systems will help to overcome wetness. Established dikes and levees will help to overcome flooding. A conservation tillage system that leaves protective amounts of crop residue on the surface, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Water-tolerant species are favored in timber stands. The equipment limitation, seedling mortality, and windthrow hazard are major management concerns. The high water table restricts use of equipment to midsummer, when the soil is dry, or to midwinter, when the soil is frozen or has an adequate snow cover. Special site preparation, such as bedding before planting, can reduce the seedling mortality rate. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is practical in large areas.

Flooding and wetness are severe limitations for urban uses. This soil is unsuited as a site for septic tank absorption fields and dwellings. The soil is severely limited as a site for local roads and streets because of wetness, flooding, and frost action.

The land capability classification is 3w. The woodland ordination symbol is 5W.

BrB—Brecknock channery silt loam, 3 to 8 percent slopes

This is a gently sloping, deep, well drained soil on ridgetops. Slopes are smooth or convex. Areas of this soil are irregular or long and narrow in shape and range from 5 to 200 acres in size.

Typically, the surface layer is dark brown, very friable channery silt loam about 3 inches thick. The subsurface layer is dark grayish brown, friable channery silt loam about 4 inches thick. The subsoil is about 23 inches thick. In the upper 5 inches it is brown, friable channery silt loam. In the next 12 inches it is brown, mottled, friable silt loam. In the lower 6 inches it is brown, mottled, firm silt loam. The substratum, to a depth of 42 inches, is brown, very firm very channery silt loam. Fractured porcelanite bedrock is at a depth of about 42 inches. In some areas the soil is nearly level. In some areas the solum is less than 24 inches. In some areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few scattered areas of nearly level, somewhat poorly drained Lehigh soils on broad ridgetops. Also included are some small areas where many large sandstone fragments are on the surface and in the soil. Included soils make up about 10 percent of the map unit.

Permeability of this Brecknock soil is moderate. Available water capacity is low. Surface runoff is medium. In unlimed areas this soil is very strongly acid to slightly acid.

Most areas of this soil are used as cropland, pasture, or woodland.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is somewhat limited as a site for septic tank absorption fields because of depth to bedrock and moderate permeability. The soil is suitable as a site for dwellings without basements. It is moderately limited as a site for dwellings with basements and most other urban uses because of depth to bedrock. It is moderately limited as a site for local roads and streets because of frost action.

The land capability classification is 2e. The woodland ordination symbol is 4A.

BrC—Brecknock channery silt loam, 8 to 15 percent slopes

This is a strongly sloping, deep, well drained soil on ridgetops and side slopes. Slopes are smooth and convex. Areas of this soil are irregular or long and narrow in shape and range from 5 to 100 acres in size.

Typically, the surface layer is dark brown, very friable channery silt loam about 3 inches thick. The subsurface layer is dark grayish brown, friable channery silt loam about 4 inches thick. The subsoil is about 23 inches thick. In the upper 5 inches it is brown, friable channery silt loam. In the next 12 inches it is brown, mottled, friable silt loam. In the lower 6 inches it is brown, mottled, firm silt loam. The substratum, to a depth of 42 inches, is brown, very firm very channery silt loam. Fractured porcelanite bedrock is at a depth of about 42 inches. In some areas this soil is nearly level.

In some areas the solum is less than 24 inches. In some areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few scattered areas of gently sloping, somewhat excessively drained Klinesville soils on narrow ridges and hills. Also included are some small areas where many large sandstone fragments are on the surface and in the soil. Included soils make up about 10 percent of the map unit.

Permeability of this Brecknock soil is moderate. Available water capacity is low. Surface runoff is medium. In unlimed areas this soil is very strongly acid to slightly acid.

Most areas of this soil are used as cropland, pasture, or woodland. Some areas are used for urban development.

This soil is well suited to most specialty crops. It is fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards and limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is somewhat limited as a site for septic tank absorption fields because of depth to bedrock, slope, and moderate permeability. The soil is moderately limited as a site for dwellings without basements because of slope. It is moderately limited as a site for dwellings with basements and most other urban uses because of depth to bedrock and slope. The soil is moderately limited as a site for local roads and streets because of frost action and slope.

The land capability classification is 3e. The woodland ordination symbol is 4A.

BrD—Brecknock channery silt loam, 15 to 25 percent slopes

This is a moderately steep, deep, well drained soil on ridges and hills. Slopes are smooth and convex. Areas of this soil are long and narrow in shape and range from 5 to 50 acres in size.

Typically, the surface layer is dark brown, very friable channery silt loam about 3 inches thick. The subsurface layer is dark grayish brown, friable channery silt loam about 4 inches thick. The subsoil is about 23 inches thick. In the upper 5 inches it is brown, friable channery silt loam. In the next 12 inches it is brown, mottled, friable silt loam. In the lower 6 inches it is brown, mottled, firm silt loam. The substratum, to a depth of 42 inches, is brown, very firm very channery silt loam. Fractured porcelanite bedrock is at a depth of about 42 inches. In some areas this soil is strongly sloping and steep. In some areas the solum is less than 24 inches. In some areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few scattered areas of strongly sloping, somewhat excessively drained Klinesville soils on narrow ridges and hills. Also included are some small areas where many large sandstone fragments are on the surface and in the soil. Also included are areas where sandstone and shale bedrock is exposed in the lower part of some draws. Included soils make up about 10 percent of the map unit.

Permeability of this Brecknock soil is moderate. Available water capacity is low. Surface runoff is high. In unlimed areas this soil is very strongly acid to slightly acid.

Most areas of this soil are used as pasture or woodland or are idle land.

This soil is fairly well suited to most specialty crops. It is poorly suited to corn, soybeans, and small grain in areas where the slope is less than 18 percent. This soil is unsuited to cultivated crops in areas where slope is more than 18 percent. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation is the main management concern. When the soil is wet, logging roads tend to be slippery and ruts form quickly. Use of planting or logging equipment is limited during wet periods. Thinning or removing undesirable species are suitable management practices. Machine planting of trees is generally practical in large areas.

This soil is severely limited as a site for septic tank absorption fields, dwellings, and local roads and streets because of slope.

The land capability classification is 4e. The woodland ordination symbol is 4R.

BuB—Buchanan channery loam, 3 to 8 percent slopes

This is a gently sloping, very deep, moderately well drained soil on benches, on footslopes, and in depressions. Slopes are smooth or concave. Areas of this soil are irregular or long and narrow in shape and range from 5 to 50 acres in size.

Typically, the surface layer is dark grayish brown, very friable channery loam about 10 inches thick. The subsoil is about 44 inches thick. In the upper 8 inches it is brownish yellow, mottled, friable channery loam. In the next 7 inches it is pale brown, mottled, firm channery loam. In the lower 29 inches it is yellowish brown, mottled, very firm and brittle channery loam. The substratum, to a depth of 60 inches, is yellowish brown, mottled, firm channery sandy loam. In some areas the soil is nearly level and strongly sloping. In a few areas the fragipan is at a depth of more than 36 inches. In other areas the soil does not have a fragipan. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few, small, scattered areas of well drained Edgemont, Highfield, and Myersville soils on steeper side slopes. These soils are browner or redder throughout. Also included are some small areas of poorly drained Hatboro soils on bottom lands. Hatboro soils are grayish throughout. Included soils make up about 15 percent of the map unit.

Permeability of this Buchanan soil is moderate above the fragipan and slow in the fragipan and in the substratum. Available water capacity is low, and surface runoff is high. The fragipan is at depth of 20 to 36 inches. The seasonal high water table is at a depth of 18 to 36 inches. In unlimed areas this soil is extremely acid to strongly acid. The seasonal high water table and the fragipan restrict root penetration.

Most areas of this soil are used as cropland, pasture, or woodland. Some areas are used for urban development or are idle land.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the major hazard, and the seasonal high water table is the major limitation. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Existing, well maintained drainage systems help to overcome wetness. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth. Subsurface tile is needed in seepy areas in some drainageways.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and slow permeability. It is somewhat limited as a site for dwellings without basements because of wetness. It is very limited as a site for dwellings with basements and most other urban uses because of wetness. The soil is somewhat limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 2e. The woodland ordination symbol is 3A.

BvB—Buchanan channery loam, 0 to 8 percent slopes, extremely stony

This is a nearly level and gently sloping, deep, moderately well drained soil on benches and footslopes and in depressions. Slopes are smooth or concave. Areas of this soil are irregular or long and narrow in shape and range from 5 to 100 acres in size. Stones and boulders cover about 3 to 15 percent of the surface. They range from 1 foot to more than 4 feet in diameter.

Typically, the surface layer is very dark grayish brown, friable channery loam about 7 inches thick. The subsurface layer is brownish yellow, friable channery loam about 4 inches thick. The subsoil is about 44 inches thick. In the upper 7 inches it is brownish yellow, mottled, friable channery loam. In the next 7 inches it is pale brown, mottled, firm channery loam. In the lower 29 inches it is yellowish brown, mottled, very firm and brittle channery loam. The substratum, to a depth of 60 inches, is yellowish brown, mottled, firm channery sandy loam. In some areas the soil is strongly sloping. In a few areas the fragipan is at a depth more than 36 inches. In other areas the soil does not have a fragipan. In some areas depth to bedrock is less than 60 inches. In a few areas the surface is channery silt loam. In other areas the surface layer is silt loam or loam.

Included with this soil in mapping are a few, small, scattered areas of well drained Edgemont, Highfield, and Myersville soils on steeper side slopes. These soils are browner or redder throughout. Also included are some small areas of poorly drained Hatboro soils on bottom lands. Hatboro soils are grayish throughout. Included soils make up about 15 percent of the map unit.

Permeability of the Buchanan soil is moderate above the fragipan and slow in the fragipan and in the substratum. Available water capacity is low and surface runoff is medium. The fragipan is at depth of 20 to 36 inches. The seasonal high water table is at a depth of 18 to 36 inches. In unlimed areas this soil is extremely acid to strongly acid. The seasonal high water table and the fragipan restrict root penetration.

Most areas of this soil are used as woodland or are idle land. This soil is unsuited to cultivated crops and poorly suited to permanent pasture because of the amount of stones and boulders on and beneath the surface.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and slow permeability. It is very limited as a site for dwellings with basements because of wetness. It is somewhat limited as a site for dwellings without basements because of wetness. It is somewhat limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 7s. The woodland ordination symbol is 3X.

CcB—Catoctin channery silt loam, 3 to 8 percent slopes

This is a gently sloping, moderately deep, somewhat excessively drained soil on ridgetops. Slopes are smooth and convex. Areas are oval in shape and range from 5 to 10 acres in size.

Typically, the surface layer is dark brown, friable channery silt loam about 9 inches thick. The subsoil is yellowish brown, friable very channery silt loam about 7 inches thick. The substratum, to a depth of 24 inches, is brown, friable extremely channery silt loam. Bedrock is at a depth of 24 inches. In some areas the soil is strongly sloping or moderately steep. In some areas depth to bedrock is less than 20 inches.

Included with this soil in mapping are a few scattered areas of very deep, well drained Edgemont soils and deep Myersville soils at the edge of broad ridgetops. These soils contain more clay and less sand and have fewer rock fragments throughout than the Catoctin soil. Also included are small areas of moderately well drained Buchanan soils in depressions and on footslopes. Included soils make up about 15 percent of the map unit.

Permeability of the Catoctin soil is moderately rapid. Available water capacity is low or very low. Surface runoff is low. In unlimed areas this soil is strongly acid to slightly acid in the solum and moderately acid to neutral in the substratum. Depth to bedrock restricts root penetration.

Most areas of this soil are used as orchards. Some areas are used as cropland, pasture, or woodland or are idle land.

This soil is well suited to corn, soybeans, small grain, and specialty crops. Erosion is the main hazard and low or very low available water capacity is the main limitation if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep pasture and the soil in good condition.

Potential productivity for trees on this soil is moderate. Seedling mortality and windthrow hazard are major management concerns. Selecting proper planting stock and limited overstocking help to overcome seedling mortality. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is practical in large areas.

This soil very limited as a site for septic tank absorption fields and dwellings with basements because of depth to bedrock. It is somewhat limited as a site for dwellings without basements and most other urban uses, including local roads and streets, because of depth to bedrock.

The land capability classification is 2e. The woodland ordination symbol is 3F.

CcC—Catoctin channery silt loam, 8 to 15 percent slopes

This is a strongly sloping, moderately deep, somewhat excessively drained soil on ridgetops and side slopes. Slopes are smooth and convex. Areas of this soil are irregular or long and narrow in shape and range from 5 to 25 acres in size.

Typically, the surface layer is dark brown, friable channery silt loam about 9 inches thick. The subsoil is yellowish brown, friable very channery silt loam about 7 inches thick. The substratum, to a depth of 24 inches, is brown, friable extremely channery silt loam. Bedrock is at a depth of 24 inches. In some areas the soil is gently sloping to moderately steep. In some areas depth to bedrock is less than 20 inches.

Included with this soil in mapping are a few scattered areas of very deep, well drained Edgemont soils and deep Myersville soils at the edge of broad ridgetops. These soils have more clay, less sand, and fewer rock fragments throughout than the Catoctin soil. Included soils make up about 15 percent of the map unit.

Permeability of the Catoctin soil is moderately rapid. Available water capacity is low or very low. Surface runoff is low. In unlimed areas this soil is strongly acid to slightly acid in the solum and moderately acid to neutral in the substratum. Depth to bedrock restricts root penetration.

Most areas of this soil are used as orchards. Some areas are used as cropland, pasture, or woodland or are idle land.

This soil is well suited to most specialty crops. It is fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard and low or very low available water capacity is the main limitation. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep pasture and the soil in good condition.

Potential productivity for trees on this soil is moderate. Seedling mortality and windthrow hazard are major management concerns. Selecting proper planting stock and limited overstocking help to overcome seedling mortality. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields and dwellings with basements because of depth to bedrock. It is somewhat limited as a site for dwellings without basements and most other urban uses, including local roads and streets, because of depth to bedrock and slope.

The land capability classification is 3e. The woodland ordination symbol is 3F.

CcE—Catoctin channery silt loam, 25 to 35 percent slopes

This is a steep, moderately deep, somewhat excessively drained soil on ridges and hills. Slopes are convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 15 acres in size.

Typically, the surface layer is dark brown, friable channery silt loam about 9 inches thick. The subsoil is yellowish brown, friable very channery silt loam about 7 inches thick. The substratum, to a depth of 24 inches, is brown, friable extremely channery silt loam. Bedrock is at a depth of 24 inches. In some areas the soil is strongly sloping and moderately steep. In some areas depth to bedrock is less than 20 inches.

Included with this soil in mapping are a few scattered areas of very deep, well drained Edgemont soils and deep Myersville soils on the edge of broad ridgetops. These soils have more clay, less sand, and fewer rock fragments throughout than the Catoctin soil. Included soils make up about 15 percent of the map unit.

Permeability of this Catoctin soil is moderately rapid. Available water capacity is low or very low. Surface runoff is medium. In unlimed areas this soil is strongly acid to slightly acid in the solum and moderately acid to neutral in the substratum. Depth to bedrock restricts root penetration.

Most areas of this soil are used as orchards or woodland or are idle land.

This soil is unsuited to cultivated crops and poorly suited to permanent pasture because of slope.

Potential productivity for trees on this soil is moderate. Seedling mortality and windthrow hazard are major management concerns. Selecting proper planting stock and limited overstocking help to overcome seedling mortality. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is not practical in large areas because of steepness of slope.

This soil is severely limited as a site for septic tank absorption fields, dwellings with basements, dwellings without basements, and most other urban uses, including local roads and streets because of depth to bedrock and slope.

The land capability classification is 7e. The woodland ordination symbol is 3F.

CkA—Clarksburg silt loam, 0 to 3 percent slopes

This is a nearly level, very deep, moderately well drained soil on broad uplands and in depressions. Slopes are smooth or concave. Areas of this soil are irregular or long and narrow in shape and range from 5 to 100 acres in size.

Typically, the surface layer is dark brown, friable silt loam about 8 inches thick. The subsoil is about 46 inches thick. In the upper 8 inches it is yellowish brown, friable silt loam. In the next 16 inches it is yellowish brown, mottled, friable and firm silt loam. In the next 8 inches it is yellowish brown, mottled, firm and brittle silty clay loam. In the lower 14 inches it is brown and yellowish brown, mottled, firm and brittle clay loam. The substratum, to a depth of 60 inches, is yellowish brown, mottled, friable very channery clay loam. In some areas the soil is gently sloping or the solum is loam less than 20 inches thick. In some areas the soil does not have a fragipan or depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few small areas of very deep, well drained Athol and Conestoga soils on broad ridgetops and somewhat poorly drained Penlaw soils in broad depressions and on lowlands. Athol and Conestoga soils do not have a fragipan. Penlaw soils have gray mottles in the upper part of the subsoil. Also included are areas where a few large sandstone, schist, and other crystalline rock fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Clarksburg soil is moderate above the fragipan and slow or moderately slow in the fragipan and in the substratum. Available water capacity is moderate or high. Surface runoff is low. The fragipan is at a depth of 20 to 36 inches. The seasonal high water table is at a depth of 18 to 36 inches. In unlimed areas this soil is strongly acid to slightly acid. The fragipan and the seasonal high water table restrict root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used for urban development. A few small areas are used as woodland.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. The main limitation is the seasonal high water table. Moderately slow and slow permeability in the fragipan is also a limitation. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. Existing, well maintained drainage systems help to overcome wetness. Leaving stubble on the surface and adding other organic material to the soil conserve soil moisture. Crop residue management, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is severely limited as a site for septic tank absorption fields because of wetness and depth to a restrictive layer. The soil is somewhat limited as a site for dwellings without basements because of wetness and shrinking and swelling. It is severely limited as a site for dwellings with basements and most other urban uses because of wetness. The soil is moderately limited as a site for local roads and streets because of wetness, low strength, and frost action.

The land capability classification is 2w. The woodland ordination symbol is 4A.

CkB—Clarksburg silt loam, 3 to 8 percent slopes

This is a gently sloping, very deep, moderately well drained soil on broad uplands and in depressions. Slopes are smooth and concave. Areas of this soil are oval or long and narrow in shape and range from 5 to 25 acres in size.

Typically, the surface layer is dark brown, friable silt loam about 8 inches thick. The subsoil is about 46 inches thick. In the upper 8 inches it is yellowish brown, friable silt loam. In the next 16 inches it is yellowish brown mottled, friable and firm silt loam. In the next 8 inches it is yellowish brown, firm and brittle silty clay loam. In the lower 14 inches it is brown and yellowish brown, mottled, firm and brittle clay loam. The substratum, to a depth of 64 inches, is yellowish brown, mottled, friable very channery clay loam. In some areas the soil is nearly level. In some areas the solum is less than 20 inches thick. In some areas the soil does not have a fragipan or depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few small areas of very deep, well drained Athol and Conestoga soils on broad ridgetops and somewhat poorly drained Penlaw soils in broad depressions and on lowlands. Athol and Conestoga soils do not have a fragipan. Penlaw soils have gray mottles in the upper part of the subsoil. Also included are areas where a few large sandstone, schist, and other crystalline rock fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Clarksburg soil is moderate above the fragipan and slow or moderately slow in the fragipan and substratum. Available water capacity is moderate or high. Surface runoff is medium. The fragipan is at a depth of 20 to 36 inches. The seasonal high water table is at a depth of 18 to 36 inches. In unlimed areas this soil is strongly acid to slightly acid. The fragipan and the seasonal high water table restrict root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the major hazard and wetness is a limitation. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Existing, well maintained drainage systems help to overcome wetness. Cover crops and crop residue management help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and depth to a cemented pan. It is somewhat limited as a site for dwellings without basements because of wetness and shrinking and swelling. It is very limited as a site for dwellings with basements because of wetness. It is moderately limited as a site for local roads and streets because of shrinking and swelling, low strength, and frost action.

The land capability classification is 2e. The woodland ordination symbol is 4A.

Cm—Codorus silt loam

This is a nearly level, very deep, moderately well drained soil on flood plains. Slopes are smooth and range from 0 to 3 percent. Areas of this soil are long and narrow in shape and range from 5 to 300 acres in size.

Typically, the surface layer is dark brown, friable silt loam about 8 inches thick. The subsoil is about 40 inches thick. In the upper 4 inches it is brown, friable silt loam. In the next 8 inches it is dark yellowish brown, mottled, friable silt loam. In the lower 28 inches it is brown and yellowish brown, friable silt loam. The substratum extends to a depth of 60 inches. In the upper part it is stratified olive brown and dark grayish brown, mottled, friable silt loam. In the lower part it is dark grayish brown, friable silt loam. In some areas the soil is brown or yellowish brown to a depth of 60 inches or more. In some areas the soil has more sand or is stratified clay, sand, and gravel.

Included with this soil in mapping are a few small areas of poorly drained Baile and Hatboro soils. Baile and Hatboro soils, which are grayish throughout, are in depressions and drainageways on lowlands. Also included, on the highest part of bottom lands, are some areas subject to rare flooding. Included soils make up about 15 percent of the map unit.

Permeability of the Codurus soil is moderate in the subsoil and moderately rapid or rapid in the substratum. Available water capacity is moderate or high. Surface runoff is low. This soil is subject to frequent flooding for very brief periods mainly in late winter and early spring. The seasonal high water table is at a depth of 18 to 36 inches. In unlimed areas this soil is very strongly acid to moderately acid in the upper part of the solum and strongly acid to slightly acid in the lower part and in the substratum.

Most areas of this soil are used as cropland or pasture. Some small areas are used as woodland or are idle land.

This soil is well suited to corn and soybeans. It is not as well suited to small grain, however, because floodwater causes severe crop damage. The main hazard is frequent flooding. Existing dikes and levees in large areas help to overcome flooding. Crop residue management, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation is the main management concern. Wet periods limit use of planting or logging equipment. Machine planting of trees is practical in large areas.

Flooding is a severe limitation. This soil is unsuited as a site for septic tank absorption fields and dwellings. It is severely limited as a site for local roads and streets because of flooding and frost action.

The land capability classification is 2w. The woodland ordination symbol is 5W.

CnA—Conestoga silt loam, 0 to 3 percent slopes

This is a nearly level, very deep, well drained soil on broad uplands. Slopes are smooth. Areas of this soil are irregular or are long and narrow in shape and range from 5 to 75 acres in size.

Typically, the surface layer is dark brown, friable silt loam about 9 inches thick. The subsoil is about 31 inches thick. In the upper 8 inches it is brown, friable silt loam. In the next 7 inches it is yellowish brown, friable silty clay loam. In the lower 16 inches it is brown, friable silty clay loam. The substratum extends to a depth of 60 inches. In the upper part it is variegated yellowish brown, strong brown, and dark yellowish brown, friable silt loam. In the lower part it is variegated brown and strong brown, friable loam. In some areas the soil is gently sloping. In some areas the subsoil is strong brown or reddish yellow. In other areas the substratum is dark brown or dark yellowish brown, or depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few, small, scattered areas of moderately well drained Clarksburg soils on low rises and poorly drained Penlaw soils in depressions on lowlands. Clarksburg soils have a fragipan. Penlaw soils are grayish throughout. Included soils make up about 15 percent of the map unit.

Permeability of the Conestoga soil is moderate. Available water capacity is moderate or high. Surface runoff is low. In unlimed areas this soil is very strongly acid to neutral in the solum and moderately acid to slightly alkaline in the substratum.

Most areas of this soil are used as cropland or pasture. Some areas are used for urban development or as woodland.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Crop residue management, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is somewhat limited as a site for septic tank absorption fields because of moderate permeability. It is suitable as a site for dwellings and most other urban uses. It is very limited as a site for local roads and streets because of low strength and frost action.

The land capability classification is 1. The woodland ordination symbol is 4A.

CnB—Conestoga silt loam, 3 to 8 percent slopes

This is a gently sloping, very deep, well drained soil on undulating, broad uplands. Slopes are smooth and convex. Areas of this soil are irregular in shape and range from 5 to 500 acres in size.

Typically, the surface layer is dark brown, friable silt loam about 9 inches thick. The subsoil is about 31 inches thick. In the upper 8 inches it is brown, friable silt loam. In the next 7 inches it is yellowish brown, friable silty clay loam. In the lower 16 inches it is brown, friable silty clay loam. The substratum extends to a depth of 60 inches. In the upper part it is variegated yellowish brown, dark yellowish brown, and strong brown, friable silt loam. In the lower part it is variegated brown and strong brown, friable loam. In some areas the soil is nearly level. In some areas the subsoil is strong brown or reddish yellow. In a few areas the substratum is dark brown or dark yellowish brown or depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few, small, scattered areas of moderately well drained Clarksburg soils on low rises and poorly drained Penlaw soils in depressions on lowlands. Clarksburg soils have a fragipan. Penlaw soils are grayish throughout. Included soils make up about 15 percent of the map unit.

Permeability of this Conestoga soil is moderate. Available water capacity is moderate or high. Surface runoff is medium. In unlimed areas this soil ranges from strongly acid to neutral in the solum and from moderately acid to slightly alkaline in the substratum.

Most areas of this soil are used as cropland or pasture. Some areas are used for urban development or as woodland.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is somewhat limited as a site for septic tank absorption fields because of moderate permeability. It is suitable as a site for dwellings and most other urban uses. It is severely limited as a site for local roads and streets because of low strength and frost action.

The land capability classification is 2e. The woodland ordination symbol is 4A.

CnC—Conestoga silt loam, 8 to 15 percent slopes

This is a strongly sloping, very deep, well drained soil on undulating uplands and side slopes. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 15 acres in size.

Typically, the surface layer is dark brown, friable silt loam about 9 inches thick. The subsoil is about 31 inches thick. In the upper 8 inches it is brown, friable silt loam. In the next 7 inches it is yellowish brown, friable silty clay loam. In the lower 16 inches it is brown, friable silty clay loam. The substratum extends to a depth of 60 inches. In the upper part it is variegated yellowish brown, dark yellowish brown, and strong brown, friable silt loam. In the lower part it is variegated brown and strong brown, friable loam. In some areas the soil is gently sloping and moderately steep. In a few areas the substratum is dark brown and dark yellowish brown. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few, small, scattered areas of moderately well drained Clarksburg soils on low rises and poorly drained Penlaw soils in depressions on lowlands. Clarksburg soils have a fragipan. Penlaw soils are grayish throughout. Also included are areas where a few large sandstone fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Conestoga soil is moderate. Available water capacity is moderate or high. Surface runoff is medium. In unlimed areas this soil ranges from very strongly acid to neutral in the solum and from moderately acid to slightly alkaline in the substratum.

Most areas of this soil are used as cropland or pasture. Some areas are used for urban development or as woodland.

This soil is fairly well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No major hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is somewhat limited as a site for septic tank absorption fields because of moderate permeability and slope. It is somewhat limited as a site for dwellings and most other urban uses because of slope. It is severely limited as a site for local roads and streets because of low strength.

The land capability classification is 3e. The woodland ordination symbol is 4A.

CrA—Croton silt loam, 0 to 3 percent slopes

This is a nearly level, deep, poorly drained soil on lowlands and in depressions and drainageways. Slopes are smooth or concave. Areas of this soil are irregular or long and narrow in shape and range from 5 to 150 acres in size.

Typically, the surface layer is dark reddish brown, friable silt loam about 12 inches thick. The subsurface layer is dark reddish gray, mottled, friable silt loam about 2 inches thick. The subsoil is about 23 inches thick. In the upper 6 inches it is reddish gray, mottled, firm silt loam. In the next 7 inches it is pinkish gray, mottled, very firm and brittle silt loam. In the lower 10 inches it is reddish brown, mottled, very firm silt loam that has lenses of gray silty clay. The substratum, to a depth of 42 inches, is reddish brown, mottled, firm channery silt loam. Fractured weak red siltstone bedrock is at a depth of 42 inches. In some areas the soil is gently sloping. In some areas the soil contains more sand. In a few areas the soil does not have a fragipan. In some areas the surface layer is loam or silty clay loam. In some areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few, small, scattered areas of very deep, somewhat poorly drained Abbottstown soils on broad uplands and in depressions and drainageways and somewhat poorly drained Bowmansville soils and moderately well drained Rowland soils in lower, nearly level or slightly depressional areas on bottom lands. These soils are less silty than the Croton soil. Also included are a few small areas of moderately well drained Raritan soils on stream terraces. Included soils make up about 15 percent of the map unit.

Permeability of the Croton soil is moderate or moderately slow above the fragipan and slow or very slow in the fragipan and in the substratum. Available water capacity is moderate or high. Surface runoff is low to ponded. The fragipan is at a depth of 15 to 25 inches. The seasonal high water table is within 6 inches of the surface, mainly in winter and in early spring. In unlimed areas this soil is very strongly acid or strongly acid in the upper part of the solum and very strongly acid to moderately acid in the lower part and in the substratum. The fragipan restricts root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used for urban development.

This soil is poorly suited to cultivated crops because of wetness and very slow or slow permeability in the fragipan. Existing, well maintained surface or subsurface drainage systems help to overcome wetness. Cover crops and a conservation tillage system that leaves protective amounts of crop residue on the surface help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. It is poorly suited to such deep-rooted legumes as alfalfa because very slow or slow permeability in the fragipan restricts root penetration and downward movement of water. Overgrazing or grazing when the soil is wet, however, can cause surface compaction and poor tilth. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderate. The main management concerns are the equipment limitation and seedling mortality. The seasonal high water table and fragipan restrict rooting depth. Equipment should be operated only when the soil is relatively dry or frozen. Using special planting stock and overstocking help to overcome seedling mortality. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and very slow permeability. It is very limited as a site for dwellings and most other urban uses because of wetness. It is very limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 4w. The woodland ordination symbol is 3W.

CrB—Croton silt loam, 3 to 8 percent slopes

This is a gently sloping, deep, poorly drained soil on lower slopes and in depressions and drainageways. Slopes are smooth and concave. Areas of this soil are irregular or long and narrow in shape and range from 5 to 100 acres in size.

Typically, the surface layer is dark reddish brown, friable silt loam about 12 inches thick. The subsurface layer is dark reddish gray, mottled, friable silt loam about 2 inches thick. The subsoil is about 23 inches thick. In the upper 6 inches it is reddish gray, mottled, firm silt loam. In the next 7 inches it is pinkish gray, mottled, very firm and brittle silt loam. In the lower 10 inches it is reddish brown, mottled, very firm silt loam that has lenses of gray silty clay. The substratum, to a depth of 42 inches, is reddish brown, mottled, firm channery silt loam. Fractured, weak red siltstone bedrock is at a depth of 42 inches. In some areas the soil is nearly level. In some areas the soil has more sand. In a few areas the soil does not have a fragipan. In some areas the surface layer is loam or silty clay loam. In some areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few, small, scattered areas of very deep, somewhat poorly drained Abbottstown soils on broad uplands and in depressions and drainageways and somewhat poorly drained Bowmansville soils and moderately well drained Rowland soils in lower, nearly level or slightly depressional areas on bottom lands. These soils are less silty than the Croton soil. Also included are a few small areas of moderately well drained Raritan soils on stream terraces. Included soils make up about 15 percent of the map unit.

Permeability of the Croton soil is moderate or moderately slow above the fragipan and very slow or slow in the fragipan and in the substratum. Available water capacity is moderate or high. Surface runoff is very high. The fragipan is at a depth of 15 to 25 inches. The seasonal high water table is within 6 inches of the surface mainly in winter and in early spring. In unlimed areas this soil is very strongly acid or strongly acid in the upper part of the solum and very strongly acid to moderately acid in the lower part and in the substratum. The fragipan restricts root penetration.

Most areas of this soil are used as cropland, pasture, or woodland. Some areas are used for urban development or as woodland.

This soil is poorly suited to cultivated crops because of slow permeability in the fragipan and wetness. Existing, well maintained surface or subsurface drainage systems help to overcome wetness. Erosion is a hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth. Subsurface tile is needed for seepy areas in some drainageways.

This soil is well suited to pasture. It is poorly suited to deep-rooted legumes, such as alfalfa, because very slow and slow permeability in the fragipan restricts roots. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderate. The main management concerns are the equipment limitation and seedling mortality. The seasonal high water table and fragipan restrict rooting depth. Equipment should be operated only when the soil is relatively dry or frozen. Using special planting stock and overstocking help to overcome seedling mortality. Machine planting of trees is practical in large areas.

This soil very limited as a site for septic tank absorption fields because of wetness and restricted permeability. The soil is very limited as a site for dwellings and most other urban uses. The soil is very limited as a site for local roads and streets because of wetness, low strength, and frost action.

The land capability classification is 4w. The woodland ordination symbol is 3W.

DAM—Dams

This map unit consists of dams.
The land capability classification is 8s.

Dx—Dumps, refuse

This map unit consists of areas that have been cut and filled for the disposal of refuse and waste from residential, commercial, and industrial sites. It is on uplands. Slopes are very complex. They are nearly level to strongly sloping, and range from 0 to 15 percent. Areas of this map unit are irregular in shape, and range from 10 to 200 acres in size.

Typically, the fill and pit areas consist of mixed surface soil, subsoil, and substratum of the original soil. Textures are silt loam, silty clay loam, silty clay, clay, clay loam, loam, sandy clay loam, and sandy loam. In some areas the soil material is gravel, sand, stones, or boulders.

The soil materials comprising Dumps, refuse, are variable. A detailed onsite investigation is needed to determine the suitability and limitations of these areas for any proposed use.

Included with Dumps, refuse, in mapping are small areas of soils that have not been disturbed.

On Dumps, refuse, permeability, available water capacity, runoff, reaction, and depth to bedrock are variable.

Most areas of this map unit are barren or have a sparse vegetation of grasses, shrubs, and trees. Some areas are still active, but a few are abandoned.

No land capability classification or woodland ordination symbols are assigned.

Dy—Dunning silty clay loam

This is a nearly level, very deep, poorly drained soil on flood plains. Slopes are smooth, and range from 0 to 3 percent. Areas of this soil are long and narrow in shape and range from 5 to 200 acres in size.

Typically, the surface layer is very dark, grayish brown, friable silty clay loam about 11 inches thick. The subsoil is about 19 inches thick. In the upper 7 inches it is dark gray, mottled, friable silty clay. In the lower 12 inches it is grayish brown, mottled, firm silty clay. The substratum extends to a depth of 60 inches. In the upper 6 inches it is yellowish brown, mottled, firm silty clay. In the next 6 inches it is light brownish gray, mottled, firm silty clay loam. In the lower 18 inches it is grayish brown, mottled, friable, stratified sandy clay loam and gravelly sandy clay loam. In some areas the soil is less than 40 inches deep to the stratified substratum or the surface layer is black. In a few areas the soil has more sand and less clay.

Included with this soil in mapping are a few small areas of moderately well drained Lindside soils in swells on bottom lands. These soils are browner or redder throughout than the Dunning soil. Also included are some areas where a few large rock fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Dunning soil is moderate in the surface layer and slow in the subsoil and the substratum. Available water capacity is high, but the high water table restricts rooting depth. The seasonal high water is within 6 inches of the surface for most of the year. Surface runoff is very high. This soil is subject to frequent flooding for brief periods, mainly in winter and in early spring. In unlimed areas this soil is moderately acid to slightly alkaline throughout.

Most areas of this soil are used for hayland, pasture, or woodland or are idle land.

This soil is fairly well suited to corn, soybeans, and most specialty crops, but flooding and wetness are limitations. It generally is unsuitable to small grain because floodwaters cause severe crop damage. Existing dikes and levees in large areas help to reduce flooding. Existing, well maintained drainage systems help to overcome wetness. A conservation tillage system that leaves protective amounts of crop residue on the surface, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Water-tolerant species are favored in timber stands. The equipment limitation, seedling mortality, and windthrow hazard are major management concerns. The high water table restricts use of equipment to midsummer, when the soil is dry, or to midwinter, when the soil is frozen or has an adequate snow cover. Special site preparation, such as bedding before planting, can reduce the seedling mortality rate. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is practical in large areas.

Flooding and wetness are severe limitations. This soil is unsuited as a site for septic tank absorption fields and dwellings. The soil is very limited as a site for local roads and streets because of low strength, wetness, flooding, and frost action.

The land capability classification is 3w. The woodland ordination symbol is 6W.

EdB—Edgemont channery loam, 3 to 8 percent slopes

This is a gently sloping, very deep, well drained soil on broad ridgetops. Slopes are smooth or convex. Areas of this soil are irregular in shape and range from 5 to 200 acres in size.

Typically, the surface layer is very dark gray, brown, and yellowish brown friable channery loam about 8 inches thick. The subsoil is about 22 inches thick. In the upper 16 inches it is yellowish brown, friable channery loam. In the lower 6 inches it is yellowish brown, friable very channery sandy loam. The substratum, to a depth of 60 inches, is brown, friable extremely channery sandy loam. In some areas the soil is nearly level and strongly sloping. In some areas the soil has less clay and more sand. In some areas depth to bedrock is less than 60 inches. In a few areas the solum is redder. In some areas a few rock fragments are on the surface.

Included with this soil in mapping, on lower benches and footslopes, are a few, scattered areas of Buchanan soils. These soils are very deep and moderately well drained, and have a fragipan at a depth of 25 inches. Included soils make up about 10 percent of the map unit.

Permeability of the Edgemont soil is moderate or moderately rapid. Available water capacity is low or moderate. Surface runoff is low. In unlimed areas the soil is extremely acid to strongly acid.

Most areas of this soil are used as cropland or pasture. Some areas are used for urban development or are woodland.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard, and low or moderate available water capacity during periods of low rainfall is a limitation. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Some suitable management practices are proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods. These practices help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Machine planting of trees is practical in large areas.

This soil is not limited as a site for septic tank absorption fields. It is suited as a site for dwellings without basements. It is not limited as a site for dwellings with basements and for most other urban uses. It is somewhat limited as a site for local roads and streets because of frost action.

The land capability classification is 2e. The woodland ordination symbol is 4A.

EdC—Edgemont channery loam, 8 to 15 percent slopes

This is a strongly sloping, very deep, well drained soil on ridgetops and side slopes. Slopes are smooth or convex. Areas of this soil are irregular or long and narrow in shape and range from 5 to 200 acres in size.

Typically, the surface layer is dark gray, brown, and yellowish brown, very friable channery loam about 8 inches thick. The subsoil is about 22 inches thick. In the upper 16 inches it is yellowish brown, friable channery loam. In the lower 6 inches it is yellowish brown, friable very channery sandy loam. The substratum, to a depth of 60 inches, is brown, friable extremely channery sandy loam. In some areas the soil is gently sloping or moderately steep or has less clay and more sand. In some areas depth to bedrock is less than 60 inches. In a few areas the solum is redder or a few rock fragments are on the surface.

Included with this soil in mapping are a few scattered areas of moderately deep, somewhat excessively drained Mt. Airy soils on the sides of ridges and hills. These soils contain more sand and rock fragments than the Edgemont soil. Also included are a few small areas where many large boulders are on the surface and in the soil. Also included are a few areas where sandstone or limestone bedrock crops out. Included soils make up about 15 percent of the map unit.

Permeability of the Edgemont soil is moderate or moderately rapid. Available water capacity is low or moderate. Surface runoff is low. In unlimed areas the soil is extremely acid to strongly acid.

Most areas of this soil are used as cropland or pasture or are woodland. Some areas are used for urban development.

This soil is well suited to most specialty crops. It is fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard and low or moderate available water during periods of low rainfall is a limitation. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is somewhat limited as a site for septic tank absorption fields because of slope. It is somewhat limited as a site for dwellings without basements because of slope. It is moderately limited as a site for dwellings with basements and most other urban uses because of slope. It is somewhat limited as a site for local roads and streets because of frost action and slope.

The land capability classification is 3e. The woodland ordination symbol is 4A.

EdD—Edgemont channery loam, 15 to 25 percent slopes

This is a moderately steep, very deep, well drained soil on ridges and hills. Slopes are smooth or convex. Areas of this soil are irregular and or are long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is dark gray, brown, and yellowish brown, very friable channery loam about 8 inches thick. The subsoil is about 22 inches thick. In the upper 16 inches it is yellowish brown, friable channery loam. In the lower 6 inches it is yellowish brown, friable very channery sandy loam. The substratum, to a depth of 60 inches, is brown, friable extremely channery sandy loam. In some areas the soil is strongly sloping and steep. In some areas the soil has more clay. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few scattered areas of moderately deep, somewhat excessively drained Mt. Airy soils on sides of ridges and hills. These soils contain more sand and rock fragments than the Edgemont soil. Also included are a few small areas where many large boulders are on the surface and in the soil. Also included are a few areas where sandstone, schist, or phyllite bedrock crops out. Included soils make up about 15 percent of the map unit.

Permeability of the Edgemont soil is moderate or moderately rapid. Available water capacity is low or moderate. Surface runoff is medium. In unlimed areas this soil is extremely acid to strongly acid.

Most areas of this soil are used as pasture or woodland or are idle land. A few areas are used for cultivated crops.

This soil is fairly well suited to some specialty crops. It is poorly suited to corn, soybeans, and small grain in areas where slope is less than 18 percent. It is unsuited to cultivated crops in areas where slope is more than 18 percent. Erosion is a major hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yield, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation is the major management concern. When the soil is wet, logging roads tend to be slippery and ruts form quickly. Use of planting or logging equipment is limited during wet periods. Machine planting of trees is generally practical in large areas.

This soil is very limited as a site for septic tank absorption fields, dwellings, and local roads and streets because of slope.

The land capability classification is 4e. The woodland ordination symbol is 4R.

EeB—Edgemont channery loam, 0 to 8 percent slopes, very stony

This is a nearly level and gently sloping, very deep, well drained soil on ridgetops. Slopes are smooth and convex. Areas of this soil are irregular or are long and narrow in shape and range from 5 to 400 acres in size. Stones and boulders cover about 1 to 3 percent of the surface. They range in width from 1 to more than 3 feet.

Typically, the surface layer is very dark gray, very friable channery loam about 2 inches thick. The subsurface layer is brown, friable channery loam 3 inches thick. The subsoil is about 25 inches thick. In the upper 19 inches it is yellowish brown, friable channery loam. In the lower 6 inches it is yellowish brown, friable, very channery sandy loam. The substratum, to a depth of 60 inches, is brown, friable extremely channery loam. In some areas the soil is strongly sloping to steep. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few scattered areas of moderately deep, somewhat excessively drained Mt. Airy soils on the sides of ridges and hills. These soils have more sand and rock fragments than the Edgemont soil. Also included are a few small areas where many large boulders are on the surface and in the soil. Also included are a few areas where sandstone and limestone bedrock crops out. Included soils make up about 15 percent of the map unit.

Permeability of the Edgemont soil is moderate or moderately rapid. Available water capacity is low or moderate. Surface runoff is low. In unlimed areas this soil is extremely acid to strongly acid.

Most areas of this soil are used as woodland. Some areas are used for urban development.

This soil is unsuited to grasses and legumes, permanent pasture, and cultivated crops because of the amount of stones and boulders on the surface. It is moderately suited to production and harvest of timber. Stones and boulders restrict machine planting of trees. Disturbing the ground cover as little as possible when trees are harvested helps to control erosion.

This soil is not limited as a site for septic tank absorption fields. It is suitable as a site for dwellings without basements. It is not limited as a site for dwellings without basements and for most other urban uses. It is moderately limited as a site for local roads and streets because of frost action.

The land capability classification is 6s. The woodland ordination symbol is 4A.

EeD—Edgemont channery loam, 8 to 25 percent slopes, very stony

This is a strongly sloping and moderately steep, deep and very deep, well drained soil on ridges and hills. Slopes are smooth or convex. Areas of the soil are irregular or are long and narrow in shape and range from 10 to 400 acres in size. Stones and boulders cover about 1 to 3 percent of the surface. They range in size from 1 to more than 3 feet across.

Typically, the surface layer is very dark gray, very friable channery loam about 2 inches thick. The subsurface layer is brown channery loam about 3 inches thick. The subsoil is about 25 inches thick. In the upper 19 inches it is yellowish brown, friable channery loam. In the lower 6 inches it is yellowish brown, friable very channery sandy loam. The substratum, to a depth of 60 inches, is brown, very friable extremely channery sandy loam. In some areas the soil is gently sloping and steep. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few scattered areas of moderately deep, somewhat excessively drained Mt. Airy soils on the side of ridges and hills. These soils contain more sand and rock fragments than the Edgemont soil. Also included are a few small areas where many large boulders are on the surface and in the soil. Also included are a few areas where sandstone or limestone bedrock crops out. Included soils make up about 15 percent of the map unit.

Permeability of the Edgemont soil is moderate or moderately rapid. Available water capacity is low or moderate. Surface runoff is medium. In unlimed areas this soil is extremely acid or strongly acid.

Most areas of this soil are used as woodland or are idle land. Some areas are used for urban development. This soil is unsuited to grasses and legumes, permanent pasture, and cultivated crops because of the amount of stones and boulders on the surface.

Potential productivity for trees on this soil is moderately high. The main management concern is the equipment limitation. Operating ordinary crawler tractors and rubber-tired skidders can be hazardous because of slope. Slope, stones, and boulders restrict machine planting of trees. Disturbing the ground cover as little as possible when harvesting trees helps to control erosion.

This soil is severely limited as a site for septic tank absorption fields, dwellings, and local roads and streets because of slope.

The land capability classification is 6s. The woodland ordination symbol is 4R.

EeF—Edgemont channery loam, 25 to 70 percent slopes, very stony

This is a steep and very steep, deep and very deep, well drained soil on ridges and hills. Slopes are smooth and convex. Areas of this soil are long and narrow in shape, and range from 10 to 400 acres in size. Stones and boulders cover about 1 to 3 percent of the surface. They range from 1 to 3 feet in size.

Typically, the surface layer is very dark gray, very friable channery loam about 2 inches thick. The subsurface layer is brown, channery loam about 3 inches thick. The subsoil is about 25 inches thick. In the upper 19 inches it is yellowish brown, friable channery loam. In the lower 6 inches it is yellowish brown, friable very channery sandy loam. The substratum, to a depth of 60 inches, is brown, extremely channery sandy loam. In some areas the soil is strongly sloping or moderately steep.

Included with this soil in mapping are a few scattered areas of moderately deep, somewhat excessively drained Mt. Airy soils on sides of ridges and hills. These soils have more sand and rock fragments than the Edgemont soil. Also included are a few small areas where many large boulders are on the surface and in the soil. Also included are a few areas where sandstone or limestone bedrock crops out. Included soils make up about 15 percent of the map unit.

Permeability of the Edgemont soil is moderate or moderately rapid. Available water capacity is low or moderate. Runoff is medium. In unlimed areas this soil is extremely acid to strongly acid.

Most areas of this soil are used as woodland or are idle land. The soil is unsuited to permanent pasture and cultivated crops because of slope and the amount of stones and boulders on the surface.

Potential productivity for trees on this soil is moderately high. The main management concern is the equipment limitation. Because of the equipment hazard, the grade of logging roads, skid trails, and landings should be gentle and water should be removed by water bars, out sloping road surfaces, culverts, and drop structures. Ordinary crawler tractors and rubber-tired skidders cannot be operated safely on these slopes. Slope, stones, and boulders restrict machine planting of trees.

These soils are unsuited to use as a site for septic tank absorption fields, dwellings, and local roads and streets because of slope.

The land capability classification is 7s. The woodland ordination symbol is 4R.

GbB—Glenelg channery silt loam, 3 to 8 percent slopes

This is a gently sloping, deep, well drained soil on ridgetops. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 200 acres in size.

Typically, the surface layer is dark brown, very friable channery silt loam about 8 inches thick. The subsoil is about 21 inches thick. In the upper 4 inches it is reddish brown, friable channery silt loam. In the next 13 inches it is yellowish red, friable channery silt loam and channery silty clay loam. In the lower 4 inches it is yellowish red, friable channery loam. The substratum, to a depth of 50 inches, is variegated yellowish red, red, and light reddish brown, very micaceous very channery loam. Weathered fractured mica schist bedrock is at a depth of 50 inches. In some areas the soil is nearly level or strongly sloping. In some areas the soil has more clay throughout. In some areas depth to bedrock is less than 40 inches. In some areas the solum and the substratum are red.

Included with this soil in mapping are a few small areas of somewhat excessively drained Manor and Mt. Airy soils on narrow ridges. Also included are narrow strips of wetter soils along narrow drainageways at the bottom of draws. Also included are some areas where the lower part of the subsoil is grayish. Included soils make up about 15 percent of the map unit.

Permeability of the Glenelg soil is moderate. Available water capacity is moderate or high. Surface runoff is medium. In unlimed areas this soil is very strongly acid or strongly acid in the surface layer and very strongly acid to slightly acid in the subsoil and substratum.

Most areas of this soil are used as cropland and pasture. A few areas are used as woodland or are idle land.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is a hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Some suitable management practices are proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods. These practices help to keep the pasture and soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas. This soil is moderately limited as a site for septic tank absorption fields because of depth to bedrock and moderate permeability. The soil is suitable as a site for dwellings and most other urban uses. The soil is somewhat limited as a site for local roads and streets because of frost action.

The land capability classification is 2e. The woodland ordination symbol is 4A.

GbC—Glenelg channery silt loam, 8 to 15 percent slopes

This is a strongly sloping, deep, well drained soil on ridgetops and side slopes. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 200 acres in size.

Typically, the surface layer is dark brown, very friable channery silt loam about 8 inches thick. The subsoil is about 21 inches thick. In the upper 4 inches it is reddish brown, friable channery silt loam. In the next 13 inches it is yellowish red, friable channery silt loam and friable silty clay loam. In the lower 4 inches it is yellowish red, friable channery loam. The substratum, to a depth of 50 inches, is variegated yellowish red, red, and light reddish brown, very micaceous very channery loam. Weathered fractured mica schist bedrock is at a depth of 50 inches. In some areas the soil is gently sloping and moderately steep. In some areas the soil has more clay. In some areas depth to bedrock is less than 40 inches. In some areas the solum and the substratum are red.

Included with this soil in mapping are a few small areas of somewhat excessively drained Manor and Mt. Airy soils on narrow ridges. Also included are narrow strips of wetter soils along narrow drainageways at the bottom of draws. Also included are some areas of soils that are grayish in the lower part of the subsoil. Included soils make up about 15 percent of the map unit.

Permeability of the Glenelg soil is moderate. Available water capacity is moderate or high. Surface runoff is medium. In unlimed areas this soil is very strongly acid or strongly acid in the surface layer and very strongly acid to slightly acid in the subsoil and substratum.

Most areas of this soil are used as cropland or pasture. A few areas are used as woodland or are idle land.

This soil is well suited to most specialty crops. It is fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is moderately limited as a site for septic tank absorption fields because of depth to bedrock, moderate permeability, and slope. The soil is moderately limited as a site for dwellings and most other urban uses because of slope. It is moderately limited as a site for local roads and streets because of slope and frost action.

The land capability classification is 3e. The woodland ordination symbol is 4A.

GbD—Glenelg channery silt loam, 15 to 25 percent slopes

This is a moderately steep, deep, well drained soil on ridges and hills. Slopes are convex. Areas of this soil are long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is dark brown, very friable channery silt loam about 8 inches thick. The subsoil is about 21 inches thick. In the upper 4 inches it is reddish brown, friable channery silt loam. In the next 13 inches it is yellowish red, friable channery silt loam and channery silty clay loam. In the lower 4 inches it is yellowish red, friable channery loam. The substratum, to a depth of 50 inches, is variegated yellowish red, red, and light reddish brown very micaceous, very channery loam. Weathered fractured mica schist bedrock is at a depth of 50 inches. In some areas the soil is strongly sloping and steep. In some areas the soil has more clay. In some areas depth to bedrock is less than 40 inches. In some areas the solum and the substratum are red.

Included with this soil in mapping are few small areas of somewhat excessively drained Manor and Mt. Airy soils on narrow ridges. Also included are narrow strips of wetter soils along narrow drainageways at the bottom of draws. Also included are some areas that are grayish in the lower part of the subsoil. Included soils make up about 15 percent of the map unit.

Permeability of the Glenelg soil is moderate. Available water capacity is moderate or high. Surface runoff is high. In unlimed areas this soil is very strongly acid or strongly acid in the surface layer and very strongly acid to slightly acid in the subsoil and in the substratum.

Most areas of this soil are used as pasture or woodland. Some areas are used as cropland or are idle land.

This soil is fairly well suited to specialty crops. It is poorly suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The erosion hazard and the equipment limitation are major management concerns. Constructing roads on the contour to reduce slope is a suitable management practice. Slope restricts use of equipment. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields, dwellings, local roads and streets, and most other urban uses because of steepness of slope.

The land capability classification is 4e. The woodland ordination symbol is 4R.

GdA—Glenville silt loam, 0 to 3 percent slopes

This is a nearly level, very deep, moderately well drained soil on broad lowlands and in depressions and drainageways. Slopes are smooth or concave. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is dark brown, friable silt loam about 10 inches thick. The subsoil is about 30 inches thick. In the upper 9 inches it is yellowish brown, mottled, friable and firm silt loam. In the next 17 inches it is yellowish brown, mottled, very firm and brittle silt loam. In the lower 4 inches it is strong brown, mottled, friable channery loam. The substratum, to a depth of 60 inches, is strong brown, mottled, very friable channery loam in the upper part and extremely channery loam in the lower part. In some areas the soil is gently sloping. In some areas the solum is less than 20 inches thick. In other areas it is loam. In a few areas the soil does not have a fragipan. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few small areas of moderately well drained Codorus soils and poorly drained Hatboro soils on narrow bottom lands next to stream channels. Hatboro soils are grayish throughout. Also included are a few very small areas of somewhat excessively drained Manor and Mt. Airy soils at the base of side slopes and on narrow, low breaks adjacent to major streams. Also included are areas where some large rock fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Glenville soil is moderate above the fragipan, slow in the fragipan, and moderately slow in the substratum. Available water capacity is moderate. Surface runoff is medium. The fragipan is at a depth of 19 to 36 inches. The seasonal high water table is at a depth of 18 to 36 inches. In unlimed areas this soil is very strongly acid to neutral in the surface layer and very strongly acid to moderately acid in the substratum. The fragipan and the seasonal high water table restrict root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used for urban development. A few small areas are used as woodland.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. The seasonal high water table and moderately slow and slow permeability in the fragipan are limitations. During periods when rainfall is below normal or poorly distributed, drought can damage crops. Existing, well maintained drainage systems help to overcome wetness. Leaving stubble on the surface and adding other organic material will conserve moisture. Crop residue management, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation, seedling mortality, and windthrow hazard are major management concerns. Equipment should be operated only when the soil is relatively dry or is frozen. Using special planting stock and limited overstocking help to overcome seedling mortality. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is practical in large areas.

Because of wetness and depth to a restrictive layer, this soil is very limited as a site for septic tank absorption fields. It is very limited as a site for dwellings and for most other urban uses because of wetness. It is severely limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 2w. The woodland ordination symbol is 4W.

GdB—Glenville silt loam, 3 to 8 percent slopes

This is a gently sloping, very deep, moderately well drained soil on broad lowlands and in depressions and drainageways. Slopes are smooth or concave. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is dark brown, friable silt loam about 10 inches thick. The subsoil is about 30 inches thick. In the upper 9 inches it is yellowish brown, mottled, friable and firm silt loam. In the next 17 inches it is yellowish brown, mottled, very firm and brittle silt loam. In the lower 4 inches it is strong brown, mottled, friable channery loam. The substratum, to a depth of 60 inches, is strong brown, mottled, very friable channery loam in the upper part and extremely channery loam in the lower part. In some areas the soil is nearly level or strongly sloping. In a few areas the solum is less than 20 inches thick, and in other areas it is loam throughout. In some areas the soil does not have a fragipan. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few small areas of somewhat excessively drained Manor and Mt. Airy soils on narrow ridges and at the base of side slopes next to stream channels and poorly drained Baile soils in lower, nearly level or slightly depressional areas on lowlands. Except the Baile soil, which has a grayish solum, these soils do not have gray mottles in the solum. Also included are a few very small areas of somewhat excessively drained Manor soils on higher hills. Also included are areas where some large rock fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Glenville soil is moderate above the fragipan, slow or moderately slow in the fragipan, and moderately slow in the substratum. Available water capacity is moderate. Surface runoff is high. The fragipan is at a depth of 19 to 36 inches. The seasonal high water table is at a depth of 18 to 36 inches. In unlimed areas this soil is very strongly acid to neutral in the solum and moderately acid to very strongly acid in the substratum. The fragipan and the seasonal high water table restrict root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard, and moderately slow and slow permeability in the fragipan and wetness are limitations. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. Existing, well maintained drainage systems will help to overcome wetness. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation, seedling mortality, and windthrow hazard are major management concerns. Equipment should be operated only when the soil is relatively dry or is frozen. Using special planting stock and limited overstocking help to overcome seedling mortality. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is practical in large areas.

This soil very limited as a site for septic tank absorption fields because of wetness and depth to a restrictive layer. It is very limited as a site for dwellings and most other urban uses because of wetness. It is very limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 2e. The woodland ordination symbol is 4W.

Hc—Hatboro silt loam

This is a nearly level, very deep, poorly drained soil on flood plains. Slopes are smooth and range from 0 to 3 percent slopes. Areas of this soil are long and narrow in shape, and range from 5 to 300 acres in size.

Typically, the surface layer is dark brown, mottled, friable silt loam about 6 inches thick. The subsurface layer is light brownish gray, mottled, friable silt loam 6 inches thick. The subsoil is grayish brown and light brownish gray, mottled, friable silt loam about 33 inches thick. The substratum, to a depth of 60 inches, is light brownish gray, mottled, friable gravelly silt loam. In some areas the soil is less than 40 inches deep to the stratified substratum. In some areas the surface layer is black. In a few areas the soil has more sand and less clay.

Included with this soil in mapping are a few, small, scattered areas of moderately well drained Buchanan, Codorus, and Glenville soils. Buchanan soils are on lower benches, on footslopes, and along sides of deep depressions. Codorus soils are in high swells on bottom lands. Glenville soils are on broad lowlands above the Hatboro soil. These soils are less grayish throughout than the Hatboro soil. Glenville soils have a fragipan. Also included are some small areas where a few large rock fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Hatboro soil is moderate in the solum and moderately rapid in the substratum. Available water capacity is high, but the water table restricts rooting depth. The seasonal high water table is within 6 inches of the surface for most of the year. Surface runoff is slow or negligible. The soil is subject to frequent flooding for brief periods, mainly in winter and in early spring. In unlimed areas this soil is very strongly acid to neutral in the solum and moderately acid or slightly acid in the substratum.

Most areas of this soil are used as pasture or woodland or are idle land.

This soil is fairly well suited to corn, soybeans, and most specialty crops, but it is unsuited to small grain because of flooding and wetness. Existing, well maintained drainage systems will help to overcome wetness. A conservation tillage system that leaves protective amounts of crop residue on the surface, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Water-tolerant species are favored in timber stands. The equipment limitation and windthrow hazard are major management concerns. The high water table restricts use of equipment to midsummer, when the soil is dry, or to midwinter, when the soil is frozen or has an adequate snow cover. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to overcome the windthrow hazard. Machine planting of trees is practical in large areas.

Flooding and wetness are severe limitations. This soil is unsuited as a site for septic tank absorption fields and dwellings. It is very limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 3w. The woodland ordination symbol is 3W.

HgB—Highfield channery silt loam, 3 to 8 percent slopes

This is a gently sloping, deep, well drained soil on ridgetops. Slopes are smooth or convex. Areas of this soil are irregular in shape, and range from 5 to 500 acres in size.

Typically, the surface layer is dark brown, friable channery silt loam about 9 inches thick. The subsoil is about 29 inches thick. In the upper 3 inches it is yellowish brown, friable channery silt loam. In the next

12 inches it is light olive brown, friable channery silt loam. In the lower 14 inches it is light olive brown, friable very channery silt loam. The substratum, to a depth of 42 inches, is light olive brown, firm very channery silt loam. Bedrock is at a depth of about 42 inches. In some areas the soil is nearly level or strongly sloping or has more clay. In other areas depth to bedrock is more than 60 inches. In a few areas base saturation is lower.

Included with this soil in mapping are a few scattered areas of somewhat excessively drained Catoctin soils on swells above the Highfield soil. Included soils contain less clay and more rock fragments than the Highfield soil. Also included are some small areas of moderately well drained Buchanan soils on benches and footslopes and some areas where a few large rocks or boulders are on the surface and in the soil. Included soils make up about 10 percent of the map unit.

Permeability of the Highfield soil is moderate. Available water capacity is moderate. Surface runoff is medium. In unlimed areas this soil is very strongly acid or strongly acid in the solum and strongly acid to moderately acid in the substratum.

Most areas of this soil are used as orchards or woodland. A few areas are used as cropland or pasture or are idle land.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No major hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is somewhat limited as a site for septic tank absorption fields because of depth to bedrock and moderate permeability. It is suitable as a site for dwellings without basements. It is somewhat limited as a site for dwellings with basements because of depth to bedrock. The soil is somewhat limited as a site for local roads and streets because of frost action.

The land capability classification is 2e. The woodland ordination symbol is 4A.

HgC—Highfield channery silt loam, 8 to 15 percent slopes

This is a strongly sloping, deep, well drained soil on ridgetops and side slopes. Slopes are smooth or convex. Areas of this soil are irregular in shape, and range from 5 to 300 acres in size.

Typically, the surface layer is dark brown, channery silt loam about 9 inches thick. The subsoil is about 26 inches thick. In the upper 3 inches it is yellowish brown, channery silt loam. In the next 12 inches it is light olive brown, friable channery silt loam. In the lower 14 inches it is light olive brown, friable very channery silt loam. The substratum, to a depth of 42 inches, is light olive brown, firm very channery silt loam. Bedrock is at a depth of about 42 inches. In some areas the soil is gently sloping and moderately steep. In some areas the soil has more clay. In a few areas depth to bedrock is more than 60 inches. In a few areas the soil has a lower base saturation.

Included with this soil in mapping are a few scattered areas of somewhat excessively drained Catoctin soils on swells above the Highfield soil. Included soils have less clay and more rock fragments than the Highfield soil. Also included are some small areas of moderately well drained Buchanan soils on benches and footslopes and areas where a few large rocks or boulders are on the surface and in the soil. Included soils make up about 10 percent of the map unit.

Permeability of this Highfield soil is moderate. Available water capacity is moderate. Surface runoff is medium. In unlimed areas this soil is very strongly acid or strongly acid in the solum and strongly acid to moderately acid in the substratum.

Most areas of this soil are used as orchards or woodland. A few areas are used as cropland or pasture or are idle land.

This soil is well suited to most specialty crops (fig. 10). It is fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed

Figure 10.—Highfield channery silt loam, 8 to 15 percent slopes, is well suited to fruit trees.

waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Some suitable management practices are proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods. These practices help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No major hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is somewhat limited as a site for septic tank absorption fields because of depth to bedrock, moderate permeability, and slope. It is somewhat limited as a site for dwellings without basements and most other urban uses because of slope. The soil is somewhat limited as a site for dwellings with basements because of slope and depth to bedrock. The soil is moderately limited as a site for local roads and streets because of slope and frost action.

The land capability classification is 3e. The woodland ordination symbol is 4A.

HHD—Highfield and Catoctin channery silt loams, 15 to 25 percent slopes

This map unit consists of the deep, well drained Highfield silt loam and the moderately deep, somewhat excessively drained Catoctin channery silt loam. These soils are in moderately steep areas at edges of broad ridges and hills. They were mapped together because they are similar in use, management, and slope. The unit is about 45 percent Highfield soils, 35 percent Catoctin soils, and 20 percent included soils. Slopes are convex. Areas of these soils are irregular or are long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the Highfield soil has a surface layer of dark brown, channery silt loam about 9 inches thick. The subsurface layer is yellowish brown, friable channery silt loam about 3 inches thick. The subsoil is about 26 inches thick. In the upper 12 inches it is light olive brown, friable channery silt loam. In the lower 14 inches it is light olive brown, friable very channery silt loam. The substratum, to a depth of 42 inches, is light olive brown, firm very channery silt loam. Bedrock is at a depth of about 42 inches. In some areas the soil is strongly sloping or steep or has more clay. In other areas depth to bedrock is more than 60 inches. In a few areas base saturation is lower.

Typically, the Catoctin soil has a surface layer of dark brown, friable channery silt loam about 9 inches thick. The subsoil is yellowish brown, friable very channery silt loam about 7 inches thick. The substratum, to a depth of 24 inches, is brown, friable extremely channery silt loam. Bedrock is at a depth of 24 inches. In some areas the soil is strongly sloping and steep. In some areas depth to bedrock is less than 20 inches. In a few areas the solum is less than 15 inches thick.

Included with the Highfield and Catoctin soils in mapping are some scattered areas where a few large rocks or boulders are on the surface and in the soils, some areas where slope is 8 to 15 percent, and exposures of sandstone, shale, or limestone bedrock in the lower part of draws. Included soils make up about 20 percent of the map unit.

Permeability of the Highfield soil is moderate. Available water capacity is moderate. Permeability of the Catoctin soil is moderately rapid. Available water capacity is low or very low. Surface runoff is high on the Highfield soil and medium on the Catoctin soil. In unlimed areas the Highfield soil is very strongly acid or strongly acid in the solum and strongly acid to moderately acid in the substratum. The Catoctin soil is strongly acid to slightly acid in the solum and moderately acid to neutral in the substratum. Depth to bedrock restricts root penetration in the Catoctin soil.

Most areas of these soils are used as orchards or woodland or are idle land. Some areas are used as cropland or pasture.

These soils are fairly well suited to specialty crops and poorly suited to cultivated crops because of slope. Erosion is a hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

These soils are well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees is moderately high on the Highfield soil. It is moderate on the Catoctin soil because of depth to bedrock. The equipment limitation is the main management concern on the Highfield soil. The erosion hazard, the equipment limitation, seedling mortality, and windthrow hazard are major management concerns on the Catoctin soil. Because of the erosion hazard, the grade of logging roads, skid trails, and landings should be gentle and water should be removed by water bars, outsloping road surfaces, culverts, and drop structures. Ordinary crawler tractors and rubber-tired skidders cannot be operated safely on the steeper slopes. When the soils are wet, logging roads tend to be slippery and ruts form quickly. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Some replanting of seedlings may be needed.

These soils are very limited as a site for septic tank absorption fields and dwellings because of depth to bedrock and slope. They are severely limited as a site for local roads and streets because of slope.

The land capability classification for the Highfield and Catoctin soils is 4e. The woodland ordination symbol is 4R for the Highfield soil and 3F for the Catoctin soil.

HKB—Highfield, Catoctin, and Myersville soils, 0 to 8 percent slopes, very stony

This map unit consists of deep, well drained Highfield channery silt loam; moderately deep, somewhat excessively drained Catoctin channery silt loam; and deep, well drained Myersville silt loam. These nearly level and gently sloping soils are on top of broad ridges and hills. They were mapped together because they are similar in use, management, and slope. The map unit is about 40 percent Highfield soils, 30 percent Catoctin soils, 10 percent Myersville soils, and 20 percent included soils. Slopes are convex. Stones cover about 1 to 3 percent of the soil surface. They range in size from 1 to more than 3 feet across. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 100 acres in size.

Typically, Highfield soils have a surface layer of dark brown, friable channery silt loam about 9 inches thick. The subsurface layer is yellowish brown, friable channery silt loam about 3 inches thick. The subsoil is about 26 inches thick. In the upper 12 inches it is light olive brown, friable channery silt loam. In the lower 14 inches it is light olive brown, friable very channery silt loam. The substratum, to a depth of 42 inches, is light olive brown, firm very channery silt loam. Bedrock is at a depth of about 42 inches. In some areas the soils are sloping or steep. In some areas the soils have more clay. In other areas depth to bedrock is less than 40 inches.

Typically, Catoctin soils have a surface layer of dark brown, friable channery silt loam about 9 inches thick. The subsoil is yellowish brown, friable very channery silt loam about 7 inches thick. The substratum, to a depth of 24 inches, is brown, friable extremely channery silt loam. Bedrock is at a depth of 24 inches. In some areas the soils are sloping or steep. In some areas depth to bedrock is less than 20 inches. In other areas the solum is less than 15 inches thick.

Typically, Myersville soils have a surface layer of very dark brown, friable silt loam about 3 inches thick. The subsurface layer is brown, friable silt loam about 6 inches thick. The subsoil is about 29 inches thick. In the upper 5 inches it is yellowish red, friable silty clay loam. In the next 13 inches it is yellowish red, friable channery silty clay loam. In the lower 11 inches it is yellowish red, friable channery silt loam. The substratum, to a depth of 48 inches, is yellowish brown and reddish brown, friable channery loam. Highly weathered metabasalt bedrock is at a depth of 48 inches. In some areas the soils are sloping or steep. In some areas depth to bedrock is less than 40 inches.

Included with these soils in mapping are some scattered areas where a few large rocks or boulders are on the surface and in the soil and some areas where slope is greater than 25 percent. Also included are exposures of sandstone, shale, or limestone bedrock in the lower part of draws. Included soils make up about 20 percent of the map unit.

Permeability of Highfield soils is moderate. Permeability of Myersville soils is moderately rapid in the surface layer and moderate in the subsoil. Available water capacity for Highfield and Myersville soils is moderate. Permeability of Catoctin soils is moderately rapid, and available water capacity is low or very low. Surface runoff is low on Highfield soils, very low on Catoctin soils, and low on Myersville soils. Surface runoff is rapid on all these soils. In unlimed areas Highfield soils are very strongly acid or strongly acid in the solum and strongly acid to moderately acid in the substratum. In unlimed areas Catoctin soils are strongly acid to slightly acid in the solum and moderately acid to neutral in the substratum. In unlimed areas Myersville soils are very strongly acid to moderately acid. Depth to bedrock restricts root penetration in Catoctin soils.

Most areas of these soils are used as woodland. A few areas are used for urban development.

These soils are unsuited to cultivated crops and poorly suited to permanent pasture because of the amount of stones and boulders on the surface. The use of most types of farm machinery is impractical.

Potential productivity for trees on Highfield and Myersville soils is moderately high. It is moderate on Catoctin soils because of depth to bedrock. The equipment limitation is the main management concern on Highfield soils. The erosion hazard, the equipment limitation, seedling mortality, and windthrow hazard are major management concerns on Catoctin soils. The erosion hazard, the equipment limitation, and plant competition are major management concerns on Myersville soils. Because of the erosion hazard, the grade of logging roads, skid trails, and landings should be gentle and water should be removed by water bars, outsloping road surfaces, culverts, and drop structures. Ordinary crawler tractors and rubber-tired skidders cannot be operated safely on steeper slopes. When the soils are wet, logging roads tend to be slippery and ruts form quickly. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Some seedlings may have to be replanted.

Highfield soils are somewhat limited as a site for septic tank absorption fields because of depth to bedrock and moderate permeability. They are suitable as a site for dwellings without basements. They are somewhat limited as a site for dwellings with basements because of depth to bedrock. Highfield soils are somewhat limited as a site for local roads and streets because of frost action.

Catoctin soils are very limited as a site for septic tank absorption fields and dwellings with basements because of depth to bedrock. They are somewhat limited as a site for dwellings without basements and most other urban uses, including local roads and streets, because of depth to bedrock.

Myersville soils are somewhat limited as a site for septic tank absorption fields because of moderate permeability and depth to bedrock. They are suitable as a site for dwellings and most other urban uses. Myersville soils are very limited as a site for local roads and streets because of low strength and frost action.

The land capability classification for Highfield, Catoctin, and Myersville soils is 6s. The woodland ordination symbol is 4R for Highfield soils, 6F for Catoctin soils, and 5F for Myersville soils.

HKD—Highfield, Catoctin, and Myersville soils, 8 to 25 percent slopes, very stony

This map unit consists of deep, well drained Highfield channery silt loam; moderately deep, somewhat excessively drained Catoctin channery silt loam; and deep, well drained Myersville silt loam. These strongly sloping and moderately steep soils are on edges of broad ridges and hills. They were mapped together because they are similar in use, management, and slope. The map unit is about 40 percent Highfield soils, 30 percent Catoctin soils, 10 percent Myersville soils, and 20 percent included soils. Slopes are convex. Stones cover about 1 to 3 percent of the soil surface. They range in size from 1 to more than 3 feet across. Areas of these soils are irregular or are long and narrow in shape, and range from 5 to 100 acres in size.

Typically, Highfield soils have a surface layer of dark brown, friable channery silt loam about 9 inches thick. The subsurface layer is yellowish brown, friable channery silt loam about 3 inches thick. The subsoil is about 26 inches thick. In the upper 12 inches it is light olive brown, friable channery silt loam. In the lower 14 inches it is light olive brown, friable very channery silt loam. The substratum, to a depth of 42 inches, is light olive brown, firm very channery silt loam. Bedrock is at a depth of about 42 inches. In some areas the soils are gently sloping and steep or have more clay. In other areas depth to bedrock is less than 40 inches.

Typically, Catoctin soils have a surface layer of dark brown, friable channery silt loam about 9 inches thick. The subsoil is yellowish brown, friable very channery silt loam about 7 inches thick. The substratum, to a depth of 24 inches, is brown, friable extremely channery silt loam. Bedrock is at a depth of 24 inches. In some areas the soils are sloping or steep. In some areas depth to bedrock is less than 20 inches. In other areas the solum is less than 15 inches thick.

Typically, Myersville soils have a surface layer of very dark brown, friable silt loam about 3 inches thick. The subsurface layer is brown, friable silt loam about 6 inches thick. The subsoil is about 29 inches thick. In the upper 5 inches it is yellowish red, friable silty clay loam. In the next 13 inches it is yellowish red, friable channery silty clay loam. In the lower 11 inches it is yellowish red, friable channery silt loam. The substratum, to a depth of 48 inches, is yellowish brown and reddish brown, friable channery loam. Highly weathered metabasalt bedrock is at a depth of 48 inches. In some areas the soils are sloping or steep. In some areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are some scattered areas where a few large rocks or boulders are on the surface and in the soil and some areas where slope is 8 to 15 percent. Also included are exposures of sandstone, shale, or limestone bedrock in the lower part of draws. Included soils make up about 20 percent of the map unit.

Permeablility of Highfield soils is moderate. Permeability of Myersville soils is moderately rapid in the surface layer and moderate in the subsoil. Available water capacity of Highfield and Myersville soils is moderate. Permeability of Catoctin soils is moderately rapid, and available water capacity is low or very low. Surface runoff is high on Highfield and Myersville soils and medium on Catoctin soils. In unlimed areas Highfield soils are very strongly acid or strongly acid in the solum and strongly acid to moderately acid in the substratum. In unlimed areas Catoctin soils are strongly acid to slightly acid in the solum and moderately acid to neutral in the substratum. In unlimed areas Myersville soils are very strongly acid to moderately acid. In Catoctin soils depth to bedrock restricts root penetration.

Most areas of these soils are used as woodland. A few areas are used for urban development.

These soils are unsuited to cultivated crops and poorly suited to permanent pasture because of the amount of stones and boulders on the surface. Use of most types of farm machinery is impractical.

Potential productivity for trees on Highfield and Myersville soils is moderately high. It is moderate on Catoctin soils because of depth to bedrock. The equipment limitation is the main management concern on Highfield soils. The equipment limitation, seedling mortality, and windthrow hazard are major management concerns on Catoctin soils. The equipment limitation and plant competition are major management concerns on Myersville soils. Erosion is a hazard, and grade of logging roads, skid trails, and landings should be gentle and water should be removed by water bars, outsloping road surfaces, culverts, and drop structures. When the soil is wet, logging roads tend to be slippery and ruts form quickly. Harvest methods that do not isolate the remaining trees or leave then widely spaced help to prevent windthrow. Some seedlings may be need to be replanted.

These soils are very limited as a site for septic tank absorption fields and dwellings with basements because of slope. The soil is very limited as a site for local roads and streets because of slope.

The land capability classification for Highfield, Catoctin, and Myersville soils is 7s. The woodland ordination symbol is 4R for Highfield soils, 6F for Catoctin soils, and 5F for Myersville soils.

HMF—Highfield and Catoctin channery silt loams, 25 to 70 percent slopes, very stony

This map unit is made up of the deep, well drained Highfield channery silt loam and the moderately deep, somewhat excessively drained Catoctin channery silt loam. These steep and very steep soils are on edges of broad ridges and hills. They were mapped together because they were similar in use, management, and slope. The map unit is about 55 percent Highfield soil, 35 percent Catoctin soil, and 10 percent included soils. Slopes are convex. Stones cover about 1 to 3 percent of the soil surface. They range in size from 1 to more than 3 feet across. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 300 acres in size.

Typically, the Highfield soil has a surface layer of dark brown, friable channery silt loam about 9 inches thick. The subsurface layer is yellowish brown, friable channery silt loam about 3 inches thick. The subsoil is about 26 inches thick. In the upper 12 inches it is light olive brown, friable channery silt loam. In the lower 14 inches it is light olive brown, friable very channery silt loam. The substratum, to a depth of 42 inches, is light olive brown, firm very channery silt loam. Bedrock is at a depth of about 42 inches. In some areas the soil is moderately steep. In some areas the soil has more clay. In other areas depth to bedrock is less than 40 inches.

Typically, the Catoctin soil has a surface layer of dark brown, friable channery silt loam about 9 inches thick. The subsoil is yellowish brown, friable very channery silt loam about 7 inches thick. The substratum, to a depth of 24 inches, is brown, friable extremely channery silt loam. Bedrock is at a depth of 24 inches. In some areas the soils are moderately steep. In some areas depth to bedrock is less than 20 inches. In other areas the solum is less than 15 inches thick.

Included with this soil in mapping are some scattered areas where a few large rocks or boulders are on the surface and in the soil and some areas where slope is less than 25 percent. Also included are exposures of sandstone, shale, or limestone bedrock in the lower part of draws. Included soils make up about 10 percent of the map unit.

Permeability of the Highfield soil is moderate, and available water capacity is moderate. Permeability of the Catoctin soil is moderate and moderately rapid, and available water capacity is low or very low. Surface runoff is high on the Highfield soil and medium on the Catoctin soil. In unlimed areas the Highfield soil is very strongly acid or strongly acid in the solum and strongly acid to moderately acid in the substratum. The Catoctin soil is strongly acid to slightly acid in the solum and moderately acid to neutral in the substratum. Depth to bedrock restricts root penetration on the Catoctin soil.

Most areas of these soils are used as woodland. A few areas are used for urban development.

These soils are unsuited to cultivated crops and are poorly suited to permanent pasture because of slope and the amount of stones and boulders on the surface. Use of most types of farm machinery is impractical.

Potential productivity for trees on the Highfield soil is moderately high. It is moderate on the Catoctin soil because of depth to bedrock. The equipment limitation is the main management concern on the Highfield soil. The erosion hazard, the equipment limitation, seedling mortality, and windthrow hazard are major management concerns on the Catoctin soil. Because of the erosion hazard, the grade of logging roads, skid trails, and landings should be gentle and water should be removed by water bars, outsloping road surfaces, culverts, and drop structures. Ordinary crawler tractors and rubber-tired skidders cannot be operated safely on the steeper slopes. When the soils are wet, logging roads tend to be slippery and ruts form quickly. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Some seedlings may have to be replanted.

These soils are very limited as a site for septic tank absorption fields and dwellings because of slope. The soil is very limited as a site for local roads and streets because of slope.

The land capability classification for Highfield and Catoctin soils is 7s. The woodland ordination symbol is 4R for the Highfield soil and 6F for the Catoctin soil.

KnB—Klinesville channery silt loam, 3 to 8 percent slopes

This is a gently sloping, shallow, somewhat excessively drained soil on ridgetops. Slopes are convex. Areas of this soil are long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is reddish brown, very friable channery silt loam about 8 inches thick. The subsoil is red, friable very channery silt loam about 6 inches thick. The substratum, to a depth of 16 inches, is dark red, firm extremely channery silt loam. Fractured, weak, red shale bedrock is at a depth of about 6 inches. In some areas the soil is nearly level and strongly sloping. In some areas the solum is less than 10 inches. In some areas depth to bedrock is less than 16 inches.

Included with this soil in mapping are a few scattered areas of somewhat poorly drained Abbottstown soils on broad ridgetops and a few areas of moderately well drained Reaville soils on knolls and sides of draws below Klinesville soil. These soils are less loamy throughout. Also included are a few small areas of moderately deep, well drained Brecknock and Penn soils on sides of ridges above Klinesville soils. Also included are areas where a few large rock fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Klinesville soil is moderately rapid. Available water capacity is very low. Surface runoff is medium. In unlimed areas this soil is very strongly acid to moderately acid. Shallow depth to bedrock restricts root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or for urban development, or are idle land.

This soil is fairly well suited to corn, soybeans, and small grain. Droughtiness and very low available water capacity are major limitations. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, to conserve moisture, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Drought-tolerant species are favorable for planting. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation and seedling mortality are major management concerns. When the soil is wet, logging roads tend to be slippery and ruts form quickly. Use of planting or logging equipment is limited during wet periods. Thinning or removing undesirable species are suitable management practices. Seedlings can survive and grow well if competing vegetation is controlled and if livestock is excluded from wooded areas. Machine planting generally is practical in large areas.

This soil is very limited as a site for septic tank absorption fields and dwellings with basements because of depth to bedrock. It is very limited as a site for dwellings without basements because of depth to bedrock. The soil is very limited as a site for local roads and streets because of depth to bedrock and frost action.

The land capability classification is 3e. The woodland ordination symbol is 3D.

KnC—Klinesville channery silt loam, 8 to 15 percent slopes

This is a strongly sloping, shallow, somewhat excessively drained soil on ridgetops and side slopes. Slopes are smooth or convex. Areas of this soil are long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is reddish brown, very friable channery silt loam about 8 inches thick. The subsoil is red, friable very channery silt loam about 6 inches thick. The substratum, to a depth of 16 inches, is dark red, firm extremely channery silt loam. Fractured, weak, red shale stone bedrock is at a depth of about 6 inches. In some areas the soil is gently sloping and moderately steep. In some areas the solum is less than 10 inches thick or depth to bedrock is less than 16 inches.

Included with this soil in mapping are a few scattered areas of somewhat poorly drained Abbottstown soils on broad ridgetops and a few areas of moderately well drained Reaville soils on knolls and sides of draws below the Klinesville soil. These soils are less loamy throughout than the Klinesville soil. Also included are a few small areas of moderately deep Brecknock and Penn soils on sides of ridges above the Klinesville soil. Also included are areas where a few large rock fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Klinesville soil is moderately rapid, and available water capacity is very low. Surface runoff is medium. In unlimed areas this soil is very strongly acid to moderately acid. Shallow depth to bedrock restricts root penetration.

Most areas of these soils are used as cropland or pasture. Some areas are used as woodland or for urban development, or are idle land.

This soil is fairly well suited to most specialty crops. It is poorly suited to cultivated crops because of very low available water capacity. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, to conserve moisture, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Drought-tolerant species are favorable for planting. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation and seedling mortality are major management concerns. When the soil is wet, logging roads tend to be slippery and ruts form quickly. Use of planting or logging equipment is limited during wet periods. Thinning or removing undesirable species are suitable management practices. Seedlings can survive and grow well if competing vegetation is controlled and if livestock is excluded from wooded areas. Machine planting generally is practical in large areas.

This soil is very limited as a site for septic tank absorption fields and dwellings because of depth to bedrock and slope. It is very limited as a site for local roads and streets because of depth to bedrock, slope, and frost action.

The land capability classification is 4e. The woodland ordination symbol is 3D.

KnD—Klinesville channery silt loam, 15 to 25 percent slopes

This is a moderately steep, shallow, somewhat excessively drained soil on ridges and hills. Slopes are convex. Areas of this soil are long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is reddish brown, very friable channery silt loam about 8 inches thick. The subsoil is red, friable very channery silt loam about 6 inches thick. The substratum, to a depth of 16 inches, is dark red, firm extremely channery silt loam. Fractured, weak, red shale bedrock is at a depth of about 16 inches. In some areas the soil is strongly sloping and steep. In some areas the solum is less than 10 inches thick. In some areas depth to bedrock is less than 16 inches.

Included with this soil in mapping are a few scattered areas of somewhat poorly drained Abbottstown soils on broad ridgetops and a few areas of moderately well drained Reaville soils on knolls and sides of draws below the Klinesville soil. These soils are less loamy throughout than the Klinesville soil. Also included are a few small areas of moderately deep Brecknock and Penn soils on sides of ridges above the Klinesville soil and areas where a few large rock fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Klinesville soil is moderately rapid, and available water capacity is very low. Surface runoff is high. In unlimed areas this soil is very strongly acid to moderately acid. Shallow depth to bedrock restricts root penetration.

Most areas of this soil are used as pasture. Some areas are used as woodland or are idle land.

This soil is unsuited to cultivated crops because of slope, very low available water capacity, and shallow depth to bedrock.

This soil is fairly well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Drought-tolerant species are favorable for planting. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation and seedling mortality are major management concerns. When the soil is wet, logging roads tend to be slippery and ruts form quickly. The use of planting or logging equipment is limited during wet periods. Thinning or removing undesirable species are suitable management practices. Seedlings can survive and grow well if competing vegetation is controlled and if livestock is excluded from wooded areas. Machine planting generally is practical in large areas.

This soil is very limited as a site for septic tank absorption fields and dwellings because of depth to bedrock and slope. The soil is very limited as a site for local roads and streets because of slope and depth to bedrock.

The land capability classification is 6e. The woodland ordination symbol is 3D.

KnE—Klinesville channery silt loam, 25 to 40 percent slopes

This is a steep, shallow, somewhat excessively drained soil on ridges and hills. Slopes are convex. Areas of this soil are long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is reddish brown, very friable channery silt loam about 8 inches thick. The subsoil is red, friable very channery silt loam about 6 inches thick. The substratum, to a depth of 16 inches, is dark red, firm extremely channery silt loam. Fractured, weak, red shale bedrock is at a depth of about 6 inches. In some areas the soil is strongly sloping and very steep. In some areas the solum is less than 10 inches thick. In some areas depth to bedrock is less than 16 inches.

Included with this soil in mapping are a few scattered areas of well drained Brecknock and Penn soils on broad ridgetops and side slopes above the Klinesville soil. These soils are less loamy throughout than the Klinesville soil. Also included are a few small areas of moderately deep Steinsburg soils on sides of ridges above the Klinesville soil and areas where a few large rock fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Klinesville soil is moderately rapid, and available water capacity is very low. Surface runoff is high. In unlimed areas this soil is very strongly acid or moderately acid. Shallow depth to bedrock restricts root penetration.

Most areas of this soil are used as woodland or pasture. Some areas are idle land.

This soil is unsuited to cultivated crops and hay crops and is poorly suited to grasses and legumes for permanent pasture because of slope, low available water capacity, and shallow depth to bedrock. Machinery that can be operated on steep and very steep slopes should be used during seedbed preparation. Permanent stands of grasses and legumes help to reduce surface runoff and to control erosion. Overgrazing or tramping by livestock when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction and poor tilth. Proper seeding rates, pasture rotation, timely grazing, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation and seedling mortality are major management concerns. When the soil is wet, logging roads tend to be slippery and ruts form quickly. Use of planting or logging equipment is limited during wet periods. Thinning or removing undesirable species are suitable management practices. Seedlings can survive and grow well if competing vegetation is controlled and if livestock is excluded from wooded areas. Machine planting generally is practical in large areas.

This soil is very limited as a site for septic tank absorption fields, dwellings, and local roads and streets because of slope and depth to bedrock.

The land capability classification is 7e. The woodland ordination symbol is 3D.

Lc—Lamington silt loam

This is a nearly level, very deep, poorly drained soil on benches and lowlands and in depressions above flood plains of large streams. Slopes are smooth or concave, and range from 0 to 3 percent. Areas of this soil are oval, irregular, or long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is dark brown, friable silt loam about 8 inches thick. The subsurface layer is dark reddish gray, mottled, friable silt loam 3 inches thick. The subsoil is about 35 inches thick. In the upper 6 inches it is pinkish gray, mottled, firm silty clay loam. In the next 15 inches it is reddish gray, mottled, very firm and brittle clay loam. In the lower 14 inches it is pinkish gray, mottled, firm cobbly loam. The substratum, to a depth of 60 inches, is stratified sand and gravel. In some areas the soil is gently sloping. In some areas the soil has more sand and gravel throughout. In some areas the upper part of the subsoil is brown. In some areas the solum is less than 40 inches thick, and in other areas the soil does not have a fragipan. In some areas base saturation is high.

Included with this soil in mapping are a few, small, scattered areas of well drained Birdsboro soils and moderately well drained Raritan soils on narrow ridgetops above the Lamington soil. Also included are a few small areas of somewhat poorly drained Bowmansville soils on narrow bottom lands. Included soils make up about 15 percent of the map unit.

Permeability of the Lamington soil is moderate in the solum above the fragipan, slow in the fragipan, and moderate to rapid in the substratum. Available water capacity is high. The high water table and the fragipan restrict rooting depth. The seasonal high water table is within 6 inches of the surface for most of the year. Surface runoff is very low or negligible. In unlimed areas this soil is very strongly acid or strongly acid.

Most areas of this soil are used as cropland, pasture, or woodland.

This soil is poorly suited to corn, soybeans, and most specialty crops because of wetness and ponding. Existing, well maintained drainage systems with suitable outlets will help to remove excess water. A system of conservation tillage that leaves protective amounts of crop residue on the surface, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Some suitable management practices are proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods. These practices help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Water-tolerant species are favored in timber stands. The equipment limitation, seedling mortality, and windthrow hazard are major management concerns. The high water table restricts use of equipment to midsummer, when the soil is dry, or to midwinter, when the soil is frozen or has an adequate snow cover. Special site preparation, such as bedding before planting, can reduce the seedling mortality rate. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Seedlings survive and grow well if competing vegetation is controlled, especially during the first few years, and if livestock is excluded from the wooded areas. Machine planting of trees is practical in large areas.

This soil is unsuited as a site for septic tank absorption fields and dwellings because of wetness and depth to a restrictive layer. The soil is very limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 4w. The woodland ordination symbol is 4W.

LeB—Lansdale loam, 3 to 8 percent slopes

This is a gently sloping, deep, well drained soil on broad, undulating uplands and on ridgetops of dissected uplands. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is dark brown, friable loam about 10 inches thick. The subsoil is about 20 inches thick. In the upper 7 inches it is dark yellowish brown, friable loam. In the lower 13 inches it is yellowish brown, friable and very friable sandy loam. The substratum, to a depth of 47 inches, is yellowish brown, very friable loamy sand and loose channery loamy sand. Fractured dark grayish brown sandstone is at a depth of about 47 inches. In some areas the soil is nearly level and strongly sloping. In some areas the lower part of the subsoil is dusky red. In a few areas the surface layer is silt loam.

Included with this soil in mapping are a few scattered areas of moderately well drained Readington soils on broad ridgetops and in depressions above the Lansdale soil. These soils have a redder solum than the Lansdale soil. Also included are some small areas of poorly drained Croton soils in depressions on lowlands. Also included are extremely channery, somewhat excessively drained Steinsburg soils in landscape positions similar to those of the Lansdale soil. Included soils make up about 10 percent of the map unit.

Permeability of the Lansdale soil is moderate in the surface layer, moderate or moderately rapid in the subsoil, and moderately rapid in the substratum. Available water capacity is low or moderate. Surface runoff is medium. In unlimed areas this soil is very strongly acid throughout.

Most areas of this soil are used as cropland or pasture. Some areas are used as orchards or woodland. A few areas are used for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is somewhat limited as a site for septic tank absorption fields because of depth to bedrock. It is suitable as a site for dwellings without buildings. It is somewhat limited as a site for dwellings with basements because of depth to bedrock. It is somewhat limited as a site for local roads and streets because of frost action.

The land capability classification is 2e. The woodland ordination symbol is 4A.

LfC—Lansdale channery loam, 8 to 15 percent slopes

This is a moderately sloping, deep, well drained soil on ridgetops and side slopes of dissected uplands. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is dark brown, friable channery loam about 10 inches thick. The subsoil is about 20 inches thick. In the upper 7 inches it is dark yellowish brown, friable loam. In the lower 13 inches it is yellowish brown, friable and very friable sandy loam. The substratum, to a depth of 47 inches, is yellowish brown, very friable loamy sand and loose channery loamy sand. Fractured dark grayish brown sandstone is at a depth of about 47 inches. In some areas the soil is gently sloping and moderately steep. In some areas the lower part of the subsoil is dusky red. In a few areas the surface layer is silt loam.

Included with this soil in mapping are a few scattered areas of moderately well drained Readington soils on broad ridgetops and in depressions above the Lansdale soil. These soils have a redder solum than that of the Lansdale soil. Also included are some small areas of extremely channery, somewhat excessively drained Steinsburg soils in landscape positions similar to those of the Lansdale soil. Included soils make up about 10 percent of the map unit.

Permeability of the Lansdale soil is moderate in the surface layer, moderate or moderately rapid in the subsoil, and moderately rapid in the substratum. Available water capacity is low or moderate. Surface runoff is medium. In unlimed areas this soil has a high level of acidity.

Most areas of this soil are used as cropland or pasture. Some areas are used as orchards or woodland. A few areas are used for urban development.

This soil is well suited to most specialty crops. It is fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is somewhat limited as a site for septic tank absorption fields because of slope and depth to bedrock. It is somewhat limited as a site for dwellings without basements. It is somewhat limited as a site for local roads and streets because of slope and frost action. It is somewhat limited as a site for dwellings with basements because of slope and depth to bedrock.

The land capability classification is 3e. The woodland ordination symbol is 4A.

LgB—Legore channery silt loam, 3 to 8 percent slopes

This is a gently sloping, very deep, well drained soil on ridgetops. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is dark yellowish brown, very friable channery silt loam about 8 inches thick. The subsurface layer is brown, friable silt loam about 2 inches thick. The subsoil is about 20 inches thick. In the upper 11 inches it is yellowish red, friable silty clay loam. In the lower 9 inches it is strong brown and yellowish red, firm silty clay loam. The substratum, to a depth of 60 inches, is strong brown, firm loam and sandy loam. In some areas the soil is nearly level and strongly sloping. In some areas the soil has less silt and clay or more sand.

Included with this soil in mapping are a few scattered areas of nearly level, somewhat poorly drained Mount Lucas soils on low rises below the Legore soil. These soils have gray mottles in the middle and lower parts of the subsoil. Also included are some areas where a few large rock fragments are on the surface and in the soil and a few small areas where limestone bedrock crops out. Included soils make up about 10 percent of the map unit.

Permeability of the Legore soil is moderate or moderately rapid in the surface layer, moderate in the subsoil, and moderate or moderately rapid in the substratum. Available water capacity is moderate. Surface runoff is medium. In unlimed areas this soil is strongly acid or slightly acid in the upper part of the solum and moderately acid to slightly acid in the substratum.

Most areas of this soil are used as cropland or pasture. Some areas are used as orchards or woodland or are idle land. A few areas are used for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

The soil is somewhat limited as a site for septic tank absorption fields because of restricted permeability. The soil is very limited as a site for local roads and streets because of low strength and frost action. The soil is somewhat limited as a site for dwellings because of shrinking and swelling.

The land capability classification is 2e. The woodland ordination symbol is 4A.

LgC—Legore channery silt loam, 8 to 15 percent slopes

This is a strongly sloping, very deep, well drained soil on ridgetops and side slopes. Slopes are convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is dark yellowish brown, very brown channery silt loam about 8 inches thick. The subsurface layer is brown, silt loam about 2 inches thick. The subsoil is about 20 inches thick. In the upper 11 inches it is yellowish red, friable silty clay loam. In the lower 9 inches it is strong brown and yellowish red, firm silty clay loam. The substratum to a depth of 60 inches is strong brown, firm loam and sandy loam. In some areas the soil is gently sloping and moderately steep. In some areas the soil has less silt and clay or more sand.

Included with this soil in mapping are a few scattered areas of the nearly level, somewhat poorly drained Mount Lucas soils on low rises below the Legore soil. These soils have gray mottles in the middle and lower parts of the subsoil. Also included are some areas where a few large rock fragments are on the surface and in the soil and a few small areas where limestone bedrock crops out. Included soils make up about 10 percent of the map unit.

Permeability of the Legore soil is moderate or moderately rapid in the surface layer, moderate in the subsoil, and moderate or moderately rapid in the substratum. Available water capacity is moderate. Surface runoff is medium. In unlimed areas this soil is strongly acid to slightly acid in the upper part of the solum and moderately acid or slightly acid in the substratum.

Most areas of this soil are used as cropland or pasture. Some areas are used as orchards or woodland or are idle land. A few areas are used for urban development.

This soil is well suited to most specialty crops. It is fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

Slope and restricted permeability make this soil somewhat limited as a site for septic tank absorption fields. The soil is somewhat limited as a site for dwellings because of slope and shrinking and swelling. The soil is very limited as a site for local roads and streets because of low strength, slope, and frost action.

The land capability classification is 3e. The woodland ordination symbol is 4A.

LgD—Legore channery silt loam, 15 to 25 percent slopes

This is a moderately steep, very deep, well drained soil on ridges and hills. Slopes are convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 25 acres in size.

Typically, the surface layer is dark yellowish brown, very friable channery silt loam about 8 inches thick. The subsurface layer is brown, friable silt loam about 2 inches thick. The subsoil is about 20 inches thick. In the upper 11 inches it is yellowish red, friable silty clay loam. In the lower 9 inches it is strong brown and yellowish red, firm silty clay loam. The substratum, to a depth of 60 inches, is strong brown, firm loam and sandy loam. In some areas the soil is strongly sloping and steep. In some areas it has less silt and clay or more sand.

Included with this soil in mapping are some areas where a few large rock fragments are on the surface and in the soil and a few small areas where limestone bedrock crops out. Included soils make up about 10 percent of the map unit.

Permeability of the Legore soil is moderate or moderately rapid in the surface layer, moderate in the subsoil, and moderate or moderately rapid in the substratum. Available water capacity is moderate. Surface runoff is high. In unlimed areas this soil is strongly acid to slightly acid in the upper part of the solum and moderately acid or slightly acid in the substratum.

Most areas of this soil are used as pasture or woodland or are idle land. Some areas are used as orchards or cropland.

This soil is fairly well suited to most specialty crops. It is poorly suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation is the main management concern. Thinning or removing undesirable species and constructing roads on the contour to reduce slope are suitable management practices. Machine planting of trees is practical in large areas.

Because of slope, this soil is severely limited as a site for septic tank absorption fields, dwellings, and local road and streets.

The land capability classification is 4e. The woodland ordination symbol is 4R.

LhA—Lehigh channery silt loam, 0 to 3 percent slopes

This is a nearly level, deep, somewhat poorly drained soil on broad ridgetops and in depressions. Slopes are smooth or concave. Areas of this soil are oval or are long and narrow, and range from 5 to 50 acres in size.

Typically, the surface layer is very dark grayish brown, friable channery silt loam about 8 inches thick. The subsoil is about 22 inches thick. In the upper 6 inches it is dark grayish brown, friable channery silt loam. In the next 7 inches it is dark grayish brown, mottled, firm silty clay loam. In the lower 9 inches it is dark gray, mottled, firm channery silt loam. In the lower 6 inches it is dark gray, mottled, firm channery silt loam. The substratum, to a depth of 42 inches, is dark gray and very dark gray, mottled, firm extremely channery silt loam. The very dark gray porcelanite bedrock is at a depth of 42 inches. In some areas the soil is gently sloping. In a few areas the solum is less than 20 inches thick. In some areas depth to bedrock is more than 42 inches.

Included with this soil in mapping are a few, small, scattered areas of moderately well drained Reaville soils and poorly drained Watchung soils in depressions and along drainageways of lowlands. Watchung soils have more clay throughout. Also included are some areas where a few large rock fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Lehigh soil is moderate in the surface layer and slow in the subsoil and the substratum. Available water capacity is low and surface runoff is high. The seasonal high water table is at a depth of 6 to 18 inches. In unlimed areas this soil is very strongly acid to neutral. The seasonal high water table restricts root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. The seasonal high water table and depth to bedrock are limitations. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. A well maintained drainage system that is already established helps to overcome wetness. Leaving stubble on the surface and adding other organic material to the soil help to conserve soil moisture. Crop residue management, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation, seedling mortality, and windthrow hazard are major management concerns. Equipment should be operated only when the soil is relatively dry or is frozen. Using special planting stock and limited overstocking help to overcome seedling mortality. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and restricted permeability. It is somewhat limited as a site for dwellings without basements because of wetness. It is very limited as a site for dwellings with basements because of wetness and depth to bedrock. It is severely limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 2w. The woodland ordination symbol is 4W.

LhB—Lehigh channery silt loam, 3 to 8 percent slopes

This is a gently sloping, deep, somewhat poorly drained soil on broad ridgetops. Slopes are smooth or concave. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 300 acres in size.

Typically, the surface layer is very dark grayish brown, friable channery silt loam about 8 inches thick. The subsoil is about 22 inches thick. In the upper 6 inches it is dark grayish brown, friable channery silt loam. In the next 7 inches it is dark grayish brown, mottled, firm silty clay loam. In the lower 9 inches it is dark gray, mottled, firm channery silt loam. The substratum, to a depth of 42 inches, is dark gray and very dark gray, mottled, firm extremely channery silt loam. The very dark gray porcelanite bedrock is at a depth of 42 inches. In some areas the soil is nearly level and strongly sloping. In a few areas the solum is less than 20 inches thick. In some areas depth to bedrock is less than 42 inches.

Included with this soil in mapping are a few, small, scattered areas of moderately well drained Reaville soils and poorly drained Watchung soils in depressions and along drainageways on lowlands. Watchung soils have more clay throughout. Also included are some areas where a few large rock fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability is moderate in the surface layer and slow in the subsoil and the substratum. Available water capacity is low. Surface runoff is very high. The seasonal high water table is at a depth of 6 to 18 inches. In unlimed areas this soil is very strongly acid to neutral. The seasonal high water table restricts root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the major hazard and depth to bedrock is the major limitation. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping (fig. 11), and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation, seedling mortality, and windthrow hazard are major management concerns. Equipment should be operated only when the

Figure 11.—Contour strips help to reduce surface runoff and to control erosion. The soil is Lehigh channery silt loam, 3 to 8 percent slopes.

soil is relatively dry or is frozen. Using special planting stock and limited overstocking help to overcome seedling mortality. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is practical in large areas.

Because of wetness and restricted permeability, this soil is very limited as a site for septic tank absorption fields. It is somewhat limited as a site for dwellings without basements because of wetness. It is very limited as a site for dwellings without basements because of wetness and depth to bedrock. It is very limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 2w. The woodland ordination symbol is 4W.

LhC—Lehigh channery silt loam, 8 to 15 percent slopes

This is a strongly sloping, deep, somewhat poorly drained soil on ridgetops and side slopes. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 200 acres in size.

Typically, the surface layer is very dark grayish brown, friable channery silt loam about 8 inches thick. The subsoil is about 22 inches thick. In the upper 6 inches it is dark grayish brown, friable channery silt loam. In the lower 7 inches it is dark grayish brown, mottled, firm silty clay loam. In the next 9 inches it is dark gray, mottled, firm channery silt loam. The substratum, to a depth of 42 inches, is dark gray and very dark gray, mottled, firm extremely channery silt loam. The very dark gray porcelanite bedrock is at a depth of 42 inches. In some areas the soil is gently sloping or moderately steep. In a few areas the solum is less than 20 inches thick. In some areas depth to bedrock is less than 42 inches.

Included with this soil in mapping are a few, small, scattered areas of well drained Brecknock soils on sides of ridges and hills above the Lehigh soil and poorly drained Watchung soils in depressions and along drainageways on lowlands. Watchung soils have more clay throughout than the Lehigh soil. Also included are some areas where a few large rock fragments are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Lehigh soil is moderate in the surface layer and slow in the subsoil and substratum. Available water capacity is low. Surface runoff is very high. The seasonal high water table is at a depth of 6 to 18 inches. In unlimed areas this soil is very strongly acid to neutral. The seasonal high water table restricts root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as orchards or woodland or are idle land. A few areas are used for urban development.

This soil is well suited to most specialty crops. It is fairly suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation, seedling mortality, and windthrow hazard are major management concerns. Equipment should be operated only when the soil is relatively dry or is frozen. Using special planting stock and limited overstocking help to overcome seedling mortality. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and restricted permeability. The soil is somewhat limited as a site for dwellings without basements because of wetness and slope. This soil is very limited as a site for dwellings with basements because of wetness, depth to bedrock, and slope. The soil is very limited as a site for local roads and streets because of wetness, frost action, and slope.

The land capability classification is 3e. The woodland ordination symbol is 4W.

LkB—Lehigh channery silt loam, 0 to 8 percent slopes, very stony

This is a nearly level and gently sloping, deep, somewhat poorly drained soil on ridgetops and in depressions. Slopes are smooth, concave, or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 100 acres in size. Stones and boulders cover about 1 to 3 percent of the surface. They range in size from 1 to more then 3 feet across.

Typically, the surface layer is very dark grayish brown, friable channery silt loam about 2 inches thick. The subsurface layer is dark grayish brown, channery silt loam about 6 inches thick. The subsoil is about 22 inches thick. In the upper 6 inches it is dark grayish brown, friable channery silt loam. In the next 7 inches it is dark grayish brown, mottled, firm silty clay loam. The substratum, to a depth of 42 inches, is dark gray and very dark gray, mottled, firm extremely channery silt loam. The very dark gray porcelanite bedrock is at a depth of 42 inches. In some areas the soil is strongly sloping. In a few areas the solum is less than 20 inches thick. In some areas depth to bedrock is less than 42 inches.

Included with this soil in mapping are a few, small, scattered areas of moderately well drained Reaville soils and poorly drained Watchung soils in depressions and along drainageways on lowlands. Watchung soils have more clay throughout than the Lehigh soil. Also included are some areas where a few large rock fragments are on the surface and in the soil. Included soils make up about 10 percent of the map unit.

Permeability of the Lehigh soil is moderate in the surface layer and slow in the subsoil and substratum. Available water capacity is low. Surface runoff is high. The seasonal high water table is at a depth of 6 to 18 inches. In unlimed areas this soil is very strongly acid to neutral. The seasonal high water table restricts root penetration.

Most areas of this soil are used as woodland or are idle land.

This soil is unsuited to cultivated crops and poorly suited to permanent pasture because of large rock fragments and boulders on the surface and beneath the surface.

Potential productivity for trees on this soil is moderately high. The equipment limitation, seedling mortality, and windthrow hazard are major management concerns. Equipment should be operated only when the soil is relatively dry or frozen. Using special planting stock and limited overstocking help to overcome seedling mortality. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is practical in large areas.

Because of wetness and slow permeability, this soil is very limited as a site for septic tank absorption fields. It is very limited as a site for dwellings with basements because of wetness and depth to bedrock. It is somewhat limited as a site for dwellings without basements because of wetness. It is very limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 7s. The woodland ordination symbol is 4W.

Lw—Lindside silt loam

This is a nearly level, very deep, moderately well drained soil on flood plains. Slopes are smooth and range from 0 to 3 percent. Areas of this soil are long and narrow, and range from 5 to 400 acres in size.

Typically, the surface layer is brown, friable silt loam about 10 inches thick. The subsoil is about 23 inches thick. In the upper 12 inches it is brown, mottled, friable silt loam. In the lower 11 inches it is brown, mottled, firm silt loam. The substratum, to a depth of 60 inches, is brown, mottled, firm silt loam. In some areas the soil has more sand and gravel. In some areas the soil is subject to rare flooding. In some areas depth to bedrock is less than 60 inches. In some areas the surface layer is loam, sandy loam, or silty clay loam. In other areas it is gravelly. In a few areas the upper part of the solum is grayish brown.

Included with this soil in mapping are a few, small, scattered areas of somewhat poorly drained Penlaw soils on the lower lying rises below the Lindside soil and a few narrow, elongated areas of poorly drained Dunning soils in shallow swales and in drainageways below the Lindside soil. Included soils make up about 10 percent of the map unit.

Permeability of the Lindside soil is moderate in the surface layer, moderate or moderately slow in the subsoil, and moderately slow to moderately rapid in the substratum. Available water capacity is high or very high. Surface runoff is low. This soil is subject to occasional flooding for brief periods, mainly in late winter and early spring. In unlimed areas this soil is strongly acid to slightly alkaline in the solum and moderately acid to slightly alkaline in the substratum.

Most areas of this soil are used as cropland or pasture. Some small areas are used as woodland or are idle land.

This soil is well suited to corn and soybeans. Because of flooding, this soil is fairly well suited to small grain. However, floodwater may cause severe crop damage in early spring. Dikes and levees can be used in large areas to help overcome flooding. Crops residue management, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is unsuited as a site for septic tank absorption fields, dwellings, and local roads and streets because of flooding.

The land capability classification is 2w. The woodland ordination symbol is 5A.

MdA—Mount Lucas silt loam, 0 to 3 percent slopes

This is a nearly level, deep and very deep, somewhat poorly drained soil on broad uplands and in depressions. Slopes are smooth. Areas of this soil are oval or are long and narrow, and range from 5 to 100 acres in size.

Typically, the surface layer is dark brown, friable silt loam about 8 inches thick. The subsoil is about 29 inches thick. In the upper 8 inches it is brown, mottled, friable silty clay loam. In the next 15 inches it is yellowish brown, mottled, firm channery clay loam. In the lower 6 inches it is brown, mottled, firm channery clay loam. The substratum is brown, mottled, firm channery loam and sandy loam to a depth of 44 inches and yellowish brown, firm sandy loam to a depth of 60 inches. In some areas the soil is gently sloping. In some areas the solum is less than 30 inches thick. In some areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few, small, scattered areas of very deep, well drained Legore and Neshaminy soils on narrow, elongated ridges and on sides of ridges above the Mount Lucas soil and a few areas of very deep, poorly drained Watchung soils in swales and drainageways below the Mount Lucas soil. Also included are some small areas where many stones and boulders are on the surface and in the soil. Included soils make up about 10 percent of the map unit.

Permeability of the Mount Lucas soil is moderate in the surface layer, slow or moderately slow in the subsoil, and slow to moderately rapid in the substratum. Available water capacity is moderate or high. Surface runoff is very high. The seasonal high water table is at a depth of 6 to 18 inches. In unlimed areas this soil is strongly acid to slightly acid in the upper part of the solum, strongly acid to neutral in the lower part, and moderately acid to neutral in the substratum. The seasonal high water table restricts root penetration.

Most areas of this soil are used as pasture. Some areas are used as cropland or woodland or are idle land. A few areas are used for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. The main limitation is the seasonal high water table. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. A well maintained drainage system that is already established will help to overcome wetness. Leaving stubble on the surface and adding other organic material help to conserve soil moisture. Crop residue management, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Water-tolerant species are favored in timber stands. The equipment limitation is the main management concern. The high water table restricts use of equipment to midsummer, when the soil is dry, or to midwinter, when the soil is frozen or has an adequate snow cover. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and slow or moderately slow permeability. The soil is very limited as a site for dwellings and most other urban uses because of wetness. The soil is very limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 2w. The woodland ordination symbol is 4W.

MdB—Mount Lucas silt loam, 3 to 8 percent slopes

This is a gently sloping, deep and very deep, somewhat poorly drained soil on broad uplands, in benches, and in depressions. Slopes are smooth or concave. Areas of this soil are irregular, oval, or long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is dark brown, friable silt loam about 8 inches thick. The subsoil is about 29 inches thick. In the upper 8 inches it is brown, mottled, friable silty clay loam. In the next 15 inches it is yellowish brown, mottled, firm channery clay loam. In the lower 6 inches it is brown, mottled, firm channery clay loam. The substratum is brown, mottled, firm channery loam and sandy loam to a depth of 44 inches and yellowish brown, firm sandy loam to a depth of 60 inches. Some areas are nearly level and strongly sloping. In some areas the solum is less than 30 inches thick. In some areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few, small, scattered areas of very deep, well drained Legore and Neshaminy soils on narrow, elongated ridges and on sides of ridges above the Mount Lucas soil and a few areas of very deep, poorly drained Watchung soils in swales and drainageways below the Mount Lucas soil. Also included are some small areas where many stones and boulders are on the surface and in the soil. Included soils make up about 10 percent of the map unit.

Permeability of the Mount Lucas soil is moderate in the surface layer, slow or moderately slow in the subsoil, and slow to moderately rapid in the substratum. Available water capacity is moderate or high. Surface runoff is very high. The seasonal high water table is at a depth of 6 to 18 inches. In unlimed areas this soil is strongly acid to slightly acid in the upper part of the solum, strongly acid to neutral in the lower part, and moderately acid to neutral in the substratum. The seasonal high water table restricts root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the major hazard and the seasonal high water table is the main limitation if cultivated crops are grown. Existing, well maintained drainage systems help to overcome wetness. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Water-tolerant species are favored in timber stands. The equipment limitation is the main management concern. The high water table restricts use of equipment to midsummer, when the soil is dry, or to midwinter, when the soil is frozen or has an adequate snow cover. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and slow or moderately slow permeability. The soil is very limited as a site for dwellings and most other urban uses because of wetness. The soil is very limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 2e. The woodland ordination symbol is 4W.

MeB—Mount Lucas silt loam, 0 to 8 percent slopes, very bouldery

This is a nearly level and gently sloping, deep and very deep, somewhat poorly drained soil on broad uplands and in depressions. Slopes are smooth or concave. Areas of this soil are irregular, oval, or long and narrow in shape, and range from 5 to 100 acres in size. Stones and boulders cover about 1 to 3 percent of the surface. They range in size from 10 inches to more than 6 feet.

Typically, the surface layer is dark brown, friable silt loam about 8 inches thick. The subsoil is about 29 inches thick. In the upper 8 inches it is brown, mottled, friable silty clay loam. In the next 15 inches it is yellowish brown, mottled, firm channery clay loam. In the lower 6 inches it is brown, mottled, firm channery clay loam. The substratum is brown, mottled, firm channery loam and sandy loam to a depth of 44 inches and yellowish brown, firm sandy loam to a depth of 60 inches. In some areas the soil is nearly level and strongly sloping. In some areas the solum is less than 30 inches thick. In some areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few, small, scattered areas of very deep, well drained Neshaminy soils on narrow, elongated ridges and on sides of ridges above the Mount Lucas soil and a few areas of very deep, poorly drained Watchung soils in swales and drainageways below the Mount Lucas soil. Also included are some small areas where many stones and boulders are on the surface and in the soil. Included soils make up about 10 percent of the map unit.

Permeability of the Mount Lucas soil is moderate in the surface layer, slow or moderately slow in the subsoil, and slow to moderately rapid in the substratum. Available water capacity is moderate or high. Surface runoff is very high. The seasonal high water table is at a depth of 6 to 18 inches. In unlimed areas this soil is strongly acid to slightly acid in the upper part of the solum, strongly acid to neutral in the lower part, and moderately acid to neutral in the substratum. The seasonal high water table restricts root penetration.

Most areas of this soil are used as woodland or are idle land.

This soil is unsuited to cultivated crops and poorly suited to permanent pasture because of the amount of stones and boulders on or beneath the surface.

Potential productivity for trees on this soil is moderately high. Water-tolerant species are favored in timber stands. The equipment limitation is the main management concern. The high water table restricts use of equipment to midsummer, when the soil is dry, or to midwinter, when the soil is frozen or has an adequate snow cover. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and slow permeability. It is very limited as a site for dwellings and most other urban uses because of wetness. It is very limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 6s. The woodland ordination symbol is 4W.

MOB—Mt. Airy and Manor channery loams, 3 to 8 percent slopes

This map unit consists of the moderately deep, somewhat excessively drained Mt. Airy channery silt loam and the very deep, somewhat excessively drained Manor channery loam. These gently sloping soils are on ridgetops. They were mapped together because they are similar in use, management, and slope. The map unit is about 55 percent Mt. Airy soil, 30 percent Manor soil, and 15 percent included soils. Slopes are smooth or convex. Areas of these soils are irregular or are long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the Mt. Airy soil has a surface layer of dark brown, friable channery silt loam about 8 inches thick. The subsoil is about 12 inches thick. In the upper 7 inches it is yellowish brown, friable channery silt loam. In the lower 5 inches it is strong brown, friable very channery silt loam. The substratum, to a depth of 32 inches, is brown and yellowish brown, very firm, micaceous extremely channery loam. Fractured schist bedrock is at a depth of about 32 inches. In some areas the soil is nearly level or strongly sloping. In some areas depth to bedrock is less than 20 inches.

Typically, the Manor soil has a surface layer of dark brown, very friable channery loam about 8 inches thick. The subsoil is about 16 inches thick. In the upper 10 inches it is strong brown, very friable channery silt loam. In the lower 6 inches it is reddish yellow, very friable channery loam. The substratum, to a depth of 60 inches, is reddish yellow, very friable, very micaceous channery loam. In some areas the soil is nearly level and strongly sloping. In some areas depth to bedrock is less than 60 inches. In a few areas the surface layer is very channery or extremely channery.

Included with these soils in mapping are a few scattered areas of very deep, well drained Edgemont soils and deep Glenelg soils on undulating ridgetops and side slopes above Mt. Airy and Manor soils and a few areas of very deep, moderately well drained Glenville soils in shallow depressions and along drainageways. These soils have fewer rock fragments and sand throughout. Glenville soils have a fragipan; these soils are grayish in the lower part of the subsoil. Also included are some small areas where many stones and boulders are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Mt. Airy soil is moderate in the surface layer and moderate or moderately rapid in the solum and substratum. Permeability of the Manor soil is moderate in the surface layer and solum and moderate or moderately rapid in the substratum. On both soils available water capacity is low. Surface runoff is high for the Mt. Airy soil and medium for the Manor soil. In unlimed areas the Mt. Airy soil is very strongly acid or strongly acid. The Manor soil is extremely acid to moderately acid. On the Mt. Airy soil depth to bedrock restricts root penetration.

Most areas of the Mt. Airy and Manor soils are used as cropland, pasture, or woodland. Some areas are used for urban development or are idle land.

These soils are well suited to most specialty crops. They are fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard, and low available water capacity during periods of low rainfall is a limitation. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, terraces, and grassed waterways helps to control surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

These soils are well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on these soils is moderately high. The main management concern is seedling mortality. The use of special planting stock and harvest methods that leave some mature trees to provide shade and protection will help to reduce seeding mortality. Machine planting of trees is practical in large areas.

The Mt. Airy soil is very limited as a site for septic tank absorption fields because of depth to bedrock. The Manor soil is not limited as a site for septic tank absorption fields. These soils are both suitable as a site for dwellings without basements. The Mt. Airy soil is somewhat limited as a site for dwellings with basements because of depth to bedrock. The Manor soil is not limited as a site for dwellings with basements. These soils are both somewhat limited as a site for local roads and streets because of frost action.

The land capability classification is 3e for the Mt. Airy soil and 2e for the Manor soil. The woodland ordination symbol is 3F for the Mt. Airy soil and 4A for the Manor soil.

MOC—Mt. Airy and Manor channery loams, 8 to 15 percent slopes

This map unit consists of the moderately deep, somewhat excessively drained Mt. Airy channery silt loam and the very deep, somewhat excessively drained Manor channery loam. These strongly sloping soils are on broad ridgetops and side slopes. They were mapped together because of similarities in use, management, and slope. The map unit is about 55 percent Mt. Airy soil, 30 percent Manor soil, and 15 percent included soils. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 200 acres in size.

Typically, the Mt. Airy soil has a surface layer of dark brown, friable channery silt loam about 8 inches thick. The subsoil is about 12 inches thick. In the upper 7 inches it is yellowish brown, friable channery silt loam. In the lower 5 inches it is strong brown, friable very channery silt loam. The substratum, to a depth of 32 inches, is brown and yellowish brown, very firm extremely channery micaceous loam. Fractured schist bedrock is at a depth of about 32 inches. In some areas the soils are gently sloping or moderately steep. In some areas depth to bedrock is less than 20 inches.

Typically, the Manor soil has a surface layer of dark brown, very friable channery loam about 8 inches thick. The subsoil is about 16 inches thick. In the upper 10 inches it is strong brown, very friable channery silt loam. In the lower 6 inches it is reddish yellow, very friable channery loam. The substratum, to a depth of 60 inches, is reddish yellow, very friable, very micaceous channery loam. In some areas the soils are gently sloping or moderately steep. In some areas depth to bedrock is less than 60 inches. In a few areas the surface layer is very channery or extremely channery.

Included with these soils in mapping are a few scattered areas of very deep, well drained Edgemont soils and deep Glenelg soils on undulating ridgetops and side slopes above the Mt. Airy and Manor soils and a few areas of very deep, moderately well drained Glenville soils in shallow depressions and along drainageways. These soils have fewer rock fragments and less sand throughout than the Mt. Airy and Manor soils. Glenville soils have a fragipan. They are grayish in the lower part of the subsoil. Also included are some small areas where many stones and boulders are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Mt. Airy soil is moderate in the surface layer and moderate or moderately rapid in the subsoil and substratum. Permeability of the Manor soil is moderate in the surface layer and solum and moderate or moderately rapid in the substratum. Available water capacity is low on both Mt. Airy and Manor soils. Surface runoff is high on the Mt. Airy soil and medium on the Manor soil. In unlimed areas the Mt. Airy soil is very strongly acid or strongly acid. In unlimed areas the Manor soil is extremely acid to moderately acid. On the Mt. Airy soil depth to bedrock restricts root penetration.

Most areas of the Mt. Airy and Manor soils are used as cropland, pasture, or woodland. Some areas are used for urban development or are idle land.

These soils are fairly well suited to most specialty crops. They are fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard and the low available water during periods of low rainfall is a limitation. Measures that control surface runoff are needed in cultivated areas. Some examples of these measures are cropping sequences that include grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, terraces, stripcropping (fig. 12), and grassed waterways. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

These soils are well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on these soils is moderately high. Seedling mortality is the main management concern. The use of special planting stock and harvest methods that leave some mature trees to provide shade and protection will help to reduce the seeding mortality rate. Machine planting of trees is practical in large areas.

Because of depth to bedrock and slope, the Mt. Airy soil is very limited as a site for septic tank absorption fields. The Manor soil is somewhat limited as a site for septic tank absorption fields because of slope. These soils are both somewhat limited as a site for dwellings without basements because of slope. They are somewhat limited as a site for dwellings with basements and most other urban uses because of depth to bedrock and slope. These soils are somewhat limited as a site for local roads and streets because of slope and frost action.

The land capability classification is 4e for the Mt. Airy soil and 3e for the Manor soil. The woodland ordination symbol is 3F for the Mt. Airy soil and 4A for the Manor soil.

MOD—Mt. Airy and Manor channery loams, 15 to 25 percent slopes

This map unit consists of the moderately deep, somewhat excessively drained Mt. Airy channery silt loam and the very deep, somewhat excessively drained Manor channery loam. These moderately steep soils are on ridges and hills. They were mapped together because of similarities in use, management, and slope. The map unit is about 60 percent Mt. Airy soil, 25 percent Manor soil, and 15 percent included soils. Slopes are convex. Areas of these soils are irregular or are long and narrow in shape, and range from 5 to 300 acres in size.

Typically, the Mt. Airy soil is a surface layer of dark brown, friable channery silt loam about 8 inches thick.

Figure 12.—Contour stripcropping helps to reduce surface runoff and to control erosion. The soils are Mt. Airy and Manor channery loams, 8 to 15 percent slopes.

The subsoil is 12 inches thick. In the upper 7 inches it is yellowish brown, friable channery silt loam. In the lower 5 inches it is strong brown, friable very channery silt loam. The substratum, to a depth of 32 inches, is brown and yellowish brown, very firm extremely channery micaceous loam. Fractured schist bedrock is at a depth of about 32 inches. In some areas the soil is strongly sloping and steep. In some areas depth to bedrock is less than 20 inches.

Typically, the Manor soil has a surface layer of dark brown, very friable channery loam about 8 inches thick. The subsoil is 16 inches thick. In the upper 10 inches it is strong brown, very friable channery silt loam. In the lower 6 inches it is reddish yellow, very friable channery loam. The substratum, to a depth of 60 inches, is reddish yellow, very friable, very micaceous channery loam. In some areas the soil is strongly sloping and steep. In some areas depth to bedrock is less than 60 inches. In a few areas the surface layer is very channery or extremely channery.

Included with these soils in mapping are a few scattered areas of very deep, well drained Edgemont and Glenelg soils on undulating ridgetops and side slopes above the Mt. Airy and Manor soils and a few areas of very deep, moderately well drained Glenville soils in shallow depressions and along drainageways. These soils have fewer rock fragments and less sand throughout than the Mt. Airy and Manor soils. Glenville soils have a fragipan, and they are grayish in the lower part of the subsoil. Also included are some small areas where many stones and boulders are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Mt. Airy soil is moderate in the surface layer and moderate or moderately rapid in the solum and substratum. Permeability of the Manor soil is moderate in the surface layer and solum and moderate or moderately rapid in the substratum. On both soils available water capacity is low and surface runoff is high. In unlimed areas the Mt. Airy soil is very strongly acid or strongly acid. In unlimed areas the Manor soil is extremely acid to moderately acid. Depth to bedrock in the Mt. Airy soil restricts root penetration.

Most areas of the Mt. Airy and Manor soils are used as pasture or woodland or are idle land. A few areas are used as cropland or for urban development.

These soils are unsuited to cultivated crops and poorly suited to most specialty crops because of slope and low available water capacity.

These soils are fairly well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on these soils is moderately high. The erosion hazard, equipment limitation, and seedling mortality are major management concerns. When the soils are wet, logging roads tend to be slippery and ruts form quickly. Use of planting or logging equipment is limited during wet periods. Use of special planting stock and harvest methods that leave some mature trees to provide shade and protection will help to overcome seeding mortality. Thinning or removing undesirable species are suitable management practices. Machine planting of trees is generally practical in large areas.

These soils are very limited as a site for septic tank absorption fields, dwellings, and local roads and streets because of slope.

The land capability classification is 6e for the Mt. Airy soil and 4e for the Manor soil. The woodland ordination symbol is 3F for the Mt. Airy soil and 4R for the Manor soil.

MtB—Mt. Zion gravelly silt loam, 3 to 8 percent slopes

This is a gently sloping, very deep, moderately well drained soil on footslopes. Slopes are smooth or concave. Areas of this soil are irregular in shape and range from 10 to 80 acres in size.

Typically, the surface layer is very friable, very dark grayish brown gravelly silt loam and dark brown silt loam about 6 inches thick. The subsoil is about 63 inches thick. In the upper 6 inches it is dark yellowish brown, friable gravelly silt loam. In the next 7 inches it is dark yellowish brown, friable loam in the upper part and yellowish red, mottled, firm gravelly silt loam in the lower part. In the lower 21 inches, to a depth of 69 inches, it is strong brown, mottled, firm very channery loam. In some areas the soil is nearly level or strongly sloping. In a few areas the soil has a fragipan. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few, small, scattered areas of well drained Ravenrock, Catoctin, Highfield, and Myersville soils on the steeper side slopes. Also included are some small areas of somewhat poorly drained Rohrersville soils in the more concave areas. Included soils make up about 15 percent of the map unit.

Permeability of the Mt. Zion soil is moderate in the upper part of the solum and slow or moderate in the lower part. Available water capacity is high and surface runoff is medium. The seasonal high water table is at a depth of 36 to 48 inches. In unlimed areas this soil is strongly acid to slightly acid.

Most areas of this soil are used as hayland, pasture, or woodland. Some areas are used for urban development or are idle land.

This soil is well suited to corn, soybeans, and small grain. Erosion is the major hazard, and the seasonal high water table is the major limitation. Existing, well maintained drainage systems help to overcome wetness. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth. Subsurface tile is needed for seepy areas in some drainageways.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and slow permeability. It is somewhat limited as a site for dwellings because of wetness and shrinking and swelling. It is somewhat limited as a site for local roads and streets because of shrinking and swelling, and frost action.

The land capability classification is 2e. The woodland ordination symbol is 5A.

MtC—Mt. Zion gravelly silty loam, 8 to 15 percent slopes

This is a strongly sloping, very deep, moderately well drained soil on footslopes. Slopes are smooth or concave. Areas of this soil are irregular in shape, and range from 10 to 80 acres in size.

Typically, the surface layer is very friable, very dark grayish brown gravelly silt loam and dark brown silt loam about 6 inches thick. The subsoil is about 63 inches thick. In the upper 6 inches it is dark yellowish brown, friable gravelly silt loam. In the next 7 inches it is dark yellowish brown, friable loam. In the next 29 inches it is yellowish red, friable gravelly loam in the upper part and yellowish red, mottled, firm gravelly silt loam in the lower part. In the lower 21 inches, to a depth of 69 inches, it is strong brown, mottled, firm very channery loam. In some areas the soil is steep. In a few areas it has a fragipan. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few, small, scattered areas of well drained Ravenrock, Catoctin, Highfield, and Myersville soils on the steeper side slopes. Also included are some small areas of somewhat poorly drained Rohrersville soils in the more concave areas. Included soils make up about 15 percent of the map unit.

Permeability of the Mt. Zion soil is moderate in the upper part of the solum and slow or moderate in the lower part. Available water capacity is high, and surface runoff is medium. The seasonal high water table is at a depth of 36 to 48 inches. In unlimed areas this soil is strongly acid to slightly acid.

Most areas of this soil are used as hayland, pasture, or woodland. A few areas are urban or idle.

This soil is suited to corn, soybeans, and small grain. Erosion is the major hazard, and the seasonal high water table is the major limitation. Drainage systems that are well maintained can help to overcome wetness. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth. Subsurface tile is needed for seepy areas in some drainageways.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Some suitable management practices are proper stocking rates to maintain key plant species, pasture fertilizers, and restricted use during wet periods. These practices help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is high. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and slow permeability. It is somewhat limited as a site for dwellings without basements because of shrinking and swelling, and slope. It is somewhat limited as a site for dwellings with basements because of wetness and slope. It is somewhat limited as a site for local roads and streets because of slope, shrinking and swelling, and frost action.

The land capability classification is 3e. The woodland ordination symbol is 5A.

MtD—Mt. Zion gravelly silt loam, 15 to 25 percent slopes

This is a moderately steep, very deep, moderately well drained soil on footslopes. Slopes are smooth or concave. Areas of this soil are irregular in shape, and range from 5 to 80 acres in size.

Typically, the surface layer is very friable, very dark grayish brown gravelly silt loam and dark brown silt loam about 6 inches thick. The subsoil is about 63 inches thick. In the upper 6 inches it is dark yellowish brown, friable gravelly silt loam. In the next 7 inches it is dark yellowish brown, friable loam. In the next 29 inches it is yellowish red, friable gravelly loam in the upper part and yellowish red, mottled, firm gravelly silt loam in the lower part. In the lower 21 inches, to a depth of 69 inches, it is strong brown, mottled, firm very channery loam. In some areas the soil is nearly level to strongly sloping. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few, small, scattered areas of well drained Ravenrock, Catoctin, Highfield, and Myersville soils on the steeper side slopes. Included soils make up about 15 percent of the map unit.

Permeability of the Mt. Zion soil is moderate in the upper part of the solum and slow or moderate in the lower part. Available water capacity is high, and surface runoff is high. The seasonal high water table is at a depth of 36 to 48 inches. In unlimed areas this soil is strongly acid to slightly acid.

Most areas of this soil are used as hayland, pasture, or woodland.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is high. The main management concern is the equipment limitation. Operating ordinary crawler tractors and rubber-tired skidders can be hazardous because of slope. Slope, and stones and boulders restrict machine planting of trees. Disturbing the ground cover as little as possible when trees are harvested helps to control erosion.

This soil is very limited as a site for septic tank absorption fields, dwellings, and local roads and streets because of slope.

The land capability classification is 4e. The woodland ordination symbol is 5R.

MyB—Myersville silt loam, 3 to 8 percent slopes

This is a gently sloping, deep, well drained soil on ridgetops. Slopes are smooth, concave, or convex. Areas of this soil are irregular or long in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is brown, friable silt loam about 9 inches thick. The subsoil is about 29 inches thick. In the upper 5 inches it is yellowish red, friable silty clay loam. In the next 13 inches it is yellowish red and red, friable channery silty clay loam. In the lower 11 inches it is yellowish red, friable channery silt loam. The substratum, to a depth of 48 inches, is yellowish brown and reddish brown, friable channery loam. Highly weathered bedrock extends from a depth of 48 to 60 inches. In some areas the soil is nearly level and strongly sloping. In some areas the subsoil has less clay. In a few areas the soil has a lower base saturation. In some areas the surface layer is gravelly silt loam and channery loam, and in other areas it is channery or stony.

Included with this soil in mapping are a few, small, scattered areas of somewhat excessively drained Catoctin soils on sides of steep hills and ridges and moderately well drained Buchanan soils on the lower rises and the broader ridgetops below the Myersville soil. Catoctin soils have more rock fragments and sand throughout than the Myersville soil. Buchanan soils have gray mottles in the lower part of the subsoil and have a fragipan. Also included are a few small areas of poorly drained Baile soils along narrow drainageways. Included soils make up about 10 percent of the map unit.

Permeability of the Myersville soil is moderately rapid in the surface layer and moderate in the subsoil and substratum. Available water capacity is moderate. Surface runoff is medium. In unlimed areas the soil is very strongly acid to moderately acid.

Most areas of this soil are used as cropland or orchards. Some areas are used as woodland or pasture or are idle land. A few areas are used for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Thinning or removing undesirable species and constructing roads on the contour to reduce slope are suitable management practices. Seedlings survive and grow well if competing vegetation is controlled, especially during the first few years, and if livestock is excluded from wooded areas. Machine planting of trees is practical in large areas.

This soil is somewhat limited as a site for septic tank absorption fields because of moderate permeability and depth to bedrock. It is suited as a site for dwellings and most other urban uses. It is very limited as a site for local roads and streets because of low strength and frost action.

The land capability classification is 2e. The woodland ordination symbol is 4A.

MyC—Myersville silt loam, 8 to 15 percent slopes

This is a strongly sloping, deep, well drained soil on ridgetops and side slopes. Slopes are smooth, concave, or convex. Areas of this soil are irregular or long in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is brown, friable silt loam about 9 inches thick. The subsoil is about 29 inches thick. In the upper 5 inches it is yellowish red, friable silty clay loam. In the next 13 inches it is yellowish red and red, friable channery silty clay loam. In the lower 11 inches it is yellowish red, friable channery silt loam. The substratum, to a depth of 48 inches, is yellowish brown and reddish brown, friable channery loam. Highly weathered bedrock extends from a depth of 48 to 60 inches. In some areas the soil is gently sloping and moderately steep. In some areas the soil has less clay in the subsoil. In a few areas base saturation is lower. In some areas the surface layer is gravelly silt loam and gravelly loam, and in other areas it is channery or stony.

Included with this soil in mapping are a few, small, scattered areas of somewhat excessively drained Catoctin soils on sides of steep hills and ridges and moderately well drained Buchanan soils on the lower rises and the broader ridgetops below the Myersville soil. Catoctin soils have more rock fragments and sand throughout than the Myersville soil. Buchanan soils have gray mottles in the lower part of the subsoil and have a fragipan. Also included are a few small areas of poorly drained Baile soils along narrow drainageways. Included soils make up about 10 percent of the map unit.

Permeability of the Myersville soil is moderately rapid in the surface layer and moderate in the subsoil and substratum. Available water capacity is moderate. Surface runoff is medium. In unlimed areas this soil is very strongly acid to moderately acid.

Most areas of this soil are used as cropland, orchards, or woodland. Some areas are used as pasture or are idle land. A few areas are used for urban development.

This soil is well suited to most specialty crops. It is fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The erosion hazard and the equipment limitation are the main management concerns. Because of the erosion hazard, the grade of logging roads, skid trails, and landings should be gentle and water should be removed by water bars, outsloping road surfaces, culverts, and drop structures. Seedlings survive and grow well if competing vegetation is controlled, especially during the first few years, and if livestock is excluded from wooded areas. Machine planting of trees is practical in large areas.

This soil is somewhat limited as a site for septic tank absorption fields because of slope, depth to bedrock, and restricted permeability. It is somewhat limited as a site for dwellings and most other urban uses because of slope. It is very limited as a site for local roads and streets because of low strength.

The land capability classification is 3e. The woodland ordination symbol is 4R.

MyD—Myersville silt loam, 15 to 25 percent slopes

This is a moderately steep, deep, well drained soil on ridgetops and side slopes. Slopes are smooth, concave, or convex. Areas of this soil are irregular or long in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is brown, friable silt loam about 9 inches thick. The subsoil is about 29 inches thick. In the upper 5 inches it is yellowish red, friable silty clay loam. In the next 13 inches it is yellowish red and red, friable channery silty clay loam. In the lower 11 inches it is yellowish red, friable channery silt loam. The substratum, to a depth of 48 inches, is yellowish brown and reddish brown, friable channery loam. Highly weathered bedrock extends from a depth of 48 to 60 inches. In some areas the soil is strongly sloping and steep. In some areas the subsoil has less clay. In a few areas base saturation is lower. In some areas the surface layer is gravelly silt loam and gravelly loam, and in other areas it is channery or stony.

Included with this soil in mapping are a few, small, scattered areas of somewhat excessively drained Catoctin soils on sides of steep hills and ridges and moderately well drained Buchanan soils on the lower rises and the broader ridgetops below the Myersville soil. Catoctin soils have more rock fragments and sand throughout than the Myersville soil. Buchanan soils have gray mottles in the lower part of the subsoil and have a fragipan. Also included are a few small areas of poorly drained Baile soils along narrow drainageways. Included soils make up about 10 percent of the map unit.

Permeability of the Myersville soil is moderately rapid in the surface layer and moderate in the subsoil and the substratum. Available water capacity is moderate. Surface runoff is high. In unlimed areas this soil is very strongly acid to moderately acid.

Most areas of this soil are used as woodland or orchards or are idle land. Some areas are used as pasture or cropland. A few areas are used for urban development.

This soil is fairly well suited to most specialty crops and poorly suited to cultivated crops because of slope. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The erosion hazard and the equipment limitation are the main management concerns. Because of the erosion hazard, the grade of logging roads, skid trails, and landings should be gentle and water should be removed by water bars, outsloping road surfaces, culverts, and drop structures. Use of crawler tractors and methods of logging uphill with cables may be needed because of slope. Seedlings survive and grow well if competing vegetation is controlled, especially during the first few years, and if livestock is excluded from wooded areas. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields, dwellings, and most other urban uses because of slope. It is very limited as a site for local roads and streets because of low strength and slope.

The land capability classification is 4e. The woodland ordination symbol is 4R.

NaB—Neshaminy channery silt loam, 3 to 8 percent slopes

This is a gently sloping, very deep, well drained soil on ridgetops. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is very dark grayish brown, very friable channery silt loam about 8 inches thick. The subsoil is about 47 inches thick. In the upper 7 inches it is strong brown, friable channery silt loam. In the next 19 inches it is yellowish red, friable clay loam and channery clay loam. In the lower 21 inches it is yellowish red, firm clay loam. The substratum, to a depth of 72 inches, is reddish brown, firm clay loam. In some areas the soil is nearly level or strongly sloping. In a few areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few scattered areas of deep, somewhat poorly drained Mount Lucas soils on low rises and at the base of ridges and hills and very deep, poorly drained Watchung soils in shallow depressions and along drainageways. Also included are some areas where many stones and boulders are on the surface and in the soil and some areas where no stones or boulders are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Neshaminy soil is moderate in the surface layer and moderately slow in the subsoil and substratum. Available water capacity is moderate, and surface runoff is high. In unlimed areas this soil is very strongly acid or moderately acid in the upper part of the solum and strongly acid to slightly acid in the lower part and in the substratum.

Most areas of this soil are used as cropland, orchards, or woodland. A few areas are used for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in condition.

Potential productivity for trees on this soil is moderately high. No major hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of moderately slow permeability. It is suitable as a site for dwellings and most other urban uses. It is somewhat limited as a site for local roads and streets because of frost action.

The land capability classification is 2e. The woodland ordination symbol is 4A.

NaC—Neshaminy channery silt loam, 8 to 15 percent slopes

This is a strongly sloping, very deep, well drained soil on ridgetops and side slopes. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is very dark grayish brown, friable channery silt loam about 8 inches thick. The subsoil is about 47 inches thick. In the upper 7 inches it is strong brown, friable channery silt loam. In the next 19 inches it is yellowish red, friable clay loam and channery clay loam. In the lower 21 inches it is yellowish red, firm clay loam. The substratum, to a depth of 72 inches, is reddish brown, firm clay loam. In some areas the soil is gently sloping and moderately steep. In a few areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few scattered areas of deep, somewhat poorly drained Mount Lucas soils on low rises and at the base of ridges and hills and very deep, poorly drained Watchung soils in shallow depressions and along drainageways. Also included are some areas where either many stones and boulders or no stones and boulders are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Neshaminy soil is moderate in the surface layer and moderately slow in the subsoil and substratum. Available water capacity is moderate, and surface runoff is high. In unlimed areas this soil is very strongly acid to moderately acid in the upper part of the solum and strongly acid to slightly acid in the lower part and in the substratum.

Most areas of this soil are used as cropland, orchards, or woodland. Some areas are used for urban development.

This soil is well suited to most specialty crops. It is fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No major hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of slope and moderately slow permeability. It is somewhat limited as a site for dwellings and most other urban uses because of slope. It is somewhat limited as a site for local roads and streets because of slope and frost action.

The land capability classification is 3e. The woodland ordination symbol is 4A.

NdB—Neshaminy channery silt loam, 0 to 8 percent slopes, extremely bouldery

This is a nearly level and gently sloping, very deep, well drained soil on ridgetops. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 100 acres in size. Stones and boulders cover about 3 to 5 percent of the surface. They range in size from 10 inches to more than 10 feet in diameter.

Typically, the surface layer is very dark grayish brown, very friable channery silt loam about 4 inches thick. The subsurface layer is brown channery silt loam about 4 inches thick. The subsoil is about 47 inches thick. In the upper 7 inches it is strong brown, friable channery silt loam. In the next 19 inches it is yellowish red, friable clay loam and channery clay loam. In the lower 21 inches it is yellowish red, firm clay loam. The substratum, to a depth of 72 inches, is reddish brown, firm clay loam. In some areas the soil is nearly level and strongly sloping. In some areas the soil has more clay. In a few areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few scattered areas of deep, somewhat poorly drained Mount Lucas soils on low rises and at the base of ridges and hills. Also included are some areas where either many stones and boulders or no stones and boulders are on the surface and in the soil. Included soils make up about 10 percent of the map unit.

Permeability of the Neshaminy soil is moderate in the surface layer, moderately slow in the subsoil, and moderate or moderately slow in the substratum. Available water capacity is moderate, and surface runoff is high. In unlimed areas this soil is very strongly acid to moderately acid in the upper part of the solum and strongly acid to slightly acid in the lower part and in the substratum.

Most areas of this soil are used as woodland. A few areas are used as orchards or pasture, are idle land, or are in urban development.

This soil is unsuited to cultivated crops and permanent pasture and use of most farm machinery is impractical because of stones and boulders on or beneath the surface.

Potential productivity for trees on this soil is moderately high. The equipment limitation is the main management concern. Ordinary crawler tractors and rubber-tired skidders cannot be operated safely on these soils because large stones and boulders on the surface somewhat limit their use.

This soil is very limited as a site for septic tank absorption fields because of moderately slow permeability. It is suited as a site for dwellings and most other urban uses. It is somewhat limited as a site for local roads and streets because of frost action.

The land capability classification is 7s. The woodland ordination symbol is 4X.

NdD—Neshaminy channery silt loam, 8 to 25 percent slopes, extremely bouldery

This is a strongly sloping and moderately steep, very deep, well drained soil on ridges and hills. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 400 acres in size. Stones and boulders cover about 3 to 15 percent of the surface. They range in size from 10 inches to more than 10 feet in diameter.

Typically, the surface layer is very dark grayish brown, very friable channery silt loam about 4 inches thick. The subsurface layer is brown channery silt loam about 4 inches thick. The subsoil is about 47 inches thick. In the upper 7 inches it is strong brown, friable channery silt loam. In the next 19 inches it is yellowish red, friable clay loam and channery clay loam. In the lower 21 inches it is yellowish red, firm clay loam. The substratum, to a depth of 72 inches, is reddish brown, firm clay loam. In some areas the soil is gently sloping or steep. In some areas the solum has more clay. In a few areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few scattered areas of deep, somewhat poorly drained Mount Lucas soils on low rises and at the base of ridges and hills. Also included are some areas where either many stones and boulders or no stones and boulders are on the surface and in the soil. Included soils make up about 10 percent of the map unit.

Permeability of the Neshaminy soil is moderate in the surface layer and moderately slow in the subsoil and substratum. Available water capacity is moderate, and surface runoff is very high. In unlimed areas this soil is very strongly acid to moderately acid in the upper part of the solum and strongly acid to slightly acid in the lower part and in the substratum.

Most areas of this soil are used as woodland. A few areas are used as orchards or pasture, are idle land, or are in urban development.

This soil is unsuited to cultivated crops and permanent pasture and most farm machinery is impractical because of the amount of stones and boulders on or beneath the surface.

Potential productivity for trees on this soil is moderately high (fig. 13). The equipment limitation is the main management concern. Ordinary crawler tractors and rubber-tired skidders cannot be operated safely on these soils because large stones and boulders on the surface and slope somewhat limit their use.

Because of slope and moderately slow permeability, this soil is severely limited as a site for septic tank absorption fields. It is severely limited as a site for dwellings and local roads and streets because of slope.

The land capability classification is 7s. The woodland ordination symbol is 4X.

NdE—Neshaminy channery silt loam, 25 to 45 percent slopes, extremely bouldery

This is a steep and very steep, very deep, well drained soil on ridges and hills. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 200 acres in size. Stones and boulders cover about 3 to 15 percent of the surface. They range in size from 10 inches to more than 10 feet in diameter.

Typically, the surface layer is very dark grayish brown, friable channery silt loam about 4 inches thick. The subsurface layer is brown channery silt loam about 4 inches thick. The subsoil is about 47 inches thick. In the upper 7 inches it is strong brown, friable channery silt loam. In the next 19 inches it is yellowish red, friable clay loam and channery clay loam. In the lower 21 inches it is yellowish red, firm clay loam. The substratum, to a depth of 72 inches, is reddish brown, firm clay loam. In some areas the soil is moderately steep. In some areas the solum has more clay. In a few areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few scattered areas of deep, somewhat poorly drained Mount Lucas soils on low rises and at the base of ridges and hills. Also included are some areas where many stones and boulders are on the surface and in the soil and some areas where no stones and boulders are on the surface and in the soil. Included soils make up about 10 percent of the map unit.

Permeability of the Neshaminy soil is moderate in the surface layer and moderately slow in the subsoil and substratum. Available water capacity is moderate, and surface runoff is very high. In unlimed areas this soil is very strongly acid to moderately acid in the

Figure 13.—Neshaminy channery silt loam, 8 to 25 percent slopes, extremely bouldery, is suited to trees.

upper part of the solum and strongly acid to slightly acid in the lower part and in the substratum.

Most areas of this soil are used as woodland. A few areas are used as orchards or pasture, are idle land, or are in urban development.

This soil is unsuited to cultivated crops and permanent pasture and use of most farm machinery is impractical because of slope and the amount of stones and boulders on or beneath the surface.

Potential productivity for trees on this soil is moderately high. The equipment limitation is the main management concern. Ordinary crawler tractors and rubber-tired skidders cannot be operated safely on these soils because they are somewhat limited by slope and by large stones and the boulders on the surface.

Because of slope, this soil is severely limited as a site for septic tank absorption fields, dwellings, and local roads and streets.

The land capability classification is 7s. The woodland ordination symbol is 4X.

Pa—Penlaw silt loam

This is a nearly level, very deep, somewhat poorly drained soil on broad uplands, in depressions, and on lowlands. Slopes are smooth or concave and range from 0 to 3 percent. Areas of this soil are oval or are long and narrow in shape, and range from 5 to 200 acres in size.

Typically, the surface layer is dark grayish brown, friable silt loam about 10 inches thick. The subsoil is about 37 inches thick. In the upper 10 inches it is yellowish brown, mottled, friable silty clay loam. In the next 6 inches it is yellowish brown, mottled, very firm and brittle gravelly silt loam. In the next 12 inches it is yellowish brown, mottled, very firm and brittle silty clay loam. In the lower 9 inches it is yellowish brown, mottled, firm and brittle gravelly silt loam. The substratum, to a depth of 60 inches, is yellowish brown, firm gravelly silt loam. In some areas the soil is gently sloping. In a few areas the solum has more clay. In some areas the soil is predominantly gray throughout. In some areas the soil does not have a fragipan.

Included with this soil in mapping are a few, small, scattered areas of very deep, well drained Conestoga soils on broad ridgetops above the Penlaw soil and a few small areas of very deep, moderately well drained Clarksburg soils on low-lying rises above the Penlaw soil. Conestoga soils have more sand and less silt throughout than the Penlaw soil, and they do not have a fragipan. Also included are a few small areas of moderately well drained Lindside soils on low rises on bottom lands and some areas where many stones and boulders are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Penlaw soil is moderate in the upper part of the solum, slow in the fragipan, and slow or moderately slow in the substratum. Available water capacity is moderate, and surface runoff is very high. The seasonal high water table is at a depth of 6 to 18 inches. The fragipan is at a depth of 15 to 30 inches. In unlimed areas this soil is moderately acid to neutral throughout. The seasonal high water table and depth to the fragipan restrict root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used for urban development.

This soil is well suited to most specialty crops. It is fairly well suited to corn, soybeans, and small grain. The seasonal high water table and the slowly permeable fragipan are major limitations. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. A well maintained drainage system that is already established will help to overcome wetness. Leaving stubble on the surface and adding other organic material help to conserve moisture. Crop residue management, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. However, it is poorly suited to deep-rooted legumes, such as alfalfa, because the slowly permeable fragipan restricts root penetration and the downward movement of water. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Water-tolerant species are favored in timber stands. The equipment limitation, seedling mortality, and windthrow hazard are major management concerns. The high water table restricts use of equipment to midsummer, when the soil is dry, or to midwinter, when the soil is frozen or has an adequate snow cover. Selecting special planting stock and overstocking help to overcome seedling mortality. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to overcome the windthrow hazard. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and slow permeability in the fragipan. It is very limited as a site for dwellings and most other urban uses because of wetness. The soil is very limited as a site for local roads and streets because of wetness, low strength, and frost action.

The land capability classification is 3w. The woodland ordination symbol is 4W.

PbD—Penn loam, 8 to 25 percent slopes, very stony

This is a strongly sloping and moderately steep, moderately deep, well drained soil on ridges and hills. Slopes are convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 65 acres in size. Stones and boulders cover about 1 to 3 percent of the surface. They range in size from 1 to more than 4 feet across.

Typically, the surface layer is dark reddish brown, friable loam about 3 inches thick. The subsurface layer is reddish brown, friable loam about 6 inches thick. The subsoil is about 21 inches thick. In the upper 5 inches it is reddish brown, friable loam. In the next 10 inches it is weak red, friable silt loam. In the lower 6 inches it is weak red, firm channery silt loam. The substratum, to a depth of 38 inches, is weak red, very firm very channery loam. Fractured, weak red sandstone bedrock is at a depth of about 38 inches. In some areas depth to bedrock is more than 40 inches.

Included with this soil in mapping are a few scattered areas of shallow, somewhat excessively drained Klinesville soils on sides of ridges below the Penn soil and a few small areas of moderately deep, moderately well drained Reaville soils on low rises and in depressions on uplands. Klinesville soils have more sand and rock fragments throughout. Reaville soils have gray mottles in the middle and lower parts of the subsoil. Also included are some small areas of somewhat poorly drained Abbottstown soils on low-lying rises below the Penn soil and a few nonstony, channery, extremely stony and rubbly areas. Included soils make up about 15 percent of the map unit.

Permeability of the Penn soil is moderate or moderately rapid. Available water capacity is low or moderate. Surface runoff is medium. In unlimed areas this soil is extremely acid to strongly acid in the upper part of the solum, strongly acid or moderately acid in the lower part, and strongly acid to slightly acid in the substratum. Depth to bedrock restricts root penetration.

Most areas of this soil are used as woodland. Some areas are used for urban development.

This soil is unsuited to cultivated crops and fairly well suited to grasses and legumes for permanent pasture because of the amount of stones and boulders on the surface. Slope and the hazard of erosion are major management concerns. Farm machinery that can be operated on strongly sloping or moderately steep slopes should be used during seedbed preparation.

Potential productivity for trees on this soil is moderately high. The equipment limitation is the main management concern. Operating ordinary crawler tractors and rubber-tired skidders can be hazardous because of slope. Thinning or removing undesirable species are suitable management practices. Slope, and stones and boulders restrict machine planting of trees. Disturbing the ground cover as little as possible when the trees are harvested helps to prevent excessive soil loss.

This soil is severely limited as a site for septic tank absorption fields, dwellings, and local roads and streets because of slope.

The land capability classification is 6s. The woodland ordination symbol is 3R.

PcB—Penn silt loam, 3 to 8 percent slopes

This is a gently sloping, moderately deep, well drained soil on undulating uplands. Slopes are smooth and convex. Areas of this soil are irregular in shape, and range from 5 to 400 acres in size.

Typically, the surface layer is dark reddish brown, friable silt loam about 9 inches thick. The subsoil is about 21 inches thick. In the upper 5 inches it is reddish brown, friable silt loam. In the next 10 inches it is dusky red, firm silt loam. In the lower 6 inches it is dusky red, firm channery silt loam. The substratum, to a depth of 38 inches, is dusky red, very firm very channery silt loam. Fractured dusky red, siltstone bedrock is at a depth of about 38 inches. In some areas the soil is nearly level and strongly sloping. In some areas depth to bedrock is less than 20 inches or more than 40 inches. In some areas the soil is brown, yellowish brown, or strong brown throughout. In many areas the surface layer is loam, channery loam, or channery silt loam.

Included with this soil in mapping are a few scattered areas of shallow, somewhat excessively drained Klinesville soils on sides of ridges below the Penn soil and a few small areas of moderately deep, moderately well drained Reaville soils on low rises and in depressions on uplands. Klinesville soils have more sand and rock fragments throughout than the Penn soil. Reaville soils have gray mottles in the middle and lower parts of the subsoil. Also included are some small areas of somewhat poorly drained Abbottstown soils on low-lying rises below the Penn soil and a few nonstony, channery, extremely stony, or rubbly areas. Included soils make up about 15 percent of the map unit.

Permeability of the Penn soil is moderate or moderately rapid. Available water capacity is low or moderate. Surface runoff is low. In unlimed areas this soil is extremely acid to strongly acid in the upper part of the solum, strongly acid or moderately acid in the lower part, and strongly acid to slightly acid in the substratum. Depth to bedrock restricts root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as orchards or woodland. A few small areas are used for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderate. No hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of depth to bedrock. It is somewhat limited as a site for dwellings without basements because of depth to bedrock. It is limited as a site for dwellings with basements and most other urban uses because of depth to bedrock. It is somewhat limited as a site for local roads and streets because of frost action and depth to bedrock.

The land capability classification is 2e. The woodland ordination symbol is 3A.

PcC—Penn silt loam, 8 to 15 percent slopes

This is a strongly sloping, moderately deep, well drained soil on broad ridgetops and side slopes. Slopes are smooth or convex. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 200 acres in size.

Typically, the surface layer is dark reddish brown, friable silt loam about 9 inches thick. The subsoil is about 21 inches thick. In the upper 5 inches it is reddish brown, friable silt loam. In the next 10 inches it is dusky red, firm silt loam. In the lower 6 inches it is dusky red, firm channery silt loam. The substratum, to a depth of 38 inches, is dusky red, very firm very channery silt loam. Fractured dusky red, siltstone bedrock is at a depth of about 38 inches. In some areas the soil is nearly level and strongly sloping. In some areas depth to bedrock is less than 20 inches or more than 40 inches. In some areas the soil is brown, yellowish brown, or strong brown throughout. In many areas the surface layer is loam, channery loam, or channery silt loam.

Included with this soil in mapping are a few scattered areas of shallow, somewhat excessively drained Klinesville soils on sides of ridges below the Penn soil and a few small areas of moderately deep, moderately well drained Reaville soils on low rises and in depressions on uplands. Klinesville soils have more sand and rock fragments throughout than the Penn soil. Reaville soils have gray mottles in the middle and lower parts of the subsoil. Also included are some small areas of somewhat poorly drained Abbottstown soils on low-lying rises below the Penn soil and a few nonstony, channery, extremely stony and rubbly areas. Included areas make up about 15 percent of the map unit.

Permeability of the Penn soil is moderate or moderately rapid. Available water capacity is low or moderate. Surface runoff is low. In unlimed areas this soil is extremely acid to strongly acid in the upper part of the solum, strongly acid or moderately acid in the lower part, and strongly acid to slightly acid in the substratum. Depth to bedrock restricts root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as orchards or woodland. A few areas are used for urban development.

This soil is well suited to most specialty crops. It is fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping system that includes grasses and legumes, a system of conservation tillage that leaves protective amounts of crop residue on the surface, diversions, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderate. No major hazards or limitations affect use and management. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of slope and depth to bedrock. It is very limited as a site for dwellings with basements because of slope and depth to bedrock. It is somewhat limited as a site for dwellings without basements because of slope and depth to bedrock. It is somewhat limited as a site for local roads and streets because of slope, frost action, and depth to bedrock.

The land capability classification is 3e. The woodland ordination symbol is 3A.

PoB—Penn-Klinesville channery silt loams, 3 to 8 percent slopes

This map unit consists of the gently sloping, moderately deep, well drained Penn soil and the shallow, somewhat excessively drained Klinesville soil on undulating ridgetops on uplands. Slopes are smooth or convex. Areas are irregular or are long and narrow in shape, and range from 5 to 200 acres in size. This map unit is about 40 percent Penn soil, 35 percent

Klinesville soil, and 25 included areas. The Penn and Klinesville soils are in areas so intricately mixed or so small in size that separating them in mapping was not practical.

Typically, the Penn soil has a surface layer of dark reddish brown, friable channery silt loam about 9 inches thick. The subsoil is about 21 inches thick. In the upper 5 inches it is reddish brown, friable silt loam. In the next 10 inches it is dusky red, firm silt loam. In the lower 6 inches it is dusky red, firm channery silt loam. The substratum, to a depth of 38 inches, is dusky red, very firm very channery silt loam. Fractured dusky red siltstone bedrock is at a depth of 38 inches. In some areas the soils are nearly level or strongly sloping. In some areas depth to bedrock is less than 20 inches. In a few areas the surface layer is silt loam, loam, channery loam, or very channery silt loam. In some areas the soils are sandy loam throughout or are brown, yellowish brown, or strong brown throughout.

Typically, the Klinesville soil has a surface layer of reddish brown, very friable channery silt loam about 8 inches thick. The subsoil is red, friable very channery silt loam about 6 inches thick. The substratum, to a depth of 16 inches, is dark red, firm extremely channery silt loam. Fractured, weak red shale bedrock is at a depth of about 16 inches. In some areas the soil is nearly level or strongly sloping. In some areas it is sandy loam throughout. In other areas it is brown, yellowish brown, or strong brown throughout.

Included with this soil in mapping are a few scattered areas of moderately deep, moderately well drained Reaville soils on low rises and in depressions on uplands. Reaville soils have gray mottles in the middle and lower parts of the subsoil. Also included are some small areas of somewhat poorly drained Abbottstown soils on low-lying rises below the Penn soil and a few nonstony, channery, extremely stony and rubbly areas. Included areas make up about 25 percent of the map unit.

Permeability of the Penn soil is moderate or moderately rapid, and available water capacity is low or moderate. Permeability of the Klinesville soil is moderately rapid, and available water capacity is very low. Surface runoff is low on the Penn soil and medium on the Klinesville soil. In unlimed areas the Penn soil is extremely acid to strongly acid in the upper part of the solum, strongly acid or moderately acid in the lower part of the solum, and strongly acid to slightly acid in the substratum. In unlimed areas the Klinesville soil is very strongly acid to moderately acid. Depth to bedrock in these soils restricts root penetration.

Most areas of the Penn and Klinesville soils are used as cropland, pasture, or woodland. Some areas are used for urban development or are idle land.

These soils are well suited to most specialty crops. They are fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard, and low or very low available water capacity during low rainfall is a limitation. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, stripcropping (fig. 14), terraces, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

These soils are well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on these soils is moderate. Seedling mortality is the main management concern. Using special planting stock and harvesting to leave some mature trees for shade and protection help to reduce the seeding mortality rate. Machine planting of trees is practical in large areas.

These soils are very limited as a site for onsite waste disposal because of depth to bedrock. The Penn soil is somewhat limited as a site for dwellings without basements because of depth to bedrock. It is very limited as a site for dwellings with basements and most other urban uses because of depth to bedrock. The Klinesville soil is very limited as a site for dwellings without basements because of depth to bedrock. It is severely limited as a site for dwellings with basements because of depth to bedrock. The Penn soil is somewhat limited as a site for local roads and streets because of frost action and depth to bedrock. The Klinesville soil is very limited for local roads and streets because of depth to bedrock and frost action.

The land capability classification is 2e for the Penn soil and 3e for the Klinesville soil. The woodland ordination symbol is 3A for the Penn soil and 3D for the Klinesville soil.

PoC—Penn-Klinesville channery silt loams, 8 to 15 percent slopes

This map unit consists of the strongly sloping, moderately deep, well drained Penn soil and the

Figure 14.—Stripcropping helps to reduce surface runoff and to control erosion. The soils are Penn-Klinesville channery silt loams, 3 to 8 percent slopes.

shallow, somewhat excessively drained Klinesville soil on ridgetops and side slopes. Slopes are smooth or convex. Areas are irregular or are long and narrow in shape, and range from 5 to 200 acres in size. This map unit is about 40 percent Penn soil, 35 percent Klinesville soil, and 25 percent included soils. The Penn and Klinesville soils are in areas so intricately mixed or so small in size that separating them in mapping was not practical.

Typically, the Penn soil has a surface layer of dark reddish brown, friable channery silt loam about 9 inches thick. The subsoil is about 21 inches thick. In the upper 5 inches it is reddish brown, friable silt loam. In the next 10 inches it is dusky red, firm silt loam. In the lower 6 inches it is dusky red, firm channery silt loam. The substratum, to a depth of 38 inches, is dusky red, very firm very channery silt loam. Fractured dusky red siltstone bedrock is at a depth of 38 inches. In some areas the soil is gently sloping and moderately steep or steep. In some areas depth to bedrock is less than 20 inches. In a few areas the surface layer is silt loam, loam, channery loam, or very channery silt loam. In other areas the soil is sandy loam throughout. In some areas the soil is brown, yellowish brown, or strong brown throughout.

Typically, the Klinesville soil has a surface layer of reddish brown, very friable channery silt loam about 8 inches thick. The subsoil is red, friable very channery silt loam about 6 inches thick. The substratum, to a depth of 16 inches, is dark red, firm extremely channery silt loam. Fractured weak red shale bedrock is at a depth of about 16 inches. In some areas the soil is gently sloping and moderately steep or steep. In some areas the soil is sandy loam throughout or is brown, yellowish brown, or strong brown throughout. In a few areas depth to bedrock is less than 10 inches.

Included with this soil in mapping are a few scattered areas of moderately deep, moderately well drained Reaville soils on low rises and in depressions on uplands. Reaville soils have gray mottles in the middle and lower parts of the subsoil. Also included are some small areas of somewhat poorly drained Abbottstown soils on low-lying rises below the Penn soil and a few nonstony, channery, extremely stony and rubbly areas. Included areas make up about 25 percent of the map unit.

Permeability of the Penn soil is moderate or moderately rapid, and available water capacity is low or moderate. Permeability of the Klinesville soil is moderately rapid, and available water capacity is very low. Surface runoff is low on the Penn soil and medium on the Klinesville soil. In unlimed areas the Penn soil is extremely acid to strongly acid in the upper part of the solum, strongly acid or moderately acid in the lower part of the solum, and strongly acid to slightly acid in the substratum. The Klinesville soil is very strongly acid to moderately acid. Depth to bedrock in these soils restricts root penetration.

Most areas of these soils are used as cropland, pasture, or woodland. Some areas are used for urban development or are idle land.

These soils are well suited to most specialty crops. They are fairly well suited to corn, soybeans, and small grain. Erosion is the main hazard, and low or very low available water capacity during periods of low rainfall is a limitation. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, terraces, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

These soils are well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on these soils is moderate. The main management concern is seedling mortality. Use of special planting stock and harvest methods that leave some mature trees to provide shade and protection help to reduce the seeding mortality rate. Machine planting of trees is practical in large areas.

These soils are severely limited as a site for septic tank absorption fields because of depth to bedrock. The Penn soil is somewhat limited as a site for dwellings without basements because of slope. It is somewhat limited as a site for dwellings with basements because of depth to bedrock. The Klinesville soil is very limited as a site for dwellings because of depth to bedrock. The Penn soil is moderately limited as a site for local roads and streets because of slope and frost action. The Klinesville soil is very limited as a site for local roads and streets because of depth to bedrock.

The land capability classification is 3e for the Penn soil and 4e for the Klinesville soil. The woodland ordination symbol is 3A for the Penn soil and 3D for the Klinesville soil.

PsD—Pequea silt loam, 15 to 25 percent slopes

This is a moderately steep, deep, well drained soil on ridges and hills. Slopes are concave. Areas of this soil are irregular or long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is dark brown, very friable silt loam about 8 inches thick. The subsoil is brown, friable silt loam about 16 inches thick. The substratum extends to a depth of 59 inches. In the upper 16 inches it is brown and very dark grayish brown, friable very micaceous channery loam. In the lower 19 inches it is very dark grayish brown, friable, very micaceous, channery sandy loam. Very dark gray, micaceous schist bedrock is at a depth of 59 inches. In some areas the soil is strongly sloping to very steep. In some areas depth to bedrock is less than 40 inches.

Included with this soil in mapping are a few, small, scattered areas where a few large rock fragments are on the surface and in the soil. Included soils make up about 10 percent of the map unit.

Permeability of the Pequea soil is moderate or moderately rapid. Available water capacity is moderate or low. Surface runoff is medium. In unlimed areas this soil is slightly acid or neutral in the solum and neutral to moderately alkaline in the substratum.

Most areas of this soil are used as pasture or woodland or are idle land. A few areas are used as cropland.

This soil is fairly well suited to most specialty crops. It is poorly suited to corn, soybeans, and small grain. Erosion is the main hazard if cultivated crops are grown. A cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, stripcropping, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The erosion hazard and the equipment limitation are major management concerns. Because of the erosion hazard, logging roads, skid trails, and landings should be established on gentle grades and water should be removed by water bars, culverts, and drop structures. Special logging methods, such as yarding logs uphill with cable, may be needed to minimize the use of rubber-tired skidders and crawler tractors. Ordinary crawler tractors and rubber-tired skidders cannot be operated safely on these slopes. Machine planting of trees is practical in large areas.

Slope is a severe limitation to use of this soil as a site for septic tank absorption fields, dwellings, and most other urban uses, including local roads and streets.

The land capability classification is 4e. The woodland ordination symbol is 4R.

Pt—Pits, quarries

This map unit consists of nearly level to very steep areas where bedrock has been removed for use as construction material. Areas are 5 to 1,000 acres in size.

Typically, the exposed material is limestone, greenstone, quartzite, phyllite, shale, and sandstone bedrock and either thin or thick layers of sand, gravel, or soil material.

Included with this unit in mapping are small areas of rubble; spoil; and commercial, industrial, and residential waste near edges of pits. Also included, near the center of the pits, are small areas of water. Included areas make up about 15 percent of the map unit.

On Pits, quarries, permeability, available water capacity, runoff, reaction, and depth to bedrock are variable.

Most pits are being mined. Areas of exposed bedrock and water support no vegetation. Pine seedlings and selected hardwood species can be established on spoil banks where a sufficient amount of soil material is mixed with flaggy, channery, and shaly rock fragments.

Onsite investigation is needed if these areas are to be used as building sites.

No land capability classification or woodland ordination symbols are assigned.

RaA—Raritan silt loam, 0 to 3 percent slopes

This is a nearly level, very deep, moderately well drained soil on terraces and benches above flood plains of larger streams. Slopes are smooth or concave. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is dark grayish brown, friable silt loam about 9 inches thick. The subsoil is about 45 inches thick. In the upper 11 inches it is strong brown and yellowish red, mottled, friable silt loam. In the next 6 inches it is yellowish red, mottled, firm silty clay loam. In the next 10 inches it is strong brown, mottled, very firm and brittle clay loam. In the next 12 inches it is brown and reddish brown, mottled, very firm and brittle silty clay loam. In the lower 6 inches it is brown, mottled, firm clay loam. The substratum, to a depth of 60 inches, is reddish brown, mottled, friable, stratified gravelly loam and gravelly clay loam. In some areas the soil is gently sloping. In some areas the subsoil is yellowish brown. In a few areas the surface layer is loam or sandy loam. In some areas the soil does not have gray mottles in the upper part of the subsoil. In other areas the soil does not have a fragipan. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few scattered areas of very deep, well drained Birdsboro soils on large flats of stream terraces and on benches above the Raritan soil and a few small areas of poorly drained Lamington soils in shallow depressions and along narrow drainageways on lowlands. Lamington soils are grayish throughout. Also included are some small areas of the very deep, moderately well drained Rowland soils on low rises on bottom lands. Included soils make up about 15 percent of the map unit.

Permeability of the Raritan soil is moderate above the fragipan, moderately slow in the fragipan, and moderate or moderately rapid in the substratum. Available water capacity is moderate. Surface runoff is low. The fragipan is at a depth of 20 to 30 inches. The seasonal high water table is at a depth of 18 to 36 inches. In unlimed areas this soil is very strongly acid to moderately acid throughout. The fragipan and the seasonal high water table restrict root penetration.

Most areas of this soil are used as cropland or pasture. A few small areas are used as woodland or are idle land.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. The main limitation is the seasonal high water table. Moderately slow permeability in the fragipan is also a limitation. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. A well maintained, existing drainage system can help to overcome wetness. Leaving stubble on the surface and adding other organic material help to conserve moisture. Crop residue management, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. However, it is poorly suited to deep-rooted legumes, such as alfalfa, because moderately slow permeability in the fragipan restricts root penetration and downward movement of water. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation is the main management concern. Equipment should be operated only when the soil is relatively dry or is frozen. Machine planting of trees is practical in large areas.

Because of wetness and moderately slow permeability, this soil is very limited as a site for septic tank absorption fields. It is somewhat limited as a site for dwellings without basements because of wetness. It is very limited as a site for dwellings and most other urban uses. It is very limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 2w. The woodland ordination symbol is 4A.

RaB—Raritan silt loam, 3 to 8 percent slopes

This is a gently sloping, very deep, moderately well drained soil on terraces and benches above flood plains of larger streams. Slopes are smooth or concave. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is dark grayish brown, friable silt loam about 9 inches thick. The subsoil is about 45 inches thick. In the upper 11 inches it is strong brown and yellowish red, friable silt loam. In the next 6 inches it is yellowish red, mottled, firm silty clay loam. In the next 10 inches it is strong brown, mottled, very friable and brittle clay loam. In the next 12 inches it is brown and reddish brown, mottled, very firm and brittle silty clay loam. In the lower 6 inches it is brown, mottled, firm clay loam. The substratum, to a depth of 60 inches, is reddish brown, mottled, friable, stratified gravelly loam and gravelly clay loam. In some areas the soil is nearly level or strongly sloping. In some areas the subsoil is yellowish brown. In a few areas the surface layer is loam or sandy loam. In some areas the upper part of the subsoil does not have gray mottles or the soil does not have a fragipan. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few scattered areas of very deep, well drained Birdsboro soils on large flats of streams and on terraces and benches above the Raritan soil. Also included are a few small areas of poorly drained Lamington soils in shallow depressions and along narrow drainageways on lowlands. Lamington soils are grayish throughout. Also included are some small areas of very deep, moderately well drained Rowland soils on low rises on bottom lands. Included soils make up about 15 percent of the map unit.

Permeability of the Raritan soil is moderate above the fragipan, moderately slow in the fragipan, and moderate or moderately rapid in the substratum. Available water capacity is moderate. Surface runoff is medium. The fragipan is at a depth of 20 to 30 inches. The seasonal high water table is at a depth of 18 to 36 inches. In unlimed areas this soil is very strongly acid to moderately acid throughout. The fragipan and the seasonal high water table restrict root penetration.

Most areas of the Raritan soil are used as cropland or pasture. Some areas are used as woodland or for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is a major hazard, and moderately slow or slow permeability is a limitation. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation is the main management concern. Equipment should be operated only when the soil is relatively dry or frozen. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and moderately slow permeability. It is severely limited as a site for dwellings and most other urban uses, including local roads and streets, because of wetness.

The land capability classification is 2e. The woodland ordination symbol is 4A.

RcC—Ravenrock-Highfield-Rock outcrop complex, 8 to 15 percent slopes

This map unit consists of the strongly sloping, very deep, moderately well drained Ravenrock soil, the well drained Highfield soil, and areas of Rock outcrop on backslopes and benches on mountains. Slopes are smooth or concave. Areas of the Ravenrock and Highfield soils and Rock outcrop are irregular in shape, and range from 10 to 220 acres in size. This map unit is about 40 percent Ravenrock soil, 35 percent Highfield soil, 10 percent Rock outcrop, and 15 percent included soils. These soils and areas of Rock outcrop are in areas so intricately mixed or so small in size that separating them in mapping was not practical. Stones and boulders cover 3 to 15 percent of the surface of the map unit.

Typically, the Ravenrock soil has a surface layer of brown or dark brown, friable gravelly loam about 4 inches thick. The subsurface layer, from a depth of 4 to 7 inches, is strong brown, friable gravelly silt loam. The subsoil is about 50 inches thick. In the upper 9 inches it is yellowish red, friable very gravelly silt loam. In the next 18 inches it is yellowish red, friable very gravelly clay loam. In the next 9 inches it is red, firm very gravelly clay loam. In the lower 14 inches it is yellowish red, friable gravelly silty clay. The substratum is yellowish red, firm gravelly clay loam. In some areas the soils are nearly level or strongly sloping. In some areas depth to bedrock is less than 60 inches.

Typically, the surface layer of the Highfield soil is covered by a 1-inch-thick layer of moderately decomposed mat of twigs, leaves, and roots. The surface layer is very dark grayish brown, friable channery silt loam about 1 inch thick. The subsurface layer, to a depth of 3 inches, is light brownish gray, friable channery silt loam. The subsoil is about 47 inches thick. In the upper 2 inches it is brownish yellow, friable channery silt loam. In the next 17 inches it is light yellowish brown, friable channery silt loam. In the next 16 inches it is yellowish brown and brown, friable channery silt loam. In the lower 12 inches it is yellowish brown and brown, firm channery silt loam. The substratum, from a depth of 50 to 65 inches, is brown and yellowish brown, firm very channery silt loam.

Included with the Ravenrock and Highfield soils in mapping are a few small areas of well drained Catoctin soils on the steeper side slopes. Also included, in the lower areas, are a few areas of moderately well drained Mt. Zion soils. Also included, in the more concave areas, are some small areas of somewhat poorly drained Rohrersville soils. Included soils make up about 15 percent of the map unit.

Permeability of the Ravenrock soil is moderate in the upper part of the solum and slow in the lower part. Permeability of the Highfield soil is moderate. Available water capacity is moderate on the Ravenrock soil and high on the Highfield soil. Surface runoff on both soils is medium. The seasonal high water table is at a depth of 42 to 72 inches on the Ravenrock soil and at a depth of 72 inches or more on the Highfield soil. In unlimed areas these soils are moderately acid to very strongly acid.

Most areas of the Ravenrock and Highfield soils are used as woodland.

These soils are generally not suited to use as cropland, hayland, or pasture because of large stones and rock outcrops on the surface.

Potential productivity for trees on this soil is high. Because of stones on the surface, wheeled skidders with high clearance should be operated at a reduced speed over carefully chosen routes. Removing undesirable species will increase production.

On the Ravenrock soil, wetness and slow permeability are severe limitations for septic tank absorption fields, and on the Highfield soil depth to bedrock, permeability, and slope are moderate limitations. These soils are both somewhat limited as a site for dwellings because of slope, depth to bedrock, and wetness. These soils are somewhat limited as a site for local roads and streets because of slope and frost action.

The land capability classification is 6s for the Ravenrock and Highfield soils and 8s for Rock outcrop. The woodland ordination symbol is 5X for the Ravenrock soil and 4X for the Highfield soil.

RcD—Ravenrock-Highfield-Rock outcrop complex, 15 to 25 percent slopes

This map unit consists of the steep, very deep, moderately well drained Ravenrock soil, the well drained Highfield soil, and Rock outcrop on mountain backslopes and benches. Slopes are smooth or concave. Areas of the Ravenrock and Highfield soils and Rock outcrop are irregular in shape and range from 5 to 450 acres in size. This map unit is about 40 percent Ravenrock soil, 40 percent Highfield soil, and 10 percent Rock outcrop. The Ravenrock and Highfield soils and Rock outcrop are in areas so intricately mixed or so small in size that separating them in mapping was not practical. Stones and boulders cover 3 to 15 percent of the surface of the map unit.

Typically, the Ravenrock soil has a surface layer that is brown or dark brown, friable gravelly loam about 4 inches thick. The subsurface layer, from a depth of 4 to 7 inches, is strong brown, friable gravelly silt loam. The subsoil is about 50 inches thick. In the upper 9 inches it is yellowish red, friable very gravelly silt loam. In the next 18 inches it is yellowish red, friable clay loam. In the next 9 inches it is red, firm very gravelly clay loam. In the lower 22 inches it is yellowish red, friable silty clay. The substratum is yellowish red, firm gravelly clay loam. In some areas the soil is nearly level or strongly sloping. In some areas depth to bedrock is less than 60 inches.

Typically, the surface layer of the Highfield soil is a 1-inch-thick layer of moderately decomposed mat of twigs, leaves, and roots. The surface layer is 1 inch of very dark grayish brown, friable channery silt loam. The subsurface layer, from a depth of 2 to 3 inches, is light brownish gray, friable channery silt loam. The subsoil is about 47 inches thick. In the upper 2 inches it is brownish yellow, friable channery silt loam. In the next 17 inches it is light yellowish brown, friable channery silt loam. In the next 16 inches it is yellowish brown and brown, friable channery silt loam. In the lower 12 inches it is yellowish brown and brown, firm channery silt loam. The substratum, from a depth of 50 to 65 inches, is brown and yellowish brown, firm very channery silt loam.

Included with this soil in mapping are a few small areas of moderately deep, well drained Catoctin soils on the steeper side slopes. A few areas of moderately well drained Mt. Zion soils are in the lower areas. Also included are some small areas of somewhat poorly drained Rohrersville soils in the more concave areas. Included soils make up about 10 percent of the map unit.

Permeability of the Ravenrock soil is moderate in the upper part of the solum and slow in the lower part. Permeability of the Highfield soil is moderate. The available water capacity is moderate on the Ravenrock soil and high on the Highfield soil. Surface runoff on both soils is high. The seasonal high water table is at a depth of 42 to 72 inches on the Ravenrock soil and at a depth of more than 72 inches on the Highfield soil. In unlimed areas the Ravenrock and Highfield soils are moderately acid to very strongly acid.

Most areas of the Ravenrock and Highfield soils are used as woodland.

These soils are generally not suited to use as cropland, hayland, or pasture because of slope, large stones, and rock outcrops on the surface.

Potential productivity for trees on this soil is high. Because of stones on the surface, wheeled skidders with high clearance should be operated at a reduced speed over carefully chosen routes. Because of the erosion hazard, the grade of the logging roads, skid trails, and landings should be gentle and water should be removed by water bars, outsloping road surfaces, culverts, and drop structures.

These soils are very limited as a site for septic tank absorption fields because of slope, depth to bedrock, wetness, and restricted permeability. They are very limited as a site for dwellings because of slope, depth to bedrock, and wetness. They are very limited as a site for local roads and streets because of slope and frost action.

The land capability classification is 7s for the Ravenrock and Highfied soils and 8s for Rock outcrop. The woodland ordination symbol is 5X for the Ravenrock soil and 4X for the Highfield soil.

RcF—Ravenrock-Highfield-Rock outcrop complex, 25 to 65 percent slopes

This map unit consists of the very steep, very deep, moderately well drained Ravenrock soil and the well drained Highfield soil on backslopes of mountains. Slopes are smooth or concave. Areas of the Ravenrock and Highfield soils and Rock outcrop are irregular in shape, and range from 10 to 160 acres in size. This map unit is about 40 percent Ravenrock soil, 40 percent Highfield soil, 10 percent Rock outcrop, and 10 percent included soils. The Ravenrock and Highfield soils and Rock outcrop are in areas so intricately mixed or so small in size that separating them in mapping was not practical. Stones and boulders cover 3 to 15 percent of the surface of this map unit.

Typically, the Ravenrock soil has a surface layer of brown or dark brown, friable gravelly loam about 4 inches thick. The subsurface layer, from a depth of 4 to 7 inches, is strong brown, friable gravelly silt loam. The subsoil is about 50 inches thick. In the upper 9 inches it is yellowish red, friable, very gravelly silt loam. In the next 18 inches it is yellowish red, friable, clay loam. In the next 9 inches it is red, firm very gravelly clay loam. In the lower 22 inches it is yellowish red, friable silty clay. The substratum is yellowish red, firm gravelly clay loam. In some areas the soil is nearly level or strongly sloping. In some areas depth to bedrock is less than 60 inches.

Typically, the surface layer of the Highfield soil is covered by a 1-inch-thick layer of a moderately decomposed mat of twigs, leaves, and roots. The surface layer is very dark grayish brown, friable channery silt loam about 1 inch thick. The subsurface layer, from a depth of 2 to 3 inches, is light brownish gray, friable channery silt loam. The subsoil is about 47 inches thick. In the upper 2 inches it is brownish yellow, friable channery silt loam. In the next 17 inches it is light yellowish brown, friable channery silt loam. In the next 16 inches it is yellowish brown and brown, friable channery silt loam. In the lower 12 inches it is yellowish brown and brown, firm channery silt loam. The substratum, from a depth of 50 to 65 inches, is brown and yellowish brown, firm very channery silt loam.

Included with this soil in mapping are a few small areas of well drained Catoctin soils on some side slopes. Included soils make up about 10 percent of the map unit.

Permeability of the Ravenrock soils is moderate in the upper part of the solum and slow in the lower part. Permeability of the Highfield soil is moderate. Available water capacity is moderate on the Ravenrock soil and high on the Highfield soil. Surface runoff on both soils is high. The seasonal high water table is at a depth of 42 to 72 inches on the Ravenrock soil and at a depth of more than 72 inches on the Highfield soil. In unlimed areas the Ravenrock and Highfield soils are moderately acid to very strongly acid.

Most areas of the Ravenrock and Highfield soils are used as woodland.

These soils are generally not suited as cropland, hayland, or pasture because of very steep slopes.

Potential productivity for trees on this soil is high. Because of the erosion hazard, the grade of logging roads, skid trails, and landings should be gentle and water should be removed by water bars, outsloping road surfaces, culverts, and drop structures. Ordinary crawler tractors and rubber-tired skidders cannot be operated safely on the steeper slopes. When the soil is wet, logging roads tend to be slippery and ruts form quickly. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Some replanting of seedlings may be needed.

Because of slope, this soil is very limited for most urban uses.

The land capability classification is 7s for the Ravenrock and Highfield soils and 8s for Rock outcrop. The woodland ordination symbol is 5R for the Ravenrock soil and 4R for the Highfield soil.

RdC—Ravenrock-Rohrersville complex, 3 to 15 percent slopes, extremely stony

This map unit consists of the gently sloping to strongly sloping, very deep, moderately well drained Ravenrock soil and the somewhat poorly drained Rohrersville soil on swales and toeslopes. Slopes are concave. Areas of the Ravenrock and Rohrersville soils are irregular in shape, and range from 12 to 25 acres in size. This map unit is about 45 percent Ravenrock soil, 45 percent Rohrersville soil, and 10 percent included soils. The two soils are in areas so intricately mixed or so small in size that separating them in mapping was not practical. Large stones cover 3 to 15 percent of the surface.

Typically, the Ravenrock soil has a surface layer of brown or dark brown, friable gravelly loam about 4 inches thick. The subsurface layer, from a depth of 4 to 7 inches, is strong brown, friable gravelly silt loam. The subsoil is about 50 inches thick. In the upper 9 inches it is yellowish red, friable very gravelly silt loam. In the next 18 inches it is yellowish red, friable clay loam. In the next 9 inches it is red, firm very gravelly clay loam. In the lower 22 inches it is yellowish red, friable silty clay. The substratum is yellowish red, firm gravelly clay loam. In some areas the soil is nearly level or strongly sloping. In some areas depth to bedrock is less than 60 inches.

Typically, the Rohrersville soil has a surface layer of dark grayish brown, friable silt loam about 5 inches thick. The subsurface layer is brown, friable silt loam about 4 inches thick. The subsoil is about 53 inches thick. In the upper 6 inches it is light olive brown, mottled, friable silt loam. In the next 10 inches it is light pale brown, mottled, friable silt loam. In the next 6 inches it is brown, mottled silty clay loam. In the lower 24 inches it is mottled, firm strong brown silt loam and grayish brown silty clay loam. The substratum, to a depth of 62 inches, is yellowish red, mottled, firm silty clay loam. Greenstone is at a depth of 62 inches. In some areas the soil does not have a fragipan. In some areas bedrock is at a depth of less than 60 inches.

Included with this soil in mapping are a few small areas of well drained Mt. Zion and Highfield soils. Included soils make up about 10 percent of the map unit.

Permeability of the Ravenrock soil is moderate in the upper part of the solum and slow in the lower part. Permeability of the Rohrersville soil is moderate above the fragipan, slow or moderate in the fragipan, and moderately slow in the substratum. The Rohrersville soil has a fragipan at a depth of 20 to 35 inches. Available water capacity is moderate on both soils. Surface runoff for both soils is medium on the Ravenrock soil and very high on the Rohrersville soil. The seasonal high water table is at a depth of 42 to 72 inches on the Ravenrock soil and at a depth of 15 to 25 inches on the Rohrersville soil. In unlimed areas reaction is moderately acid to very strongly acid on the Ravenrock soil and slightly acid to strongly acid on the Rohrersville soil.

Most areas of the Ravenrock and Highfield soils are used as woodland.

These soils are generally not suited to cropland, hayland, or pasture because of large stones on the surface.

Potential productivity for trees on this soil is high. Because of stones on the surface, wheeled skidders with high clearance should be operated at a reduced speed over carefully chosen routes. Removing undesirable species will increase production.

These soils are very limited as sites for septic tank absorption fields because of wetness and restricted permeability. The Ravenrock soil is somewhat limited as a site for dwellings with basements because of wetness and slope and somewhat limited for dwellings without basements because of wetness. The Rohrersville soil is very limited as a site for dwellings because of wetness. The Ravenrock soil is somewhat limited as a site for local roads and streets because of frost action and slope. The Rohrersville soil is limited for this use because of low strength and frost action.

The land capability classification for the Ravenrock and Highfield soils is 6s. The woodland ordination symbol is 5X for the Ravenrock soil and 4W for the Rohrersville soil.

ReA—Readington silt loam, 0 to 3 percent slopes

This is a nearly level, deep, moderately well drained soil on broad uplands and in depressions. Slopes are smooth or concave. Areas of this soil are irregular or long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is dark reddish gray, friable silt loam about 10 inches thick. The subsoil is about 30 inches thick. In the upper 15 inches it is reddish brown, friable, silt loam. In the next 2 inches it is reddish brown, mottled, friable silt loam. In the lower 13 inches it is weak red, mottled, very firm and brittle channery silt loam and very channery silt loam. The substratum, to a depth of 46 inches, is weak red, mottled, very firm extremely channery silt loam. Weak red, fractured siltstone bedrock is at a depth of 46 inches. In some areas the soil is gently sloping. In some areas the subsoil is yellowish brown. In a few areas the surface layer is loam and sandy loam. In some areas the soil does not have a fragipan. In a few areas depth to bedrock is less than 40 inches or more than 60 inches.

Included with this soil in mapping are a few scattered areas of well drained Lansdale soils on broad, undulating ridgetops and somewhat poorly drained Abbottstown soils on slight rises below the Readington soil. Also included are a few small areas of deep, poorly drained Croton soils in shallow depressions and along narrow drainageways on lowlands. Included soils make up about 15 percent of the map unit.

Permeability of the Readington soil is moderate in the upper part of the solum and moderately slow or moderate in the fragipan and substratum. Available water capacity is moderate. Surface runoff is low. The fragipan is at a depth of 20 to 36 inches. The seasonal high water table is at a depth of 18 to 36 inches. In unlimed areas the soil is extremely acid to slightly acid in the upper part of the solum and strongly acid to slightly acid in the lower part and in the substratum. The fragipan and the seasonal high water table restrict root penetration.

Most areas of the Readington soil are used as cropland or pasture. A few small areas are used as woodland or for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. The main limitation is the seasonal high water table. Another limitation is the moderately slow permeability in the fragipan. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. A well maintained, existing drainage system can help to overcome wetness. Leaving stubble on the surface and adding other organic material help to conserve moisture. Crop residue management, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. However, it is poorly suited to deep-rooted legumes, such as alfalfa, because moderately slow permeability in the fragipan restricts root penetration and downward movement of water. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and excessive surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No limitations or hazards affect use and management. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and depth to a restrictive layer. It is somewhat limited as a site for dwellings without basements because of wetness. It is very limited as a site for dwellings with basements and most other urban uses because of wetness. It is somewhat limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 2w. The woodland ordination symbol is 4A.

ReB—Readington silt loam, 3 to 8 percent slopes

This is a gently sloping, deep, moderately well drained soil on broad uplands and in depressions. Slopes are smooth or concave. Areas of this soil are irregular or long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is dark reddish gray, friable silt loam about 10 inches thick. The subsoil is about 30 inches thick. In the upper 15 inches it is reddish brown, friable silt loam. In the next 2 inches it is reddish brown, mottled, friable silt loam. In the lower 13 inches it is weak red, mottled, very firm and brittle channery silt loam and very channery silt loam. The substratum, to a depth of 46 inches, is weak red, mottled, very firm extremely channery silt loam. Weak red, fractured siltstone bedrock is at a depth of 46 inches. In some areas the soil is nearly level and strongly sloping. In some areas the subsoil is yellowish brown. In a few areas the surface layer is loam or sandy loam. In some areas the soil does not have fragipan. In a few areas depth to bedrock is less than 40 inches or more than 60 inches.

Included with this soil in mapping are a few scattered areas of well drained Lansdale soils on broad, undulating ridgetops and somewhat poorly drained Abbottstown soils on slight rises below the Readington soil. Also included are a few small areas of deep, poorly drained Croton soils in shallow depressions and along narrow drainageways on lowlands. Included soils make up about 15 percent of the map unit.

Permeability of the Readington soil is moderate in the upper part of the solum and moderately slow or moderate in the fragipan and in the substratum. Available water capacity is moderate. Surface runoff is medium. The fragipan is at a depth of 20 to 36 inches. The seasonal high water table is at a depth of 18 to 36 inches. In unlimed areas this soil is extremely acid to slightly acid in the upper part of the solum and strongly acid to slightly acid in the lower part and in the substratum. The fragipan and the seasonal high water table restrict root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the major hazard, and moderately slow permeability in the fragipan is a limitation. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, and grassed waterways help to reduce surface runoff and to prevent excessive soil loss. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. No limitations or hazards affect use and management. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and depth to a restrictive layer. It is somewhat limited as a site for dwellings without basements because of wetness. It is very limited as a site for dwellings with basements and most other urban uses because of wetness. It is somewhat limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 2e. The woodland ordination symbol is 4A.

RfA—Reaville channery silt loam, 0 to 3 percent slopes

This is a nearly level, moderately deep, moderately well drained soil on broad ridgetops and in depressions. Slopes are smooth, convex, or concave. Areas of this soil are irregular or long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is reddish brown, friable channery silt loam about 9 inches thick. The subsoil is reddish brown, mottled, friable and firm channery silt loam about 6 inches thick. The substratum, to a depth of 25 inches, is dusky red, mottled, firm very channery silt loam. Weak red shale and siltstone bedrock is at a depth of 25 inches. In some areas the soil is gently sloping. In some areas the subsoil is yellowish brown. In a few areas the soil has a weak fragipan. In some areas depth to bedrock is less than 20 inches or more than 40 inches.

Included with this soil in mapping are a few scattered areas of somewhat excessively drained Klinesville soils on knobs and along tops and sides of ridges and a few small areas of Penn soils on broad, undulating ridgetops. Also included are a few areas of deep, poorly drained Croton soils in shallow depressions and along narrow drainageways on lowlands. Also included are small areas of somewhat poorly drained Lehigh soils on slightly higher rises above the Reaville soil and some small areas where there are no rock fragments on the surface or in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Reaville soil is moderate in the surface layer and slow in the subsoil and substratum. Available water capacity is low or very low. Surface runoff is high. The seasonal high water table is at a depth of 16 to 36 inches. In unlimed areas this soil is strongly acid to slightly acid. Depth to bedrock and the seasonal high water table restrict root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Wetness is the main limitation. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. A well maintained, existing drainage system can help to overcome wetness. A conservation tillage system that leaves protective amounts of crop residue on the surface, cover crops, and crop residue management help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation and the windthrow hazard are major management concerns. When the soil is wet, the logging roads tend to be slippery and ruts form quickly. Use of planting or logging equipment is limited during wet periods. Some replanting of seedlings may be needed. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is practical in large areas.

Because of depth to bedrock, wetness, and slow permeability, this soil is very limited as a site for septic tank absorption fields. It is somewhat limited as a site for dwellings without basements because of wetness and depth to bedrock. It is very limited as a site for dwellings with basements and most other urban uses because of wetness and depth to bedrock. It is very limited as a site for local roads and streets because of frost action.

The land capability classification is 3w. The woodland ordination symbol is 4W.

RfB—Reaville channery silt loam, 3 to 8 percent slopes

This is a gently sloping, moderately deep, moderately well drained soil on ridgetops and in depressions. Slopes are smooth, convex, or concave. Areas of this soil are irregular or long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is reddish brown, friable channery silt loam about 9 inches thick. The subsoil is reddish brown, mottled, friable and firm channery silt loam about 6 inches thick. The substratum, to a depth of 25 inches, is dusky red, mottled, firm very channery silt loam. Weak red shale and siltstone bedrock is at a depth of 25 inches. In some areas the soil is nearly level or strongly sloping. In some areas the subsoil is yellowish brown. In a few areas the soil has a weak fragipan. In some areas depth to bedrock is less than 20 inches or more than 40 inches.

Included with this soil in mapping are a few scattered areas of somewhat excessively drained Klinesville soils on knobs and along the tops and sides of ridges and a few small areas of Penn soils on broad, undulating ridgetops. Also included are a few areas of deep, poorly drained Croton soils in shallow depressions and along narrow drainageways on lowlands. Also included are small areas of somewhat poorly drained Lehigh soils on slightly higher rises above the Reaville soil and some small areas where rock fragments are neither on the surface nor in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Reaville soil is moderate in the surface layer and slow in the subsoil and substratum. Available water capacity is low or very low. Surface runoff is very high. The seasonal high water table is at a depth of 16 to 36 inches. In unlimed areas this soil is strongly acid to slightly acid. Depth to bedrock and the seasonal high water table restrict root penetration.

Most areas of the Reaville soil are used as cropland or pasture. Some areas are used as woodland or for urban development.

This soil is well suited to corn, soybeans, small grain, and most specialty crops. Erosion is the major hazard. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation and windthrow hazard are major management concerns. When the soil is wet, logging roads tend to be slippery and ruts form quickly. Use of planting or logging equipment is limited during wet periods. Because of the erosion hazard, the grade of logging roads, skid trails, and landings should be gentle and water should be removed by water bars, outsloping road surfaces, culverts, and drop structures. Some seedlings may need to be replanted. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of depth to bedrock, wetness, and slow permeability. It is somewhat limited as a site for dwellings without basements because of wetness and depth to bedrock. It is very limited as a site for dwellings with basements and most other urban uses because of wetness and depth to bedrock. It is very limited as a site for local roads and streets because of frost action.

The land capability classification is 3w. The woodland ordination symbol is 4W.

RfC—Reaville channery silt loam, 8 to 15 percent slopes

This is a strongly sloping, moderately deep, moderately well drained soil on ridgetops and in depressions. Slopes are smooth, convex, or concave. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is reddish brown, friable channery silt loam about 9 inches thick. The subsoil is reddish brown, mottled, friable and firm channery silt loam about 6 inches thick. The substratum, to a depth of 25 inches, is dusky red, mottled, firm very channery silt loam. Weak red shale and siltstone bedrock is at a depth of 25 inches. In some areas the soil is gently sloping and moderately steep. In some areas the subsoil is yellowish brown. In a few areas the soil has a weak fragipan. In some areas depth to bedrock is less than 20 inches or more than 40 inches.

Included with this soil in mapping are a few scattered areas of somewhat excessively drained Klinesville soils on knobs and along the tops and sides of ridges and a few small areas of Penn soils on broad, undulating ridgetops. Also included are a few areas of deep, poorly drained Croton soils in shallow depressions and along narrow drainageways on lowlands. Also included are small areas of somewhat poorly drained Lehigh soils on slightly higher rises above the Reaville soil and some small areas where rock fragments are neither on the surface nor in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Reaville soil is moderate in the surface layer and slow in the subsoil and substratum. Available water capacity is low or very low. Surface runoff is very high. The seasonal high water table is at a depth of 16 to 36 inches. In unlimed areas this soil is strongly acid to slightly acid. Depth to bedrock and the seasonal high water table restrict root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or for urban development.

This soil is well suited to specialty crops. It is fairly well suited to corn, soybeans, and small grain. Erosion is the major hazard. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, diversions, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation and windthrow hazard are major management concerns. When the soil is wet, logging roads tend to be slippery and ruts form quickly. Use of planting or logging equipment is limited during wet periods. Because of the erosion hazard, the grade of logging roads, skid trails, and landings should be gentle and water should be removed by water bars, outsloping road surfaces, culverts, and drop structures. Some replanting of seedlings may be needed. Harvest methods that do not isolate the remaining trees or leave them widely spaced help to prevent windthrow. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of depth to bedrock, wetness, and slow permeability. It is somewhat limited as a site for dwellings without basements because of wetness, slope, and depth to bedrock. It is very limited as a site for dwellings with basements and most other urban uses because of wetness and depth to bedrock. It is severely limited as a site for local roads and streets because of frost action.

The land capability classification is 3e. The woodland ordination symbol is 4W.

RoB—Rohrersville silt loam, 3 to 8 percent slopes

This is a gently sloping, very deep, somewhat poorly drained soil on toe slopes and in swales. Slopes are concave. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 150 acres in size.

Typically, the surface layer is dark grayish brown, friable silt loam about 5 inches thick. The subsurface layer is brown, friable silt loam about 4 inches thick. The subsoil is about 53 inches thick. In the upper 6 inches it is light olive brown, mottled, friable silt loam. In the next 10 inches it is light pale brown, mottled, friable silty clay loam. In the lower 24 inches it is brown, mottled, friable silty clay loam. The substratum, to a depth of 62 inches, is yellowish red, mottled, firm silty clay loam. Greenstone is at a depth of 62 inches. In some areas the soil has a fragipan. In some areas bedrock is at a depth of less than 60 inches.

Included with this soil in mapping are a few, small, scattered areas of well drained Highfield, Catoctin, and Myersville soils on the steeper side slopes. These soils are browner or redder throughout than the Rohrersville soil. Also included are some small areas of poorly drained Hatboro soils on bottom lands. Hatboro soils are grayish throughout. Included soils make up about 15 percent of the map unit.

Permeability of the Rohrersville soil is moderate above the fragipan and slow or moderately slow in the fragipan and moderately slow in the substratum. Available water capacity is moderate, and surface runoff is very high. The seasonal high water table is at a depth of 15 to 25 inches. In unlimed areas this soil is slightly acid to strongly acid. The seasonal high water table and the fragipan restrict root penetration.

Most areas of this soil are used as hayland or woodland or are idle land. A few areas are used as pasture or cropland.

This soil is fairly well suited to crop production. Major management concerns include the seasonal high water table, wetness, and the erosion hazard. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. The fragipan and the seasonal high water table restrict root penetration. A well maintained, existing drainage system helps to overcome wetness. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is fairly well suited to pasture. Major management concerns include seasonal high water table, wetness, and erosion. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, applications of lime and fertilizer, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Wetness is a management concern. Equipment should be operated only when the soil is relatively dry or is frozen. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and slow permeability. It is very limited as a site for dwellings because of wetness. It is very limited as a site for local roads and streets because of low strength and frost action.

The land capability classification is 3w. The woodland ordination symbol is 4W.

RsB—Rohrersville silt loam, 0 to 15 percent slopes, very stony

This is a gently sloping, very deep, somewhat poorly drained soil on toe slopes and in swales. Slopes are concave. Areas of this soil are irregular or are long and narrow in shape, and range from 5 to 300 acres in size. Stones and boulders cover about 1 to 3 percent of the surface. They range from 1 to more than 4 feet in diameter.

Typically, the surface layer is dark grayish brown, friable silt loam about 5 inches thick. The subsurface layer is brown, friable silt loam about 4 inches thick. The subsoil is about 53 inches thick. In the upper 6 inches it is light olive brown, mottled, friable silt loam. In the next 10 inches it is light pale brown, mottled, friable silt loam. In the next 6 inches it is brown, mottled, friable silty clay loam. In the lower 24 inches it is mottled, strong brown, firm silt loam and grayish brown, firm silty clay loam. The substratum, to a depth of 62 inches, is yellowish red, mottled, firm silty clay loam. Greenstone is at a depth of 62 inches. In some areas the soil has a fragipan. In some areas bedrock is at a depth of less than 60 inches.

Included with this soil in mapping are a few, small, scattered areas of well drained Highfield, Catoctin, and Myersville soils on the steeper side slopes. These soils are browner or redder throughout than the Rohrersville soil. Also included are some small areas of poorly drained Hatboro soils on bottom lands. Hatboro soils are grayish throughout. Included soils make up about 15 percent of the map unit.

Permeability of the Rohrersville soil is moderate above the fragipan, slow or moderately slow in the fragipan, and moderately slow in the substratum. Available water capacity is moderate, and surface runoff is very high. The seasonal high water table is at a depth of 15 to 25 inches. In unlimed areas this soil is slightly acid to strongly acid. The seasonal high water table and the fragipan restrict root penetration.

Most areas of this soil are used as woodland or are idle land.

This soil is unsuited to cultivated crops and poorly suited to permanent pasture because of the amount of stones and boulders on or beneath the surface.

Potential productivity for trees on this soil is moderately high. Wetness is a major management concern. Equipment should be operated only when the soil is relatively dry or frozen. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and slow permeability. It is very limited as a site for dwellings and most other urban uses because of wetness. The soil is very limited as a site for local roads and streets because of wetness and frost action.

The land capability classification is 6s. The woodland ordination symbol is 4W.

Rw—Rowland silt loam

This is a nearly level, very deep, moderately well drained soil on flood plains. Slopes are smooth and range from 0 to 3 percent. Areas of this soil are long and narrow in size, and range from 5 to 200 acres in size.

Typically, the surface layer is dark reddish brown, very friable silt loam about 10 inches thick. The subsoil is about 18 inches thick. In the upper 6 inches it is reddish brown, friable silt loam. In the lower 12 inches it is reddish brown, mottled, friable silt loam. The substratum extends to a depth of 60 inches. In the upper 16 inches it is weak red, mottled, firm silty clay loam. In the lower 16 inches it is weak red, stratified sand and gravel. In some areas the stratified substratum is at a depth of less than 40 inches. In a few areas depth to bedrock is less than 60 inches. In some areas the surface layer is loam or sandy loam.

Included with this soil in mapping are a few, small, scattered areas of somewhat poorly drained Bowmansville soils on slightly lower rises and poorly drained Lamington soils in swales and in narrow drainageways. Also included are a few small areas of moderately well drained Raritan soils on ridgetops and side slopes of low stream terraces. Bowmansville and Lamington soils are grayish throughout. Raritan soils have a fragipan. Also included are some areas that are subject to rare flooding during periods of heavy rainfall. Included soils make up about 15 percent of the map unit.

Permeability of the Rowland soil is moderate or moderately slow in the surface layer and subsoil and moderately rapid in the substratum. Available water capacity is moderate. Surface runoff is low. This soil is subject to frequent flooding for brief periods, mainly in late winter and early spring. In unlimed areas this soil is very strongly acid to moderately acid throughout. The seasonal high water table is at a depth of 12 to 36 inches.

Most areas of this soil are used as cropland or pasture. Some small areas are used as woodland or are idle land.

This soil is well suited to corn and soybeans. However, it is fairly well suited to small grain because floodwater causes severe crop damage. Frequent flooding is the main hazard. Crop residue management, cover crops, and green manure crops help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation is the main management concern. Prolonged seasonal wetness hinders harvesting, logging, and planting of seedlings. Equipment should be used only during periods when the soil is relatively dry or is frozen. Machine planting of trees is practical in large areas.

This soil is unsuited as a site for septic tank absorption fields and dwellings because of flooding. It is very limited as a site for local roads and streets because of flooding and frost action.

The land capability classification is 2w. The woodland ordination symbol is 4W.

StB—Steinsburg channery sandy loam, 3 to 8 percent slopes

This is a gently sloping, moderately deep, well drained soil on ridgetops and side slopes. Slopes are convex. Areas of this soil are long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is reddish brown, friable channery sandy loam about 10 inches thick. The subsoil is yellowish red, friable channery sandy loam about 10 inches thick. The substratum, to a depth of 26 inches, is reddish brown, friable channery loamy sand. Reddish brown sandstone bedrock is at a depth of about 26 inches. In some areas the soil is nearly level or strongly steep. In a few areas the soil is redder throughout, and in other areas it has more silt throughout. In some areas depth to bedrock is at a depth of less than 20 inches.

Included with this soil in mapping are a few scattered areas of shallow, somewhat excessively drained Klinesville soils on sides of ridges below the Steinsburg soil and a few areas of moderately deep, well drained Penn soils on broad uplands. Also included are a few small areas of deep, well drained Lansdale soils in landscape positions similar to those of the Steinsburg soil. Klinesville soils have less sand and are shallower than the Steinsburg soil. Penn soils are redder and have fewer rock fragments throughout than the Steinsburg soil. Lansdale soils have fewer channers and more clay throughout than the Steinsburg soil. Also included are some small areas of moderately well drained Readington soils on broad flats and a few areas of somewhat poorly drained Abbottstown soils below the Steinsburg soil at heads of drains. Included soils make up about 15 percent of the map unit.

Permeability of the Steinsburg soil is moderately rapid, and available water capacity is low or very low. Surface runoff is low. In unlimed areas this soil is extremely acid to strongly acid. Depth to bedrock restricts root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or are idle land.

This soil is well suited to corn, soybeans, and small grain. Erosion is the major hazard, and the low or very low available water capacity is a limitation. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Seedling mortality is the main management concern. Selecting proper planting stock and limited overstocking help to reduce the seedling mortality rate. Seedlings survive and grow well if competing vegetation is controlled, especially during the first few years, and if livestock is excluded from wooded areas. Machine planting of trees is generally practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of depth to bedrock. It is somewhat limited as a site for dwellings because of depth to bedrock. It is very limited as a site for dwellings with basements because of depth to bedrock. It is somewhat limited as a site for local roads and streets because of depth to bedrock.

The land capability classification is 2e. The woodland ordination symbol is 8F.

StC—Steinsburg channery sandy loam, 8 to 15 percent slopes

This is a strongly sloping, moderately deep, well drained soil on ridgetops and side slopes. Slopes are convex. Areas of this soil are long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is reddish brown, friable channery sandy loam about 10 inches thick. The subsoil is yellowish red, friable channery sandy loam about 10 inches thick. The substratum, to a depth of 26 inches, is reddish brown, friable channery loamy sand. Reddish brown sandstone bedrock is at a depth of about 26 inches. In some areas the soil is gently sloping or moderately steep. In a few areas the soil is redder throughout, and in other areas it has more silt throughout. In some areas depth to bedrock is less than 20 inches.

Included with this soil in mapping are a few scattered areas of shallow, somewhat excessively drained Klinesville soils on sides of ridges below the Steinsburg soil and a few scattered areas of moderately deep, well drained Penn soils on broad uplands. Also included are a few small areas of deep, well drained Lansdale soils in landscape positions similar to those of the Steinsburg soil. Klinesville soils have less sand and are shallower than the Steinsburg soil. Penn soils are redder and have fewer rock fragments throughout than the Steinsburg soil. Lansdale soils have fewer channers and more clay throughout than the Steinsburg soil. Also included are some small areas of moderately well drained Readington soils on broad flats. Included soils make up about 15 percent of the map unit.

Permeability of the Steinsburg soil is moderately rapid, and available water capacity is low or very low. Surface runoff is low. In unlimed areas this soil is extremely acid to strongly acid. Depth to bedrock restricts root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or are idle land.

This soil is fairly well suited to corn, soybeans, and small grain. Erosion is the major hazard, and low or very low available water capacity is a limitation. During periods when rainfall is below normal or is poorly distributed, drought can damage crops. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. Seedling mortality is the main management concern. Selecting proper planting stock and limited overstocking help to reduce the seedling mortality rate. Seedlings survive and grow well if competing vegetation is controlled, especially during the first few years, and if livestock is excluded from the wooded areas. Machine planting of trees is generally practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of depth to bedrock. It is somewhat limited as a site for dwellings without basements because of depth to bedrock and slope. It is very limited as a site for dwellings with basements because of depth to bedrock. It is moderately limited as a site for local roads and streets because of slope and depth to bedrock.

The land capability classification is 3e. The woodland ordination symbol is 8F.

StD—Steinsburg channery sandy loam, 15 to 25 percent slopes

This is a moderately steep, moderately deep, well drained soil on sides of ridges. Slopes are convex. Areas of this soil are long and narrow in shape, and range from 5 to 50 acres in size.

Typically, the surface layer is reddish brown, friable channery sandy loam about 10 inches thick. The subsoil is yellowish red, friable channery sandy loam about 10 inches thick. The substratum, to a depth of 26 inches, is reddish brown, friable channery loamy sand. Reddish brown sandstone bedrock is at a depth of about 26 inches. In some areas the soil is strongly sloping, steep, or very steep. In a few areas the soil is redder throughout. In other areas it has more silt throughout. In some areas depth to bedrock is less than 20 inches.

Included with this soil in mapping are a few scattered areas of shallow, somewhat excessively drained Klinesville soils on sides of ridges below the Steinsburg soil and a few scattered areas of moderately deep, well drained Penn soils on broad uplands. Also included are a few small areas of deep, well drained Lansdale soils in landscape positions similar to those of the Steinsburg soil. Klinesville soils have less sand and are shallower than the Steinsburg soil. Penn soils are redder and have fewer rock fragments than the Steinsburg soil. Lansdale soils have fewer channers and more clay throughout than the Steinsburg soil. Included soils make up about 15 percent of the map unit.

Permeability of the Steinsburg soil is moderately rapid, and available water capacity is low or very low. Surface runoff is medium. In unlimed areas this soil is extremely acid to strongly acid. Depth to bedrock restricts root penetration.

Most areas of this soil are used as cropland or pasture. Some areas are used as woodland or are idle land.

This soil is poorly suited to corn, soybeans, and small grain. Erosion is a major hazard, and low or very low available water capacity is a limitation. During periods when rainfall is below normal or poorly distributed, drought can damage crops. If cultivated crops are grown, a cropping sequence that includes grasses and legumes, a conservation tillage system that leaves protective amounts of crop residue on the surface, contour farming, and grassed waterways help to reduce surface runoff and to control erosion. Cover crops and crop residue management also help to control erosion, to maintain organic matter content, and to improve soil tilth.

This soil is well suited to pasture. Growing grasses and legumes is effective in controlling erosion. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderately high. The equipment limitation and seedling mortality are major management concerns. When the soil is wet, logging roads tend to be slippery and ruts form quickly. Use of planting or logging equipment is limited during wet periods. Selecting proper planting stock and limited overstocking help to overcome seedling mortality. Seedlings survive and grow well if competing vegetation is controlled, especially during the first few years, and if livestock is excluded from the wooded areas. Machine planting of trees is generally practical in large areas.

This soil is severely limited as a site for septic tank absorption fields because of depth to bedrock and slope. It is severely limited as a site for dwellings and local roads and streets because of slope.

The land capability classification is 4e. The woodland ordination symbol is 8F.

Uc—Urban land

This nearly level to strongly sloping map unit is on broad uplands, in depressions, and along drainageways. Slopes are smooth, concave, or convex. Areas of this soil are rectangular or irregular in shape, and range from 10 to more than 800 acres in size.

Urban land consists of areas where 75 percent or more of the surface is covered by roads, streets, parking lots, houses, shopping centers, factories, and other municipal structures that so obscure or alter the soil that it was unidentifiable.

Included with Urban land in mapping are small areas having slopes of more than 15 percent and open areas consisting of miscellaneous fill materials. Also included are areas of soils that have been excavated or smoothed and small areas of relatively undisturbed soils. Included areas make up about 15 percent of the map unit.

Most areas of Urban land are in residential, commercial, or industrial use. A few areas are used for schools, hospitals, cemeteries, and recreational facilities.

Onsite investigation is needed for areas of Urban land to be used as building sites.

The land capability classification is 8s. A woodland ordination symbol is not assigned.

UeB—Urban land-Conestoga complex, 0 to 8 percent slopes

This nearly level or gently sloping map unit is on ridgetops and in depressions on uplands. It consists of areas of the very deep, well drained Conestoga soil closely intermingled with areas of Urban land. Slopes are smooth, concave, and convex. Areas of this unit are rectangular or are long and narrow in shape, and range from 10 to 200 acres in size. They are 65 percent Urban land, 20 percent Conestoga soil, and 15 percent included soils.

Urban land consists of areas where 75 percent or more of the surface is covered by roads, streets, parking lots, houses, shopping centers, factories, and other municipal structures that so obscure or alter the soil that it was unidentifiable.

Typically, the surface layer of the Conestoga soil is dark brown, friable silt loam about 9 inches thick. The subsoil is about 31 inches thick. In the upper 8 inches it is brown, friable silt loam. In the next 7 inches it is yellowish brown, friable silty clay loam. In the lower 16 inches it is brown, friable silty clay loam. The substratum, to a depth of 60 inches, is variegated brown, yellowish brown, and strong brown, friable silt loam and loam. In some areas the soil is strongly sloping or moderately steep.

Included with this soil in mapping are a few scattered areas of very deep, moderately well drained Clarksburg soils at the base of side slopes below the Conestoga soil and a few small areas of very deep, somewhat poorly drained Penlaw soils in swales on lowlands. Clarksburg soils have gray mottles in the middle and lower parts of the subsoil and have a fragipan. Penlaw soils have gray mottles throughout.Included soils make up about 15 percent of the map unit.

Permeability of the Conestoga soil is moderate. Available water capacity is moderate or high. Surface runoff is medium. In unlimed areas this soil ranges from very strongly acid to neutral in the solum and from moderately acid to slightly alkaline in the substratum.

Most areas of Urban land and the Conestoga soil are used for residences, schools, commerce, and industry.

The Conestoga soil, or open part of this unit, is in yards, vacant lots, lawns, gardens, cemeteries, athletic fields, and other areas. It is well suited to vegetables, flowers, grasses, trees, and shrubs. It has few limitations to use as gardens, lawns, landscaping, golf courses, and recreation areas.

The Conestoga soil is somewhat limited as a site for septic tank absorption fields because of moderate permeability. It is suited as a site for dwellings and most other urban uses. It is very limited as a site for local roads and streets because of low strength and frost action. Onsite investigation is needed to determine areas of the Conestoga soil.

The land capability classification is 8s for Urban land and 2e for the Conestoga soil. The woodland ordination symbol for the Conestoga soil is 5A.

UgB—Urban land-Penn complex, 0 to 8 percent slopes

This nearly level and gently sloping map unit is in depressions on broad uplands (fig. 15). It consists of areas of the moderately deep, well drained Penn soil closely intermingled with areas of Urban land. Slopes are smooth, concave, and convex. Areas of this unit are rectangular or are long and narrow in shape, and range from 10 to 100 acres in size. They are 60 percent Urban land, 25 percent Penn soil, and 15 percent included soils.

Urban land consists of areas where 75 percent or more of the surface is covered by roads, streets, parking lots, houses, shopping centers, factories, and other municipal structures that so obscure or alter the soil that it was unidentifiable.

Typically, the surface layer of the Penn soil is dark reddish brown, friable silt loam about 9 inches thick. The subsoil is about 21 inches thick. In the upper 5 inches it is reddish brown, friable silt loam. In the next 10 inches it is dusky red, firm silt loam. In the lower 6 inches it is dusky red, firm channery silt loam. The substratum, to a depth of 38 inches, is dusky red, very firm very channery silt loam. Fractured dusky red siltstone bedrock is at a depth of about 38 inches. In some areas the soil is strongly sloping.

Included with this soil in mapping are few scattered areas of shallow, somewhat excessively drained Klinesville soils on the middle part of shoulder slopes and some small areas of deep, well drained Lansdale soils on the upper part of shoulder slopes. Also included are a few small areas of deep, moderately well drained Readington soils and moderately deep Reaville soils on low rises, along drainageways, and in depressions on uplands. Klinesville and Lansdale soils have more sand and rock fragments and less clay throughout than the Penn soil. Readington and Reaville soils have gray mottles in the lower part of the subsoil. Included soils make up about 15 percent of the map unit.

Permeability of the Penn soil is moderate or moderately rapid, and available water capacity is low or moderate. Surface runoff is very low. In unlimed areas this soil is extremely acid to strongly acid in the upper part of the solum, strongly acid or moderately acid in the lower part, and strongly acid to slightly acid in the substratum. Depth to bedrock restricts root penetration.

Most areas of Urban land and the Penn soil are used for residences, schools, commerce, and industry. The Penn soil, or open part of this unit, is in yards, vacant lots, lawns, gardens, cemeteries, athletic fields, and other areas.

The Penn soil is fairly well suited to vegetables, flowers, grasses, trees, and shrubs. Severe hazard of erosion, low available water for plants, and rock fragments in the surface layer are limitations for gardens, lawns, landscaping, golf courses, and recreation areas.

Because of depth to bedrock, the Penn soil is very limited as a site for septic tank absorption fields. It is suitable as a site for dwellings without basements. It is somewhat limited as a site for dwellings with basements and most other urban uses because of

Figure 15.—Residential development in an area of Urban land-Penn complex, 0 to 8 percent slopes.

depth to bedrock. Most areas of the map unit are surface drained through sewer drains and gutters. The soil is somewhat limited as a site for local roads and streets because of frost action. Onsite investigation is needed to determine use of any areas of Penn soils.

The land capability classification is 8s for Urban land and 2e for the Penn soil. The woodland ordination symbol is 3A.

WaA—Watchung silt loam, 0 to 3 percent slopes

This is a nearly level, very deep, poorly drained soil in depressions and along drainageways on lowlands. Slopes are smooth or concave. Areas of this soil are oval, irregular, or long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is very dark gray, friable silt loam about 2 inches thick. The subsurface layer is dark grayish brown, mottled, friable silt loam about 7 inches thick. The subsoil is about 31 inches thick. In the upper 9 inches it is dark gray, mottled, firm silty clay. In the next 7 inches it is gray, mottled, firm clay. In the next 5 inches it is gray, mottled, friable silty clay loam. In the lower 10 inches it is olive, mottled, friable clay loam. The substratum, to a depth of 60 inches, is yellowish brown, mottled, firm loam. In some areas the soil is gently sloping. In some areas the subsoil has more sand and less clay than the Watchung soil. In a few areas the surface layer is black. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few small areas of deep, somewhat poorly drained Lehigh and Mount Lucas soils on slightly higher lying, broader ridgetops above the Watchung soil. Also included are some areas on the lowest part of lowlands that are subject to occasional flooding. Also included are some areas where a few large boulders are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Watchung soil is moderate or moderately slow in the surface layer, slow or very slow in the subsoil, and moderate or moderately slow in the substratum. Available water capacity is high, and surface runoff is very high or negligible. The seasonal high water table is within 12 inches of the surface, mainly in winter and in early spring. In unlimed areas this soil is very strongly acid to slightly acid in the surface layer, strongly acid to neutral in the subsoil, and moderately acid to neutral in the substratum.

Most areas of this soil are used as pasture or woodland or are idle land. Some drained areas are used as cropland.

This soil is poorly suited to cultivated crops and such deep-rooted legumes as alfalfa because of wetness and very slow or slow permeability in the subsoil. Excessive water can be removed if existing shallow surface drains, tile drains, or both are maintained. Cover crops and a conservation tillage system that leaves protective amounts of crop residue on the surface help to maintain organic matter content and to improve soil tilth.

This soil is well suited to pasture (fig. 16). It is poorly suited to such deep-rooted legumes as alfalfa because very slow or slow permeability in the subsoil restricts root penetration and downward movement of water. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderate. The main management concerns are the equipment limitation and seedling mortality. The seasonal high water table restricts rooting depth. Equipment should be operated only when the soil is relatively dry or is frozen. Using special planting stock and overstocking help to reduce the seedling mortality rate. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and very slow and slow permeability in the subsoil. It is very limited as a site for dwellings and most other urban uses because of wetness. It is very limited as a site for local roads and streets because of wetness, low strength, and frost action.

The land capability classification is 4w. The woodland ordination symbol is 4W.

WaB—Watchung silt loam, 3 to 8 percent slopes

This is a gently sloping, very deep, poorly drained soil in depressions and along drainageways on lowlands. Slopes are smooth or concave. Areas of this soil are oval, irregular, or long and narrow in shape, and range from 5 to 100 acres in size.

Typically, the surface layer is very dark gray, friable silt loam about 2 inches thick. The subsurface layer is dark grayish brown, mottled, friable silt loam about 7 inches thick. The subsoil is about 31 inches thick. In the upper 9 inches it is dark gray, mottled, firm silty clay. In the next 7 inches it is gray, mottled, firm clay. In the next 5 inches it is gray, mottled friable silty clay loam. In the lower 10 inches it is olive, mottled, friable clay loam. The substratum, to a depth of 60 inches, is yellowish brown, mottled, firm loam. In some areas the soil is nearly level or strongly sloping. In some areas the subsoil has more sand and less clay than the Watchung soil. In a few areas the surface layer is black. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few small areas of deep, somewhat poorly drained Lehigh and Mount Lucas soils on slightly higher lying, broader ridgetops above the Watchung soil. Also included are some areas on the lowest part of lowlands that are subject to occasional flooding. Also included are some areas where a few large boulders are on the surface and in the soil. Included soils make up about 15 percent of the map unit.

Permeability of the Watchung soil is moderate or moderately slow in the surface layer, slow or very slow in the subsoil, and moderate or moderately slow in the substratum. Available water capacity is high, and surface runoff is very high. The seasonal high water table is within 12 inches of the surface, mainly in winter and early spring. In unlimed areas this soil is very strongly acid to slightly acid in the surface layer, strongly acid to neutral in the subsoil, and moderately acid to neutral in the substratum.

All areas of this soil are used as pasture or woodland or are idle land.

This soil is unsuited to cultivated crops, grasses, and legumes for permanent pasture because of wetness and slow or very slow permeability in the subsoil.

This soil is fairly well suited to pasture. It is unsuited

Figure 16.—An area of Watchung silt loam, 0 to 3 percent slopes. This soil is well suited to pasture.

to such deep-rooted legumes as alfalfa because slow or very slow permeability in the subsoil restricts root penetration and downward movement of water. Overgrazing or grazing when the soil is wet, however, can damage the sod, reduces plant density and forage yields, and causes surface compaction, poor tilth, and increased surface runoff. Proper stocking rates to maintain key plant species, pasture rotation, timely deferment of grazing, application of fertilizers, and restricted use during wet periods help to keep the pasture and the soil in good condition.

Potential productivity for trees on this soil is moderate. The equipment limitation and seedling mortality are the main management concerns. The seasonal high water restricts rooting depth. Equipment should be operated only when the soil is relatively dry or is frozen. Using special planting stock and overstocking help to reduce the seedling mortality rate. Machine planting of trees is practical in large areas.

This soil is very limited as a site for septic tank absorption fields because of wetness and very slow and slow permeability in the subsoil. It is very limited as a site for dwellings and most other urban uses because of wetness. It is very limited as a site for local roads and streets because of wetness, low strength, and frost action.

The land capability classification is 6w. The woodland ordination symbol is 4W.

WbB—Watchung silt loam, 0 to 8 percent slopes, extremely bouldery

This is a nearly level and gently sloping, very deep, poorly drained soil in depressions and along drainageways on lowlands. Slopes are smooth or concave. Areas of this soil are oval, irregular, or long and narrow in shape, and range from 5 to 100 acres in size. Stones and boulders cover about 3 to 15 percent of the surface. They range from 10 inches to more than 6 feet in diameter.

Typically, the surface layer is very dark gray, friable silt loam about 2 inches thick. The subsurface layer is dark grayish brown, mottled, friable silt loam about 7 inches thick. The subsoil is about 31 inches thick. In the upper 9 inches it is dark gray, mottled, firm silty clay. In the next 7 inches it is gray, mottled, firm clay. In the next 5 inches it is gray, mottled, friable silty clay loam. In the lower 10 inches it is olive, mottled, friable clay loam. The substratum, to a depth of 60 inches, is yellowish brown, mottled, firm loam. In some areas the soil is nearly level or strongly sloping. In some areas the subsoil has more sand and less clay than the Watchung soil. In a few areas the surface layer is black. In some areas depth to bedrock is less than 60 inches.

Included with this soil in mapping are a few small areas of deep, somewhat poorly drained Lehigh and Mount Lucas soils on slightly higher lying, broader ridgetops above the Watchung soil. Also included are some small areas of well drained Highfield and Neshaminy soils on hills and ridges above the Watchung soil. Included soils make up about 15 percent of the map unit.

Permeability of the Watchung soil is moderate or moderately slow in the surface layer, slow or very slow in the subsoil, and moderate or moderately slow in the substratum. Available water capacity is high, and surface runoff is very high. The seasonal high water table is within 12 inches of the surface, mainly in winter and in early spring. In unlimed areas this soil is very strongly acid to slightly acid in the surface layer, strongly acid to neutral in the subsoil, and moderately acid to neutral in the substratum.

All areas of this soil are used as pasture or woodland or are idle land.

This soil is unsuited to cultivated crops and to grasses and legumes for permanent pasture and use of most types of farm machinery is impractical because of stones and boulders on the surface.

Potential productivity for trees on this soil is moderate. The main management concerns are the equipment limitation and seedling mortality. The seasonal high water restricts rooting depth. Equipment should be operated only when the soil is relatively dry or is frozen. Using special planting stock and overstocking help to reduce the seedling mortality rate. Machine planting of trees is practical in large areas.

Because of wetness and very slow and slow permeability in the subsoil, this soil is severely limited as a site for septic tank absorption fields. It is very limited as a site for dwellings and most other urban uses because of wetness. It is very limited as a site for local roads and streets because of wetness, low strength, and frost action.

The land capability classification is 7s. The woodland ordination symbol is 4X.

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 to prevent 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 behavioral 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 forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as 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 to 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.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited.* The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

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

Farming is the major land use in Adams County. The 1982 Census of Agriculture (U.S. Department of

Commerce, 1984) indicated that about 162,000 acres was used for crops, pasture, or hay. Of this acreage, about 12,000 acres was used for permanent pasture. The Pennsylvania Statistical Summary for 1987-88 (Pennsylvania Department of Agriculture, 1988) reported that Adams County was planted to 41,200 acres of corn, 40,000 acres of alfalfa and other hay crops, 14,900 acres of small grain, 8,600 acres of soybeans, 1,100 acres of potatoes and vegetable crops, and 21,400 acres of orchards and vineyards. The rest was idle cropland.

Water erosion is the major management concern on most sloping cropland and overgrazed pasture in Adams County. Erosion is a hazard on all soils where slope is more than 1 percent.

Loss of the surface layer through erosion is damaging for two reasons. First, productivity is reduced as the surface layer is lost and part of the subsoil is incorporated into the plow layer. Loss of the surface layer is especially damaging on soils that are shallow or moderately deep to bedrock, on soils that have low available water capacity, such as Catoctin, Klinesville, Penn, Steinsburg, and Mt. Airy soils, and on soils where a layer in or below the subsoil limits depth of the root zone. On Clarksburg soils, for example, plant roots cannot penetrate the fragipan. The root zone consists of soil material above the fragipan. As erosion removes the topsoil, it reduces depth of the root zone. Second, soil erosion on farmland results in sedimentation of streams. Control of erosion minimizes sedimentation of streams and improves water quality for municipal use, recreation, and fish and wildlife.

Erosion control measures provide a protective cover, reduce the runoff rate, and increase the infiltration rate. A cropping system that keeps a vegetative cover on the surface for extended periods can minimize soil losses and can help to maintain the productive capacity of the soils. On livestock farms where forage crops are grown, including legumes and grasses in a cropping sequence helps to control erosion on sloping land, provides additional nitrogen, and improves soil tilth for the following crop.

Terraces and diversions shorten the length of slopes and thus help to reduce surface runoff and to control erosion. They are most practical on deep, well drained soils that are highly susceptible to erosion, such as Athol, Conestoga, and Glenelg soils. Terraces reduce soil loss and associated loss of fertilizer elements, help to prevent eroding sediments from damaging crops and water courses, and help to eliminate the need for grassed waterways, which can take productive land out of row crop production. Terraces also facilitate farming on the contour, thus reducing the consumption of fuel and the amount of pesticides entering watercourses. Highfield, Manor, Mt. Airy, and Penn soils are examples.

If the soil is not suitable for terracing or if the farmer or manager does not prefer terraces, there are alternatives. Contour stripcropping, for example, helps to control erosion by alternating contoured strips of close-growing crops with clean-tilled crops. Strips of grasses or of grasses and legumes are generally used for hay. Areas between strips are cultivated and planted to row crops on the contour. Conservation tillage, which is effective in controlling erosion on sloping land, is becoming more common in the county. It can be used on many soils. However, if a conservation tillage system is applied in eroded areas, special management techniques are needed.

Soil drainage is a major management concern on some soils in the county. A few, such as Baile, Croton, Dunning, Lamington, and Watchung soils, are naturally wet and have reduced crop production during part of the year. Commonly, however, crop yields can be increased by 50 percent if the existing drainage system is maintained.

Some small, wet areas are in drainageways and depressions. They are generally within larger areas of well drained and moderately well drained soils. It is generally not practical to apply artificial drainage to these areas.

Designs of surface and subsurface drainage systems vary with the kind of soil. A combination of surface and subsurface drains is generally needed on somewhat poorly drained and poorly drained soils in intensive farming. Tile drains must be more closely spaced on soils where permeability is slow than on soils where permeability is faster. Also, finding adequate outlets for drainage systems is generally difficult.

On most soils used for crops in Adams County, organic matter content is low. Generally on these soils, structure is weak and intensive rainfall generally results in crusting of the surface when the soil dries. The crust is hard when dry, reducing water infiltration and increasing runoff. Regular additions of crop residue, manure, and other organic material improve soil structure and help to prevent surface crusting.

Generally, fall plowing is not considered a good practice on soils that have a silt loam surface layer and that are low in organic matter content. Fall plowing results in the formation of crusting in winter and spring. Many soils are nearly as dense and hard at planting time, after fall plowing, as they were before plowing. In addition, sloping soils are subject to accelerated erosion if plowed in fall.

Specialty crops produced in the area including Adams County are apples, peaches, cherries, grapes, and other fruit (fig. 17). Deep and very deep, medium textured soils that have good natural drainage and that warm up early in spring are best suited to these crops. Good air drainage is needed to reduce frost damage to apples, peaches, cherries, and other tree fruits. Undulating to rolling Arendtsville, Athol, Edgemont, Glenelg, Highfield, Legore, Lansdale, Neshaminy, and Myersville soils generally have the best soil properties for fruit crops.

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 land capability classification of map units in the survey area also is shown in the table.

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 also are 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 ensures 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 relative 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 Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops (USDA, 1961). 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 criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include 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 forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

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, 2e. The letter *e* shows that the main hazard is the 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

Figure 17.—Orchards on Highfield soils in Adams County. Highfield soils, which are medium textured, deep, and well drained, are well suited to fruit trees.

the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 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, rangeland, forestland, wildlife habitat, or recreation.

The acreage of soils in each capability class or subclass is shown in table 6. The capability classification of map units in this survey area is given in the section “Detailed Soil Map Units” and in the yields table.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation’s short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation’s prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

Prime farmland takes in about 113,000 acres, or about 34 percent, of Adams County. It is scattered throughout the county.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 7. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading “Detailed Soil Map Units.”

Agricultural Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Tables 8a and 8b show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste, application of sewage sludge, and disposal of wastewater by irrigation) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (overland flow of wastewater, rapid infiltration of wastewater, and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

Overland flow of wastewater is a process in which wastewater is applied to the upper reaches of sloped land and allowed to flow across vegetated surfaces, sometimes called terraces, to runoff-collection ditches. The length of the run generally is 150 to 300 feet. The application rate ranges from 2.5 to 16.0 inches per week. It commonly exceeds the rate needed for irrigation of cropland. The wastewater leaves solids and nutrients on the vegetated surfaces as it flows downslope in a thin film. Most of the water reaches the collection ditch, some is lost through evapotranspiration, and a small amount may percolate to the ground water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, and the design and construction of the system. Reaction and the cation-exchange capacity affect absorption. Reaction, salinity, and the sodium adsorption ratio affect plant growth and microbial activity. Slope, permeability, depth to a water table, ponding, flooding, depth to bedrock or a cemented pan, stones, and cobbles affect design and construction. Permanently frozen soils are unsuitable for waste treatment.

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a water table, ponding, flooding, and depth to bedrock or a cemented pan affect the risk of pollution and the design and construction of the system. Slope, stones, and cobbles also affect design and construction. Permeability and reaction affect performance. Permanently frozen soils are unsuitable for waste treatment.

Slow rate treatment of wastewater is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, depth to bedrock or a cemented pan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Forest Productivity and Management

The tables in this section can help forest owners or managers plan the use of soils for wood crops. Tables 9 and 10a to 10e show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forest management (Society of American Foresters, 1954).

Forest Productivity

Table 9 lists the ordination 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 an indicator tree species. The number indicates the volume, in cubic meters per hectare per year, which the indicator species can produce in a pure stand under natural conditions. The number 1 indicates low potential productivity; 2 or 3, moderate; 4 or 5, moderately high; 6 to 8, high; 9 to 11, very high; and 12 to 39, extremely high. The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *R* indicates steep slopes; *X*, stoniness or rockiness; *W*, excess water in or on the soil; *T*, toxic substances in the soil; *D*, restricted rooting depth; *C*, clay in the upper part of the soil; *S*, sandy texture; *F*, a high content of rock fragments in the soil; *L*, low strength; and *N*, snowpack. The letter *A* indicates that limitations or restrictions are insignificant. If a soil has more than one limitation, the priority is as follows: R, X, W, T, D, C, S, F, L, and N.

In table 9, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site 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 forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forestland Management

In tables 10a through 10e, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified forest management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for fire damage and seedling mortality are expressed as *low, moderate,* and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet (http://soils.usda.gov/technical/nfmanual/).

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance; and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column *potential for damage to soil by fire* are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. The soils are described as having a low, moderate, or high potential for this kind of damage. The ratings indicate an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Recreation

The soils of the survey area are rated in tables 11a and 11b according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables 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 sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 11a and 11b can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

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 ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic (fig. 18). Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are

Figure 18.—A picnic area on Neshaminy channery silt loam, 3 to 8 percent slopes.

the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

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 12, 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 flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, soybeans, wheat, oats, and barley.

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, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, timothy, 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 flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggar-tick, quackgrass, and ragweed.

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, available water capacity, and wetness. Examples of these plants are oak, birch, cherry, maple, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are gray dogwood, autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. 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, yew, cedar, and hemlock.

Shrubs are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs are depth of the root zone, available water capacity, salinity, and soil moisture. Examples of shrubs are mountainmahogany, bitterbrush, snowberry, and big sagebrush.

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, arrowhead, bur reed, pickerel weed, cattail, 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, swamps, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

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. Wildlife attracted to these areas include bobwhite quail, meadow vole, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous plants, coniferous plants, or both, and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, 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, herons, shore birds, muskrat, frogs, and tree swallow.

Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council 1995; Tiner 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff, 1990) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and others, 1998).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The map units that meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators are listed in table 13. The local landform is given for both hydric components and hydric inclusions. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 1998).

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

Table 14 lists the map units with hydric inclusions. These map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, has the potential to include hydric soils. Onsite investigation is recommended to determine the presence and location of the included hydric soils. The local landforms of the hydric soil inclusions also are given in table 14.

Engineering

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. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

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 between the surface and a depth of 5 to 7 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 should 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 particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, 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 kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrinking and swelling, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and 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

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 15a and 15b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

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 soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 16a and 16b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

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 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

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. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, 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, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid 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. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 17a and 17b give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 17a, only the likelihood 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 gravel or sand are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains gravel or sand, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of gravel and sand. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The soils are rated *good, fair,* or *poor* as potential sources of reclamation material, roadfill, and topsoil. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

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 whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a 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 AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

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. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

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 18 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 excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

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. Embankments that have zoned construction (core and shell) are not considered. 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, organic matter, or salts or sodium. 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 as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. 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 particle-size distribution, plasticity, and compaction characteristics. These results are reported in table 19.

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 to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 19 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

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 the content of particles coarser than sand is 15 percent or more, 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 (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-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, CL-ML.

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 particle-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 10 inches in diameter and 3 to 10 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 ovendry 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 particle-size distribution, liquid limit, and plasticity index are generally 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 generally omitted in the table.

Physical Properties

Table 20 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In table 20, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In table 20, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 20, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving 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 $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each 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. Depending on soil texture, a bulk density of more than 1.4 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 (K_{sat}) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, 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 and septic tank absorption fields.

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 soil layer. The capacity varies, depending on soil properties that affect retention of water. 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.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 20, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in table 20 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) 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 and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

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.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of rock fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 21 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases 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. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil 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.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Soil Features

Table 22 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for 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 the 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 to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes 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 results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete 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 also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Water Features

Table 23 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, 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 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.

As to a soil assigned to a dual hydrologic group, such as B/D, the first letter is for drained areas and the second is for undrained areas.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 23 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 23 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

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 little or no horizon development.

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.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1990 and 1999). 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. Table 24 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve 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 Alfisol.

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 Udalf (*Ud*, meaning humid, plus *alf*, from Alfisol).

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; type of saturation; 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 Hapludalfs (*Hapl*, meaning minimal horizonation, plus *udalf*, the suborder of the Alfisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup 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 taxonomic class. 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 Hapludalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, nonacid, mesic Typic Hapludalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each 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” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 1990). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Abbottstown Series

The soils of the Abbottstown series are fine-loamy, mixed, mesic Aeric Fragiaqualfs. These deep, somewhat poorly drained soils are on nearly level and undulating, broad uplands and in depressions and drainageways. They formed in residuum derived from reddish shale, siltstone, and fine-grained sandstone. Slopes range from 0 to 8 percent.

Abbottstown soils are on the same landscape as somewhat excessively drained Klinesville soils; well drained Arendtsville, Lansdale, and Penn soils;

moderately well drained Readington and Reaville soils; and poorly drained Criton soils. All these soils except Croton soils are browner or redder throughout than Abbottstown soils.

Typical pedon of Abbottstown silt loam, 0 to 3 percent slopes; 2 miles northwest of Littlestown, in Germany Township, Adams County, 50 feet west of Township Route 434, 0.1 mile south of its intersection with Township Route 433, in cropland:

Ap—0 to 10 inches; dark reddish gray (5YR 4/2) silt loam; weak medium granular structure; friable, slightly sticky and slightly plastic; 2 percent rock fragments; slightly acid; abrupt smooth boundary.

Bt1—10 to 15 inches; reddish brown (5YR 5/3) silty clay loam; moderate medium angular blocky structure; friable, sticky and plastic; common faint clay films on faces of peds and in pores; many fine and medium prominent light brownish gray (10YR 6/2) iron depletions and yellowish red (5YR 5/6) and red (2.5YR 4/6) soft masses of iron accumulation; 2 percent rock fragments; strongly acid; clear wavy boundary.

Bt2—15 to 20 inches; reddish gray (5YR 5/2) silty clay loam; weak medium prismatic structure parting to moderate thick platy and moderate medium angular blocky; firm, sticky and plastic; many faint and distinct clay films on faces of peds and in pores; many fine and medium prominent pinkish gray (7.5YR 6/2) iron depletions and yellowish red (5YR 5/6) and red (2.5YR 4/6) soft masses of iron accumulation; 5 percent rock fragments; strongly acid; abrupt wavy boundary.

Btx1—20 to 25 inches; weak red (2.5YR 4/2) silty clay loam; weak very coarse prismatic structure parting to moderate medium platy and angular blocky; very firm, sticky and plastic; common faint clay films on faces of peds and in pores; many fine prominent reddish gray (5YR 5/2) iron depletions, and many fine distinct yellowish red (5YR 5/6) and red (2.5YR 4/6) soft masses of iron accumulation; 5 percent rock fragments; moderately acid; clear wavy boundary.

Btx2—25 to 32 inches; weak red (2.5YR 4/2) silt loam; moderate very coarse prismatic structure parting to moderate thick platy parting to moderate fine subangular blocky; very firm and brittle, slightly sticky and slightly plastic; few faint clay films on faces of peds and in pores; pinkish gray (7.5YR 6/2) silty clay prism faces 2 to 5 mm thick; common medium prominent pinkish gray (5YR 6/2) iron depletions, and common medium distinct reddish brown (2.5YR 4/4) soft masses of iron accumulation; 10 percent rock fragments; slightly acid; gradual wavy boundary.

BCx—32 to 40 inches; weak red (10R 4/2) channery silt loam; weak very coarse prismatic structure parting to weak medium platy; very firm and brittle, slightly sticky and slightly plastic; pinkish gray (7.5YR 6/2) silty clay prism faces 2 to 5 mm thick; 20 percent rock fragments; slightly acid; gradual wavy boundary.

C—40 to 45 inches; weak red (10R 4/3) extremely channery silt loam; weak thick platy rock structure; firm, nonsticky and nonplastic; 65 percent rock fragments; slightly acid; abrupt wavy boundary.

R—45 inches; weak red (10R 4/3) slightly weathered, fractured siltstone.

The solum is 30 to 60 inches thick. The fragipan is at a depth ranging from 15 to 30 inches and bedrock is at a depth between 40 and 60 inches. Rock fragments range from 0 to 15 percent in the upper part of the solum and from 10 to 30 percent in the lower part. In unlimed areas reaction ranges from extremely acid to strongly acid in the upper part of the solum and from strongly acid to slightly acid in the lower part and in the substratum.

The Ap horizon has hue of 2.5YR to 10YR, value of 3 or 4, and chroma of 2 to 4.

The upper part of the Bt horizon has hue of 10R to 5YR, value of 4 or 5, and chroma of 3 or 4, and it is mottled. The lower part of the Bt horizon has hue of 10R to 5YR, value of 4 to 6, and chroma of 1 or 2. It has redoximorphic masses of iron accumulation and iron-depleted areas. The Bt horizon is loam, silt loam, or silty clay loam in the fine earth fraction.

The Btx horizon has hue of 10R to 5YR or it is neutral; value is 4 or 5 and chroma is 0 to 4. It has redoximorphic masses of iron accumulation and iron-depleted areas. It is loam, silt loam, or silty clay loam in the fine earth fraction.

The BCx horizon has hue of 10R to 5YR or it is neutral; value is 4 or 6 and chroma is 0 to 4. It has redoximorphic masses of iron accumulation and iron-depleted areas. It is loam, silt loam, or silty clay loam in the fine earth fraction.

The C horizon has hue of 10R or 7.5YR, value of 3 or 4, and chroma of 2 to 4. It is dominantly loam or silt loam in the fine earth fraction.

Arendtsville Series

The soils of the Arendtsville series are fine-loamy, mixed, mesic Typic Hapludults. These are very deep, well drained soils on ridges and hills. They formed in loamy residuum derived from breccia and from conglomerate consisting of quartzite, metabasalt, and metarhyolite. Slopes range from 3 to 40 percent.

Arendtsville soils are on the landscape with moderately deep, somewhat excessively drained Catoctin soils; well drained, deep Highfield, Myersville, and Penn soils; moderately well drained Readington soils; somewhat poorly drained Abbottstown soils; and poorly drained Croton soils. Catoctin soils are loamy-skeletal. Highfield soils are coarse-loamy. Abbottstown and Readington soils have a fragipan. Unlike Arendtsville soils, Croton soils are fine-silty.

Typical pedon of Arendtsville gravelly loam, 3 to 8 percent slopes; 1.5 miles west of Biglerville in Butler Township, Adams County, 360 feet north of Township Route 369, 50 feet west of intersection with Pennsylvania Route 234, in an apple orchard:

Ap—0 to 9 inches; dark reddish brown (5YR 3/3) gravelly loam, light reddish brown (5YR 6/3) dry; weak fine granular structure; friable, nonsticky and slightly plastic; many roots; 15 percent rock fragments; slightly acid; clear smooth boundary.

Bt1—9 to 16 inches; reddish brown (5YR 4/3) gravelly loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; common roots; few faint clay films on faces of peds; 15 percent rock fragments; slightly acid; gradual wavy boundary.

Bt2—16 to 28 inches; dark reddish brown (2.5YR 3/4) gravelly sandy clay loam; moderate medium subangular blocky structure; friable, slightly sticky and plastic; common roots; common faint clay films on faces of peds and in pores; few prominent black coatings on faces of peds; 15 percent rock fragments; moderately acid; gradual wavy boundary.

Bt3—28 to 40 inches; dark red (2.5YR 3/6) gravelly sandy clay loam; moderate medium and coarse subangular blocky structure; friable, slightly sticky and plastic; few roots; common faint clay films on faces of peds and in pores; few prominent black coatings on faces of peds; 15 percent rock fragments; strongly acid; gradual wavy boundary.

Bt4—40 to 53 inches; dark red (2.5YR 3/6) gravelly sandy loam; weak fine subangular blocky structure; friable, nonsticky and nonplastic; few roots; few faint clay films and common prominent black coatings on faces of peds and rock fragments; 30 percent rock fragments; very strongly acid; gradual irregular boundary.

C—53 to 72 inches; reddish brown (2.5YR 4/4) and weak red (2.5YR 4/2) very gravelly sandy loam; massive; friable, nonsticky and nonplastic; few faint clay films bridging some sand grains and rock fragments; 40 percent rock fragments; very strongly acid.

The solum is 40 to 60 inches thick. Depth to breccia bedrock is more than 72 inches. Rock fragments range from 15 to 35 percent in the solum and from 20 to 80 percent in the substratum. In unlimed areas reaction ranges from extremely acid to strongly acid in the upper part of the subsoil and from extremely acid to strongly acid in the lower part and in the substratum.

The Ap horizon has hue of 5YR to 10YR, value of 3 or 4, and chroma of 3 or 4. It is loam in the fine earth fraction.

The Bt horizon has hue of 2.5YR or 5YR, value of 3 or 4, and chroma of 3 to 6. In the fine earth fraction it is sandy loam, loam, sandy clay loam, or clay loam that is 10 to 25 percent clay and 20 to 50 percent silt. The structure of the horizon is weak or moderate, fine or medium subangular blocky.

The C horizon has hue of 10R to 5YR, value of 3 or 4, and chroma of 2 to 4. It is sandy loam or loam in the fine earth fraction.

Athol Series

The soils of the Athol series are fine-loamy, mixed, mesic Ultic Hapludalfs. These are very deep, well drained soils on undulating and rolling uplands and benches. They formed in loamy residuum derived from conglomerate consisting of limestone, quartz, sandstone, and shale. Slopes range from 0 to 15 percent.

Athol soils are on the landscape with moderately deep, somewhat excessively drained Catoctin soils; well drained, deep Myersville and Penn soils; moderately well drained Clarksburg soils; and somewhat poorly drained Penlaw soils. Catoctin soils are loamy-skeletal. Unlike Athol soils, Clarksburg soils have a fragipan.

Typical pedon of Athol gravelly silt loam, 3 to 8 percent slopes; 1 mile southwest of Fairfield in Hamiltonban Township, Adams County, 100 feet south of State Route 3014, 0.5 mile east of Township Route 303, and 0.5 mile west of Pennsylvania Route 116, in a cultivated field:

Ap—0 to 10 inches; dark reddish brown (5YR 3/2) gravelly silt loam; light reddish brown (5YR 6/3) dry; weak fine granular structure; friable, slightly sticky and slightly plastic; 20 percent rock fragments; slightly acid; abrupt smooth boundary.

Btl—10 to 24 inches; reddish brown (5YR 4/4) silt loam; moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; few faint clay films on faces of peds and in pores; 10 percent rock fragments; slightly acid; clear wavy boundary.

Bt2—24 to 36 inches; reddish brown (5YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable, sticky and plastic; common faint clay films on faces of peds and in pores; 10 percent rock fragments; strongly acid; clear wavy boundary.

Bt3—36 to 52 inches; reddish brown (5YR 5/4) silty clay loam; moderate medium and fine subangular blocky structure; friable, sticky and plastic; few faint clay films on faces of peds and in pores; 10 percent rock fragments; strongly acid; gradual wavy boundary.

C—52 to 60 inches; reddish brown (5YR 4/4) gravelly silt loam; massive; firm, slightly sticky and slightly plastic; 15 percent rock fragments; strongly acid.

The solum is 40 to 75 inches thick. Bedrock is at a depth greater than 60 inches. Rock fragments range from 0 to 25 percent in the solum and from 0 to 15 percent in the substratum. In unlimed areas reaction is very strongly acid to slightly acid in the upper part of the solum, strongly acid or moderately acid in the lower part, and strongly acid to slightly acid in the substratum.

The Ap horizon has hue of 2.5YR to 7.5YR, value of 3 or 4, and chroma of 2 to 4.

The Bt horizon has hue of 2.5YR or 5YR, value of 3 to 5, and chroma of 2 to 4. It is loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

The C horizon has hue of 10R to 7.5YR, value of 3 to 5, and chroma of 2 to 4. It is loam, sandy loam, or silt loam in the fine earth fraction.

Baile Series

The soils of the Baile series are fine-loamy, mixed, mesic Typic Ochraquults. These are very deep, poorly drained soils on lowlands and in depressions. They formed in local alluvium washed from residuum, on the surrounding uplands, derived from mica schist. Slopes range from 0 to 3 percent.

Baile soils are on the landscape with somewhat excessively drained Catoctin, Manor, and Mt. Airy soils; well drained Glenelg and Highfield soils; and moderately well drained Glenville soils. All these soils are redder or browner throughout than Baile soils, and are on higher lying ridges and hills.

Typical pedon of Baile silt loam; 3 miles south-southwest of Hanover in Union Township, Adams County, 60 feet south of Township Route 463, 0.7 mile southeast of its intersection with Township Route 461 and 0.6 mile northwest of Legislative Route 01031, in an abandoned pasture:

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium and fine granular structure; friable, slightly sticky and slightly plastic; common fine distinct very dark grayish brown (10YR 3/2) and grayish brown (10YR 5/2) iron depletions; 2 percent rock fragments; slightly acid; abrupt smooth boundary.

Eg—4 to 12 inches; light brownish gray (2.5Y 6/2) silt loam; weak fine subangular blocky structure parting to moderate fine granular; friable, slightly sticky and slightly plastic; common fine prominent grayish brown (10YR 5/2) iron depletions and brown (7.5YR 4/4) soft masses of iron accumulation; slightly acid; clear wavy boundary.

Btg1—12 to 18 inches; grayish brown (2.5Y 5/2) silt loam; weak fine subangular blocky structure; friable, sticky and slightly plastic; very few faint clay films on faces of peds and in pores; common fine prominent gray (10YR 5/1) iron depletions and reddish brown (5YR 4/4) soft masses of iron accumulation; moderately acid; clear wavy boundary.

Btg2—18 to 34 inches; grayish brown (10YR 5/2) silt loam; weak coarse prismatic structure parting to moderate medium angular blocky; firm, sticky and slightly plastic; many faint clay films on faces of peds and in pores; common medium and fine prominent reddish brown (5YR 4/4) soft masses of iron accumulation; strongly acid; gradual wavy boundary.

Btg3—34 to 40 inches; grayish brown (10YR 5/2) silt loam; weak medium angular and subangular blocky structure; firm, sticky and slightly plastic; common faint clay films on faces of peds and in pores; many medium faint brown (10YR 5/3) iron depletions, and many medium prominent reddish brown (5YR 4/4) soft masses of iron accumulation; strongly acid; gradual wavy boundary.

Cg—40 to 60 inches; grayish brown (10YR 5/2) channery silt loam; massive; friable, sticky and slightly plastic; few faint clay films on rock fragments; many mica flakes; many medium and fine prominent gray (5Y 5/1) iron depletions and strong brown (7.5YR 5/6) soft masses of iron accumulation; 15 percent rock fragments; strongly acid.

The solum is 30 to 40 inches thick. Bedrock is at a depth greater than 60 inches. Rock fragments range from 0 to 5 percent in the upper part of the solum and from 0 to 15 percent in the lower part and in the substratum. In unlimed areas reaction ranges from extremely acid to strongly acid.

The Ap horizon has hue of 5Y to 10YR, or is neutral; value is 2 to 4 and chroma is 0 to 2.

The Eg horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 0 to 2.

The Btg horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 0 to 2. It has prominent redoximorphic masses of iron accumulation with chroma of 5 or 6. It is clay loam, silt loam, or silty clay loam.

The Cg horizon has hue of 10YR to 5Y, value of 3 to 6, and chroma of 0 to 4. It has prominent redoximorphic masses of iron accumulation and iron depletions with chroma of 1 to 4. It is sandy loam, loam, or silt loam in fine earth fraction.

Bermudian Series

The soils of the Bermudian series are fine-loamy, mixed, mesic Fluventic Dystrochrepts. These are very deep, well drained soils on flood plains. They formed in alluvium washed from residuum, on uplands, derived from shale, sandstone, and conglomerate. Slopes range from 0 to 3 percent.

Bermudian soils are on flood plains with moderately well drained Rowland soils and somewhat poorly drained Bowmansville soils. Rowland and Bowmansville soils are on rises and are slightly lower than Bermudian soils. They are also in swales.

Typical pedon of Bermudian silt loam, 1.5 miles southwest of York Haven, along Conewago Creek, 75 feet south of creek in East Manchester Township, York County, on State Route 1004, 0.2 mile east of Township Route 940, and 0.2 mile west of Township Route 952, in hayland:

Ap—0 to 8 inches; dark reddish brown (5YR 3/3) silt loam, light reddish brown (5YR 6/3) dry; weak fine granular structure; very friable, nonsticky and slightly plastic; moderately acid; clear smooth boundary.

Bw1—8 to 30 inches; dark reddish brown (5YR 3/3) silt loam, light reddish brown (5YR 6/3) dry; weak fine subangular blocky structure; friable, slightly sticky and slightly plastic; strongly acid; gradual wavy boundary.

Bw2—30 to 50 inches; reddish brown (2.5YR 4/4) silty clay loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; very strongly acid; clear wavy boundary.

2C—50 to 72 inches; reddish brown (2.5YR 4/4) stratified sand and gravel; single grain; loose, nonsticky and nonplastic; 30 percent rock fragments; very strongly acid.

The solum is 34 to 52 inches thick. Depth to stratified loamy sand, sand, and gravel is more than 40 inches. Depth to bedrock is more than 72 inches. Rock fragments of sandstone, gravel, and in some places shale range from 0 to 10 percent in the upper part of the solum, 0 to 30 percent in the lower part and in the substratum to a depth of 40 inches, and 5 to 80 percent below a depth of 40 inches. In unlimed areas reaction ranges from very strongly acid to moderately acid throughout.

The Ap horizon has hue of 2.5YR to 7.5YR, value of 3 or 4, and chroma of 2 to 4. It is silt loam.

The Bw horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 3 or 4. The fine earth fraction is loam, sandy clay loam, clay loam, silt loam, or silty clay loam.

The C horizon has hue of 7.5YR to 2.5YR, value of 3 to 5, and chroma of 3 or 4. It is sand in the fine earth fraction, but in some pedons it is sandy loam, loam, sandy clay loam, clay loam, silt loam, or silty clay loam.

Birdsboro Series

The soils of the Birdsboro series are fine-loamy, mixed, mesic Typic Hapludults. These are very deep, well drained soils on stream terraces. They formed in old alluvium washed from residuum, on uplands, derived from shale, siltstone, and sandstone. Slopes range from 0 to 15 percent.

Birdsboro soils are on the landscape with somewhat excessively drained, shallow Klinesville soils; well drained, deep Lansdale and Penn soils; moderately well drained Raritan soils; and poorly drained Croton and Lamington soils. Klinesville soils are loamy-skeletal. Lansdale soils are coarse-loamy. Croton, Lamington, and Raritan soils have a fragipan.

Typical pedon of Birdsboro silt loam, 3 to 8 percent slopes; 3 miles southwest of East Berlin in Hamilton Township, Adams County, on the west side of Township Route 546, 800 feet north of Township Route 579, in cropland:

Ap—0 to 10 inches; dark reddish brown (5YR 3/3) silt loam, light reddish brown (5YR 6/3) dry; moderate medium and fine granular structure; friable, slightly sticky and slightly plastic; 7 percent rock fragments; slightly acid; abrupt smooth boundary.

Btl—10 to 18 inches; reddish brown (2.5YR 4/4) gravelly silt loam; weak fine subangular blocky structure; friable, sticky and slightly plastic; common faint clay films on faces of peds and in pores; 15 percent rock fragments; strongly acid; clear wavy boundary.

Bt2—18 to 30 inches; reddish brown (5YR 4/4) silt loam; moderate fine angular and subangular blocky structure; friable, sticky and plastic; many faint clay films on faces of peds and in pores; 5 percent rock fragments; strongly acid; clear wavy boundary.

Bt3—30 to 40 inches; yellowish red (5YR 4/6) silty clay loam; moderate coarse angular blocky structure parting to weak medium angular and subangular blocky; firm, sticky and plastic; continuous faint clay films on faces of coarse peds and in pores; common faint clay films on faces of medium peds; 5 percent rock fragments; strongly acid; clear wavy boundary.

Bt4—40 to 50 inches; yellowish red (5YR 4/6) silty clay loam; weak medium and fine subangular blocky structure; firm, sticky and plastic; common faint clay films on faces of peds and in pores; common medium prominent red (2.5YR 4/6) and strong brown (7.5YR 5/6) soft masses of iron accumulation; 10 percent rock fragments; strongly acid; clear wavy boundary.

2C—50 to 60 inches; reddish brown (2.5YR 4/4) silt loam; weak, thick platy structure; very firm, slightly sticky and slightly plastic; 10 percent rock fragments; very strongly acid.

The solum is 30 to 50 inches thick. Depth to bedrock is more than 60 inches. Rock fragments range from 0 to 20 percent in the solum and from 0 to 70 percent in the substratum. In unlimed areas reaction ranges from extremely acid to strongly acid throughout.

The Ap horizon has hue of 2.5YR to 10YR, value of 3 or 4, and chroma of 2 to 4.

The upper part of the Bt horizon has hue of 2.5YR or 5YR, value of 3 to 5, and chroma of 3 to 6. The lower part of the Bt horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 3 to 6, and in some pedons it has redoximorphic masses of iron accumulation and iron-depleted areas. It is loam, sandy clay loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

The C horizon has hue of 2.5YR to 10YR, value of 3 to 5, and chroma of 3 to 6. It is loamy sand, sandy loam, loam, clay loam, or silt loam in the fine earth fraction.

Bowmansville Series

The soils of the Bowmansville series are fine-loamy, mixed, nonacid, mesic Aeric Fluvaquents. These are very deep, somewhat poorly drained soils on flood plains. They formed in alluvium washed from residuum, on uplands, derived from shale, sandstone, and conglomerate. Slopes range from 0 to 3 percent.

Bowmansville soils are on flood plains with well drained Bermudian soils and moderately well drained Rowland soils. These soils are on slightly higher rises.

Typical pedon of Bowmansville silt loam; 1.5 miles southwest of Heidlersburg in Tyrone Township, Adams County, 180 feet north of Township Route 563, 0.4 mile west of its intersection with Township Route 532, in woodland:

Ap—0 to 11 inches; dark brown (7.5YR 3/2) silt loam, pinkish gray (7.5YR 6/2) dry; moderate medium and fine granular structure; very friable, slightly sticky and slightly plastic; moderately acid; abrupt smooth boundary.

Bw—11 to 14 inches; reddish brown (5YR 4/3) silt loam; weak thick platy structure parting to weak fine subangular blocky; friable, slightly sticky and slightly plastic; few fine prominent dark brown (7.5YR 3/2) iron depletions and strong brown (7.5YR 5/6) soft masses of iron accumulation; moderately acid; abrupt smooth boundary.

Bg1—14 to 20 inches; reddish gray (5YR 5/2) silt loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; common fine prominent strong brown (7.5YR 5/6) and brown (7.5YR 5/4) soft masses of iron accumulation; moderately acid; clear smooth boundary.

Bg2—20 to 34 inches; reddish gray (5YR 5/2) silt loam; weak medium and fine subangular blocky structure; friable, sticky and slightly plastic; common medium prominent strong brown (7.5YR 5/6 and 7.5YR 5/8) soft masses of iron accumulation; slightly acid; abrupt smooth boundary.

Cg1—34 to 55 inches; pinkish gray (5YR 6/2) stratified silt loam and silty clay loam; massive; firm, sticky and plastic; common medium prominent strong brown (7.5YR 5/6) and common medium distinct yellowish red (5YR 5/6) soft masses of iron accumulation; 1 to 10 percent rock fragments in individual strata; slightly acid, becoming neutral in the lower part; abrupt smooth boundary.

2Cg2—55 to 72 inches; dark reddish gray (5YR 4/2) gravelly sandy loam; massive; firm, slightly sticky and nonplastic; common medium and fine distinct weak red (2.5YR 5/2) and dusky red (2.5YR 3/2) iron depletions; massive; firm, slightly sticky and nonplastic; 25 percent rock fragments; neutral.

The solum is 24 to 40 inches thick. Stratified loamy sand, sand, and gravel are at a depth of 4 feet or more. Depth to bedrock is more than 72 inches. Rock fragments range from 0 to 15 percent in the solum, 0 to 30 percent in the substratum to a depth of 55 inches, and 0 to 90 percent below a depth of 55 inches. In unlimed areas reaction ranges from strongly acid to slightly acid in the solum and from strongly acid to neutral in the substratum.

The Ap horizon has hue of 5YR or 7.5YR; value of 3 or 4 moist, 6 or more dry; and chroma of 2 to 4.

The Bw horizon has hue similar to those of the Ap horizon.

The Bg horizon has hue of 5YR or 7.5YR, value of 3 to 6, and chroma of 2. It has some subhorizons with chroma of more than 2. It is sandy clay loam, silt loam, or silty clay loam. In some pedons it has thin lenses of sand, silt, clay, or gravel.

The Cg horizon has hue of 5YR to 10YR, value of 3 to 6, and chroma of 2. It is sandy loam, loam, silt loam, or silty clay loam in the fine earth fraction.

The 2Cg horizon has hue and chroma similar to those of the Cg horizon. It ranges from silty clay loam to sand in the fine earth fraction.

Brecknock Series

The soils of the Brecknock series are fine-loamy, mixed, mesic Ultic Hapludalfs. These are deep, well drained soils on ridges and hills. They formed in channery residuum derived from porcelanite and hornfels, which, respectively, are shale and sandstone that diabase intrusives have metamorphosed. Slopes range from 3 to 25 percent.

Brecknock soils are on the landscape with well drained, very deep Legore and Neshaminy soils and deep Penn soils, somewhat poorly drained Lehigh soils, and poorly drained Croton soils. Brecknock soils are browner throughout than Legore and Neshaminy soils. Croton soils have a fragipan.

Typical pedon of Brecknock channery silt loam, 8 to 15 percent slopes; 3 miles east of Gettysburg in Mount Pleasant Township, Adams County, 280 feet northwest of Cavalry Field Drive, 675 feet southwest of its intersection with Township Route 483, in woodland:

O—1 inch to 0; fresh and partly decomposed leaves and twigs.

A—0 to 3 inches; dark brown (10YR 3/2) channery silt loam, dark grayish brown (10YR 4/2) dry; weak medium and fine granular structure; very friable, slightly sticky and slightly plastic; 25 percent rock fragments; strongly acid; abrupt smooth boundary.

E—3 to 7 inches; dark grayish brown (2.5Y 4/2) channery silt loam; weak medium subangular blocky structure parting to weak medium granular; friable, sticky and slightly plastic; 20 percent rock fragments; very strongly acid; clear smooth boundary.

BE—7 to 12 inches; brown (10YR 4/3) channery silt loam; weak medium and fine subangular blocky structure; friable, sticky and plastic; 15 percent rock fragments; strongly acid; clear wavy boundary.

Bt1—12 to 24 inches; brown (10YR 4/3) silt loam; common fine faint dark yellowish brown (10YR 4/4) color variegations; moderate medium angular and subangular blocky structure; friable, sticky and plastic; common faint clay films on faces of peds and in pores; 10 percent rock fragments; moderately acid; clear wavy boundary.

Bt2—24 to 30 inches; brown (10YR 5/3) silt loam; common fine faint brown (10YR 4/3) and yellowish brown (10YR 5/4) color variegations; weak thick platy structure parting to weak fine angular and subangular blocky; firm, sticky and plastic; few faint clay films on faces of peds; common faint clay films in pores; 10 percent rock fragments; moderately acid; gradual wavy boundary.

C—30 to 42 inches; brown (10YR 5/3) very channery silt loam; massive; very firm, sticky and plastic; 40 percent rock fragments; moderately acid; clear wavy boundary.

R—42 inches; fractured porcelanite.

The solum is 24 to 40 inches thick. Bedrock is at a depth between 40 and 60 inches. Rock fragments range from 0 to 35 percent in the solum and from 15 to 70 percent in the substratum. In unlimed areas reaction ranges from very strongly acid to slightly acid throughout.

The A horizon has hue of 10YR to 2.5Y, value of 2 or 3, and chroma of 1 or 2.

The E horizon has hue of 10YR to 2.5Y, value of 3 or 4, and chroma 2.

The Ap horizon has hue of 10YR to 2.5Y, value of 3 or 4, and chroma of 2 or 3. Not all pedons have an Ap horizon.

The BE horizon has hue of 10YR to 2.5Y, value of 3 to 5, and chroma of 3 or 4.

The Bt horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 3 or 4. It is loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

The C horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 1 to 3. It is loam or silt loam in the fine earth fraction.

Buchanan Series

The soils of the Buchanan series are fine-loamy, mixed, mesic Aquic Fragiudults. These are very deep, moderately well drained and somewhat poorly drained soils on footslopes, on benches, in depressions, and on lowlands. They formed in colluvium derived from residuum derived from quartzite, metabasalt, and metarhyolite. Slopes range from 0 to 8 percent.

Buchanan soils are on the landscape with somewhat excessively drained Catoctin soils and well drained Edgemont, Myersville, and Highfield soils. Catoctin, Edgemont, Myersville, and Highfield soils all are redder or browner throughout than Buchanan soils.

Typical pedon of Buchanan channery loam, 0 to 8 percent slopes, extremely stony; in Michaux State Forest, 12 miles northwest of Gettysburg, Franklin Township, Adams County, on the west side of Township Route 364, 200 feet southeast of intersection of Pennsylvania Route 233, in woodland:

Oi—2 inches to 1 inch; fresh and partly decomposed leaves and twigs.

Oe—1 inch to 0; mat of decomposed organic material.

A—0 to 1 inch; very dark grayish brown (10YR 3/2) channery loam; weak, very fine granular structure; very friable, nonsticky and nonplastic; 20 percent rock fragments; extremely acid; abrupt smooth boundary.

E—1 to 7 inches; brown (10YR 5/3) channery loam; weak, fine granular structure; very friable, slightly sticky and nonplastic; 25 percent rock fragments; very strongly acid; clear smooth boundary.

BE—7 to 11 inches; brownish yellow (10YR 6/6) channery loam; weak medium and fine subangular blocky structure; friable, slightly sticky and slightly plastic; very few faint clay films bridging sand grains; 25 percent rock fragments; very strongly acid, clear wavy boundary.

Bt1—11 to 18 inches; brownish yellow (10YR 6/6) channery loam; weak medium and thick platy structure parting to moderate fine and very fine angular blocky; friable, slightly sticky and slightly plastic; common faint clay films on faces of peds and in pores; common medium and fine distinct light brownish gray (10YR 6/2) and pale brown (10YR 6/3) iron depletions, and common medium and fine distinct yellowish brown (10YR 5/8) soft masses of iron accumulation; 25 percent rock fragments; very strongly acid; clear wavy boundary.

Bt2—18 to 25 inches; pale brown (10YR 6/3) channery loam; weak thick platy structure parting to moderate medium angular subangular blocky; firm, sticky and slightly plastic; common faint clay films on faces of peds and in pores; many medium faint light brownish gray (10YR 6/2) iron depletions, and many medium distinct yellowish brown (10YR 5/6) and many medium prominent strong brown (7.5YR 5/6) soft masses of iron accumulation; 25 percent rock fragments; very strongly acid; abrupt wavy boundary.

Btx1—25 to 34 inches; yellowish brown (10YR 5/6) channery loam; moderate very coarse prismatic structure parting to weak very thick platy parting to moderate medium subangular blocky; very firm and brittle, slightly sticky and slightly plastic; many prominent prism coatings; common faint clay films on faces of blocky peds and in pores; common medium distinct light brownish gray (10YR 6/2) and pale brown (10YR 6/3) iron depletions, and many medium prominent strong brown (7.5YR 5/6) soft masses of iron accumulation; 30 percent rock fragments; very strongly acid; clear wavy boundary.

Btx2—34 to 42 inches; yellowish brown (10YR 5/6) channery loam; moderate very coarse prismatic structure parting to weak very thick platy and coarse subangular blocky; very firm and brittle, slightly sticky and slightly plastic; many prominent prism coatings; few faint clay films on faces of platy and blocky peds, in pores, and bridging sand grains; common coarse and medium prominent light brownish gray (2.5YR 6/2) iron depletions, and common coarse and medium faint yellowish brown (10YR 5/8) soft masses of iron accumulation; 20 percent rock fragments; very strongly acid; gradual wavy boundary.

BCtx—42 to 54 inches; yellowish brown (10YR 5/4) channery loam; weak very coarse prismatic structure parting to weak coarse subangular blocky; very firm and brittle, slightly sticky and nonplastic; many prominent prism coatings; very few faint clay films in pores and bridging sand grains; common coarse and medium distinct light brownish gray (10YR 6/2) iron depletions, and common coarse and medium faint yellowish brown (10YR 5/6) soft masses of iron accumulation; 25 percent rock fragments; very strongly acid; gradual wavy boundary.

C—54 to 60 inches; yellowish brown (10YR 5/4) channery sandy loam; massive; firm, nonsticky and nonplastic; few medium faint brown (10YR 5/3) iron depletions and yellowish brown (10YR 5/6) soft masses of iron accumulation; 30 percent rock fragments; very strongly acid.

The solum is 40 to 60 inches thick. The fragipan ranges from a depth of 20 to 36 inches; depth to bedrock is greater than 60 inches. Rock fragments range from 5 to 40 percent in individual horizons above the fragipan and from 10 to 60 percent in the fragipan and substratum. In unlimed areas reaction ranges from strongly acid to extremely acid throughout.

The A horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 1 to 3.

The E horizon has hue of 7.5YR or 10YR, value of 4 or 6, and chroma of 1 to 4.

The Ap horizon, where it occurs, has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4.

The BE horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4.

The Bt horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 3 to 6. It is loam, sandy clay loam, clay loam, or silt loam in the fine earth fraction.

The Btx horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 6, and it has redoximorphic masses of iron accumulation and iron depletions. It is loam, sandy clay loam, or silt loam in the fine earth fraction.

The BCtx horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 6, and it has redoximorphic masses of iron accumulation and iron depletions. It is loam, sandy clay loam, or silt loam in the fine earth fraction.

The C horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 2 to 6, and it generally has redoximorphic masses of iron accumulation and iron depletions. It is loam, sandy loam, sandy clay loam, or silt loam in the fine earth fraction.

Catoctin Series

The soils of the Catoctin series are loamy-skeletal, mixed, mesic Ruptic-Alfic Eutrochrepts. These are moderately deep, somewhat excessively drained soils on ridges and hills. They formed in channery residuum derived from metabasalt and metarhyolite. Slopes range from 0 to 70 percent.

Catoctin soils are on the landscape with well drained, very deep Edgemont soils; deep Highfield and Myersville soils; moderately well drained Buchanan and Glenville soils; and poorly drained Baile soils. All these soils have less sand and fewer rock fragments than Catoctin soils.

Typical pedon of Catoctin channery silt loam, 8 to 15 percent slopes; 1 mile southwest of Cashtown in Franklin Township, Adams County, south of Township Route 353, 1,200 feet northwest of Township Route 566, in an orchard:

Ap—0 to 9 inches; dark brown (7.5YR 4/4) channery silt loam; weak fine granular structure; friable, slightly sticky and slightly plastic; 20 percent rock fragments; moderately acid; abrupt smooth boundary.

Bw—9 to 16 inches; yellowish brown (10YR 5/4) very channery silt loam; weak fine subangular blocky structure; friable, slightly sticky and slightly plastic; lenses with few faint clay films on faces of peds and rock fragments; 50 percent rock fragments; strongly acid; gradual wavy boundary.

C—16 to 24 inches; brown (7.5YR 5/4) extremely channery silt loam; massive; friable, slightly sticky and nonplastic; 70 percent rock fragments; moderately acid; gradual irregular boundary.

R—24 inches; hard, somewhat fractured metabasalt.

The solum is 15 to 30 inches thick. Bedrock is at a depth between 20 and 40 inches. Rock fragments range from 5 to 35 percent in the A and E horizons, from 15 to 55 percent in the B horizon, and from 35 to 80 percent in the substratum. In unlimed areas reaction is strongly acid to slightly acid in the solum and moderately acid to neutral in the substratum.

The A horizon, where it occurs, has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 1 or 2.

The E horizon, where it occurs, has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 to 8.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4. It is loam or silt loam.

The Bw horizon has hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8. It is loam or silt loam in the fine earth fraction.

The C horizon has hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8. It is loam or silt loam in the fine earth fraction.

Clarksburg Series

The soils of the Clarksburg series are fine-loamy, mixed, mesic Typic Fragiudalfs. These are very deep, moderately well drained soils on broad uplands and in depressions. They formed in colluvium and underlying loamy material weathered from residuum derived from limestone, schist, shale, and sandstone. Slopes range from 0 to 8 percent.

Clarksburg soils are on the landscape with well drained Athol and Conestoga soils, moderately well drained Lindside soils, and somewhat poorly drained Penlaw soils. Clarksburg and Penlaw soils have a fragipan; the other soils do not. Lindside soils are on flood plains.

Typical pedon of Clarksburg silt loam, 3 to 8 percent slopes; 2 miles west of Wrightsville in Hellam Township, York County, 100 feet south of U.S. Route 30, 175 feet west of culvert and 1.2 miles west of State Route 1016, in cropland:

Ap—0 to 8 inches; dark brown (10YR 4/3) silt loam; moderate medium and fine granular structure; friable, slightly sticky and slightly plastic; 3 percent rock fragments; moderately acid; abrupt and smooth boundary.

Bt1—8 to 16 inches; yellowish brown (10YR 5/4) silt loam; moderate fine and very fine angular blocky and subangular blocky structure; friable, sticky and slightly plastic; common faint clay films on faces of peds and in pores; 3 percent rock fragments; strongly acid; clear wavy boundary.

Bt2—16 to 27 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure parting to moderate fine subangular blocky; friable, sticky and plastic; many faint clay films on faces of peds and in pores; common fine prominent brown (7.5YR 4/4) soft masses of iron accumulation; 2 percent rock fragments; strongly acid; clear wavy boundary.

Bt3—27 to 32 inches; yellowish brown (10YR 5/4) silt loam; weak medium prismatic structure parting to moderate medium angular blocky; firm, sticky and plastic; common faint clay films on faces of blocky peds and in pores; common fine distinct grayish brown (10YR 5/2) iron depletions, and common fine prominent strong brown (7.5YR 5/6) soft masses of iron accumulation; 8 percent rock fragments; strongly acid; clear smooth boundary.

Btx1—32 to 40 inches; yellowish brown (10YR 5/4) silty clay loam; weak very coarse prismatic structure parting to moderate medium and thin platy; firm and brittle, slightly sticky and slightly plastic; common faint clay films on faces of platy peds, in pores, and bridging sand grains; many medium and fine faint brown (10YR 5/3) and grayish brown (2.5Y 5/2) iron depletions, and many medium and fine prominent brown (7.5YR 4/4) soft masses of iron accumulation; 5 percent rock fragments; strongly acid; abrupt smooth boundary.

Btx2—40 to 54 inches; brown (10YR 5/3) and yellowish brown (10YR 5/6) clay loam; moderate very coarse prismatic structure parting to moderate medium platy parting to moderate very fine angular blocky; firm and brittle, slightly sticky and slightly plastic; few faint clay films bridging sand grains and in pores; many faint silt coatings on prism faces; many coarse and medium prominent grayish brown (2.5Y 5/2) iron depletions, and many coarse and medium prominent strong brown (7.5YR 5/6) soft masses of iron accumulation; 10 percent rock fragments; strongly acid; clear wavy boundary.

C—54 to 60 inches; yellowish brown (10YR 5/4) very channery clay loam; massive; friable, slightly sticky and slightly plastic; few medium distinct grayish brown (10YR 5/2) iron depletions; 40 percent rock fragments; moderately acid.

The solum is 40 to 70 inches thick. The fragipan ranges in depth from 20 to 36 inches. Depth to bedrock is more than 60 inches. Rock fragments range from 0 to 20 percent in the solum above the fragipan, from 5 to 30 percent in the fragipan, and from 5 to 80 percent in the substratum. In unlimed areas reaction ranges from strongly acid to slightly acid throughout.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 or 3.

The Bt horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. It has low chroma redoximorphic features beginning at a depth of 20 to 32 inches. It is loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

The Btx horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 6. It has iron depletions with chroma of 2 or less. It is clay loam or silty clay loam in the fine earth fraction.

The C horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 6. It has iron depletions with chroma of 2 or less. It is loam, clay loam, silt loam, silty clay loam, silty clay, or clay in the fine earth fraction.

Codorus Series

The soils of the Codorus series are fine-loamy, mixed, mesic Fluvaquentic Dystrochrepts. These are very deep, moderately well drained soils on flood plains. They formed in alluvium washed from residuum, on uplands, derived from mica schist and phyllite. Slopes range from 0 to 3 percent.

Codorus soils are on flood plains with poorly drained Hatboro soils. Hatboro soils are in swales and drainageways.

Typical pedon of Codorus silt loam, 1.5 miles east-southeast of Jacobus in York Township, York County, 200 feet southwest of State Route 2087, 0.6 mile northwest of Pennsylvania Route 214, and 1,000 feet southeast of Pleasant Avenue, on idle land:

Ap—0 to 8 inches; dark brown (10YR 4/3) silt loam; weak fine and medium granular structure; friable, slightly sticky and slightly plastic; slightly acid; abrupt smooth boundary.

BE—8 to 12 inches; brown (10YR 5/3 and 10YR 4/3) silt loam; weak medium subangular blocky structure parting to weak, fine subangular blocky; friable, sticky and slightly plastic; moderately acid; clear smooth boundary.

Bw1—12 to 20 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable, sticky and slightly plastic; common mica flakes; few fine prominent strong brown (7.5YR 5/6) soft masses of iron accumulation; moderately acid; clear smooth boundary.

Bw2—20 to 42 inches; brown (10YR 5/3) and yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable, sticky and slightly plastic; common mica flakes; many medium and fine distinct grayish brown (10YR 5/2) iron depletions, and many medium and fine prominent brown (7.5YR 4/4) soft masses of iron accumulation; strongly acid; gradual smooth boundary.

Bw3—42 to 48 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; common mica flakes; many medium faint dark grayish brown

(10YR 4/2) iron depletions, and many medium prominent reddish brown (5YR 4/4) soft masses of iron accumulation; strongly acid; gradual smooth boundary.

C1—48 to 55 inches; stratified olive brown (2.5Y 4/4) and dark grayish brown (2.5Y 4/2) silt loam; massive; friable, slightly sticky and slightly plastic; many mica flakes; many medium and coarse prominent reddish brown (5YR 4/4) and yellowish red (5YR 4/6) soft masses of iron accumulation; moderately acid; clear smooth boundary.

C2—55 to 60 inches; dark grayish brown (2.5Y 4/2) silt loam; massive; friable, slightly sticky and slightly plastic; many mica flakes; moderately acid.

The solum is 30 to 60 inches thick. Depth to bedrock is more than 60 inches. Rock fragments range from 0 to 15 percent in the solum, from 0 to 25 percent in the substratum to a depth of 40 inches, and from 0 to 70 percent below a depth of 40 inches. In unlimed areas reaction ranges from very strongly acid to moderately acid in the upper part of the solum and from strongly acid to slightly acid in the lower part and in the substratum.

The Ap horizon has hue of 10YR, value of 3 to 6, and chroma of 2 or 3.

The BE horizon has hue of 10YR, value of 4 to 6, and chroma of 3 to 6.

The Bw horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 or 4. Iron-depleted areas begin at a depth of 24 inches. The horizon is loam, silt loam, or silty clay loam in the fine earth fraction.

The C horizon has hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 2 to 4, and it generally has areas of redoximorphic depletion or accumulation. It is loam or silt loam in the fine earth fraction. In some pedons the C horizon has strata of material that ranges from sand and gravel to silty clay.

Conestoga Series

The soils of the Conestoga series are fine-loamy, mixed, mesic Typic Hapludalfs. These are very deep, well drained soils on undulating and rolling uplands. They formed in loamy residuum derived from micaceous limestone and calcareous schist. Slopes range from 0 to 15 percent.

Conestoga soils are on the landscape with well drained Pequea soils, moderately well drained Clarksburg soils, and somewhat poorly drained Penlaw soils. Clarksburg and Penlaw soils have a fragipan. Pequea soils have more sand and rock fragments throughout than Conestoga soils.

Typical pedon of Conestoga silt loam, 3 to 8 percent slopes; 1.5 miles north of Adams New Salem in West Manchester Township, York County, 250 feet north of Township Route 492 and 1,000 feet southwest of its intersection with Pennsylvania Route 616, in cropland:

Ap—0 to 9 inches; dark brown (10YR 4/3) silt loam; moderate medium granular structure; friable, slightly sticky and slightly plastic; 2 percent rock fragments; neutral; abrupt smooth boundary.

Bt1—9 to 17 inches; brown (7.5YR 4/4) silt loam; moderate medium subangular blocky structure parting to moderate fine subangular blocky; friable, slightly sticky and plastic; common faint clay films on faces of peds and in pores; neutral; clear wavy boundary.

Bt2—17 to 24 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure parting to moderate fine angular blocky; friable, sticky and plastic; many faint clay films on faces of peds and in pores; dark yellowish brown (10YR 4/4) ped coatings; slightly acid; clear wavy boundary.

Bt3—24 to 40 inches; brown (7.5YR 4/4) silty clay loam; moderate medium and fine angular and subangular blocky structure; friable, sticky and plastic; many faint clay films on faces of peds and in pores; 2 percent rock fragments; slightly acid; clear wavy boundary.

C1—40 to 46 inches; variegated yellowish brown (10YR 5/4), strong brown (7.5YR 5/6), and dark yellowish brown (10YR 4/4) silt loam; massive; friable, sticky and plastic; many mica flakes; 5 percent rock fragments; moderately acid; gradual wavy boundary.

C2—46 to 60 inches; variegated brown (7.5YR 4/4 and 7.5YR 5/4) and strong brown (7.5YR 5/6) loam; massive; friable, slightly sticky and slightly plastic; many mica flakes; 10 percent rock fragments; moderately acid.

The solum is 30 to 60 inches thick. Depth to bedrock is more than 60 inches. Rock fragments range from 0 to 15 percent in the surface horizon, from 0 to 30 percent in the solum, and from 5 to 35 percent in the substratum. In unlimed areas reaction ranges from very strongly acid to neutral in the solum and from moderately acid to slightly alkaline in the substratum.

The Ap horizon has hue of 10YR, value of 4 or 5, and chroma of 2 or 3.

The Bt horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. In some pedons the lower part of the B horizon has hue of 2.5Y. It is silt loam or silty clay loam in the fine earth fraction.

The C horizon has hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8. It is sandy loam, loam, or silt loam in the fine earth fraction.

Croton Series

The soils of the Croton series are fine-silty, mixed, mesic Typic Fragiaqualfs. These are deep, poorly drained soils on nearly level and undulating lowlands and in depressions and drainageways. They formed in loamy residuum derived from shale, siltstone, and fine-grained sandstone. Slopes range from 0 to 8 percent.

Croton soils are on the landscape with somewhat excessively drained Klinesville soils; well drained Arendtsville, Brecknock, Lansdale, and Penn soils; moderately well drained Readington and Reaville soils; and somewhat poorly drained Abbottstown and Lehigh soils. These soils are in higher positions than Croton soils on the landscape.

Typical pedon of Croton silt loam, 0 to 3 percent slopes; 3 miles south of Franklintown in Washington Township, York County, 300 feet north of Township Route 861 and 0.5 mile east of State Route 4043, in idle land:

Ap—0 to 12 inches; dark reddish brown (5YR 3/3) silt loam; moderate medium granular structure; friable, slightly sticky and slightly plastic; moderately acid; abrupt smooth boundary.

EB—12 to 14 inches; dark reddish gray (5YR 4/2) silt loam; moderate medium subangular blocky structure parting to moderate medium granular; friable, sticky and slightly plastic; common fine prominent weak red (2.5YR 5/2) iron depletions; strongly acid; abrupt smooth boundary.

Btg—14 to 20 inches; reddish gray (5YR 5/2) silt loam; moderate medium angular blocky structure parting to moderate fine subangular blocky; firm, sticky and plastic; common faint clay films on faces of peds and in pores; common fine distinct reddish brown (5YR 5/3) and pinkish gray (5YR 6/2) iron depletions; 3 percent rock fragments; strongly acid; clear smooth boundary.

Btx1—20 to 27 inches; pinkish gray (7.5YR 6/2) silt loam; moderate coarse and very coarse prismatic structure parting to moderate coarse and medium angular blocky; very firm and brittle, sticky and plastic; many prominent silt coatings on faces of prisms and on smaller peds; many distinct clay films on faces of peds and in pores; many medium and fine prominent strong brown (7.5YR 5/6) and reddish brown (2.5YR 4/4) soft masses of iron accumulation; 5 percent rock fragments; strongly acid; clear irregular boundary.

Btx2—27 to 37 inches; reddish brown (5YR 4/4) silt loam; streaks and lenses of gray (N 6/0) and (5YR 6/1) silty clay; weak very coarse prismatic structure parting to moderate medium angular and subangular blocky; very firm, sticky and plastic; many prominent silt coatings on faces of peds; many faint clay films on faces of peds and in pores; common medium and fine prominent yellowish red (5YR 5/6) soft masses of iron accumulation, and pinkish gray (5YR 6/2) iron depletions; 5 percent rock fragments; strongly acid; clear wavy boundary.

C—37 to 42 inches; reddish brown (2.5YR 4/4) channery silt loam; massive; firm, slightly sticky and slightly plastic; 15 percent rock fragments increasing with depth; common medium and fine prominent gray (10YR 6/1) and brown (7.5YR 5/2) iron depletions; moderately acid; clear wavy boundary.

R—42 inches; fractured weak red (10R 4/3) siltstone.

The solum is 25 to 40 inches thick. Depth to the fragipan ranges from 15 to 25 inches. Depth to bedrock is between 40 and 60 inches. Rock fragments range from 0 to 10 percent in individual horizons above the fragipan, from 0 to 20 percent in the fragipan, and from 10 to 35 percent in the substratum. In unlimed areas reaction is very strongly acid or strongly acid in the upper part of the solum and ranges from very strongly acid to moderately acid in the lower part and in the substratum.

The Ap horizon has hue of 5YR to 10YR, value of 3 or 4, and chroma of 2 to 4.

The A horizon, where it occurs, has hue of 5YR to 10YR, value of 3 or 4, and chroma of 2 or 3.

The EB horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 1 or 2.

The Btg horizon has hue of 5YR to 10YR, value of 4 to 7, and chroma of 0 to 2. It has prominent redoximorphic accumulations with chroma of 5 or 6. It is silt loam or silty clay loam.

The Btx horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 1 to 6. It has prominent redoximorphic accumulations with chroma of 5 or 6. It is silt loam or silty clay loam in fine earth fraction.

The C horizon has hue of 10R to 5YR, value of 3 to 5, and chroma of 2 to 4. It has prominent redoximorphic accumulations with chroma of 5 or 6. It is silt loam or silty clay loam in the fine earth fraction.

Dunning Series

The soils of the Dunning series are fine, mixed, mesic Fluvaquentic Endoaquolls. These are very deep, very poorly drained soils on flood plains. They formed in alluvium derived from residuum derived from limestone and calcareous schist. Slopes range from 0 to 3 percent.

Dunning soils are on flood plains with moderately well drained Lindside soils, but Lindside soils are on slightly higher rises.

Typical pedon of Dunning silty clay loam; 2 miles northwest of McSherrystown in Oxford Township, Adams County, 180 feet west of State Route 2009 and 300 feet south of its intersection with State Route 2013, in hayland:

Ap—0 to 11 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate medium and fine granular structure; friable, sticky and plastic; slightly alkaline; abrupt smooth boundary.

Bg1—11 to 18 inches; dark gray (10YR 4/1) silty clay; weak medium angular blocky structure; friable, sticky and very plastic; many medium and fine prominent yellowish brown (10YR 5/6) soft masses of iron accumulation, and many medium and fine prominent grayish brown iron depletions; slightly alkaline; clear smooth boundary.

Bg2—18 to 30 inches; grayish brown (10YR 5/2) silty clay; weak coarse and medium angular blocky structure; firm, sticky and very plastic; many medium and fine distinct yellowish brown (10YR 5/6) soft masses of iron accumulation, and many medium and fine faint gray (10YR 5/1) iron depletions; slightly alkaline; clear smooth boundary.

C—30 to 36 inches; yellowish brown (10YR 5/6) silty clay; weak coarse subangular blocky structure; firm, sticky and plastic; common medium and fine distinct grayish brown (10YR 5/2) iron depletions, and common medium and fine faint yellowish brown (10YR 5/8) soft masses of iron accumulation; slightly alkaline; clear smooth boundary.

Cg1—36 to 42 inches; light brownish gray (2.5Y 6/2) silty clay loam; massive; firm, sticky and plastic; 2 percent rock fragments; common fine distinct light olive brown (2.5Y 5/4) soft masses of iron accumulation, and light gray (2.5Y 7/2) iron depletions; slightly alkaline; clear smooth boundary.

Cg2—42 to 60 inches; grayish brown (2.5Y 5/2) stratified sandy clay loam and gravelly sandy clay loam; massive; friable, sticky and slightly plastic; many fine distinct light olive brown (2.5Y 5/4) soft masses of iron accumulation; 5 to 35 percent rock fragments in strata; slightly alkaline.

The solum is 30 to 50 inches thick. Depth to bedrock is more than 60 inches. Rock fragments range from 0 to 5 percent to a depth of 30 inches and from 0 to 20 percent below that depth. In unlimed areas reaction ranges from moderately acid to slightly alkaline throughout.

The Ap horizon has hue of 10YR to 5Y, value of 2 or 3, and chroma of 0 to 3.

The Bg horizon has hue of 10YR to 5GY, value of 4 to 6, and chroma of 0 to 2. It has many prominent to few, faint soft masses of iron accumulation and iron depletions. It is silty clay loam, silty clay, or clay.

The C horizon has hue of 10YR to 5GY, value of 4 to 6, and chroma of 0 to 6. It has many prominent to few, faint, soft masses of iron accumulation and iron depletions. It is silty clay loam, silty clay, or clay in the fine earth fraction. In some pedons, below a depth of 40 inches, it has stratified layers of sandy loam, loam, sandy clay loam, clay loam, or silt loam.

Edgemont Series

The soils of the Edgemont series are fine-loamy, mixed, mesic Typic Hapludults. These are very deep and well drained soils on ridges and hills. They formed in weathered residuum of quartzitic rocks. Slopes range from 3 to 70 percent.

Edgemont soils are on the landscape with somewhat excessively drained, moderately deep Catoctin soils; well drained, very deep or deep Glenelg and deep Highfield and Myersville soils; and moderately well drained Buchanan and Glenville soils. Edgemont soils have more clay throughout than that of Catoctin and Highfield soils. Glenelg soils are micaceous. Buchanan and Glenville soils have a fragipan.

Typical pedon of Edgemont channery loam, 8 to 25 percent slopes, very stony; 1 mile east of Maple Grove in Paradise Township, York County, 285 feet northwest of Township Route 461 at a point 375 feet northeast of its intersection with State Route 3047, in woodland:

Oi—2 inches to 1 inch; mat of fresh and slightly decayed leaves, twigs, and roots.

Oa—1 inch to 0; decomposed organic material containing twigs, roots, and rock fragments.

A—0 to 2 inches; very dark gray (10YR 3/1) channery loam; weak fine and very fine granular structure; very friable, nonsticky and nonplastic; 20 percent rock fragments; extremely acid; abrupt wavy boundary.

E—2 to 5 inches; brown (10YR 5/3) channery loam; weak medium and fine granular structure; very friable, slightly sticky and nonplastic; 20 percent rock fragments; very strongly acid; clear wavy boundary.

BE—5 to 8 inches; yellowish brown (10YR 5/4) channery loam; weak fine angular blocky structure; very friable, slightly sticky and nonplastic; 15

percent rock fragments; very strongly acid; clear wavy boundary.

Bt1—8 to 14 inches; yellowish brown (10YR 5/4) channery loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; very few, faint clay bridges between sand grains on faces of peds and in pores; 15 percent rock fragments; extremely acid; clear wavy boundary.

Bt2—14 to 24 inches; yellowish brown (10YR 5/4) channery loam; weak medium angular blocky structure parting to weak fine angular blocky; friable, slightly sticky and slightly plastic; common faint clay bridges between sand grains and few faint clay films on faces of peds and in pores; 20 percent rock fragments; extremely acid; clear wavy boundary.

Bt3—24 to 30 inches; yellowish brown (10YR 5/6) very channery sandy loam; weak coarse subangular blocky structure parting to weak medium angular blocky; friable, nonsticky and nonplastic; very few faint clay bridges between sand grains on faces of peds; 35 percent rock fragments; extremely acid; gradual irregular boundary.

C—30 to 60 inches; brown (10YR 5/3) extremely channery sandy loam; streaks and patches of yellowish brown (10YR 5/8) and strong brown (7.5YR 5/8); weak medium subangular blocky structure; friable, nonsticky and nonplastic; 70 percent rock fragments; extremely acid; abrupt irregular boundary.

The solum is 20 to 40 inches thick. Depth to bedrock is more than 60 inches. Rock fragments range from 5 to 40 percent in the solum and from 10 to 90 percent in the substratum. In unlimed areas reaction ranges from extremely acid to strongly acid throughout.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. The fine earth fraction is sandy loam, loam, or silt loam.

The Ap horizon, where it occurs, has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. It is sandy loam, loam, or silt loam in the fine earth fraction.

The E horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 0 to 4. It is sandy loam, loam, or silt loam in the fine earth fraction.

The BE horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 3 or 4. It is sandy loam, loam, or silt loam in the fine earth fraction.

The Bt horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8. The fine earth fraction is sandy loam or loam, but the range includes fine sandy loam, sandy clay loam, or clay loam.

The C horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 2 to 8. It is sandy loam in the fine earth fraction, but the range includes loamy sand, loam, and clay loam.

Glenelg Series

The soils of the Glenelg series are fine-loamy, mixed, mesic Typic Hapludults. These are deep, well drained soils on ridgetops and side slopes. They formed in channery residuum derived from schist and saprolite. Slopes range from 3 to 25 percent.

Glenelg soils are on the landscape with somewhat excessively drained, very deep Manor soils and moderately deep Mt. Airy soils; well drained, very deep Edgemont soils; moderately well drained Glenville soils; and poorly drained Baile soils. Manor soils are coarse-loamy, and Mt. Airy soils are loamy-skeletal. Glenelg soils are redder than Edgemont soils. Unlike Glenelg soils, Glenville soils have a fragipan. Baile soils are grayish throughout.

Typical pedon of Glenelg channery silt loam, 8 to 15 percent slopes; 1 mile southwest of Brogue in Chanceford Township, York County, 200 feet east of State Route 2077 and one-half mile southeast of its intersection with State Route 2054, in a cultivated field:

Ap—0 to 8 inches; dark brown (7.5YR 4/4) channery silt loam; moderate fine granular structure; very friable, slightly sticky and nonplastic; 15 percent rock fragments; slightly acid; abrupt smooth boundary.

BE—8 to 12 inches; reddish brown (5YR 4/4) channery silt loam; weak medium platy structure parting to weak very fine subangular blocky; friable, slightly sticky and slightly plastic; 15 percent rock fragments; slightly acid; clear wavy boundary.

Bt1—12 to 16 inches; yellowish red (5YR 5/6) channery silt loam; weak fine subangular blocky structure; friable, sticky and plastic; common faint clay films on faces of peds and lining pores; 15 percent rock fragments; moderately acid; clear wavy boundary.

Bt2—16 to 22 inches; yellowish red (5YR 5/8) channery silty clay loam; moderate medium and fine subangular blocky structure; friable, sticky and plastic; many faint clay films on faces of peds and lining pores; 15 percent rock fragments; many mica flakes; strongly acid; clear wavy boundary.

Bt3—22 to 25 inches; yellowish red (5YR 4/8) channery silt loam; weak medium subangular blocky structure; firm, sticky and slightly plastic; common faint clay films on faces of peds and rock fragments and in pores; 20 percent rock fragments; many mica flakes; very strongly acid; clear wavy boundary.

BC—25 to 29 inches; yellowish red (5YR 4/8) channery loam; weak very thick platy and medium subangular blocky structure; firm, slightly sticky and slightly plastic; common faint clay films on rock fragments, few faint clay films on faces of peds and lining pores; 25 percent rock fragments; many mica flakes; very strongly acid; gradual wavy boundary.

C—29 to 50 inches; yellowish red (5YR 4/6), red (2.5YR 5/6), and light reddish brown (5YR 6/3) very channery loam; massive; 35 percent rock fragments; very micaceous; very strongly acid; abrupt wavy boundary.

Cr—50 inches; weathered, fractured mica schist.

The solum is 18 to 30 inches thick. Depth to bedrock is between 40 and 60 inches. Rock fragments range from 0 to 35 percent in the solum and from 5 to 35 percent in the substratum. In unlimed areas reaction is very strongly acid or strongly acid in the surface layer and ranges from very strongly acid to slightly acid in the subsoil and substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 or 4. It is loam or silt loam in the fine earth fraction.

The BE horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 4 to 6. It is loam or silt loam in the fine earth fraction.

The Bt horizon has hue of 5YR to 10YR, value of the 4 or 5, and chroma of 4 to 8. It is loam, silt loam, or silty clay loam in the fine earth fraction.

The C horizon has hue of 2.5YR to 10YR, value of 4 or 5, and chroma of 2 to 8. It is sandy loam or loam in the fine earth fraction.

Glenville Series

The soils of the Glenville Series are fine-loamy, mixed, mesic Aquic Fragiudults. These are very deep, moderately well drained soils on footslopes and benches, in depressions, and on lowlands. They formed in loamy residuum derived from schist and other crystalline rocks containing mica. Slopes range from 0 to 8 percent.

Glenville soils are on the landscape with somewhat excessively drained Catoctin, Manor, and Mt. Airy soils; well drained Edgemont, Glenelg, Highfield, and Myersville soils; and poorly drained Baile soils. All these soils except Baile soils are on ridges and hills. Glenville soils are not as gray in the subsoil as Baile soils.

Typical pedon of Glenville silt loam, 3 to 8 percent slopes; 3 miles south-southwest of Hanover in Union Township, Adams County, 40 feet northeast of Township Route 463, 0.1 mile northwest of its intersection with Legislative Route 01031, in cropland:

Ap—0 to 10 inches; dark brown (10YR 4/3) silt loam; moderate medium and fine granular structure; friable, sticky and slightly plastic; 5 percent rock fragments; slightly acid; abrupt smooth boundary.

Bt1—10 to 14 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure parting to moderate fine subangular blocky; friable, sticky and plastic; common faint clay films on faces of peds and lining pores; common fine distinct yellowish brown (10YR 5/8) soft masses of iron accumulation, and common fine distinct brown (10YR 5/3) iron depletions; 3 percent rock fragments; slightly acid; clear wavy boundary.

Bt2—14 to 19 inches; yellowish brown (10YR 5/4) silt loam; moderate medium angular blocky structure parting to moderate fine angular blocky; firm, sticky and plastic; common faint clay films on faces of peds and in pores; common mica flakes; common fine prominent strong brown (7.5YR 5/6) soft masses of iron accumulation, and common fine prominent light olive brown (2.5Y 5/3) iron depletions; 5 percent rock fragments; slightly acid; clear wavy boundary.

Btx1—19 to 24 inches; yellowish brown (10YR 5/4) silt loam; moderate coarse prismatic structure parting to moderate medium angular blocky; very firm and brittle, sticky and slightly plastic; many faint clay films on faces of peds and in pores; common mica flakes; many medium and fine prominent strong brown (7.5YR 5/6) soft masses of iron accumulation, and many medium and fine prominent grayish brown (2.5Y 5/2) iron depletions; 10 percent rock fragments; moderately acid; gradual wavy boundary.

Btx2—24 to 36 inches; yellowish brown (10YR 5/6) silt loam; weak very coarse prismatic structure parting to moderate medium platy; very firm and brittle, sticky and slightly plastic; common faint clay films on faces of platy peds and in pores; many mica flakes; many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation, and many medium prominent grayish brown (2.5Y 5/2) iron depletions; 10 percent rock fragments; very strongly acid; clear wavy boundary.

BC—36 to 40 inches; strong brown (7.5YR 5/6) channery loam; weak medium subangular blocky structure; friable, slightly sticky and nonplastic; few faint clay films on faces of peds and in pores; many mica flakes; common medium prominent light brownish gray (2.5Y 6/2) iron depletions; 15 percent rock fragments; very strongly acid; gradual wavy boundary.

C—40 to 60 inches; strong brown (7.5YR 5/6) channery loam, extremely channery loam in the lower part; weak medium platy structure; very friable, nonsticky and nonplastic; very many mica flakes; few medium prominent light olive brown (2.5Y 5/4) and light brownish gray (2.5Y 6/2) iron depletions; 20 percent rock fragments increasing to 65 percent in the lower part; very strongly acid.

The solum is 30 to 40 inches thick. Depth to the fragipan ranges from 15 to 30 inches. Depth to bedrock is more than 60 inches. Rock fragments range from 0 to 30 percent in the solum and from 5 to 80 percent in the substratum. In unlimed areas reaction ranges from very strongly acid to neutral in the solum and from very strongly acid to moderately acid in the substratum.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 to 6.

The Bt horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 8. It is loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

The Btx horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 6. It has prominent soft masses of iron accumulation with chroma of 5 or 6. It is loam or silt loam in the fine earth fraction.

The BC horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 6. It has prominent soft masses of iron accumulation with chroma of 5 or 6. It is loam or silt loam in fine earth fraction.

The C horizon has hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 1 to 8. It is sandy loam or loam in the fine earth fraction.

Hatboro Series

The soils of the Hatboro series are fine-loamy, mixed, nonacid, mesic Typic Fluvaquents. These are very deep, poorly drained soils on flood plains. They formed in alluvium washed from residuum, on uplands, derived from mica schist, gneiss, and other metamorphic and crystalline rocks. Slopes range from 0 to 3 percent.

Hatboro soils are on flood plains with moderately well drained Codorus soils. Codorus soils are on slightly lower lying rises.

Typical pedon of Hatboro silt loam, 3 miles southwest of Hanover in Conewago Township, Adams County, on the north bank of South Branch Conewago Creek, 300 feet north of Township Route 461 at a point 1,300 feet northeast of its intersection with Township Route 463, in an abandoned pasture:

Ap—0 to 6 inches; dark brown (10YR 3/3) silt loam; weak medium granular structure; friable, slightly sticky and slightly plastic; common fine distinct very dark brown (10YR 2/2) and dark grayish brown (10YR 4/2) iron depletions; strongly acid; abrupt smooth boundary.

Eg—6 to 12 inches; light brownish gray (10YR 6/2) silt loam; weak medium and fine granular structure; friable, slightly sticky and slightly plastic; many fine prominent brown (10YR 5/3) and strong brown (7.5YR 5/6) soft masses of iron accumulation; strongly acid; clear smooth boundary.

Bg1—12 to 32 inches; grayish brown (10YR 5/2) silt loam; weak medium subangular blocky structure; friable, sticky and slightly plastic; many fine prominent brown (10YR 5/3) and yellowish red (5YR 4/6) soft masses of iron accumulation; strongly acid; clear smooth boundary.

Bg2—32 to 45 inches; light brownish gray (10YR 6/2) silt loam; weak medium and fine subangular blocky structure; friable, sticky and slightly plastic; common mica flakes; many medium and fine distinct grayish brown (10YR 5/2) iron depletions, and many medium and fine distinct yellowish brown (10YR 5/6) soft masses of iron accumulation; moderately acid; abrupt smooth boundary.

Cg—45 to 60 inches; light brownish gray (2.5Y 6/2) gravelly silt loam; massive; friable, slightly sticky and slightly plastic; many mica flakes; many medium and fine prominent yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) soft masses of iron accumulation; 30 percent rock fragments; moderately acid.

The solum is 40 to 60 inches thick. Depth to bedrock is more than 60 inches. Rock fragments range from 0 to 10 percent in the solum and from 0 to 80 percent in the substratum. In unlimed areas reaction ranges from very strongly acid to neutral in the solum and is moderately acid or slightly acid in the substratum.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. It has prominent soft masses of iron accumulation with chroma of 5 or 6.

The Eg horizon has hue of 10YR, value of 5 or 6, and chroma of 2 or 3. It has prominent soft masses of iron accumulation with chroma of 5 or 6.

The Bg horizon has hue of 10YR to 5Y, value of 4 to 7, and chroma of 0 to 2. It has prominent soft masses of iron accumulation with chroma 5 or 6. It is sandy clay loam, clay loam, silt loam, or silty clay loam.

The Cg horizon has hue of 10YR to 5Y, value of 4 to 7, and chroma of 0 to 2. It has prominent soft masses of iron accumulation with chroma of 5 or 6. In some pedons it has strata of material that ranges from sand or gravel to silt or clay.

Highfield Series

The soils of the Highfield series are coarse-loamy, mixed, mesic Ultic Hapludalfs. These are deep, well drained soils on ridges and hills. They formed in channery residuum derived from metabasalt and metarhyolite. Slopes range from 3 to 70 percent (fig. 19).

Highfield soils are on the landscape with well drained, very deep Arendtsville and Edgemont soils and deep Myersville soils; moderately well drained Buchanan and Glenville soils; and poorly drained Baile soils. Highfield soils have less clay in the upper part of the solum than Myersville, Edgemont, and Arendtsville soils. Baile, Buchanan, and Glenville soils are in lower lying areas.

Typical pedon of Highfield channery silt loam, 8 to 15 percent slopes; 3.5 miles southwest of Fairfield in Hamiltonban Township, Adams County, 300 feet south of State Route 3021, 0.8 mile northeast of its intersection with Pennsylvania Route 16, in an apple orchard:

Ap—0 to 9 inches; dark brown (10YR 4/3) channery silt loam; weak fine and medium granular structure; friable, nonsticky and slightly plastic; 25 percent rock fragments; slightly acid; abrupt smooth boundary.

Bt1—9 to 12 inches; yellowish brown (10YR 5/4) channery silt loam; weak fine and medium subangular structure; friable, slightly sticky and slightly plastic; 20 percent rock fragments; slightly acid; clear wavy boundary.

Bt2—12 to 18 inches; light olive brown (2.5Y 5/4) channery silt loam; moderate fine subangular blocky structure; friable, slightly sticky and slightly plastic; common faint clay films on faces of peds and in pores; 25 percent rock fragments; moderately acid; clear wavy boundary.

Bt3—18 to 24 inches; light olive brown (2.5Y 5/4) channery silt loam; moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; common faint clay films on faces of peds and in pores; 30 percent rock fragments; strongly acid; clear wavy boundary.

Bt4—24 to 32 inches; light olive brown (2.5Y 5/4) very channery silt loam; weak fine subangular blocky structure; friable, slightly sticky and slightly plastic; common faint clay films on faces of peds and in pores; 35 percent rock fragments; strongly acid; gradual wavy boundary.

Bt5—32 to 38 inches; light olive brown (2.5Y 5/4) very channery silt loam; weak fine subangular blocky structure; friable, slightly sticky and slightly plastic; few faint clay films on faces of peds and lining pores; 40 percent rock fragments; strongly acid; gradual wavy boundary.

C—38 to 42 inches; light olive brown (2.5Y 5/6) very channery silt loam; lenses of yellow (10YR 7/8) and olive brown (2.5Y 4/4); massive; firm, slightly sticky and nonplastic; 50 percent rock fragments; strongly acid; abrupt wavy boundary.

R—42 inches; pale green (5G 6/2) and gray (5G 4/1) metarhyolite.

The solum is 20 to 40 inches thick. Depth to bedrock is between 40 and 60 inches. Rock fragments range from 5 to 25 percent in the A and E horizons, from 15 to 40 percent in subhorizons of the B horizon, and from 20 to 80 percent in the substratum. In unlimed areas reaction is very strongly acid or strongly acid in the solum and strongly acid or moderately acid in the substratum.

The A horizon, where it occurs, has hue of 10YR or 2.5Y, value of 2 to 4, and chroma of 1 or 2.

The E horizon, where it occurs, has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 4.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 to 4. It is loam or silt loam in the fine earth fraction.

The Bt horizon has hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 4 to 6. It is loam or silt loam in the fine earth fraction.

The C horizon has hue of 7.5YR to 2.5Y, value 5 or 6, and chroma of 4 to 6. It is loam or silt loam in the fine earth fraction.

Klinesville Series

The soils of the Klinesville series are loamy-skeletal, mixed, mesic Lithic Dystrochrepts. These are shallow, somewhat excessively drained soils on ridges, side slopes, and hills. They formed in channery residuum derived from shale, siltstone, and fine-grained sandstone. Slopes range from 3 to 40 percent.

Klinesville soils are on the landscape with well drained, deep Lansdale and Penn soils and moderately deep Steinsburg soils; moderately well drained Readington and Reaville soils; and somewhat poorly drained Abbottstown and Lehigh soils. All these soils have less sand and fewer rock fragments than Klinesville soils.

Typical pedon of Klinesville channery silt loam, in an area of Penn-Klinesville channery silt loams, 3 to 8 percent slopes; 0.25 mile east of Barlow in Mt. Joy Township, Adams County, 100 feet north of State Route 2001, 0.25 mile east of Pennsylvania Route 134, in a cultivated field:

Ap—0 to 8 inches; reddish brown (5YR 4/4) channery

Figure 19.—Typical landscape of Highfield soils. These soils have a higher base saturation above bedrock than defined for the Highfield series. This difference does not affect use and management of the soils.

silt loam; weak fine granular structure; very friable, slightly sticky and slightly plastic; 30 percent rock fragments; strongly acid; clear smooth boundary.

Bw—8 to 14 inches; red (2.5YR 4/6) very channery silt loam; weak fine subangular blocky structure; friable, slightly sticky and slightly plastic; 60 percent rock fragments; strongly acid; clear wavy boundary.

C—14 to 16 inches; dark red (2.5YR 3/6) extremely channery silt loam; massive; firm, slightly sticky and slightly plastic; 80 percent rock fragments; moderately acid; clear wavy boundary.

R—16 inches; fractured weak red (10R 4/4) shale bedrock.

The solum is 10 to 20 inches thick. Depth to bedrock is between 10 and 20 inches. Rock fragments range from 15 to 75 percent in individual horizons of the solum and from 40 to 90 percent in the substratum. In unlimed areas reaction ranges from very strongly acid to moderately acid throughout.

The Ap horizon has hue of 10R to 5YR, value of 2 to 4, and chroma of 2 to 4. It is silt loam in the fine earth fraction.

The Bw horizon has hue of 10R to 5YR, value of 3 or 4, and chroma of 3 to 6. It is loam or silt loam in the fine earth fraction.

The C horizon has hue of 10R to 5YR, value of 3 or 4, and chroma of 3 to 6. It is loam or silt loam in the fine earth fraction.

Lamington Series

The soils of the Lamington series are fine-loamy, mixed, mesic Typic Fragiaquults. These are very deep, poorly drained soils on benches and lowlands and in depressions. They formed in old alluvium derived from residuum derived from shale, siltstone, and sandstone. Slopes range from 0 to 3 percent.

Lamington soils are on the landscape with well drained Birdsboro soils and moderately well drained Raritan soils. Birdsboro soils are on higher ridges and hills above Lamington soils.

Typical pedon of Lamington silt loam; 1.5 miles south of Biglerville in Butler Township, Adams County, on the east side of Pennsylvania Route 34 near Conewago Creek, in cropland:

Ap—0 to 8 inches; dark brown (10YR 4/2) silt loam; weak fine granular structure; friable, slightly sticky and slightly plastic; moderately acid; abrupt wavy boundary.

BE—8 to 11 inches; dark reddish gray (5YR 4/2) silt loam; weak thick platy structure parting to weak very fine subangular blocky; friable, slightly sticky and slightly plastic; common fine prominent red (2.5YR 4/6) soft masses of iron accumulation; 5 percent rock fragments; moderately acid; clear wavy boundary.

Btg—11 to 17 inches; pinkish gray (5YR 7/2) silty clay loam; moderate medium subangular blocky structure; firm, sticky and plastic; common faint clay films on faces of peds; common fine prominent red (10R 4/6) and brown (7.5YR 5/4) soft masses of iron accumulation; 5 percent rock fragments; strongly acid; abrupt wavy boundary.

Btxg1—17 to 32 inches; reddish gray (5YR 5/2) clay loam; weak coarse prismatic structure parting to moderate thick platy and moderate medium subangular blocky; very firm and brittle, sticky and slightly plastic; few faint clay films on faces of peds; few prominent black coatings on faces of peds; common medium prominent light gray (N 7/0) iron depletions, and common medium prominent strong brown (7.5YR 5/6) soft masses of iron accumulation; 10 percent rock fragments; strongly acid; gradual wavy boundary.

Btxg2—32 to 46 inches; pinkish gray (5YR 6/2) cobbly loam; weak very coarse prismatic structure parting to weak coarse platy and weak medium subangular blocky; firm, sticky and slightly plastic; few distinct clay films on faces of peds; few prominent iron and manganese oxides and silt coatings on faces of peds; many coarse prominent strong brown (7.5YR 5/6) and reddish brown (5YR 4/3) soft masses of iron accumulation; 20 percent rock fragments; very strongly acid; gradual wavy boundary.

2C—46 to 60 inches; stratified sand and gravel.

The solum is 40 to 60 inches thick. Depth to the fragipan ranges from 15 to 30 inches and extends to 40 inches or more. Depth to bedrock is more than 60 inches. Rock fragments range from 0 to 15 percent in the upper part of the solum, from 0 to 25 percent in the lower part, and from 0 to 90 percent in the substratum. In unlimed areas reaction is very strongly acid or strongly acid throughout.

The Ap horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 1 or 2. It is silt loam and loam in the fine earth fraction.

The BA or EB horizons, where it occurs, has hue of 5YR to 10YR, value of 4 to 6, and chroma of 2. It is silt loam in the fine earth fraction.

The BE horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 1 or 2. It is silt loam in the fine earth fraction.

The Btg horizon has hue of 5YR to 10YR, value of 4 to 7, and chroma of 1 or 2. It has few to many prominent soft masses of iron accumulation. It is loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

The Btxg horizon has hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 1 to 8. It has few to many prominent soft masses of iron accumulation and iron depletions. It is loam, clay loam, or silt loam in the fine earth fraction.

The 2C horizon has hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 1 to 8. It is stratified sand and gravel, but the range includes sand and gravel to silty clay loam.

Lansdale Series

The soils of the Lansdale series are coarse-loamy, mixed, mesic Typic Hapludults. These are deep, well drained soils on broad, undulating uplands and on ridgetops and side slopes in dissected uplands. They formed in loamy residuum derived from sandstone and conglomerate. Slopes range from 3 to 15 percent.

Lansdale soils are on the landscape with somewhat excessively drained, shallow Klinesville soils; well drained, very deep Penn soils; moderately deep Steinsburg soils; moderately well drained Readington and Reaville soils; somewhat poorly drained Abbottstown and Lehigh soils; and poorly drained Croton soils. All these soils have less sand and fewer rock fragments throughout than those in Lansdale soils.

Typical pedon of Lansdale loam, 3 to 8 percent slopes; 1.5 miles southwest of Manchester in East Manchester Township, York County, 60 feet northeast of Township Route 941, 0.1 mile southeast of Interstate 83 and 0.2 mile southeast of Pennsylvania Route 921, in a cultivated field:

Ap—0 to 10 inches; dark brown (10YR 4/3) loam; moderate medium and fine granular structure; friable, slightly sticky and slightly plastic; 5 percent rock fragments; moderately acid; abrupt smooth boundary.

Bt1—10 to 17 inches; dark yellowish brown (10YR 4/4) loam; weak medium subangular blocky structure parting to fine subangular blocky; friable, slightly sticky and slightly plastic; few faint clay bridges between sand grains on faces of peds and in pores; 5 percent rock fragments; strongly acid; clear wavy boundary.

Bt2—17 to 24 inches; yellowish brown (10YR 5/6) sandy loam; moderate coarse subangular blocky structure parting to moderate medium subangular blocky; friable, slightly sticky and slightly plastic; common faint clay bridges between sand grains and clay films on faces of peds and in pores; 5 percent rock fragments; strongly acid; clear wavy boundary.

Bt3—24 to 30 inches; yellowish brown (10YR 5/6) sandy loam; weak medium and fine subangular blocky structure; very friable, slightly sticky and nonplastic; few faint clay bridges between sand grains on faces of peds and in pores; 5 percent rock fragments; strongly acid; clear wavy boundary.

C1—30 to 42 inches; yellowish brown (10YR 5/6) loamy sand; single grain; very friable, nonsticky and nonplastic; 5 percent rock fragments; strongly acid; gradual wavy boundary.

C2—42 to 47 inches; yellowish brown (10YR 5/6) channery loamy sand; single grain; loose, nonsticky and nonplastic; 35 percent rock fragments; strongly acid; abrupt smooth boundary.

R—47 inches; fractured dark grayish brown (10YR 4/2) sandstone.

The solum is 20 to 40 inches thick. Depth to bedrock is between 40 and 60 inches. Rock fragments range from 2 to 25 percent in the solum and generally increase with depth in the substratum. In unlimed areas reaction is very strongly acid or strongly acid throughout.

The Ap horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 or 3. It is sandy loam or loam in the fine earth fraction.

The Bt horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6. It is sandy loam or loam in the fine earth fraction.

The C horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8. It is loamy sand, sandy loam, or loam in the fine earth fraction. In some pedons the C horizon has layers formed in sandstone or shale.

Legore Series

The soils of the Legore Series are fine-loamy, mixed, mesic Ultic Hapludalfs. These are very deep, well drained soils on ridges and hills. They formed in channery residuum derived from diabase. Slopes range from 3 to 25 percent.

Legore soils are on the landscape with well drained, very deep Neshaminy soils and deep Brecknock soils; somewhat poorly drained Lehigh and Mount Lucas soils; and poorly drained Watchung soils. Neshaminy soils are on higher ridges and hills above Legore soils. Legore soils have a solum thicker than that of Brecknock soils. Lehigh, Mount Lucas, and Watchung soils are on lower lying ridgetops and along drainageways.

Typical pedon of Legore channery silt loam, 3 to 8 percent slopes; 1 mile southwest of Franklintown, Franklin Township, York County, on the south side of Township Route 853, 800 feet northeast of Township Route 860, in hayland:

Ap—0 to 8 inches; dark yellowish brown (10YR 3/4) channery silt loam; moderate medium granular structure; very friable, slightly sticky and slightly plastic; 15 percent rock fragments; neutral; abrupt smooth boundary.

E—8 to 10 inches; brown (7.5YR 4/4) silt loam; weak fine subangular blocky structure; friable, sticky and plastic; 5 percent rock fragments; neutral; clear wavy boundary.

Bt1—10 to 21 inches; yellowish red (5YR 4/6) silty clay loam; moderate medium and fine subangular blocky structure; friable, sticky and very plastic; common faint clay films on faces of peds and in pores; 5 percent rock fragments; slightly acid; clear wavy boundary.

Bt2—21 to 30 inches; strong brown (7.5YR 5/6) and yellowish red (5YR 4/6) silty clay loam; moderate medium subangular blocky structure; firm, sticky and plastic; common faint clay films on faces of peds and in pores; 5 percent rock fragments; slightly acid; clear wavy boundary.

C1—30 to 44 inches; strong brown (7.5YR 5/6) loam; massive; firm, slightly sticky and slightly plastic; common prominent black (5YR 2/1) streaks; 5 percent rock fragments; slightly acid; gradual wavy boundary.

C2—44 to 60 inches; strong brown (7.5YR 5/6) sandy loam; multicolored sand grains; massive; firm, nonsticky and nonplastic; 5 percent rock fragments; slightly acid.

The solum is 20 to 34 inches thick. Depth to bedrock is more than 60 inches. Rock fragments range from 3 to 35 percent throughout. In unlimed areas reaction is strongly acid to slightly acid in the upper part of the solum and moderately acid or slightly acid in the lower part and in the substratum.

The A and Ap horizons have hue of 5YR to 10YR, value of 3 or 4, and chroma of 2 to 4.

The E horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 3 or 4. It is loam, silt loam, or silty clay loam in the fine earth fraction.

The Bt horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 2 to 6. It is clay loam or silty clay loam in the fine earth fraction.

The C horizon has hue of 7.5YR to 10YR, value of 4 or 5, and chroma of 4 to 8. It is sandy loam, loam, silt loam, or silty clay loam in the fine earth fraction.

Lehigh Series

The soils of the Lehigh Series are fine-loamy, mixed, mesic Aquic Hapludalfs. They are deep, somewhat poorly drained soils on ridgetops, side slopes, and hills (fig. 20). They formed in channery residuum derived from hornfels and porcellanite, which are diabase intrusives that shale and sandstone have metamorphosed. Slopes range from 0 to 15 percent.

Lehigh soils are on the landscape with somewhat excessively drained, shallow Klinesville soils; well drained, very deep Legore and Neshaminy soils; deep Brecknock and Penn soils; moderately well drained Readington soils; somewhat poorly drained Mount Lucas soils; and poorly drained Croton and Watchung soils. These soils, except Croton and Watchung soils, are redder or browner throughout than Lehigh soils. Unlike Lehigh soils, Croton and Watchung soils have bright colored redoximorphic features in the upper part of the solum. Mount Lucas soils formed in residuum derived from weathered diabase.

Typical pedon of Lehigh channery silt loam, 3 to 8 percent slopes; 0.5 mile east of Gettysburg in Straban Township, Adams County, on Benner Hill, 375 feet south of Pennsylvania Route 116 and 80 feet west of Benner Drive, in cropland:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) channery silt loam; weak fine granular structure; friable, slightly sticky and slightly plastic; 20 percent rock fragments; neutral; abrupt wavy boundary.

Bt1—8 to 14 inches; dark grayish brown (2.5Y 4/2) channery silt loam; moderate medium subangular blocky structure; friable, slightly sticky and slightly plastic; common faint clay films on faces of peds and in pores; 15 percent rock fragments; moderately acid; abrupt wavy boundary.

Bt2—14 to 21 inches; dark grayish brown (2.5Y 4/2) channery silty clay loam; moderate medium subangular blocky structure; firm, sticky and plastic; many faint clay films on faces of peds and in pores; common medium distinct olive brown (2.5Y 4/4) soft masses of iron accumulation; 15 percent rock fragments; strongly acid; clear wavy boundary.

Bt3—21 to 30 inches; dark gray (10YR 4/1) channery silt loam; moderate coarse and medium subangular blocky structure; firm, sticky and plastic; many distinct clay films on faces of peds, on rock fragments, and in pores; common fine prominent olive brown (2.5Y 4/4) soft masses of iron accumulation; 30 percent rock fragments; strongly acid; gradual wavy boundary.

C1—30 to 36 inches; dark gray (N 4/0) extremely channery silt loam; weak medium and fine subangular blocky structure; massive; firm, sticky and slightly plastic; few faint clay films on rock fragments; common fine prominent olive brown (2.5Y 4/4) soft masses of iron accumulation; 60 percent rock fragments; moderately acid; gradual wavy boundary.

C2—36 to 42 inches; very dark gray (N 3/0) extremely channery silt loam; massive; firm, slightly sticky and slightly plastic; 80 percent rock fragments; moderately acid; gradual wavy boundary.

R—42 inches; very dark gray (N 3/0) porcelanite.

The solum is 20 to 40 inches thick. Depth to bedrock is between 40 and 60 inches. Rock fragments range from 0 to 45 percent in the surface layer, from 5 to 60 percent in the subsoil, and from 25 to 80 percent in the substratum. In unlimed areas reaction is very strongly acid to neutral.

The Ap horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 1 to 3. It is silt loam in the fine earth fraction.

The Bt horizon has hue of 10YR to 5Y, value of 3 to 6, and chroma of 0 to 4. It has soft masses of iron accumulation or iron depletions at a depth of 10 to 18 inches. It is silt loam or silty clay loam in the fine earth fraction.

The C horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 0 to 3. It is silt loam or silty clay loam in the fine earth fraction.

Lindside Series

The soils of the Lindside series are fine-silty, mixed, mesic Fluvaquentic Eutrochrepts. These are very deep, moderately well drained soils on flood plains. They formed in alluvium washed from residuum, on the surrounding uplands, derived from limestone, schist, shale, and sandstone. Slopes range from 0 to 3 percent.

Lindside soils are on flood plains with very poorly drained Dunning soils. These soils are grayer throughout than Lindside soils.

Typical pedon of Lindside silt loam; 1.5 miles north of New Salem, West Manchester Township, York

Figure 20.—Lehigh and Neshaminy soils are adjacent on Roundtop (background).

County, south of Township Route 492, 900 feet west of Pennsylvania Route 616, in an idle field:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium and fine granular structure; friable, slightly sticky and slightly plastic; neutral, abrupt smooth boundary.

Bw1—8 to 17 inches; brown (10YR 4/3) silt loam; moderate medium subangular blocky structure parting to moderate fine subangular blocky; friable, sticky and slightly plastic; few medium faint yellowish brown (10YR 5/4) soft masses of iron accumulation; neutral; clear smooth boundary.

Bw2—17 to 20 inches; brown (10YR 5/3) silt loam; weak fine subangular blocky structure; friable, sticky and slightly plastic; common fine distinct grayish brown (10YR 5/2) iron depletions, and prominent strong brown (7.5YR 5/6) soft masses of iron accumulation; neutral; clear wavy boundary.

Bw3—20 to 31 inches; brown (10YR 5/3) silt loam; weak fine subangular blocky structure; firm, sticky and plastic; very dark grayish brown (10YR 3/2) silt loam lenses; many medium distinct dark grayish brown (10YR 4/2) iron depletions, and prominent reddish brown (5YR 4/4) soft masses of iron accumulation; slightly alkaline; clear wavy boundary.

C1—31 to 45 inches; brown (10YR 5/3) silt loam; massive; firm, sticky and slightly plastic; many medium distinct grayish brown (10YR 5/2) iron depletions, and many prominent yellowish red (5YR 4/6) soft masses of iron accumulation; neutral; gradual wavy boundary.

C2—45 to 60 inches; brown (10YR 5/3) and (10YR 4/3) silt loam; massive; firm, sticky and slightly plastic; common medium faint grayish brown (10YR 5/2) iron depletions, and common medium prominent yellowish red (5YR 4/6) soft masses of iron accumulation; slightly acid.

The solum is 25 to 50 inches thick. Depth to bedrock is more than 60 inches. Rock fragments make up from 0 to 5 percent of the volume to a depth of 40 inches and from 0 to 30 percent below. In unlimed areas reaction ranges from strongly acid to slightly alkaline in the solum and from moderately acid to slightly alkaline in the substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 or 3.

The Bw horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 3 to 6 to a depth of 20 inches and 1 to 4 below that depth. Iron depletions begin at a depth of 14 to 24 inches. The horizon is dominantly silt loam or silty clay loam in the fine earth fraction, but in some pedons it contains strata of sandy loam, loam, or clay loam.

The C horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 1 to 4. It has few to many prominent iron depletions and soft masses of iron accumulation. It is sandy loam, loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

Manor Series

The soils of the Manor series are coarse-loamy, micaceous, mesic Typic Dystrochrepts. These are very deep, somewhat excessively drained soils on ridgetops, side slopes, and hillsides of the dissected uplands. They formed in channery residuum derived from schist and phyllite. Slopes range from 3 to 25 percent.

Manor soils are on the landscape with moderately deep, somewhat excessively drained Mt. Airy soils; well drained, deep Glenelg soils; moderately well drained Glenville soils; and poorly drained Baile soils. Mt. Airy soils have more rock fragments throughout. All these soils, except Mt. Airy soils, have more clay throughout than Manor soils.

Typical pedon of Manor channery loam, in an area of Mt. Airy and Manor soils, 15 to 25 percent slopes; 1.5 miles north of Fawn Grove in Fawn Township, York County, southeast corner of the intersection of State Route 2057 and Township Road 587, in woodland:

A—0 to 4 inches; dark brown (7.5YR 3/2) channery loam; weak fine granular structure; very friable, slightly sticky and nonplastic; micaceous; 20 percent rock fragments; moderately acid; clear wavy boundary.

E—4 to 8 inches; brown (7.5YR 5/4) channery loam; weak thin platy and very fine granular structure; very friable, slightly sticky and nonplastic; micaceous; 20 percent rock fragments; moderately acid; clear wavy boundary.

Bw1—8 to 18 inches; strong brown (7.5YR 5/6) channery silt loam; weak fine subangular blocky structure; very friable, slightly sticky and slightly plastic; micaceous; 20 percent rock fragments; moderately acid; gradual wavy boundary.

Bw2—18 to 24 inches; reddish yellow (7.5YR 5/8) channery loam; weak fine subangular blocky structure; very friable, nonsticky and nonplastic; very micaceous; 20 percent rock fragments; moderately acid; clear wavy boundary.

C—24 to 60 inches; reddish yellow (7.5YR 6/6) channery loam; weak medium and thin platy structure; very friable, nonsticky and nonplastic; black coatings on some faces of peds below a depth of 36 inches; very micaceous; 20 percent rock fragments; strongly acid.

The solum is 15 to 35 inches thick. Depth to bedrock is more than 60 inches. The rock fragments range from 0 to 30 percent throughout. Mica, which is evident throughout, increases with depth. In unlimed areas reaction ranges from extremely acid to moderately acid.

The A horizon has hue of 5YR to 10YR, value of 3 or 4, and chroma of 1 to 4.

The Ap horizon, where it occurs, has hue of 5YR to 10YR, value of 4, and chroma of 1 to 4.

The E horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 6. It is loam or silt loam in the fine earth fraction.

The Bw horizon has hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 4 to 8. It is loam or silt loam in the fine earth fraction.

The C horizon has hue of 10R to 10YR, value of 4 to 8, and chroma of 2 to 8. It is sandy loam or loam in the fine earth fraction.

Mount Lucas Series

The soils of the Mount Lucas series are fine-loamy, mixed, mesic Aquic Hapludalfs. These are deep and very deep, somewhat poorly drained soils on nearly level and undulating, broad uplands, footslopes, and depressions. They formed in loamy residuum derived from diabase. Slopes range from 0 to 8 percent.

Mount Lucas soils are on the landscape with well drained Neshaminy and Legore soils and poorly drained Watchung soils. Watchung soils have matrix colors of lower chroma than Mount Lucas soils. They are in lower lying areas.

Typical pedon of Mount Lucas silt loam, 3 to 8 percent slopes; 0.25 mile southwest of Franklintown in Franklin Township, York County, 100 feet north of Township Route 853, 0.2 mile southwest of Pennsylvania Route 194, and 0.2 mile northwest of Township Route 889, in hayland:

Ap—0 to 8 inches; dark brown (10YR 4/3) silt loam; moderate medium granular structure; friable, slightly sticky and slightly plastic; 10 percent rock fragments; neutral; abrupt smooth boundary.

Bt1—8 to 16 inches; brown (7.5YR 5/4) silty clay loam; weak medium and fine subangular blocky structure; friable, sticky and plastic; common distinct clay films on faces of peds and in pores; many fine prominent grayish brown (10YR 5/2) iron depletions, and many fine distinct strong brown (7.5YR 5/6) soft masses of iron accumulation; 5 percent rock fragments; slightly acid; gradual wavy boundary.

Bt2—16 to 31 inches; brown (7.5YR 5/4) channery clay loam; weak very coarse prismatic structure parting to weak medium platy; firm, sticky and slightly plastic; common distinct clay films on faces of peds and in pores; many medium prominent grayish brown (10YR 5/2) iron depletions, and many fine faint strong brown (7.5YR 5/6) soft masses of iron accumulation; 15 percent rock fragments; slightly acid; clear wavy boundary.

Bt3—31 to 37 inches; brown (10YR 5/4) channery clay loam; weak thick platy structure parting to weak fine subangular blocky; firm, sticky and slightly plastic; common distinct clay films on faces of peds and in pores; many fine prominent grayish brown (10YR 5/2) iron depletions, and many fine faint strong brown (7.5YR 5/6) soft masses of iron accumulation; 25 percent rock fragments; slightly acid; clear wavy boundary.

C1—37 to 44 inches; brown (10YR 5/3) channery loam and sandy loam; massive; firm, sticky and slightly plastic; many fine prominent very dark brown (10YR 2/2) iron depletions, and many fine prominent brown (10YR 4/3) and dark yellowish brown (10YR 4/4) soft masses of iron accumulation; 20 percent rock fragments; slightly acid; gradual wavy boundary.

C2—44 to 60 inches; yellowish brown (10YR 5/4) sandy loam; massive; firm, slightly sticky and nonplastic; 5 percent rock fragments; slightly acid.

The solum is 25 to 50 inches thick. Depth to bedrock is more than 40 inches. Rock fragments range from 0 to 30 percent in the solum and from 5 to 60 percent in the substratum. In unlimed areas reaction ranges from strongly acid to slightly acid in the upper part of the solum, from strongly acid to neutral in the lower part, and from moderately acid to neutral in the substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 4.

The Bt horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 6. Low chroma iron depletions begin in the upper 10 inches of the horizon. The horizon is sandy clay loam or clay loam in the fine earth fraction.

The C horizon has hue of 7.5YR or 10YR, value of 4 or 5, chroma of 3 to 6. It has few to many prominent iron depletions and soft masses of iron accumulation. It is loamy sand, sandy loam, loam, or silt loam in the fine earth fraction.

Mt. Airy Series

The soils of the Mt. Airy Series are loamy-skeletal, micaceous, mesic Typic Dystrochrepts. These are moderately deep, somewhat excessively drained soils on ridgetops, side slopes, and hillsides on dissected uplands. They formed in channery residuum derived from schist and phyllite. Slopes range from 3 to 25 percent.

Mt. Airy soils are on the landscape with somewhat excessively drained, very deep Manor soils; well drained and deep Glenelg soils; moderately well drained Glenville soils; and poorly drained Baile soils. Manor soils are in positions on the landscape similar to those of Mt. Airy soils. Glenelg soils are in higher lying positions on the landscape. Baile and Glenville soils are on lowlands.

Typical pedon of Mt. Airy channery silt loam, in an area of Mt. Airy and Manor channery loams, 8 to 15 percent slopes; on Pennsylvania State Game Lands No. 181, 1.5 miles east of Airville in Lower Chanceford Township, York County, 225 feet southeast of Township Road 653 on the lower access road at a point 65 feet south of the access road, in a cultivated field:

Ap—0 to 8 inches; dark brown (10YR 4/3) channery silt loam; weak fine granular structure; friable, slightly sticky and nonplastic; 25 percent rock fragments; moderately acid; abrupt smooth boundary.

Bw1—8 to 15 inches; yellowish brown (10YR 5/6) channery silt loam; weak medium and fine subangular blocky structure; friable, slightly sticky and slightly plastic; micaceous; 30 percent rock fragments; moderately acid; clear wavy boundary.

Bw2—15 to 20 inches; strong brown (7.5YR 5/6) very channery silt loam; weak medium subangular blocky structure parting to fine subangular blocky; friable, slightly sticky and slightly plastic; very micaceous; 40 percent rock fragments; moderately acid; clear wavy boundary.

C1—20 to 24 inches; brown (7.5YR 5/4) extremely channery loam; weak fine and very fine subangular blocky structure; very friable, slightly sticky and slightly plastic; very micaceous; 65 percent rock fragments; strongly acid; gradual wavy boundary.

C2—24 to 32 inches; yellowish brown (10YR 5/4) extremely channery loam; massive; very friable, nonsticky and nonplastic; very micaceous; 85 percent rock fragments; strongly acid; clear wavy boundary.

R—32 inches; fractured mica schist.

The solum is 15 to 36 inches thick. Depth to bedrock is between 20 and 40 inches. Rock fragments range from 25 to 75 percent in the solum and from 50 to 95 percent in the substratum. Mica is evident throughout, generally increasing with depth. In unlimed areas reaction is very strongly acid or strongly acid.

The A horizon, where it occurs, has hue of 7.5YR to 2.5Y, value of 3 or 4, and chroma of 1 to 4.

The Ap horizon has hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 1 to 4.

The E horizon, where it occurs, has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6. It is loam or silt loam in the fine earth fraction.

The Bw horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 4 to 6. It is loam or silt loam in the fine earth fraction.

The C horizon has hue of 5YR to 10YR, value of 5 to 7, and chroma of 4 to 6. The fine earth fraction is loam or clay loam.

Mt. Zion Series

The soils of the Mt. Zion series are coarse-loamy, mixed, mesic Oxyaquic Hapludalfs. These are very deep and moderately well drained soils on nearly level to moderately steep backslopes and footslopes on mountains. They formed in residuum or soil creep derived from greenstone. Slopes range from 3 to 25 percent.

Mt. Zion soils are on the landscape with Ravenrock, Catoctin, Highfield, Myersville, and Rohrersville soils. Ravenrock, Catoctin, Highfield, and Myersville soils are higher on the landscape than Mt. Zion soils. Catoctin soils are well drained and moderately deep over bedrock. Ravenrock soils have more rock fragments throughout than Mt. Zion soils. Highfield and Myersville soils are well drained. Somewhat poorly drained Rohrersville soils are lower on the landscape and in more concave areas than Mt. Zion soils.

Typical pedon of Mt. Zion gravelly silt loam, 3 to 8 percent slopes; about 3,700 feet east of Mt. Zion Church Road and its intersection with Catoctin Park Trail across from Mt. Zion Church, 30 feet southeast of the trail, in a forested area:

Oi—0 to 0.5 inch; partly decomposed leaf and twig matter.

Ap1—0.5 to 2 inches; very dark grayish brown (10YR 3/2) gravelly silt loam; weak thin platy structure parting to moderate fine granular; very friable, nonsticky and nonplastic; many fine roots, common medium and few coarse roots; 15 percent gravel; moderately acid; abrupt smooth boundary.

Ap2—2 to 6 inches; dark brown (10YR 3/3) silt loam; moderate medium subangular blocky structure parting to moderate fine granular; very friable, nonsticky and nonplastic; many fine roots; common medium and few coarse roots; 10 percent gravel; strongly acid; abrupt smooth boundary.

BE—6 to 12 inches; dark yellowish brown (10YR 4/4) gravelly silt loam; weak medium subangular blocky structure; friable, nonsticky and nonplastic; many fine and common medium roots; few fine faint dark brown (10YR 3/3) organic coats in root channels and in pores; 15 percent gravel; strongly acid; clear wavy boundary.

Bt1—12 to 19 inches; dark yellowish brown (10YR 4/6) loam; moderate medium subangular blocky structure; friable, slightly sticky and nonplastic; common fine and medium roots; common medium faint yellowish brown (10YR 5/6) silt coatings on faces of peds; 10 percent gravel and 3 percent cobbles; strongly acid; clear wavy boundary.

Bt2—19 to 31 inches; yellowish red (5YR 5/6) gravelly loam; weak coarse subangular blocky structure parting to moderate medium subangular blocky; friable, slightly sticky and nonplastic; common fine roots in cracks between peds; many fine distinct strong brown (7.5R 4/6) silt coatings on faces of peds; common fine and medium, distinct reddish brown (2.5YR 5/4) soft masses of iron accumulation; 2 percent cobbles and 20 percent gravel; moderately acid; clear wavy boundary.

Bt3—31 to 48 inches; yellowish red (5YR 4/6) gravelly silt loam; weak coarse prismatic structure parting to weak thin platy; firm, slightly sticky and nonplastic; common fine roots in cracks and along faces of peds; few medium prominent light yellowish brown (2.5Y 6/4) iron depletions; many fine and medium, distinct black (5YR 2/1) iron-manganese stains in pores and on faces of peds; common fine distinct strong brown (7.5YR 4/6) silt coatings on faces of peds and lining pores; 3 percent cobbles, 20 percent gravel, and 1 percent stones; slightly acid; clear wavy boundary.

BC—48 to 69 inches; strong brown (7.5YR 4/6) very channery loam; common fine and medium prominent olive brown (2.5YR 6/4) lithochromic variegations; weak coarse subangular blocky structure; firm, slightly sticky and nonplastic; few fine roots in cracks; common medium light reddish brown (5YR 6/4) iron depletions and many fine and medium, distinct black (5YR 2/) iron-manganese stains on faces of peds and in pores; 5 percent cobbles, 20 percent channers, 5 percent gravel, and 10 percent flagstones; slightly acid; abrupt wavy boundary.

R—69 inches; unweathered greenstone.

The solum ranges from 30 to 70 inches in thickness. Depth to bedrock is more than 5 feet. Rock fragments range from 0 to 20 percent in the surface layer and in the upper part of the subsoil and from 15 to 45 percent in the lower part of the subsoil and in the substratum. Aquic conditions occur below a depth of 40 inches. In unlimed areas reaction ranges from strongly acid to slightly acid.

The A horizon has a hue of 10YR to 2.5YR, value of

2 to 5, and chroma of 1 to 4. It is silt loam or loam in the fine earth fraction.

The BE horizon has a hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 6. The fine earth fraction is loam, silt loam, or sandy loam.

The Bt horizon has a hue of 5YR to 10YR, value 4 or 6, and chroma of 4 to 8. It is loam, silt loam, or sandy loam in the fine earth fraction.

The BC horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8. It is loam, silt loam, clay loam, or silty clay loam in the fine earth fraction.

The C Horizon, where it occurs, has variegated hue of 5YR to 10YR, value of 5 or 6, and chroma of 4 to 8. It is silt loam, loam, clay loam, or silty clay loam in the fine earth fraction.

Myersville Series

The soils of the Myersville series are fine-loamy, mixed, mesic Ultic Hapludalfs. These are deep, well drained soils on ridges and hills. They formed in loamy residuum derived from metabasalt and metarhyolite. Slopes range from 0 to 25 percent.

Myersville soils are on the landscape with somewhat excessively drained Catoctin soils; well drained Arendtsville, Highfield, and Edgemont soils; and moderately well drained Buchanan and Glenville soils. Arendtsville, Catoctin, and Highfield soils have more rock fragments and sand throughout than Myersville soils. Unlike Myersville soils, Buchanan and Glenville soils have a fragipan. Edgemont soils have a lower base saturation than Myersville soils.

Typical pedon of Myersville silt loam, in an area of Highfield, Catoctin, and Myersville soils, 8 to 25 percent slopes, very stony; 2 miles south of Mt. Hope in Hamiltonban Township, Adams County, west of Township Route 300, south of Copper Run, 4,800 feet north of Township Route 305, in a tree plantation:

Ap—0 to 9 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable, slightly sticky and slightly plastic; 10 percent rock fragments; slightly acid; clear smooth boundary.

Bt1—9 to 14 inches; yellowish red (5YR 5/6) silty clay loam; weak fine subangular blocky structure; friable, slightly sticky and slightly plastic; few faint clay films on faces of peds; 10 percent rock fragments; strongly acid; clear wavy boundary.

Bt2—14 to 27 inches; yellowish red (5YR 4/6) channery silty clay loam; moderate medium subangular blocky structure; friable, slightly sticky and plastic; common distinct clay films and common prominent black coatings on faces of peds; 15 percent rock fragments; strongly acid; gradual wavy boundary.

Bt3—27 to 38 inches; yellowish red (5YR 5/6) channery silt loam; weak fine subangular blocky structure; friable, slightly sticky and plastic; few faint clay films and common prominent black coatings on faces of peds; 15 percent rock fragments; strongly acid; gradual irregular boundary.

C—38 to 48 inches; yellowish brown (10YR 5/4) and reddish brown (5YR 4/3) channery loam; massive; friable, slightly sticky and nonplastic; 30 percent rock fragments; strongly acid; abrupt smooth boundary.

Cr—48 to 60 inches; highly weathered metabasalt; moderately acid.

The solum is 20 to 40 inches thick. Depth to rippable bedrock is between 40 and more than 60 inches. Depth to hard bedrock is more than 60 inches. Rock fragments range from 0 to 35 percent in the upper part of the solum, from 3 to 50 percent in the lower part, and from 5 to 75 percent in the substratum. In unlimed areas reaction is very strongly acid to moderately acid.

The A horizon, where it occurs, has hue of 10YR to 5YR, value of 2 or 3, and chroma of 1 or 2.

The Ap horizon has hue of 10YR to 5YR, value of 3 or 4, and chroma of 2 to 4. It is loam or silt loam in the fine earth fraction.

The E horizon, where it occurs, has hue of 10YR to 5YR, value of 4 or 5, and chroma of 3 or 4.

The Bt horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8. It is loam, clay loam, silt loam, or silty clay loam in the fine earth fraction, but the range includes loam and clay loam.

The C horizon has hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 2 to 8, and is multicolored. Rock fragments are highly weathered and crush easily. The fine earth fraction is loam, clay loam, silt loam, or silty clay loam.

Neshaminy Series

The soils of the Neshaminy series are fine-loamy, mixed, mesic Ultic Hapludalfs. These are very deep, well drained soils on ridges and hills. They formed in channery or bouldery residuum derived from diabase. Slopes range from 0 to 45 percent.

Neshaminy soils are on the landscape with well drained, very deep Legore soils and deep Brecknock soils; somewhat poorly drained Lehigh and Mount Lucas soils and poorly drained Watchung soils. Neshaminy soils are redder and have a solum that is thicker than Brecknock soils. All these soils are in lower lying positions on the landscape.

Typical pedon of Neshaminy channery silt loam, 8 to 25 percent slopes, extremely bouldery; at York Haven, York County, on the west side of State Route 1015, 0.1

mile northwest of Pennsylvania Route 382, in woodland:

Oi—2 inches to 1 inch; mat of fresh and partly decayed leaves and twigs.

Oe—1 inch to 0; black (10YR 2/1) decayed organic material containing twigs and roots.

A—0 to 4 inches; very dark grayish brown (10YR 3/2) channery silt loam; moderate medium and fine granular structure; very friable, slightly sticky and slightly plastic; 20 percent rock fragments; moderately acid; abrupt smooth boundary.

E—4 to 8 inches; brown (7.5YR 4/4) channery silt loam; moderate fine granular structure; very friable, slightly sticky and slightly plastic; 20 percent rock fragments; moderately acid; clear wavy boundary.

BE—8 to 15 inches; strong brown (7.5YR 5/6) channery silt loam; moderate fine subangular blocky structure; friable, sticky and plastic; 15 percent rock fragments; moderately acid; gradual wavy boundary.

Bt1—15 to 29 inches; yellowish red (5YR 5/6) clay loam; moderate medium subangular blocky structure; friable, sticky and plastic; common faint clay films and very few prominent black coatings on faces of peds and on rock fragments; 10 percent rock fragments; very strongly acid; gradual wavy boundary.

Bt2—29 to 34 inches; yellowish red (5YR 4/6) channery clay loam; moderate medium subangular blocky structure; friable, sticky and very plastic; many distinct clay films and common prominent black coatings on faces of peds and on rock fragments; 15 percent rock fragments; strongly acid; clear wavy boundary.

Bt3—34 to 46 inches; yellowish red (5YR 4/6) clay loam; moderate coarse subangular blocky structure; firm, sticky and plastic; common distinct clay films and common prominent black coatings on faces of peds, in pores, and on rock fragments; 10 percent rock fragments; strongly acid; gradual wavy boundary.

Bt4—46 to 55 inches; yellowish red (5YR 4/6) clay loam; weak coarse subangular blocky structure; firm, sticky and plastic; few faint clay films and few prominent black coatings on faces of peds, in pores, and on rock fragments; 10 percent rock fragments; moderately acid; clear wavy boundary.

C—55 to 72 inches; reddish brown (5YR 4/4) clay loam; multicolored sand grains; massive; firm, sticky and plastic; few faint films in pores; 5 percent rock fragments; slightly acid.

The solum is 40 to 60 inches thick. Depth to bedrock is more than 72 inches. Rock fragments range from 0 to 40 percent in individual horizons in the upper part of the solum and from 0 to 60 percent in the lower part and in the substratum. In unlimed areas reaction ranges from very strongly acid to moderately acid in the upper part of the solum and from strongly acid to slightly acid in the lower part and in the substratum.

The A horizon has hue of 7.5YR or 10YR, value of 2 to 4, and chroma of 1 to 3.

The Ap horizon, where it occurs, has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4.

The E horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 4. It is loam or silt loam in the fine earth fraction.

The BE horizon has hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 4 to 6. It is loam, sandy clay loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

The Bt horizon has hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 4 to 8. It is loam, sandy clay loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

The C horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 4 to 6. It is sandy loam, loam, sandy clay loam, clay loam, or silt loam in the fine earth fraction.

Penlaw Series

The soils of the Penlaw series are fine-silty, mixed, mesic Aquic Fragiudalfs. These are very deep, somewhat poorly drained soils on broad uplands, in depressions, and on lowlands. They formed in loamy colluvium weathered from residuum derived from limestone, schist, shale, and sandstone. Slopes range from 0 to 3 percent.

Penlaw soils are on the landscape with well drained Conestoga soils and moderately well drained Clarksburg soils. All these soils are redder or browner throughout than Penlaw soils.

Typical pedon of Penlaw silt loam; 2.5 miles northeast of Littlestown in Union Township, Adams County, 80 feet east of State Route 3016, 1.5 miles northwest of its intersection with Pennsylvania Route 194, in cropland:

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium granular structure; friable, sticky and slightly plastic; 5 percent rock fragments; neutral; abrupt smooth boundary.

Bt1—10 to 13 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine subangular blocky structure parting to moderate very fine angular blocky; friable, sticky and plastic; few faint clay films on faces of peds and in pores; many fine distinct brown (10YR 5/3) iron depletions, and many fine prominent strong brown (7.5YR 5/6) soft masses of iron accumulation; 3 percent rock fragments; neutral; clear wavy boundary.

Bt2—13 to 20 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable, sticky and plastic; common faint clay films on faces of peds and in pores; many prominent ped coatings; many medium and fine distinct grayish brown (10YR 5/2) iron depletions, and many medium and fine prominent strong brown (7.5YR 5/6) soft masses of iron accumulation; 1 percent rock fragments; neutral; abrupt smooth boundary.

Btx1—20 to 26 inches; yellowish brown (10YR 5/6) gravelly silt loam; weak very coarse prismatic structure parting to moderate medium subangular blocky; very firm and brittle, sticky and plastic; many faint clay films on faces of peds and in pores; many common distinct coatings on faces of prisms; many medium and fine distinct grayish brown (10YR 5/2) iron depletions, and many medium and fine faint yellowish brown (10YR 5/8) soft masses of iron accumulation; 20 percent rock fragments; neutral; gradual wavy boundary.

Btx2—26 to 38 inches; yellowish brown (10YR 5/6) silty clay loam; weak very coarse prismatic structure parting to moderate medium angular blocky; very firm and brittle, sticky and plastic; many faint clay films on faces of peds and in pores; common distinct coatings on faces of prisms; common medium and fine distinct grayish brown (10YR 5/2) iron depletions, and common medium and fine faint yellowish brown (10YR 5/8) soft masses of iron accumulation; 3 percent rock fragments; neutral; gradual wavy boundary.

Btx3—38 to 47 inches; yellowish brown (10YR 5/6) gravelly silt loam; weak very coarse prismatic structure parting to weak medium subangular blocky; firm and brittle, sticky and plastic; common faint clay films on faces of peds and in pores; many medium and fine distinct brown (10YR 5/3) iron depletions, and many medium and fine prominent strong brown (7.5YR 5/6) soft masses of iron accumulation; 25 percent rock fragments; neutral; gradual wavy boundary.

C—47 to 65 inches; yellowish brown (10YR 5/4) gravelly silt loam; massive; firm, sticky and slightly plastic; few clay films on rock fragments; 30 percent rock fragments; neutral.

The solum is 40 to 60 inches thick. Depth to the fragipan ranges from 15 to 30 inches. Depth to bedrock is more than 60 inches. Rock fragments range from 0 to 10 percent in the solum above the fragipan and from 0 to 30 percent in the fragipan and in the substratum. In unlimed areas reaction ranges from moderately acid to neutral throughout.

The Ap horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 or 3.

The Bt horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 2 to 8. Low chroma mottles begin in the upper 10 inches. It is silt loam or silty clay loam.

The Btx horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8. It has few to many prominent redoximorphic depletions and accumulations. It is silt loam or silty clay loam in the fine earth fraction.

The C horizon has hue of 5YR to 10YR, value of 2 to 6, and chroma of 2 to 8. It is loam, clay loam, silt loam, silty clay loam, silty clay, or clay in the fine earth fraction.

Penn Series

The soils of the Penn series are fine-loamy, mixed, mesic Ultic Hapludalfs. These are moderately deep, well drained soils on broad, undulating uplands, hills, and ridges. They formed in loamy residuum derived from shale, siltstone, and fine-grained sandstone. Slopes range from 0 to 25 percent.

Penn soils are on the landscape with somewhat excessively drained, shallow Klinesville soils; well drained, deep Brecknock and Lansdale soils and moderately deep Steinsburg soils; moderately well drained Readington and Reaville soils; somewhat poorly drained Abbottstown and Lehigh soils; and poorly drained Croton soils. Klinesville soils are loamy-skeletal. Lansdale and Steinsburg soils are coarse-loamy. Abbottstown, Croton, and Lehigh soils are more grayish throughout than Penn soils.

Typical pedon of Penn silt loam, 3 to 8 percent slopes; 1.25 miles south of Dover in Dover Township, York County, north of State Route 4008, 0.75 mile east of its intersection with State Route 4002, in a cultivated field:

Ap—0 to 9 inches; dark reddish brown (5YR 3/3) silt loam; weak fine granular structure; friable, slightly sticky and slightly plastic; 5 percent rock fragments; neutral; abrupt wavy boundary.

Bt1—9 to 14 inches; reddish brown (2.5YR 4/4) silt loam; weak fine subangular blocky structure; friable, sticky and slightly plastic; few faint clay films on faces of peds and lining pores; 5 percent rock fragments; slightly acid; clear wavy boundary.

Bt2—14 to 21 inches; dusky red (10R 3/4) silt loam; moderate medium and fine subangular blocky structure; firm, sticky and plastic; common faint clay films on faces of peds and in pores; 5 percent rock fragments; strongly acid; gradual wavy boundary.

Bt3—21 to 24 inches; dusky red (10R 3/4) silt loam; weak thick platy structure parting to moderate fine angular blocky; firm, sticky and plastic; many distinct clay films on faces of peds and in pores; 5 percent rock fragments; strongly acid; clear wavy boundary.

BC—24 to 30 inches; dusky red (10R 3/4) channery silt loam; weak medium and fine subangular blocky structure; firm, sticky and slightly plastic; very few faint clay films on faces of peds, on rock fragments, and in pores; 25 percent rock fragments; strongly acid; gradual wavy boundary.

C—30 to 38 inches; dusky red (10R 3/4) very channery silt loam; weak thick platy and fine subangular blocky structure; very firm, slightly sticky and slightly plastic; very few faint clay films on rock fragments; 60 percent rock fragments; strongly acid; abrupt wavy boundary.

R—38 inches; fractured dusky red (10R 3/4) siltstone bedrock.

The solum is 17 to 34 inches thick. Depth to bedrock is 20 to 40 inches. Rock fragments range from 5 to 40 percent in individual horizons of the solum and from 30 to 90 percent in the substratum. In unlimed areas reaction ranges from extremely acid to strongly acid in the upper part of the solum, is strongly acid or moderately acid in the lower part of the solum, and ranges from strongly acid to slightly acid in the substratum.

The Ap horizon has hue of 10R to 7.5YR, value of 3 or 4, and chroma of 2 to 4. It is loam or silt loam in the fine earth fraction.

The E horizon, where it occurs, has hue of 10R to 7.5YR, value of 4 or 5, and chroma of 3 or 4. It is loam or silt loam in the fine earth fraction.

The Bt horizon has hue of 10R to 5YR, value of 3 or 4, and chroma of 3 or 4. It is loam, silt loam, or silty clay loam in the fine earth fraction.

The BC horizon has hue of 10R to 5YR, value of 3 or 4, and chroma of 3 or 4. It is loam or silt loam in the fine earth fraction.

The C horizon has hue of 10R to 5YR, value of 3 or 4, and chroma of 3 or 4. It is sandy loam, loam, or silt loam in the fine earth fraction.

Pequea Series

The soils of the Pequea series are coarse-loamy, mixed, mesic Typic Eutrochrepts. These are deep, well drained soils on ridgetops and side slopes. They formed in weathered residuum derived from micaceous limestone, graphitic phyllite, and calcareous schist. Slopes range from 15 to 25 percent.

Pequea soils are on the landscape with well drained Conestoga soils. They have less clay in the solum than Conestoga soils.

Typical pedon of Pequea silt loam, 15 to 25 percent slopes; 0.7 mile northeast of East Prospect in Lower Windsor Township, York County, 100 feet east of Township Route 792 and 400 feet north of Township Route 760, in hayland:

Ap—0 to 8 inches; dark brown (10YR 3/3) silt loam; pale brown (10YR 6/2) dry; weak fine granular structure; very friable, slightly sticky and slightly plastic; 5 percent rock fragments; neutral; abrupt smooth boundary.

Bw—8 to 24 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; 10 percent rock fragments; neutral; clear wavy boundary.

Cl—24 to 40 inches; brown (10YR 4/3) and very dark grayish brown (10YR 3/2) very micaceous channery loam; weak medium platy structure; friable, nonsticky and nonplastic; 20 percent rock fragments; neutral; gradual wavy boundary.

C2—40 to 59 inches; very dark grayish brown (10YR 3/2) very micaceous channery sandy loam; massive; friable, nonsticky and nonplastic; 30 percent rock fragments; neutral; gradual wavy boundary.

R—59 inches; very dark gray (10YR 3/1) micaceous schist.

The solum is 16 to 35 inches thick. Depth to bedrock is 40 to 60 inches. The rock fragments range from 0 to 30 percent in the solum and from 10 to 40 percent in the substratum. In unlimed areas reaction is slightly acid or neutral in the solum and ranges from neutral to moderately alkaline in the substratum. Mica content varies, increasing with depth.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 to 4.

The Bw horizon has hue of 7.5YR to 2.5Y, value of 2 to 4, and chroma of 1 to 4. It is sandy loam, loam, or silt loam in the fine earth fraction.

The C horizon has hue of 5Y to 10YR, value of 3 or 4, and chroma of 1 or 2. It is sandy loam or loam in the fine earth fraction.

Raritan Series

The soils of the Raritan series are fine-loamy, mixed, mesic Aquic Fragiudults. These are very deep, moderately well drained soils on stream terraces. They formed in old alluvium washed from upland soils that weathered from residuum derived from shale, siltstone, and sandstone. Slopes range from 0 to 8 percent.

Raritan soils are on the landscape with well drained Birdsboro soils and poorly drained Lamington soils, both of which are on nearby terraces.

Typical pedon of Raritan silt loam, 3 to 8 percent slopes; 1 mile southwest of Kralltown in Washington Township, York County, 40 feet west of Township Route 852, 800 feet northwest of its intersection with State Route 4012, in idle land:

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; friable, slightly sticky and slightly plastic; 5 percent rock fragments; slightly acid; abrupt smooth boundary.

BE—9 to 14 inches; strong brown (7.5YR 5/6) silt loam; weak medium and fine subangular blocky structure; friable, sticky and slightly plastic; 3 percent rock fragments; moderately acid; clear wavy boundary.

Bt1—14 to 20 inches; yellowish red (5YR 5/6) silt loam; moderate fine angular blocky structure; friable, sticky and plastic; common faint clay films on faces of peds and in pores; 3 percent rock fragments; moderately acid; clear wavy boundary.

Bt2—20 to 26 inches; yellowish red (5YR 5/6) silty clay loam; moderate medium subangular blocky structure parting to moderate fine angular blocky; firm, sticky and plastic; many faint and distinct clay films on faces of peds and in pores; common fine prominent pinkish gray (7.5YR 6/2) iron depletions, and common fine prominent red (2.5YR 5/6) and common fine faint yellowish red (5YR 5/8) soft masses of iron accumulation; 2 percent rock fragments; strongly acid; abrupt smooth boundary.

Btx1—26 to 36 inches; strong brown (7.5YR 5/6) clay loam; weak very coarse prismatic structure parting to moderate medium and fine angular blocky; very firm and brittle, sticky and plastic; common faint and distinct clay films on faces of peds and in pores; common fine distinct pinkish gray (7.5YR 6/2) iron depletions, and common fine prominent reddish brown (5YR 5/4) and red (2.5YR 5/6) soft masses of iron accumulation; 5 percent rock fragments; very strongly acid; clear wavy boundary.

Btx2—36 to 44 inches; brown (7.5YR 5/4) silty clay loam; moderate very coarse prismatic structure parting to moderate medium and fine angular blocky; very firm and brittle, sticky and plastic; common faint and distinct clay films on faces of peds and in pores; common medium and fine distinct pinkish gray (7.5YR 6/2) iron depletions, and common medium and fine prominent reddish brown (5YR 5/4) and red (2.5YR 5/6) soft masses of iron accumulation; 3 percent rock fragments; very strongly acid; clear wavy boundary.

Btx3—44 to 48 inches; reddish brown (5YR 5/4) silty clay loam; moderate very coarse prismatic structure parting to moderate medium angular and subangular blocky; very firm and brittle, sticky and plastic; common faint clay films on faces of peds and in pores; common medium and fine prominent light brownish gray (10YR 6/2) iron depletions, and common medium and fine prominent red (2.5YR 5/6) and common medium and fine faint yellowish red (5YR 5/6) soft masses of iron accumulation; 3 percent rock fragments; very strongly acid; gradual wavy boundary.

BC—48 to 54 inches; brown (7.5YR 5/4) clay loam; weak very coarse prismatic structure parting to weak medium subangular blocky; firm, sticky and plastic; few faint clay films on faces of peds and in pores; common fine prominent light brownish gray (10YR 6/2) iron depletions, and common fine prominent red (2.5YR 5/6) and common fine faint strong brown (7.5YR 5/6) soft masses of iron accumulation; 7 percent rock fragments; very strongly acid; gradual wavy boundary.

C—54 to 60 inches; reddish brown (5YR 4/4) stratified gravelly loam and gravelly clay loam; weak medium subangular blocky structure; friable, sticky and slightly plastic; few fine prominent light brownish gray (10YR 6/2) iron depletions, and few fine prominent strong brown (7.5YR 5/6) and red (2.5YR 5/6) soft masses of iron accumulation; 15 percent rock fragments; very strongly acid.

The solum is 42 to 56 inches thick. Depth to the fragipan ranges from 20 to 30 inches. Depth to bedrock is more than 60 inches. Rock fragments range from 0 to 15 percent in the solum and from 0 to 70 percent in the substratum. In unlimed areas reaction ranges from very strongly acid to moderately acid throughout.

The Ap horizon has hue of 5YR to 10YR, value of 3 or 4, and chroma of 2 to 4.

The BE horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 3 to 6. It is loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

The Bt horizon has hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 3 to 6. It has iron depletions in the upper 10 inches. It is loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

The Btx horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 2 to 6. It has few to many prominent redoximorphic iron depletions and accumulations. It is loam, sandy clay loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

The BC horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 2 to 4. It has few to many prominent redoximorphic iron depletions and accumulations. It is loam, sandy clay loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

The C horizon has hue of 2.5YR to 10YR, value of 3 to 5, and chroma of 2 to 4. It has few to many prominent redoximorphic iron depletions and accumulations. It is stratified gravelly loam and gravelly clay loam, but the range includes silty clay loam to sand and gravel.

Ravenrock Series

The soils of the Ravenrock series are loamy-skeletal, mixed, mesic Ultic Hapludalfs. These are very deep, well drained soils on backslopes and benches on mountains. They formed in colluvium weathered from metabasalt and other metarhyolite. Slopes range from 3 to 45 percent.

Ravenrock soils are on the landscape with moderately well drained Mt. Zion soils, somewhat poorly drained Rohrersville soils, and well drained Catoctin, Myersville, and Highfield soils. On Catoctin soils, bedrock is at a depth of 20 to 40 inches. Myersville soils are, by volume, less than 35 percent rock fragments. Rohrersville soils are in lower, concave, broad flats and in drainageways. Rock outcrops and boulders are common on the landscape with Ravenrock soils.

Typical pedon of Ravenrock gravelly very stony silt loam, in an area of Ravenrock-Highfield-Rock outcrop complex, 15 to 25 percent slopes; on a moderately steep, convex side slope on a mountain in the Highfield area, in an oak-hickory forest:

A—0 to 4 inches; brown or dark brown (7.5YR 5/6) gravelly loam; moderate very fine subangular blocky structure; friable, nonsticky and nonplastic; many medium roots; 15 percent gravel; slightly acid; clear wavy boundary.

BE—4 to 7 inches; strong brown (7.5YR 4/6) gravelly silt loam; moderate very fine subangular blocky structure; friable, nonsticky and nonplastic; common fine and medium roots; 20 percent gravel; moderately acid; gradual wavy boundary.

Bt1—7 to 16 inches; yellowish red (5YR 4/6) very gravelly silt loam; moderate very fine subangular blocky structure; friable, slightly sticky and nonplastic; many medium and coarse roots; many distinct clay skins on faces of peds and lining pores; 35 percent gravel; strongly acid; clear wavy boundary.

Bt2—16 to 34 inches; yellowish red (5YR 4/6) very gravelly clay loam; moderate medium subangular blocky structure; friable, slightly sticky and nonplastic; common fine roots; many patchy clay films on faces of peds and lining pores; 35 percent gravel; strongly acid; abrupt wavy boundary.

2Bt3—34 to 43 inches; red (2.5YR 4/6) very gravelly clay loam; weak fine platy structure; firm, slightly sticky and slightly plastic; few fine roots; many distinct clay films on faces of peds and lining pores; moderately acid; 25 percent gravel and 30 percent cobbles; moderately acid; abrupt wavy boundary.

2Bt4—43 to 57 inches; yellowish red (5YR 4/6) gravelly silty clay; moderate medium angular blocky structure; friable, slightly sticky and slightly plastic; many medium roots; many distinct clay films on faces of peds and lining pores; 15 percent gravel; strongly acid; abrupt irregular boundary.

2C—57 to 65 inches; yellowish red (5YR 4/6) gravelly clay loam; massive; firm, slightly sticky and slightly plastic; many fine roots; common distinct yellowish red (5YR 5/6) iron stains; 25 percent gravel; strongly acid; abrupt irregular boundary.

3Cr—65 to 80 inches; olive brown (2.5Y 4/4) fine sandy loam; massive; very firm, nonsticky and nonplastic; vertical cleavage fractures with some cracks filled with soil material.

The solum ranges from 40 to 80 inches or more in thickness. Depth to bedrock is more than 60 inches. Rock fragments range from 5 to 50 percent in the surface layer and from 35 to 70 percent in the solum and in the substratum. Aquic conditions are below a depth of 40 inches. In unlimed areas reaction ranges from very strongly acid to slightly acid.

The A horizon has hue of 5YR to 10YR, value of 2 to 4, and chroma of 2 to 4. It is silt loam or loam in the fine earth fraction.

The BE horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 4 to 8. It is silt loam, loam, or silty clay loam in the fine earth fraction.

The Bt horizon has hue of 5YR to 10YR, value of 4 or 6, and chroma of 4 to 8. In most pedons it has a lithologic discontinuity in the lower part. It is silt loam, clay loam, silty clay loam, silty clay, or clay in the fine earth fraction.

The BC horizon, where it occurs, has hue of 5YR to 10YR, value of 4 or 5, and chroma of 4 to 8. It is sandy loam, loam, or silt loam in the fine earth friction.

The C horizon has hue of 5YR to 10YR, value of 4 or 6, and chroma of 4 to 8. It is sandy loam, loam, or silt loam in the fine earth fraction.

Readington Series

The soils of the Readington series are fine-loamy, mixed, mesic Typic Fragiudalfs. These are deep, moderately well drained soils on nearly level and undulating, broad ridgetops and in depressions and drainageways. They formed in loamy materials weathered from residuum derived from shale, siltstone, and fine-grained sandstone. Slopes range from 0 to 8 percent.

Readington soils are on the landscape with somewhat excessively drained Klinesville soils; well drained Arendtsville, Lansdale, and Penn soils; moderately well drained Reaville soils; somewhat poorly drained Abbottstown and Lehigh soils; and poorly drained Croton soils. Unlike Klinesville, Arendtsville, Lansdale, Penn, Reaville, and Lehigh soils, Abbottstown, Croton, and Readington soils have a fragipan.

Typical pedon of Readington silt loam, 0 to 3 percent slopes; 1 mile southwest of Heidlersburg in Tyrone Township, Adams County, 70 feet west of Township Route 532, 0.1 mile north of its intersection with Township Route 563, in cropland:

Ap—0 to 10 inches; dark reddish gray (5YR 4/2) silt loam; moderate fine granular structure; friable, slightly sticky and slightly plastic; 5 percent rock fragments; slightly acid; abrupt smooth boundary.

BE—10 to 14 inches; reddish brown (5YR 4/3) silt loam; weak medium subangular blocky structure parting to weak fine and very fine subangular blocky; friable, sticky and slightly plastic; 2 percent rock fragments; slightly acid; clear wavy boundary.

Bt1—14 to 25 inches; reddish brown (5YR 5/3) silt loam; weak coarse prismatic structure parting to moderate medium subangular blocky; friable, sticky and plastic; common faint clay films on faces of peds and in pores; 5 percent rock fragments; very strongly acid; clear wavy boundary.

Bt2—25 to 27 inches; reddish brown (5YR 4/3) silt loam; weak coarse prismatic structure parting to moderate medium angular blocky; friable, sticky and plastic; common faint clay films on faces of peds and in pores; common fine distinct reddish gray (5YR 5/2) iron depletions, and common fine faint reddish brown (5YR 4/4) soft masses of iron accumulation; 5 percent rock fragments; very strongly acid; abrupt wavy boundary.

Btx1—27 to 35 inches; weak red (2.5YR 4/2) channery silt loam; moderate very coarse prismatic structure parting to moderate medium angular blocky parting to moderate thick platy and fine subangular blocky; very firm and brittle, sticky and plastic; many faint clay films on faces of peds and in pores; common prominent coatings on faces of peds and on rock fragments; common fine prominent pinkish gray (5YR 6/2) and reddish brown (5YR 5/3) iron depletions, and common fine prominent yellowish red (5YR 5/6) soft masses of iron accumulation; 20 percent rock fragments; strongly acid; clear wavy boundary.

Btx2—35 to 40 inches; weak red (2.5YR 4/2) very channery silt loam; moderate very coarse prismatic structure parting to weak thick platy and fine subangular blocky; very firm and brittle, sticky and slightly plastic; common faint clay films on faces of peds and in pores; common fine distinct pale red (2.5YR 6/2) iron depletions, and common fine distinct reddish brown (2.5YR 4/4) soft masses of iron accumulation; 40 percent rock fragments; strongly acid; clear wavy boundary.

C—40 to 46 inches; weak red (10YR 4/2) extremely channery silt loam; weak thick platy rock structure; very firm, slightly sticky and nonplastic; few fine prominent pale red (10R 6/2) iron depletions; 50 percent rock fragments; moderately acid; abrupt wavy boundary.

R—46 inches; weak red (10R 4/2) partly weathered, fractured siltstone.

The solum is 35 to 60 inches thick. Depth to fragipan ranges from 20 to 36 inches. Depth to bedrock is between 40 and 60 inches. Rock fragments range from 0 to 20 percent in the upper part of the solum and from 10 to 50 percent in the lower part. In unlimed areas reaction ranges from extremely acid to slightly acid in the upper part of the solum and from strongly acid to slightly acid in the lower part and in the substratum.

The Ap horizon has hue of 2.5YR to 10YR, value of 3 or 4, and chroma of 2 to 4.

The BE horizon has hue of 2.5YR or 5YR, value of 3 to 5, and chroma of 3 or 4. It is loam, silt loam, or silty clay loam in the fine earth fraction.

The Bt horizon has hue of 2.5YR or 5YR, value of 3 to 5, and chroma of 3 to 6. It has few to many prominent iron depletions and accumulations at a depth of 25 inches. It is loam, silt loam, or silty clay loam in the fine earth fraction.

The Btx horizon has hue of 10R to 5YR, value of 3 or 4, and chroma of 2 to 6. It has few to many prominent iron depletions and accumulations. It is loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

The C horizon has hue of 10R to 7.5YR, value of 3 or 4, and chroma of 2 to 4. It is loam, clay loam, silt loam, or silty clay loam in the fine earth fraction.

Reaville Series

The soils of the Reaville series are fine-loamy, mixed, mesic Aquic Hapludalfs. These are moderately deep, moderately well drained soils on nearly level to rolling ridgetops, on side slopes, and in depressions.

They formed in loamy residuum derived from shale, siltstone, and fine-grained sandstone. Slopes range from 0 to 15 percent.

Reaville soils are on the landscape with somewhat excessively drained Klinesville soils; well drained Lansdale and Penn soils; deep, moderately well drained Readington soils; somewhat poorly drained Abbottstown soils; and poorly drained Croton soils. Klinesville soils are loamy-skeletal, and Lansdale soils are coarse-loamy. Penn soils have a solum that is redder than that of Reaville soils. Abbottstown, Croton, and Readington soils have a fragipan, and Croton soils are grayish throughout.

Typical pedon of Reaville channery silt loam, 3 to 8 percent slopes; 5 miles southwest of Gettysburg in Freedom Township, north of Township Route 327, 0.125 mile west of its intersection with Township Route 328, in cropland:

Ap—0 to 9 inches; reddish brown (5YR 4/3) channery silt loam; weak fine granular structure; friable, slightly sticky and slightly plastic; 15 percent rock fragments; slightly acid; clear smooth boundary.

Bt1—9 to 13 inches; reddish brown (2.5YR 4/4) channery silt loam; weak fine subangular blocky structure; friable, slightly sticky and slightly plastic; few faint clay films on faces of peds; few fine prominent light reddish brown (5YR 6/3) iron depletions; 20 percent rock fragments; slightly acid; clear wavy boundary.

Bt2—13 to 15 inches; reddish brown (2.5YR 4/4) channery silt loam; moderate medium subangular blocky structure parting to weak medium platy; firm, slightly sticky and slightly plastic; common distinct clay films on faces of peds; common fine prominent yellowish red (5YR 5/8) soft masses of iron accumulation, and common fine prominent reddish gray (5YR 5/2) iron depletions; 30 percent rock fragments; slightly acid; clear wavy boundary.

C—15 to 25 inches; dusky red (10R 3/4) very channery silt loam; massive; firm, slightly sticky and slightly plastic; common fine prominent reddish gray (5YR 5/2) iron depletions; 50 percent rock fragments; slightly acid; gradual wavy boundary.

R—25 inches; weak red (10R 4/4) interbedded shale and siltstone.

The solum is 12 to 24 inches thick. Depth to bedrock is between 20 and 40 inches. Rock fragments range from 2 to 45 percent in individual horizons in the solum and from 30 to 70 percent in the substratum. In unlimed areas reaction ranges from strongly acid to slightly acid throughout.

The Ap horizon has hue of 2.5YR to 7.5YR, value of 3 or 4, and chroma of 2 to 4.

The Bt horizon has hue of 10R to 5YR, value of 4 to 6, and chroma of 3 or 4. It has few to many prominent iron depletions and accumulations in the upper 10 inches of the argillic horizon. It is silt loam or silty clay loam in the fine earth fraction.

The C horizon has hue of 10R to 5YR, value of 3 or 4, and chroma of 2 to 4. It is loam, silt loam, or silty clay loam in the fine earth fraction.

Rohrersville Series

The soils of the Rohrersville series are fine-loamy, mixed, mesic Fragiaquic Hapludalfs. They are very deep, somewhat poorly drained soils on footslopes and in drainage heads. They formed in residuum or in soil creep derived from metabasalt. Slopes range from 0 to 15 percent.

Rohrersville soils are on the landscape with Ravenrock, Mt. Zion, Myersville, Catoctin, and Highfield soils. All these soils are better drained and are higher on the landscape than Rohrersville soils.

Typical pedon of Rohrersville silt loam, 0 to 8 percent slopes, in an area of Rohrersville-Lantz silt loams, 0 to 8 percent slopes; in Frederick County, Maryland, about 2 miles east-northeast of Mt. Zion Church Road on the Catoctin Trail, 60 feet behind a shelter in Catoctin Mountain Park:

Ap1—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium granular structure; friable; common medium, many fine, and few coarse roots; slightly acid; abrupt smooth boundary.

Ap2—5 to 9 inches; brown (10YR 4/3) silt loam; weak medium subangular blocky structure parting to moderate fine granular; friable; common fine, medium, and coarse roots; moderately acid; abrupt smooth boundary.

E—9 to 15 inches; light olive brown (2.5Y 5/3) silt loam; few very fine prominent dark brown (7.5YR 3/4) iron-manganese concentrations; moderate medium platy structure; friable; common fine roots; moderately acid; clear smooth boundary.

BE—15 to 25 inches; light olive brown (2.5Y 5/4) silt loam; weak medium platy structure parting to strong fine subangular blocky; friable; common medium distinct yellowish brown (10YR 5/6) soft masses of iron accumulation, and common medium distinct light brownish gray (2.5YR 6/2) iron depletions; common fine roots; 4 percent fine channers, 1 percent stones; strongly acid; clear wavy boundary.

Bt1—25 to 31 inches; brown (7.5YR 4/4) silty clay loam; weak medium platy structure parting to weak fine subangular blocky; friable; many medium faint strong brown (7.5YR 5/6) soft masses of iron accumulation, few medium prominent grayish brown (2.5Y 5/2) iron depletions on faces of peds, common fine dark brown (7.5YR 3/3) iron-manganese concretions, and common fine prominent light olive brown (2.5Y 5/3) clay films on faces of prisms; few fine and few medium roots; 5 percent gravel; moderately acid; clear wavy boundary.

Bt2—31 to 43 inches; strong brown (7.5YR 4/6) heavy silt loam; weak very coarse prismatic structure parting to moderate thin platy; firm; common medium prominent grayish green (5GY 5/1) iron depletions along roots, common fine prominent iron-manganese concretions and common fine iron-manganese stains, and common medium prominent light olive brown (2.5Y 5/3) clay films on faces of prisms; few fine roots on faces of peds; 11 percent channers; moderately acid; clear wavy boundary.

Btg—43 to 55 inches; grayish brown (2.5Y 5/2) silty clay loam; weak very coarse prismatic structure parting to weak medium platy parting to weak fine subangular blocky; firm; many coarse prominent strong brown (7.5YR 4/6) soft masses of iron accumulation, common fine and medium prominent iron-manganese concretions, and common medium prominent light olive brown (2.5Y 5/3) clay films on faces of prisms; few, fine roots; 12 percent channers; moderately acid; clear wavy boundary.

2BC—55 to 62 inches; yellowish red (5YR 4/6) silty clay loam; weak medium subangular blocky structure; firm; common fine prominent grayish brown (2.5Y 5/2) iron depletions; common fine prominent iron-manganese stains; few fine roots; 5 percent channers; abrupt irregular boundary.

R—62 inches; greenstone.

The solum ranges from 20 to 50 inches in thickness. Depth to bedrock is more than 60 inches. Depth to a fragipan is 20 to 30 inches. Rock fragments range from 0 to 10 percent in the surface layer and the subsoil and from 0 to 20 percent in the substratum. Aquic conditions occur below a depth of 13 inches. In unlimed areas reaction ranges from moderately acid to strongly acid.

The A horizon has hue of 10YR or 2.5Y, value of 3 to 4, and chroma of 2 to 6. It is silt loam in the fine earth fraction.

The Bt horizon has hue of 2.5Y or 5 Y, or it is neutral; value is 4 to 7 and chroma is 0 to 6. It is clay loam, silty clay loam, or silt loam in the fine earth fraction.

The Btg horizon has hue of 2.5Y or 5Y, or it is neutral; value is 4 to 7 and chroma is 0 to 6. It is silty clay loam, silt loam, or loam in the fine earth fraction.

The C horizon has hue of 7.5YR to 5BG, value of 4 to 6, and chroma of 1 to 6. It is sandy clay loam, silty clay loam, silt loam, or loam in the fine earth fraction.

Rowland Series

The soils of the Rowland series are fine-loamy, mixed, mesic Fluvaquentic Dystrochrepts. These are very deep, moderately well drained soils on flood plains. They formed in alluvium weathered from residuum derived from shale, siltstone, sandstone, and conglomerate. Slopes range from 0 to 3 percent.

Rowland soils are on flood plains with well drained Bermudian soils and somewhat poorly drained Bowmansville soils. Bermudian soils are redder throughout than Rowland soils and are on slightly higher lying swells. Bowmansville soils are grayer throughout than Rowland soils and are in slightly lower lying areas.

Typical pedon of Rowland silt loam; 3 miles west of Littlestown in Mount Joy Township, Adams County, in a streambank along Plum Creek near intersection of Township Routes 430 and 429, in pasture:

Ap—0 to 10 inches; dark reddish brown (5YR 3/4) silt loam; weak fine granular structure; very friable; slightly sticky and slightly plastic; moderately acid; abrupt smooth boundary.

Bw1—10 to 16 inches; reddish brown (5YR 4/4) silt loam; weak fine subangular blocky structure; friable, slightly sticky and slightly plastic; moderately acid; clear wavy boundary.

Bw2—16 to 28 inches; reddish brown (5YR 5/4) silt loam; weak medium subangular blocky structure; friable, slightly sticky and slightly plastic; common fine prominent brown (7.5YR 5/2) soft masses of iron accumulation, and common fine prominent light gray (10YR 7/2) iron depletions; strongly acid; clear wavy boundary.

C1—28 to 44 inches; weak red (2.5YR 5/2) silty clay loam; massive; firm, sticky and plastic; few faint silt and clay films in pores; common medium prominent brown (7.5YR 5/4) soft masses of iron accumulation, and common medium prominent gray (N5/0) iron depletions; 10 percent rock fragments; moderately acid; clear wavy boundary.

2C2—44 to 60 inches; weak red (2.5YR 5/2) stratified sand and gravel; massive; firm, nonsticky and nonplastic; moderately acid.

The solum is 24 to 40 inches thick. Stratified loamy sand, sand, and gravel are at a depth of 40 inches or more. Depth to bedrock is more than 60 inches. Rock fragments range from 0 to 10 percent in the solum, from 0 to 25 percent in the substratum to a depth of 40 inches, and from 30 to 90 percent below a depth of 40 inches. In unlimed areas reaction ranges from very strongly acid to moderately acid throughout.

The Ap horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 2 to 4.

The Bw horizon has hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 3 to 8. It has few to many prominent iron depletions and accumulations at a depth of 24 inches or less. It is loam, sandy clay loam, clay loam, silt loam, or silty clay loam.

The C horizon has hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 2 to 8. It has few to many prominent iron depletions and accumulations. It is sandy loam, loam, sandy clay loam, clay loam, silt loam, or silty clay loam in the fine earth fraction. In many pedons, at a depth of 40 inches or more, it has strata of loamy sand, sand, and gravel.

Steinsburg Series

The soils of the Steinsburg series are coarse-loamy, mixed, mesic Typic Dystrochrepts. These are moderately deep, well drained soils on ridgetops, side slopes, and hills. They formed in channery residuum derived from sandstone. Slopes range from 3 to 25 percent.

These soils have a higher base saturation in the solum than is defined for the Steinsburg series. This difference does not affect use and management of the soils.

Steinsburg soils are on the landscape with somewhat excessively drained, shallow Klinesville soils and well drained, deep Lansdale and Penn soils. Klinesville soils have more rock fragments throughout than Steinsburg soils. Penn soils have more clay throughout than Steinsburg soils.

Typical pedon of Steinsburg channery sandy loam, 3 to 8 percent slopes; 0.25 mile northwest of Whitehall, Mount Pleasant Township, Adams County, on the south side of State Route 2002, 1,400 feet northwest of Township Route 439, in cropland:

Ap—0 to 10 inches; reddish brown (5YR 4/3) channery sandy loam; weak fine granular structure; friable, slightly sticky and slightly plastic; 15 percent rock fragments; slightly acid; abrupt smooth boundary.

Bw—10 to 15 inches; yellowish red (5YR 5/6) channery sandy loam; weak thick platy structure parting to weak fine subangular blocky; friable, slightly sticky and slightly plastic; very few faint clay bridges between sand grains on faces of peds; 20 percent rock fragments; moderately acid; clear smooth boundary.

BC—15 to 20 inches; yellowish red (5YR 4/6) channery sandy loam; weak thick platy structure; friable, nonsticky and nonplastic; very few faint clay bridges between sand grains on faces of peds; 20 percent rock fragments; strongly acid; gradual wavy boundary.

C—20 to 26 inches; reddish brown (5YR 4/4) channery loamy sand; massive; friable, nonsticky and nonplastic; 30 percent rock fragments; strongly acid; abrupt smooth boundary.

R—26 inches; reddish brown (5YR 4/3) micaceous sandstone.

The solum is 12 to 20 inches thick. Depth to bedrock is between 24 and 40 inches. Rock fragments range from 0 to 20 percent in the solum and from 15 to 60 percent in the substratum. In unlimed areas reaction ranges from extremely acid to strongly acid throughout.

The Ap horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 2 to 4.

The Bw horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 3 to 6. It is sandy loam or loam in the fine earth fraction.

The BC horizon has hue of 5YR to 10YR, value of 4 or 6, and chroma of 3 to 6. It is sandy loam or loam in the fine earth fraction.

The C horizon has hue of 5YR to 10YR, value of 4 or 6, and chroma of 3 to 6. It is loamy sand, sandy loam, or loam in the fine earth fraction.

Watchung Series

The soils of the Watchung series are fine, mixed, mesic Typic Ochraqualfs. These are very deep, poorly drained soils on lowlands and in depressions. They formed in clayey residuum derived from diabase. Slopes range from 0 to 8 percent.

Watchung soils are on the landscape with well drained Brecknock, Legore, and Neshaminy soils and somewhat poorly drained Mount Lucas and Lehigh soils. All these soils are browner or redder throughout than Watchung soils.

Typical pedon of Watchung silt loam, 0 to 3 percent slopes; 3 miles south of Gettysburg in Cumberland Township, Adams County, 60 feet north of Township Route 411, 1,125 feet east of Township Route 404, in an abandoned pasture:

A—0 to 2 inches; very dark gray (10YR 3/1) silt loam; weak fine granular structure; friable, slightly sticky and slightly plastic; slightly acid; abrupt smooth boundary.

E—2 to 9 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium subangular blocky structure; friable, slightly sticky and plastic; common medium prominent brown (7.5YR 4/4) soft masses of iron accumulation, and common medium prominent light brownish gray (10YR 6/2) iron depletions; slightly acid; clear wavy boundary.

Btg1—9 to 18 inches; dark gray (5Y 4/1) silty clay; strong medium prismatic structure; firm, sticky and plastic; common distinct clay films on faces of peds and lining pores; common medium prominent brown (7.5YR 5/4) soft masses of iron accumulation; slightly acid; gradual irregular boundary.

Btg2—18 to 25 inches; gray (5Y 5/1) clay; moderate medium prismatic and angular blocky structure; firm, very sticky and plastic; many distinct clay films on faces of peds and in pores; many medium faint olive gray (5Y 5/2) and many medium prominent greenish gray (5GY 5/1) iron depletions; neutral; gradual irregular boundary.

Btg3—25 to 30 inches; gray (5Y 5/1) silty clay loam; moderate medium prismatic structure; friable, sticky and plastic; common distinct clay films on faces of peds and in pores; many medium prominent greenish gray (5GY 5/1) iron depletions; neutral; gradual irregular boundary.

Btg4—30 to 40 inches; olive (5Y 5/3) clay loam; weak medium prismatic structure; friable, sticky and slightly plastic; few distinct clay films on faces of peds and in pores; common medium distinct olive gray (5Y 4/2) and gray (5Y 5/1) iron depletions; neutral; gradual irregular boundary.

C—40 to 60 inches; yellowish brown (10YR 5/4) loam; massive; firm, slightly sticky and nonplastic; few fine prominent gray (5Y 5/1) iron depletions; 5 percent rock fragments; neutral.

The solum is 24 to 55 inches thick. Depth to bedrock is more than 60 inches. Rock fragments range from 0 to 15 percent throughout. In unlimed areas reaction ranges from very strongly acid to slightly acid in the surface layer, from strongly acid to neutral in the subsoil, and from moderately acid to neutral in the substratum.

The A horizon has hue of 10YR to 5Y, value of 3 or 4, and chroma of 1 to 4.

The Ap horizon, where it occurs, has hue of 10YR to 5Y, value of 3 to 5, and chroma of 1 to 4.

The E horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 1 to 4. It has few to many prominent iron depletions and accumulations.

The Btg horizon has hue of 7.5YR to 5Y, value of 4 to 6, and chroma of 0 to 2. It has few to many prominent iron depletions and accumulations. It is silty clay or clay, but in some pedons it has subhorizons of clay loam or silty clay loam.

The C horizon has hue of 5Y to 7.5YR, value of 4 to 6, and chroma of 0 to 6. It has few to many prominent iron depletions and accumulations. It is loam, clay loam, silt loam, or silty clay loam.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

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.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

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 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. The normal flood plain of a stream, subject to flooding.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. The steep and very steep broken land at the border of an upland summit that is dissected by ravines.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

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.

Catsteps. Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.

Cement rock. Shaly limestone used in the manufacture of cement.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

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 depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

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.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

Colluvium. Soil material or 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 establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas 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 or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Congeliturbate. Soil material disturbed by frost action.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

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.

Control 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.

Coprogenous earth (sedimentary peat). Fecal material deposited in water by aquatic organisms.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover 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.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of 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 human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

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*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

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.

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. 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. Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

Glaciofluvial deposits. 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.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed 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 as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 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. Water filling all the unblocked pores of the 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.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

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.

Head out. To form a flower head.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase 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.

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.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

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.

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 overlying soil material. 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, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it 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.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

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.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

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 of water infiltration into a soil under 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.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 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-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

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. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

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.

Mottling, soil. Irregular spots of different colors that vary in number and size. 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).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is 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.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

Pedon. 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.

Percolation. The movement of water through the soil.

Permafrost. Layers of soil, or even bedrock, in arctic or subarctic regions, in which a temperature below freezing has long existed continuously.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," as defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 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, such as slope, stoniness, and flooding.

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.

Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, 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 the size of the particles differs little, compaction can only slightly increase density.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

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.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

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 degrees of acidity or alkalinity, in pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly 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

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones indicate the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II).

The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. 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 generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. 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-sized particles.

Sapric soil 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.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary 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.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. 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.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). 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.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

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.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

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.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slick spot. A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil generally is silty or clayey, is slippery when wet, and is low in productivity.

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. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 3 percent
Gently sloping	3 to 8 percent
Strongly sloping	8 to 15 percent
Moderately steep	15 to 25 percent
Steep	25 to 35 percent
Very steep	35 percent and higher

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

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 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

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, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

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 that provide vegetative barriers to wind erosion 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 grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

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.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus. Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.

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. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

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 generally is 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 that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

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.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of stillwater within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of stillwater in front of a glacier.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

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 ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1961-90 at Gettysburg, Pennsylvania.)

Month	Temperature						Precipitation				
	Average daily minimum	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-----	37.3	20.7	29.0	61	1	25	3.02	1.36	4.45	6	7.3
February----	40.2	22.6	31.4	66	1	34	2.91	1.21	4.22	6	7.8
March-------	49.6	30.7	40.2	78	13	106	3.79	2.29	4.77	8	5.9
April-------	62.6	41.5	52.1	88	24	363	3.68	1.99	5.05	7	0.4
May---------	72.6	50.3	61.5	92	33	667	3.54	1.82	4.98	8	0.0
June--------	81.5	59.3	70.4	96	44	912	4.00	1.30	5.93	8	0.0
July--------	85.9	63.7	74.8	98	50	1079	3.12	1.40	4.45	6	0.0
August------	84.4	62.2	73.3	97	47	1032	3.76	1.94	4.81	6	0.0
September---	77.6	55.1	66.4	95	35	792	3.73	1.45	5.57	5	0.0
October-----	65.7	43.2	54.5	86	26	450	3.14	1.41	4.42	6	0.0
November----	53.2	34.7	44.0	76	17	152	3.16	1.43	4.59	6	1.0
December----	41.4	25.2	33.3	67	5	41	3.12	1.52	4.53	6	5.5
Yearly:											
Average---	62.7	42.4	52.6	---	---	---	---	---	---	---	---
Extreme---	---	---	---	99	5	---	---	---	---	---	---
Total-----	---	---	---	---	---	5,653	40.97	34.73	47.02	78	27.9

* 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 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1951-82 at Gettysburg, Pennsylvania.)

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--	Apr. 8	Apr. 16	May 4
2 years in 10 later than--	Apr. 3	Apr. 12	Apr. 28
5 years in 10 later than--	Mar. 25	Apr. 5	Apr. 19
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 29	Oct. 15	Sept. 29
2 years in 10 earlier than--	Nov. 4	Oct. 20	Oct. 5
5 years in 10 earlier than--	Nov. 15	Oct. 30	Oct. 17

Table 3.--Growing Season

(Recorded in the period 1951-82 at Gettysburg, Pennsylvania.)

Permeability	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	209	189	155
8 years in 10	218	195	163
5 years in 10	235	208	180
2 years in 10	251	220	196
1 year in 10	260	227	204

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
AbA	Abbottstown silt loam, 0 to 3 percent slopes	15,166	4.5
AbB	Abbottstown silt loam, 3 to 8 percent slopes	7,493	2.2
ArB	Arendtsville gravelly loam, 3 to 8 percent slopes	3,502	1.0
ArC	Arendtsville gravelly loam, 8 to 15 percent slopes	4,469	1.3
ArD	Arendtsville gravelly loam, 15 to 25 percent slopes	1,769	0.5
ArE	Arendtsville gravelly loam, 25 to 40 percent slopes	400	0.1
AtA	Athol gravelly silt loam, 0 to 3 percent slopes	341	0.1
AtB	Athol gravelly silt loam, 3 to 8 percent slopes	786	0.2
AtC	Athol gravelly silt loam, 8 to 15 percent slopes	155	*
Ba	Baile silt loam	646	0.2
Be	Bermudian silt loam	256	*
BgA	Birdsboro silt loam, 0 to 3 percent slopes	292	*
BgB	Birdsboro silt loam, 3 to 8 percent slopes	1,974	0.6
BgC	Birdsboro silt loam, 8 to 15 percent slopes	226	*
Bo	Bowmansville silt loam	11,379	3.4
BrB	Brecknock channery silt loam, 3 to 8 percent slopes	3,564	1.1
BrC	Brecknock channery silt loam, 8 to 15 percent slopes	1,769	0.5
BrD	Brecknock channery silt loam, 15 to 25 percent slopes	586	0.2
BuB	Buchanan channery loam, 3 to 8 percent slopes	1,482	0.4
BvB	Buchanan channery loam, 0 to 8 percent slopes, extremely stony	673	0.2
CcB	Catoctin channery silt loam, 3 to 8 percent slopes	129	*
CcC	Catoctin channery silt loam, 8 to 15 percent slopes	778	0.2
CcE	Catoctin channery silt loam, 25 to 35 percent slopes	617	0.2
CkA	Clarksburg silt loam, 0 to 3 percent slopes	3,024	0.9
CkB	Clarksburg silt loam, 3 to 8 percent slopes	522	0.2
Cm	Codorus silt loam	2,195	0.7
CnA	Conestoga silt loam, 0 to 3 percent slopes	1,288	0.4
CnB	Conestoga silt loam, 3 to 8 percent slopes	4,137	1.2
CnC	Conestoga silt loam, 8 to 15 percent slopes	415	0.1
CrA	Croton silt loam, 0 to 3 percent slopes	18,246	5.5
CrB	Croton silt loam, 3 to 8 percent slopes	1,254	0.4
DAM	Dams	14	*
Dx	Dumps, refuse	60	*
Dy	Dunning silty clay loam	968	0.3
EdB	Edgemont channery loam, 3 to 8 percent slopes	315	*
EdC	Edgemont channery loam, 8 to 15 percent slopes	397	0.1
EdD	Edgemont channery loam, 15 to 25 percent slopes	32	*
EeB	Edgemont channery loam, 0 to 8 percent slopes, very stony	3,615	1.1
EeD	Edgemont channery loam, 8 to 25 percent slopes, very stony	10,690	3.2
EeF	Edgemont channery loam, 25 to 70 percent slopes, very stony	5,991	1.8
GbB	Glenelg channery silt loam, 3 to 8 percent slopes	3,669	1.1
GbC	Glenelg channery silt loam, 8 to 15 percent slopes	1,733	0.5
GbD	Glenelg channery silt loam, 15 to 25 percent slopes	136	*
GdA	Glenville silt loam, 0 to 3 percent slopes	126	*
GdB	Glenville silt loam, 3 to 8 percent slopes	624	0.2
Hc	Hatboro silt loam	5,194	1.6
HgB	Highfield channery silt loam, 3 to 8 percent slopes	7,847	2.4
HgC	Highfield channery silt loam, 8 to 15 percent slopes	12,035	3.6
HHD	Highfield and Catoctin channery silt loams, 15 to 25 percent slopes	4,641	1.4
HKB	Highfield, Catoctin, and Myersville soils, 0 to 8 percent slopes, very stony	1,902	0.6
HKD	Highfield, Catoctin, and Myersville soils, 8 to 25 percent slopes, very stony	8,302	2.5
HMF	Highfield and Catoctin channery silt loams, 25 to 70 percent slopes, very stony	9,306	2.8
KnB	Klinesville channery silt loam, 3 to 8 percent slopes	7,515	2.3
KnC	Klinesville channery silt loam, 8 to 15 percent slopes	5,299	1.6
KnD	Klinesville channery silt loam, 15 to 25 percent slopes	1,177	0.4
KnE	Klinesville channery silt loam, 25 to 40 percent slopes	299	*
Lc	Lamington silt loam	831	0.2
LeB	Lansdale loam, 3 to 8 percent slopes	1,950	0.6

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
LfC	Lansdale channery loam, 8 to 15 percent slopes	187	*
LgB	Legore channery silt loam, 3 to 8 percent slopes	1,915	0.6
LgC	Legore channery silt loam, 8 to 15 percent slopes	1,850	0.6
LgD	Legore channery silt loam, 15 to 25 percent slopes	1,295	0.4
LhA	Lehigh channery silt loam, 0 to 3 percent slopes	1,933	0.6
LhB	Lehigh channery silt loam, 3 to 8 percent slopes	16,316	4.9
LhC	Lehigh channery silt loam, 8 to 15 percent slopes	2,606	0.8
LkB	Lehigh channery silt loam, 0 to 8 percent slopes, very stony	559	0.2
Lw	Lindside silt loam	438	0.1
MdA	Mount Lucas silt loam, 0 to 3 percent slopes	1,639	0.5
MdB	Mount Lucas silt loam, 3 to 8 percent slopes	4,620	1.4
MeB	Mount Lucas silt loam, 0 to 8 percent slopes, very bouldery	447	0.1
MOB	Mt. Airy and Manor channery loams, 3 to 8 percent slopes	182	*
MOC	Mt. Airy and Manor channery loams, 8 to 15 percent slopes	1,169	0.4
MOD	Mt. Airy and Manor channery loams, 15 to 25 percent slopes	320	*
MtB	Mt. Zion gravelly silt loam, 3 to 8 percent slopes	334	0.1
MtC	Mt. Zion gravelly silt loam, 8 to 15 percent slopes	947	0.3
MtD	Mt. Zion gravelly silt loam, 15 to 25 percent slopes	314	*
MyB	Myersville silt loam, 3 to 8 percent slopes	2,125	0.6
MyC	Myersville silt loam, 8 to 15 percent slopes	2,790	0.8
MyD	Myersville silt loam, 15 to 25 percent slopes	1,178	0.4
NaB	Neshaminy channery silt loam, 3 to 8 percent slopes	7,819	2.3
NaC	Neshaminy channery silt loam, 8 to 15 percent slopes	2,584	0.8
NdB	Neshaminy channery silt loam, 0 to 8 percent slopes, extremely bouldery	1,555	0.5
NdD	Neshaminy channery silt loam, 8 to 25 percent slopes, extremely bouldery	2,334	0.7
NdE	Neshaminy channery silt loam, 25 to 45 percent slopes, extremely bouldery	1,183	0.4
Pa	Penlaw silt loam	3,599	1.1
PbD	Penn loam, 8 to 25 percent slopes, very stony	104	*
PcB	Penn silt loam, 3 to 8 percent slopes	22,604	6.8
PcC	Penn silt loam, 8 to 15 percent slopes	1,398	0.4
PoB	Penn-Klinesville channery silt loams, 3 to 8 percent slopes	10,401	3.1
PoC	Penn-Klinesville channery silt loams, 8 to 15 percent slopes	3,650	1.1
PsD	Pequea silt loam, 15 to 25 percent slopes	55	*
Pt	Pits, quarries	1,670	0.5
RaA	Raritan silt loam, 0 to 3 percent slopes	219	*
RaB	Raritan silt loam, 3 to 8 percent slopes	52	*
RcC	Ravenrock-Highfield-Rock outcrop complex, 8 to 15 percent slopes	525	0.2
RcD	Ravenrock-Highfield-Rock outcrop complex, 15 to 25 percent slopes	2,751	0.8
RcF	Ravenrock-Highfield-Rock outcrop complex, 25 to 65 percent slopes	415	0.1
RdC	Ravenrock-Rohrersville complex, 3 to 15 percent slopes, extremely stony	100	*
ReA	Readington silt loam, 0 to 3 percent slopes	6,358	1.9
ReB	Readington silt loam, 3 to 8 percent slopes	10,279	3.1
RfA	Reaville channery silt loam, 0 to 3 percent slopes	708	0.2
RfB	Reaville channery silt loam, 3 to 8 percent slopes	3,173	1.0
RfC	Reaville channery silt loam, 8 to 15 percent slopes	656	0.2
RoB	Rohrersville silt loam, 3 to 8 percent slopes	2,638	0.8
RsB	Rohrersville silt loam, 0 to 15 percent slopes, very stony	1,651	0.5
Rw	Rowland silt loam	4,824	1.4
StB	Steinsburg channery sandy loam, 3 to 8 percent slopes	443	0.1
StC	Steinsburg channery sandy loam, 8 to 15 percent slopes	192	*
StD	Steinsburg channery sandy loam, 15 to 25 percent slopes	99	*
Uc	Urban land	1,707	0.5
UeB	Urban land-Conestoga complex, 0 to 8 percent slopes	846	0.3
UgB	Urban land-Penn complex, 0 to 8 percent slopes	280	*
W	Water	2,425	0.7
WaA	Watchung silt loam, 0 to 3 percent slopes	5,911	1.8
WaB	Watchung silt loam, 3 to 8 percent slopes	809	0.2
WbB	Watchung silt loam, 0 to 8 percent slopes, extremely bouldery	512	0.2
	Total	333,894	100.0

* Less than 0.1 percent.

Table 5.--Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil. For some units or components, a rating is not applicable.)

Map symbol and soil name	Land capa- bility	Alfalfa hay	Corn	Corn silage	Grass- legume hay	Pasture	Soybeans	Wheat
		Tons	Bu	Tons	Tons	AUM	Bu	Bu
AbA:								
Abbottstown-------	3w	---	95.00	19.00	3.00	6.00	32.00	35.00
AbB:								
Abbottstown-------	3w	---	95.00	19.00	3.00	6.00	32.00	30.00
ArB:								
Arendtsville------	2e	4.50	120.00	24.00	3.50	8.50	40.00	45.00
ArC:								
Arendtsville------	3e	4.00	110.00	22.00	3.00	8.00	32.00	40.00
ArD:								
Arendtsville------	4e	4.00	95.00	19.00	3.00	8.00	27.00	35.00
ArE:								
Arendtsville------	6e	---	---	---	---	7.50	---	---
AtA:								
Athol-------------	1	5.50	135.00	27.00	3.50	10.50	50.00	50.00
AtB:								
Athol-------------	2e	5.50	135.00	27.00	3.50	10.50	45.00	50.00
AtC:								
Athol-------------	3e	5.00	125.00	25.00	3.50	9.50	42.00	45.00
Ba:								
Baile-------------	5w	---	---	---	2.00	4.00	---	---
Be:								
Bermudian---------	1	5.50	140.00	28.00	3.50	10.50	45.00	50.00
BgA:								
Birdsboro---------	1	5.00	140.00	28.00	3.50	9.50	45.00	50.00
BgB:								
Birdsboro---------	2e	5.00	140.00	28.00	3.50	9.50	45.00	50.00
BgC:								
Birdsboro---------	3e	4.50	130.00	26.00	3.50	8.50	42.00	45.00
Bo:								
Bowmansville------	3w	---	115.00	23.00	3.50	6.50	35.00	40.00
BrB:								
Brecknock---------	2e	3.50	95.00	19.00	3.00	7.00	32.00	40.00
BrC:								
Brecknock---------	3e	3.00	90.00	18.00	2.50	6.00	30.00	35.00
BrD:								
Brecknock---------	4e	3.00	80.00	16.00	2.00	6.00	26.00	30.00
BuB:								
Buchanan----------	2e	3.50	100.00	20.00	3.00	6.50	35.00	40.00

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture	Soybeans	Wheat
		Tons	Bu	Tons	Tons	AUM	Bu	Bu
BvB:								
Buchanan----------	7s	---	---	---	---	---	---	---
CcB:								
Catoctin----------	2e	3.50	85.00	17.00	3.00	6.50	25.00	35.00
CcC:								
Catoctin----------	3e	3.00	75.00	15.00	2.50	6.00	25.00	35.00
CcE:								
Catoctin----------	7e	---	---	---	---	---	---	---
CkA:								
Clarksburg--------	2w	3.50	100.00	20.00	3.00	6.50	30.00	40.00
CkB:								
Clarksburg--------	2e	3.50	100.00	20.00	3.00	6.50	30.00	40.00
Cm:								
Codorus-----------	2w	4.50	130.00	26.00	3.50	8.10	43.00	45.00
CnA:								
Conestoga---------	1	5.50	135.00	27.00	3.50	10.50	45.00	50.00
CnB:								
Conestoga---------	2e	5.50	135.00	27.00	3.50	10.50	45.00	50.00
CnC:								
Conestoga---------	3e	5.00	125.00	25.00	3.50	9.50	40.00	45.00
CrA:								
Croton------------	4w	---	70.00	14.00	2.50	4.90	23.00	27.00
CrB:								
Croton------------	4w	---	70.00	14.00	2.50	4.90	23.00	27.00
DAM:								
Dams--------------	8s	---	---	---	---	---	---	---
Dx:								
Dumps.								
Dy:								
Dunning-----------	3w	---	120.00	20.00	4.00	8.00	35.00	35.00
EdB:								
Edgemont----------	2e	4.50	120.00	24.00	3.50	8.50	32.00	45.00
EdC:								
Edgemont----------	3e	4.00	110.00	22.00	3.00	8.00	30.00	40.00
EdD:								
Edgemont----------	4e	4.00	95.00	19.00	3.00	8.00	27.00	35.00
EeB:								
Edgemont----------	6s	---	---	---	---	---	---	---
EeD:								
Edgemont----------	6s	---	---	---	---	---	---	---
EeF:								
Edgemont----------	7s	---	---	---	---	---	---	---

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture	Soybeans	Wheat
		Tons	Bu	Tons	Tons	AUM	Bu	Bu
GbB:								
Glenelg-----------	2e	5.50	135.00	27.00	3.50	10.50	45.00	50.00
GbC:								
Glenelg-----------	3e	5.00	125.00	25.00	3.50	9.50	42.00	45.00
GbD:								
Glenelg-----------	4e	4.50	110.00	22.00	3.00	8.50	37.00	40.00
GdA:								
Glenville---------	2w	3.50	100.00	20.00	3.00	6.50	35.00	40.00
GdB:								
Glenville---------	2e	3.50	100.00	20.00	3.00	6.50	33.00	40.00
Hc:								
Hatboro-----------	3w	---	115.00	23.00	3.50	6.60	38.00	45.00
HgB:								
Highfield---------	2e	4.50	115.00	23.00	3.50	8.50	38.00	45.00
HgC:								
Highfield---------	3e	4.00	110.00	22.00	3.00	7.50	35.00	40.00
HHD:								
Highfield---------	4e	4.00	100.00	20.00	3.00	7.50	32.00	35.00
Catoctin----------	4e	3.00	70.00	14.00	2.00	5.50	20.00	30.00
HKB:								
Highfield---------	6s	---	---	---	---	---	---	---
Catoctin----------	6s	---	---	---	---	---	---	---
Myersville--------	6s	---	---	---	---	---	---	---
HKD:								
Highfield---------	7s	---	---	---	---	---	---	---
Catoctin----------	7s	---	---	---	---	---	---	---
Myersville--------	7s	---	---	---	---	---	---	---
HMF:								
Highfield---------	7s	---	---	---	---	---	---	---
Catoctin----------	7s	---	---	---	---	---	---	---
KnB:								
Klinesville-------	3e	2.50	60.00	12.00	2.00	5.00	22.00	25.00
KnC:								
Klinesville-------	4e	2.50	55.00	11.00	2.00	5.00	---	20.00
KnD:								
Klinesville-------	6e	---	---	---	---	---	---	---
KnE:								
Klinesville-------	7e	---	---	---	---	---	---	---
Lc:								
Lamington---------	4w	---	65.00	13.00	2.50	4.00	22.00	25.00

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture	Soybeans	Wheat
		Tons	Bu	Tons	Tons	AUM	Bu	Bu
LeB:								
Lansdale----------	2e	4.50	120.00	22.00	3.00	8.50	38.00	45.00
LfC:								
Lansdale----------	3e	4.00	110.00	18.00	3.00	8.50	32.00	40.00
LgB:								
Legore------------	2e	3.50	95.00	19.00	3.00	6.50	32.00	40.00
LgC:								
Legore------------	3e	3.00	85.00	16.00	3.00	6.50	28.00	35.00
LgD:								
Legore------------	4e	3.00	80.00	16.00	2.00	5.50	26.00	30.00
LhA:								
Lehigh------------	2w	---	95.00	19.00	3.00	5.50	32.00	40.00
LhB:								
Lehigh------------	2w	---	95.00	19.00	3.00	5.50	32.00	40.00
LhC:								
Lehigh------------	3e	---	90.00	18.00	3.00	5.50	30.00	35.00
LkB:								
Lehigh------------	7s	---	---	---	---	---	---	---
Lw:								
Lindside----------	2w	4.50	120.00	24.00	3.50	5.50	40.00	40.00
MdA:								
Mount Lucas-------	2w	4.00	105.00	21.00	3.00	7.50	35.00	45.00
MdB:								
Mount Lucas-------	2e	4.00	105.00	21.00	3.00	7.50	35.00	45.00
MeB:								
Mount Lucas-------	6s	---	---	---	---	---	---	---
MOB:								
Mt. Airy----------	3e	3.50	85.00	17.00	3.00	6.50	25.00	35.00
Manor-------------	2e	3.50	115.00	23.00	3.00	6.50	35.00	40.00
MOC:								
Mt. Airy----------	4e	3.00	75.00	15.00	2.50	6.00	23.00	30.00
Manor-------------	3e	3.00	105.00	21.00	2.50	6.00	30.00	35.00
MOD:								
Mt. Airy----------	6e	2.50	---	---	2.00	5.50	---	---
Manor-------------	4e	3.00	95.00	19.00	2.00	5.50	25.00	30.00
MtB:								
Mt. Zion----------	2e	3.50	110.00	20.00	3.00	8.50	32.00	40.00
MtC:								
Mt. Zion----------	3e	3.00	100.00	18.00	3.00	8.50	28.00	35.00
MtD:								
Mt. Zion----------	4e	2.50	90.00	16.00	2.50	7.00	25.00	30.00

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture	Soybeans	Wheat
		Tons	Bu	Tons	Tons	AUM	Bu	Bu
MyB:								
Myersville--------	2e	5.50	135.00	27.00	3.50	---	45.00	70.00
MyC:								
Myersville--------	3e	5.00	125.00	25.00	3.50	---	40.00	60.00
MyD:								
Myersville--------	4e	4.50	110.00	22.00	3.00	8.50	30.00	50.00
NaB:								
Neshaminy---------	2e	5.50	135.00	27.00	3.50	10.50	45.00	50.00
NaC:								
Neshaminy---------	3e	5.00	125.00	25.00	3.50	9.50	35.00	45.00
NdB:								
Neshaminy---------	7s	---	---	---	---	---	---	---
NdD:								
Neshaminy---------	7s	---	---	---	---	---	---	---
NdE:								
Neshaminy---------	7s	---	---	---	---	---	---	---
Pa:								
Penlaw------------	3w	3.00	95.00	19.00	3.00	6.00	32.00	40.00
PbD:								
Penn--------------	6s	---	---	---	---	---	---	---
PcB:								
Penn--------------	2e	3.50	95.00	19.00	3.00	6.50	32.00	40.00
PcC:								
Penn--------------	3e	3.00	90.00	18.00	2.50	5.50	30.00	35.00
PoB:								
Penn--------------	2e	3.50	95.00	19.00	3.00	6.50	32.00	40.00
Klinesville-------	3e	2.50	60.00	12.00	2.00	5.00	22.00	25.00
PoC:								
Penn--------------	3e	3.00	90.00	18.00	2.50	5.50	30.00	35.00
Klinesville-------	4e	2.50	55.00	11.00	2.00	5.00	18.00	20.00
PsD:								
Pequea------------	4e	3.00	80.00	16.00	2.50	5.50	25.00	35.00
Pt:								
Pits.								
RaA:								
Raritan-----------	2w	4.00	105.00	21.00	3.00	8.00	30.00	40.00
RaB:								
Raritan-----------	2e	4.00	105.00	21.00	3.00	8.00	30.00	40.00
RcC:								
Ravenrock---------	6s	---	---	---	---	---	---	---
Highfield---------	6s	---	---	---	---	---	---	---

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture	Soybeans	Wheat
		Tons	Bu	Tons	Tons	AUM	Bu	Bu
RcC:								
Rock outcrop------	8s	---	---	---	---	---	---	---
RcD:								
Ravenrock---------	7s	---	---	---	---	---	---	---
Highfield---------	7s	---	---	---	---	---	---	---
Rock outcrop------	8s	---	---	---	---	---	---	---
RcF:								
Ravenrock---------	7s	---	---	---	---	---	---	---
Highfield---------	7s	---	---	---	---	---	---	---
Rock outcrop------	8s	---	---	---	---	---	---	---
RdC:								
Ravenrock---------	6s	---	---	---	---	---	---	---
Rohrersville------	6s	---	---	---	---	---	---	---
ReA:								
Readington--------	2w	3.50	105.00	21.00	3.00	6.50	30.00	45.00
ReB:								
Readington--------	2e	3.50	105.00	21.00	3.00	6.50	30.00	45.00
RfA:								
Reaville----------	3w	---	75.00	15.00	2.50	5.00	25.00	29.00
RfB:								
Reaville----------	3w	---	75.00	15.00	2.50	5.00	25.00	29.00
RfC:								
Reaville----------	3e	---	70.00	14.00	2.00	4.00	23.00	27.00
RoB:								
Rohrersville------	3w	---	---	---	---	---	---	---
RsB:								
Rohrersville------	6s	---	---	---	---	---	---	---
Rw:								
Rowland-----------	2w	4.50	130.00	26.00	3.50	8.50	43.00	45.00
StB:								
Steinsburg--------	2e	3.50	85.00	17.00	3.00	6.60	30.00	35.00
StC:								
Steinsburg--------	3e	3.00	75.00	15.00	2.50	5.60	25.00	35.00
StD:								
Steinsburg--------	4e	3.00	70.00	14.00	2.00	5.00	23.00	30.00
Uc:								
Urban land--------	8s	---	---	---	---	---	---	---
UeB:								
Urban land--------	8s	---	---	---	---	---	---	---
Conestoga---------	2e	5.50	135.00	27.00	3.50	10.50	45.00	50.00

Table 5.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Alfalfa hay	Corn	Corn silage	Grass-legume hay	Pasture	Soybeans	Wheat
		Tons	Bu	Tons	Tons	AUM	Bu	Bu
UgB:								
Urban land--------	8s	---	---	---	---	---	---	---
Penn--------------	2e	3.50	95.00	19.00	3.00	6.50	32.00	40.00
W:								
Water.								
WaA:								
Watchung----------	4w	---	---	---	2.00	4.00	---	---
WaB:								
Watchung----------	6w	---	---	---	2.00	4.00	---	---
WbB:								
Watchung----------	7s	---	---	---	---	---	---	---

Table 6.--Acreage by Capability Class and Subclass

Capability class	Capability subclass	Acreage
Unclassified	---	3,821
1	---	1,786
2	e	68,502
2	w	28,778
3	e	38,832
3	w	40,065
4	e	14,021
4	w	19,977
5	w	549
6	e	1,978
6	w	647
6	s	20,541
7	e	254
7	s	21,425
8	s	2,789

Table 7.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland.)

Map symbol	Soil name
AtA	Athol gravelly silt loam, 0 to 3 percent slopes
AtB	Athol gravelly silt loam, 3 to 8 percent slopes
Be	Bermudian silt loam
BgA	Birdsboro silt loam, 0 to 3 percent slopes
BgB	Birdsboro silt loam, 3 to 8 percent slopes
BrB	Brecknock channery silt loam, 3 to 8 percent slopes
BuB	Buchanan channery loam, 3 to 8 percent slopes
CkA	Clarksburg silt loam, 0 to 3 percent slopes
CkB	Clarksburg silt loam, 3 to 8 percent slopes
Cm	Codorus silt loam
CnA	Conestoga silt loam, 0 to 3 percent slopes
CnB	Conestoga silt loam, 3 to 8 percent slopes
EdB	Edgemont channery loam, 3 to 8 percent slopes
GbB	Glenelg channery silt loam, 3 to 8 percent slopes
GdA	Glenville silt loam, 0 to 3 percent slopes
GdB	Glenville silt loam, 3 to 8 percent slopes
HgB	Highfield channery silt loam, 3 to 8 percent slopes
LeB	Lansdale loam, 3 to 8 percent slopes
LgB	Legore channery silt loam, 3 to 8 percent slopes
LhA	Lehigh channery silt loam, 0 to 3 percent slopes
LhB	Lehigh channery silt loam, 3 to 8 percent slopes
Lw	Lindside silt loam
MdA	Mount Lucas silt loam, 0 to 3 percent slopes
MdB	Mount Lucas silt loam, 3 to 8 percent slopes
MtB	Mt. Zion gravelly silt loam, 3 to 8 percent slopes
MyB	Myersville silt loam, 3 to 8 percent slopes
NaB	Neshaminy channery silt loam, 3 to 8 percent slopes
PcB	Penn silt loam, 3 to 8 percent slopes
RaA	Raritan silt loam, 0 to 3 percent slopes
RaB	Raritan silt loam, 3 to 8 percent slopes
ReA	Readington silt loam, 0 to 3 percent slopes
Rw	Rowland silt loam

Table 8a.--Agricultural Waste Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AbA:							
Abbottstown---------	75	Very limited: depth to saturated zone restricted permeability depth to cemented pan too acid droughty	 1.00 1.00 1.00 0.27 0.01	Very limited: depth to saturated zone low adsorption restricted permeability depth to cemented pan too acid	 1.00 1.00 1.00 1.00 0.85	Very limited: depth to saturated zone restricted permeability depth to cemented pan too acid droughty	 1.00 1.00 1.00 0.85 0.01
AbB:							
Abbottstown---------	75	Very limited: depth to saturated zone restricted permeability depth to cemented pan too acid droughty	 1.00 1.00 1.00 0.27 0.01	Very limited: depth to saturated zone low adsorption restricted permeability depth to cemented pan too acid	 1.00 1.00 1.00 1.00 0.85	Very limited: depth to saturated zone restricted permeability depth to cemented pan too acid too steep for surface application	 1.00 1.00 1.00 0.85 0.68
ArB:							
Arendtsville--------	85	Somewhat limited: too acid	 0.27	Somewhat limited: too acid	 0.85	Somewhat limited: too acid too steep for surface application	 0.85 0.68
ArC:							
Arendtsville--------	85	Somewhat limited: slope too acid	 0.63 0.27	Somewhat limited: too acid slope	 0.85 0.63	Very limited: too steep for surface application too acid too steep for sprinkler application	 1.00 0.85 0.78
ArD:							
Arendtsville--------	80	Very limited: slope too acid	 1.00 0.27	Very limited: slope too acid	 1.00 0.85	Very limited: too steep for surface application too steep for sprinkler application too acid	 1.00 1.00 0.85

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ArE:							
Arendtsville--------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	too steep for surface application	1.00
		too acid	0.27	too acid	0.85	too steep for sprinkler application	1.00
						too acid	0.85
AtA:							
Athol---------------	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too acid	0.11	too acid	0.42	too acid	0.42
AtB:							
Athol---------------	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too acid	0.11	too acid	0.42	too steep for surface application	0.68
						too acid	0.42
AtC:							
Athol---------------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	too steep for surface application	1.00
		too acid	0.11	too acid	0.42	too steep for sprinkler application	0.78
						too acid	0.42
Ba:							
Baile---------------	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	restricted permeability	1.00	restricted permeability	1.00
		ponding	1.00	ponding	1.00	ponding	1.00
		runoff limitation	0.40	too acid	0.85	too acid	0.85
		too acid	0.27				
Be:							
Bermudian-----------	85	Very limited:		Very limited:		Very limited:	
		filtering capacity	1.00	filtering capacity	1.00	filtering capacity	1.00
		flooding	0.60	flooding	1.00	too acid	0.91
		too acid	0.32	too acid	0.91	flooding	0.60
BgA:							
Birdsboro-----------	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too acid	0.27	too acid	0.85	too acid	0.85
BgB:							
Birdsboro-----------	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too acid	0.27	too acid	0.85	too acid	0.85
						too steep for surface application	0.68

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
BgC:							
Birdsboro-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	too acid	0.85	too steep for surface application	1.00
		too acid	0.27	slope	0.63	too acid	0.85
						too steep for sprinkler application	0.78
Bo:							
Bowmansville--------	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		flooding	1.00	flooding	1.00	flooding	1.00
		leaching limitation	0.70	too acid	0.42	too acid	0.42
		restricted permeability	0.41	restricted permeability	0.31	restricted permeability	0.31
		too acid	0.11	filtering capacity	0.01	filtering capacity	0.01
BrB:							
Brecknock-----------	75	Somewhat limited:		Very limited:		Somewhat limited:	
		droughty	0.59	low adsorption	1.00	too acid	0.77
		too acid	0.22	too acid	0.77	too steep for surface application	0.68
				droughty	0.59	droughty	0.59
BrC:							
Brecknock-----------	75	Somewhat limited:		Very limited:		Very limited:	
		slope	0.63	low adsorption	1.00	too steep for surface application	1.00
		droughty	0.59	too acid	0.77	too steep for sprinkler application	0.78
		too acid	0.22	slope	0.63	too acid	0.77
				droughty	0.59	droughty	0.59
BrD:							
Brecknock-----------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		droughty	0.59	slope	1.00	too steep for sprinkler application	1.00
		too acid	0.22	too acid	0.77	too acid	0.77
				droughty	0.59	droughty	0.59

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
BuB:							
Buchanan	85	Very limited:		Very limited:		Very limited:	
		restricted permeability	1.00	restricted permeability	1.00	restricted permeability	1.00
		depth to saturated zone	0.90	depth to saturated zone	0.90	depth to saturated zone	0.90
		depth to cemented pan	0.84	too acid	0.85	too acid	0.85
		too acid	0.27	depth to cemented pan	0.84	depth to cemented pan	0.84
						too steep for surface application	0.68
BvB:							
Buchanan	85	Very limited:		Very limited:		Very limited:	
		too stony	1.00	restricted permeability	1.00	restricted permeability	1.00
		restricted permeability	1.00	depth to saturated zone	0.90	depth to saturated zone	0.90
		depth to saturated zone	0.90	too acid	0.85	too acid	0.85
		depth to cemented pan	0.84	depth to cemented pan	0.84	depth to cemented pan	0.84
		too acid	0.27	large stones on the surface	0.02	too steep for surface application	0.08
CcB:							
Catoctin	85	Very limited:		Very limited:		Very limited:	
		droughty	1.00	low adsorption	1.00	droughty	1.00
		depth to bedrock	0.90	droughty	1.00	depth to bedrock	0.90
		too acid	0.11	depth to bedrock	0.90	too steep for surface application	0.68
		filtering capacity	0.01	too acid	0.42	too acid	0.42
				filtering capacity	0.01	filtering capacity	0.01
CcC:							
Catoctin	85	Very limited:		Very limited:		Very limited:	
		droughty	1.00	low adsorption	1.00	too steep for surface application	1.00
		depth to bedrock	0.90	droughty	1.00	droughty	1.00
		slope	0.63	depth to bedrock	0.90	depth to bedrock	0.90
		too acid	0.11	slope	0.63	too steep for sprinkler application	0.78
		filtering capacity	0.01	too acid	0.42	too acid	0.42

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
CcE:							
Catoctin	85	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		droughty	1.00	slope	1.00	too steep for sprinkler application	1.00
		depth to bedrock	0.90	droughty	1.00	droughty	1.00
		too acid	0.11	depth to bedrock	0.90	depth to bedrock	0.90
		filtering capacity	0.01	too acid	0.42	too acid	0.42
CkA:							
Clarksburg	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.95	depth to saturated zone	0.95	depth to saturated zone	0.95
		restricted permeability	0.74	restricted permeability	0.60	restricted permeability	0.60
		depth to cemented pan	0.29	too acid	0.42	too acid	0.42
		too acid	0.11	depth to cemented pan	0.29	depth to cemented pan	0.29
CkB:							
Clarksburg	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.95	depth to saturated zone	0.95	depth to saturated zone	0.95
		restricted permeability	0.74	restricted permeability	0.60	too steep for surface application	0.68
		depth to cemented pan	0.29	too acid	0.42	restricted permeability	0.60
		too acid	0.11	depth to cemented pan	0.29	too acid	0.42
						depth to cemented pan	0.29
Cm:							
Codorus	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	flooding	1.00
		depth to saturated zone	0.95	depth to saturated zone	0.95	depth to saturated zone	0.95
		too acid	0.32	too acid	0.91	too acid	0.91
		filtering capacity	0.01	filtering capacity	0.01	filtering capacity	0.01
CnA:							
Conestoga	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too acid	0.08	too acid	0.31	too acid	0.31
CnB:							
Conestoga	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too acid	0.08	too acid	0.31	too steep for surface application	0.68
						too acid	0.31

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CnC:							
Conestoga-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	too steep for surface application	1.00
		too acid	0.08	too acid	0.31	too steep for sprinkler application	0.78
						too acid	0.31
CrA:							
Croton--------------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	low adsorption	1.00	restricted permeability	1.00
		Depth to dense layer	1.00	restricted permeability	1.00	ponding	1.00
		ponding	1.00	ponding	1.00	depth to cemented pan	1.00
		depth to cemented pan	1.00	depth to cemented pan	1.00	too acid	0.85
CrB:							
Croton--------------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	low adsorption	1.00	restricted permeability	1.00
		depth to dense layer	1.00	restricted permeability	1.00	depth to cemented pan	1.00
		depth to cemented pan	1.00	depth to cemented pan	1.00	too acid	0.85
		runoff limitation	0.40	too acid	0.85	too steep for surface application	0.68
							0.68
DAM:							
Dams.							
Dx:							
Dumps.							
Dy:							
Dunning-------------	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		flooding	1.00	flooding	1.00	flooding	1.00
		restricted permeability	1.00	restricted permeability	1.00	restricted permeability	1.00
		runoff limitation	0.40				
EdB:							
Edgemont------------	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too acid	0.27	too acid	0.85	too acid	0.85
		droughty	0.05	droughty	0.05	too steep for surface application	0.68
						droughty	0.05

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
EdC:							
Edgemont------------	75	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	too acid	0.85	too steep for surface application	1.00
		too acid	0.27	slope	0.63	too acid	0.85
		droughty	0.05	droughty	0.05	too steep for sprinkler application	0.78
						droughty	0.05
EdD:							
Edgemont------------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	too steep for surface application	1.00
		too acid	0.27	too acid	0.85	too steep for sprinkler application	1.00
		droughty	0.005	droughty	0.05	too acid	0.85
						droughty	0.05
EeB:							
Edgemont------------	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too stony	0.53	too acid	0.85	too acid	0.85
		too acid	0.27	droughty	0.01	too steep for surface application	0.68
		droughty	0.01			droughty	0.01
EeD:							
Edgemont------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	too steep for surface application	1.00
		too stony	0.53	too acid	0.85	too steep for sprinkler application	1.00
		too acid	0.27	droughty	0.01	too acid	0.85
		droughty	0.01			droughty	0.01
EeF:							
Edgemont------------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	too steep for surface application	1.00
		too stony	0.53	too acid	0.85	too steep for sprinkler application	1.00
		too acid	0.27	droughty	0.01	too acid	0.85
		droughty	0.01			droughty	0.01
GbB:							
Glenelg-------------	80	Somewhat limited:		Very limited:		Somewhat limited:	
		too acid	0.27	low adsorption	1.00	too acid	0.85
				too acid	0.85	too steep for surface application	0.68

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
GbC:							
Glenelg-------------	80	Somewhat limited:		Very limited:		Very limited:	
		slope	0.63	low adsorption	1.00	too steep for surface application	1.00
		too acid	0.27	too acid	0.85	too acid	0.85
				slope	0.63	too steep for sprinkler application	0.78
GbD:							
Glenelg-------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		too acid	0.27	slope	1.00	too steep for sprinkler application	1.00
				too acid	0.85	too acid	0.85
GdA:							
Glenville-----------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		depth to cemented pan	1.00	depth to cemented pan	1.00	depth to cemented pan	1.00
		depth to dense layer	1.00	restricted permeability	0.60	restricted permeability	0.60
		restricted permeability	0.74	too acid	0.31	too acid	0.31
		too acid	0.08				
GdB:							
Glenville-----------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		depth to cemented pan	1.00	depth to cemented pan	1.00	depth to cemented pan	1.00
		depth to dense layer	1.00	restricted permeability	0.60	too steep for surface application	0.68
		restricted permeability	0.74	too acid	0.31	restricted permeability	0.60
		too acid	0.08			too acid	0.31
Hc:							
Hatboro-------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		flooding	1.00	flooding	1.00	flooding	1.00
		runoff limitation	0.40	too acid	0.31	too acid	0.31
		too acid	0.08	filtering capacity	0.01	filtering capacity	0.01
		filtering capacity	0.01				

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
HgB:							
Highfield-----------	80	Somewhat limited:		Very limited:		Somewhat limited:	
		droughty	0.45	low adsorption	1.00	too acid	0.85
		too acid	0.27	too acid	0.85	too steep for surface application	0.68
				droughty	0.45	droughty	0.45
HgC:							
Highfield-----------	80	Somewhat limited:		Very limited:		Very limited:	
		slope	0.63	low adsorption	1.00	too steep for surface application	1.00
		droughty	0.45	too acid	0.85	too acid	0.85
		too acid	0.27	slope	0.63	too steep for sprinkler application	0.78
				droughty	0.45	droughty	0.45
HHD:							
Highfield-----------	45	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		droughty	0.45	slope	1.00	too steep for sprinkler application	1.00
		too acid	0.27	too acid	0.85	too acid	0.85
				droughty	0.45	droughty	0.45
Catoctin------------	35	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		droughty	1.00	slope	1.00	too steep for sprinkler application	1.00
		depth to bedrock	0.90	droughty	1.00	droughty	1.00
		too acid	0.11	depth to bedrock	0.90	depth to bedrock	0.90
		filtering capacity	0.01	too acid	0.42	too acid	0.42
HKB:							
Highfield-----------	40	Somewhat limited:		Very limited:		Somewhat limited:	
		too stony	0.53	low adsorption	1.00	too acid	0.85
		droughty	0.39	too acid	0.85	droughty	0.39
		too acid	0.27	droughty	0.39	too steep for surface application	0.08
Catoctin------------	25	Very limited:		Very limited:		Very limited:	
		too stony	1.00	low adsorption	1.00	droughty	1.00
		droughty	1.00	droughty	1.00	cobble content	1.00
		cobble content	1.00	cobble content	1.00	depth to bedrock	0.90
		depth to bedrock	0.90	depth to bedrock	0.90	too acid	0.42
		too acid	0.11	too acid	0.42	too steep for surface application	0.08

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
HKB:							
Myersville----------	15	Somewhat limited:		Very limited:		Somewhat limited:	
		too stony	0.53	low adsorption	1.00	too acid	0.91
		too acid	0.32	too acid	0.91	too steep for surface application	0.08
		filtering capacity	0.01	filtering capacity	0.01	filtering capacity	0.01
HKD:							
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		too stony	0.53	slope	1.00	too steep for sprinkler application	1.00
		droughty	0.39	too acid	0.85	too acid	0.85
		too acid	0.27	droughty	0.39	droughty	0.39
Catoctin------------	30	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		too stony	1.00	slope	1.00	too steep for sprinkler application	1.00
		droughty	1.00	droughty	1.00	droughty	1.00
		cobble content	1.00	cobble content	1.00	cobble content	1.00
		depth to bedrock	0.90	depth to bedrock	0.90	depth to bedrock	0.90
Myersville----------	11	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		too stony	0.53	slope	1.00	too steep for sprinkler application	1.00
		too acid	0.32	too acid	0.91	too acid	0.91
		filtering capacity	0.01	filtering capacity	0.01	filtering capacity	0.01
HMF:							
Highfield-----------	45	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		too stony	0.53	slope	1.00	too steep for sprinkler application	1.00
		droughty	0.39	too acid	0.85	too acid	0.85
		too acid	0.27	droughty	0.39	droughty	0.39

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
HMF:							
Catoctin------------	35	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		too stony	1.00	slope	1.00	too steep for sprinkler application	1.00
		droughty	1.00	droughty	1.00	droughty	1.00
		cobble content	1.00	cobble content	1.00	cobble content	1.00
		depth to bedrock	0.90	depth to bedrock	0.90	depth to bedrock	0.90
KnB:							
Klinesville---------	85	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	droughty	1.00	droughty	1.00
		droughty	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		too acid	0.32	low adsorption	1.00	too acid	0.91
		filtering capacity	0.01	too acid	0.91	too steep for surface application	0.68
				filtering capacity	0.01	filtering capacity	0.01
KnC:							
Klinesville---------	80	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	droughty	1.00	droughty	1.00
		droughty	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		slope	0.63	low adsorption	1.00	too steep for surface application	1.00
		too acid	0.32	too acid	0.91	too acid	0.91
		filtering capacity	0.01	slope	0.63	too steep for sprinkler application	0.78
KnD:							
Klinesville---------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	droughty	1.00	droughty	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		droughty	1.00	low adsorption	1.00	too steep for surface application	1.00
		too acid	0.32	slope	1.00	too steep for sprinkler application	1.00
		filtering capacity	0.01	too acid	0.91	too acid	0.91
KnE:							
Klinesville---------	85	Very limited:		Very limited:		Very limited:	
		slope	1.00	droughty	1.00	droughty	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		droughty	1.00	low adsorption	1.00	too steep for surface application	1.00
		too acid	0.32	slope	1.00	too steep for sprinkler application	1.00
		filtering capacity	0.01	too acid	0.91	too acid	0.91

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
Lc:							
Lamington-----------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		depth to cemented pan	1.00	depth to cemented pan	1.00	depth to cemented pan	1.00
		restricted permeability	1.00	restricted permeability	1.00	restricted permeability	1.00
		depth to dense layer	1.00	ponding	1.00	ponding	1.00
		ponding	1.00	too acid	0.85	too acid	0.85
LeB:							
Lansdale------------	75	Somewhat limited:		Very limited:		Somewhat limited:	
		too acid	0.27	low adsorption	1.00	too acid	0.85
		droughty	0.02	too acid	0.85	too steep for surface application	0.68
		filtering capacity	0.01	droughty	0.02	droughty	0.02
				filtering capacity	0.01	filtering capacity	0.01
LfC:							
Lansdale------------	75	Somewhat limited:		Very limited:		Very limited:	
		slope	0.63	low adsorption	1.00	too steep for surface application	1.00
		too acid	0.27	too acid	0.85	too acid	0.85
		droughty	0.05	slope	0.63	too steep for sprinkler application	0.78
		filtering capacity	0.01	droughty	0.05	droughty	0.05
				filtering capacity	0.01	filtering capacity	0.01
LgB:							
Legore--------------	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too acid	0.18	too acid	0.67	too steep for surface application	0.68
						too acid	0.67
LgC:							
Legore--------------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	too acid	0.67	too steep for surface application	1.00
		too acid	0.18	slope	0.63	too steep for sprinkler application	0.78
						too acid	0.67

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LgD:							
Legore	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	too steep for surface application	1.00
		too acid	0.18	too acid	0.67	too steep for sprinkler application	1.00
						too acid	0.67
LhA:							
Lehigh	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	low adsorption	1.00	restricted permeability	1.00
		too acid	0.08	restricted permeability	1.00	too acid	0.31
		droughty	0.01	too acid	0.31	droughty	0.01
				droughty	0.01		
LhB:							
Lehigh	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	low adsorption	1.00	restricted permeability	1.00
		too acid	0.08	restricted permeability	1.00	too steep for surface application	0.68
		droughty	0.01	too acid	0.31	too acid	0.31
				droughty	0.01	droughty	0.01
LhC:							
Lehigh	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	low adsorption	1.00	too steep for surface application	1.00
		slope	0.63	restricted permeability	1.00	restricted permeability	1.00
		too acid	0.08	slope	0.31	too steep for sprinkler application	0.78
		droughty	0.01	too acid	0.31	too acid	0.31
LkB:							
Lehigh	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	low adsorption	1.00	restricted permeability	1.00
		too stony	0.53	restricted permeability	1.00	too acid	0.67
		too acid	0.18	too acid	0.67	too steep for surface application	0.08

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Lw:							
Lindside------------	80	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	flooding	1.00
		depth to saturated zone	0.95	depth to saturated zone	0.95	depth to saturated zone	0.95
MdA:							
Mount Lucas---------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	0.74	restricted permeability	0.60	restricted permeability	0.60
		too acid	0.11	too acid	0.42	too acid	0.42
MdB:							
Mount Lucas---------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	0.74	restricted permeability	0.60	too steep for surface application	0.68
		too acid	0.11	too acid	0.42	restricted permeability	0.60
						too acid	0.42
MeB:							
Mount Lucas---------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	0.74	restricted permeability	0.60	too steep for surface application	0.68
		too stony	0.53	too acid	0.42	restricted permeability	0.60
		too acid	0.11			too acid	0.42
MOB:							
Mt. Airy------------	50	Very limited:		Very limited:		Very limited:	
		droughty	1.00	low adsorption	1.00	droughty	1.00
		leaching limitation	0.45	droughty	1.00	too acid	0.85
		depth to bedrock	0.29	too acid	0.85	too steep for surface application	0.68
		too acid	0.27	depth to bedrock	0.29	depth to bedrock	0.29
Manor---------------	30	Somewhat limited:		Very limited:		Very limited:	
		too acid	0.62	too acid	1.00	too acid	1.00
						too steep for surface application	0.68

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
MOC:							
Mt. Airy	55	Very limited:		Very limited:		Very limited:	
		droughty	1.00	low adsorption	1.00	too steep for surface application	1.00
		slope	0.63	droughty	1.00	droughty	1.00
		leeching limitation	0.45	too acid	0.85	too acid	0.85
		depth to bedrock	0.29	slope	0.63	too steep for sprinkler application	0.78
		too acid	0.27	depth to bedrock	0.29	depth to bedrock	0.29
Manor	25	Somewhat limited:		Very limited:		Very limited:	
		slope	0.63	too acid	1.00	too steep for surface application	1.00
		too acid	0.62	slope	0.63	too acid	1.00
						too steep for sprinkler application	0.78
MOD:							
Mt. Airy	60	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		droughty	1.00	slope	1.00	too steep for sprinkler application	1.00
		leaching limitation	0.45	droughty	1.00	droughty	1.00
		depth to bedrock	0.29	too acid	0.85	too acid	0.85
		too acid	0.27	depth to bedrock	0.29	depth to bedrock	0.29
Manor	20	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	too steep for surface application	1.00
		too acid	0.62	too acid	1.00	too steep for sprinkler application	1.00
						too acid	1.00
MtB:							
Mt. Zion	85	Very limited:		Very limited:		Very limited:	
		restricted permeability	1.00	restricted permeability	1.00	restricted permeability	1.00
		too acid	0.18	low adsorption	1.00	too steep for surface application	0.68
		depth to saturated zone	0.09	too acid	0.67	too acid	0.67
				depth to saturated zone	0.09	depth to saturated zone	0.09

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
MtC:							
Mt. Zion------------	85	Very limited:		Very limited:		Very limited:	
		restricted permeability	1.00	restricted permeability	1.00	restricted permeability	1.00
		slope	0.63	low adsorption	1.00	too steep for surface application	1.00
		too acid	0.18	too acid	0.67	too steep for sprinkler application	0.78
		depth to saturated zone	0.09	slope	0.63	too acid	0.67
				depth to saturated zone	0.09	depth to saturated zone	0.09
MtD:							
Mt. Zion------------	85	Very limited:		Very limited:		Very limited:	
		slope	1.00	restricted permeability	1.00	restricted permeability	1.00
		restricted permeability	1.00	low adsorption	1.00	too steep for surface application	1.00
		too acid	0.18	slope	1.00	too steep for sprinkler application	1.00
		depth to saturated zone	0.09	too acid	0.67	too acid	0.67
				depth to saturated zone	0.09	depth to saturated zone	0.09
MyB:							
Myersville----------	80	Somewhat limited:		Very limited:		Somewhat limited:	
		too acid	0.32	low adsorption	1.00	too acid	0.91
		filtering capacity	0.01	too acid	0.91	too steep for surface application	0.68
				filtering capacity	0.01	filtering capacity	0.01
MyC:							
Myersville----------	80	Somewhat limited:		Very limited:		Very limited:	
		slope	0.63	low adsorption	1.00	too steep for surface application	1.00
		too acid	0.32	too acid	0.91	too acid	0.91
		filtering capacity	0.01	slope	0.63	too steep for sprinkler application	0.78
				filtering capacity	0.01	filtering capacity	0.01

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MyD:							
Myersville----------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		too acid	0.32	slope	1.00	too steep for sprinkler application	1.00
		filtering capacity	0.01	too acid	0.91	too acid	0.91
				filtering capacity	0.01	filtering capacity	0.01
NaB:							
Neshaminy-----------	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		restricted permeability	0.41	too acid	0.91	too acid	0.91
		too acid	0.32	restricted permeability	0.31	too steep for surface application	0.68
						restricted permeability	0.31
NaC:							
Neshaminy-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	too acid	0.91	too steep for surface application	1.00
		restricted permeability	0.41	slope	0.63	too acid	0.91
		too acid	0.32	restricted permeability	0.31	too steep for sprinkler application	0.78
						restricted permeability	0.31
NdB:							
Neshaminy-----------	85	Very limited:		Very limited:		Very limited:	
		too stony	1.00	large stones on the surface	1.00	large stones on the surface	1.00
		large stones on the surface	1.00	too acid	0.91	too acid	0.91
		restricted permeability	1.00	restricted permeability	0.31	too steep for surface application	0.68
		too acid	0.32			restricted permeability	0.31
NdD:							
Neshaminy-----------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	too steep for surface application	1.00
		too stony	1.00	large stones on the surface	1.00	too steep for sprinkler application	1.00
		large stones on the surface	1.00	too acid	0.91	large stones on the surface	1.00
		restricted permeability	0.41	restricted permeability	0.31	too acid	0.91
		too acid	0.32			restricted permeability	0.31

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
NdE:							
Neshaminy-----------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	too steep for surface application	1.00
		too stony	1.00	large stones on the surface	1.00	too steep for sprinkler application	1.00
		large stones on the surface	1.00	too acid	0.91	large stones on the surface	1.00
		restricted permeability	0.41	restricted permeability	0.31	too acid	0.91
		too acid	0.32			restricted permeability	0.31
Pa:							
Penlaw--------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	restricted permeability	1.00	restricted permeability	1.00
		depth to cemented pan	1.00	depth to cemented pan	1.00	depth to cemented pan	1.00
PbD:							
Penn----------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		too stony	0.53	slope	1.00	too steep for sprinkler application	1.00
		droughty	0.29	too acid	0.85	too acid	0.85
		too acid	0.27	droughty	0.29	droughty	0.29
		depth to bedrock	0.01	depth to bedrock	0.01	depth to bedrock	0.01
PcB:							
Penn----------------	75	Somewhat limited:		Very limited:		Somewhat limited:	
		too acid	0.27	low adsorption	1.00	too acid	0.85
		droughty	0.24	too acid	0.85	too steep for surface application	0.68
		depth to bedrock	0.01	droughty	0.24	droughty	0.24
				depth to bedrock	0.01	depth to bedrock	0.01
PcC:							
Penn----------------	75	Somewhat limited:		Very limited:		Very limited:	
		slope	0.63	low adsorption	1.00	too steep for surface application	1.00
		too acid	0.27	too acid	0.85	too acid	0.85
		droughty	0.24	slope	0.63	too steep for sprinkler application	0.78
		depth to bedrock	0.01	droughty	0.24	droughty	0.24
				depth to bedrock	0.01	depth to bedrock	0.01

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
PoB:							
Penn	40	Somewhat limited:		Very limited:		Somewhat limited:	
		droughty	0.34	low adsorption	1.00	too acid	0.85
		too acid	0.27	too acid	0.85	too steep for surface application	0.68
		depth to bedrock	0.01	droughty	0.34	droughty	0.34
				depth to bedrock	0.01	depth to bedrock	0.01
Klinesville	35	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	droughty	1.00	droughty	1.00
		droughty	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		too acid	0.32	low adsorption	1.00	too acid	0.91
		filtering capacity	0.01	too acid	0.91	too steep for surface application	0.68
				filtering capacity	0.01	filtering capacity	0.01
PoC:							
Penn	40	Somewhat limited:		Very limited:		Very limited:	
		slope	0.63	low adsorption	1.00	too steep for surface application	1.00
		droughty	0.34	too acid	0.85	too acid	0.85
		too acid	0.27	slope	0.63	too steep for sprinkler application	0.78
		depth to bedrock	0.01	droughty	0.34	droughty	0.34
				depth to bedrock	0.01	depth to bedrock	0.01
Klinesville	35	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	droughty	1.00	droughty	1.00
		droughty	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		slope	0.63	low adsorption	1.00	too steep for surface application	1.00
		too acid	0.32	too acid	0.91	too acid	0.91
		filtering capacity	0.01	slope	0.63	too steep for sprinkler application	0.78
PsD:							
Pequea	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
				slope	1.00	too steep for sprinkler application	1.00
Pt:							
Pits	80	Not rated		Not rated		Not rated	

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
RaA:							
Raritan	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		depth to cemented pan	0.79	too acid	0.91	too acid	0.91
		restricted permeability	0.41	depth to cemented pan	0.79	depth to cemented pan	0.79
		too acid	0.32	restricted permeability	0.31	restricted permeability	0.31
RaB:							
Raritan	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		depth to cemented pan	0.79	too acid	0.91	too acid	0.91
		restricted permeability	0.41	depth to cemented pan	0.79	depth to cemented pan	0.79
		too acid	0.32	restricted permeability	0.31	too steep for surface application	0.68
						restricted permeability	0.31
RcC:							
Ravenrock	40	Very limited:		Very limited:		Very limited:	
		too stony	1.00	low adsorption	1.00	too steep for surface application	1.00
		restricted permeability	1.00	restricted permeability	1.00	restricted permeability	1.00
		slope	0.63	too acid	0.91	too acid	0.91
		large stones on the surface	0.32	slope	0.63	too steep for sprinkler application	0.78
		too acid	0.32	large stones on the surface	0.32	large stones on the surface	0.32
Highfield	35	Very limited:		Very limited:		Very limited:	
		too stony	1.00	low adsorption	1.00	too steep for surface application	1.00
		slope	0.63	too acid	1.00	too acid	1.00
		large stones on the surface	0.50	slope	0.63	too steep for sprinkler application	0.78
		too acid	0.50	large stones on the surface	0.50	large stones on the surface	0.50
		cobble content	0.12	cobble content	0.12	cobble content	0.12
Rock outcrop	11	Not rated		Not rated		Not rated	

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
RcD:							
Ravenrock	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		too stony	1.00	slope	1.00	too steep for sprinkler application	1.00
		restricted permeability	1.00	restricted permeability	1.00	restricted permeability	1.00
		large stones on the surface	0.32	too acid	0.91	too acid	0.91
		too acid	0.32	large stones on the surface	0.32	large stones on the surface	0.32
Highfield	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		too stony	1.00	slope	1.00	too steep for sprinkler application	1.00
		large stones on the surface	0.50	too acid	1.00	too acid	1.00
		too stony	1.00	large stones on the surface	0.50	large stones on the surface	0.50
		too acid	0.50	cobble content	0.12	cobble content	0.12
		cobble content	0.12				
Rock outcrop	11	Not rated		Not rated		Not rated	
RcF:							
Ravenrock	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		too stony	1.00	slope	1.00	too steep for sprinkler application	1.00
		restricted permeability	1.00	restricted permeability	1.00	restricted permeability	1.00
		large stones on the surface	0.32	too acid	0.91	too acid	0.91
		too acid	0.32	large stones on the surface	0.32	large stones on the surface	0.32
Highfield	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		too stony	1.00	slope	1.00	too steep for sprinkler application	1.00
		large stones on the surface	0.50	too acid	1.00	too acid	1.00
		too acid	0.50	large stones on the surface	0.50	large stones on the surface	0.50
		cobble content	0.12	cobble content	0.12	cobble content	0.12
Rock outcrop	11	Not rated		Not rated		Not rated	

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
RdC:							
Ravenrock-----------	45	Very limited:		Very limited:		Very limited:	
		too stony	1.00	low adsorption	1.00	restricted permeability	1.00
		restricted permeability	1.00	restricted permeability	1.00	too steep for surface application	1.00
		large stones on the surface	0.32	too acid	0.91	too acid	0.91
		too acid	0.32	large stones on the surface	0.32	large stones on the surface	0.32
		slope	0.04	slope	0.04	too steep for sprinkler application	0.22
Rohrersville--------	45	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		too stony	1.00	low adsorption	1.00	restricted permeability	1.00
		restricted permeability	1.00	restricted permeability	1.00	too steep for surface application	1.00
		runoff limitation	0.40	too acid	0.67	too acid	0.67
		too acid	0.18	slope	0.04	too steep for sprinkler application	0.22
ReA:							
Readington----------	5	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	low adsorption	1.00	too acid	0.99
		too acid	0.43	too acid	0.99	depth to saturated zone	0.95
		restricted permeability	0.41	depth to saturated zone	0.95	restricted permeability	0.31
		droughty	0.04	restricted permeability	0.31	droughty	0.04
				droughty	0.04		
ReB:							
Readington----------	75	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	0.95	low adsorption	1.00	too acid	0.99
		depth to cemented pan	0.71	too acid	0.99	depth to saturated zone	0.95
		too acid	0.43	depth to saturated zone	0.95	depth to cemented pan	0.71
		restricted permeability	0.41	depth to cemented pan	0.71	too steep for surface application	0.68
		droughty	0.04	restricted permeability	0.31	restricted permeability	0.31

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
RfA:							
Reaville	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	low adsorption	1.00	restricted permeability	1.00
		droughty	1.00	restricted permeability	1.00	droughty	1.00
		depth to bedrock	0.84	droughty	1.00	depth to bedrock	0.84
		too acid	0.11	depth to bedrock	0.84	too acid	0.42
RfB:							
Reaville	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	low adsorption	1.00	restricted permeability	1.00
		droughty	1.00	restricted permeability	1.00	droughty	1.00
		depth to bedrock	0.84	droughty	1.00	depth to bedrock	0.84
		too acid	0.11	depth to bedrock	0.84	too steep for	0.68
						surface application	0.68
RfC:							
Reaville	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	low adsorption	1.00	too steep for surface application	1.00
		droughty	1.00	restricted permeability	1.00	restricted permeability	1.00
		depth to bedrock	0.84	droughty	1.00	droughty	1.00
		slope	0.63	depth to bedrock	0.84	depth to bedrock	0.84
RoB:							
Rohrersville	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	0.74	low adsorption	1.00	too acid	0.85
		runoff limitation	0.40	too acid	0.85	too steep for surface application	0.68
		too acid	0.27	restricted permeability	0.60	restricted permeability	0.60
RsB:							
Rohrersville	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	low adsorption	1.00	restricted permeability	1.00
		too stony	0.53	restricted permeability	1.00	too steep for surface application	1.00
		runoff limitation	0.40	too acid	0.67	too acid	0.67
		too acid	0.18			too steep for sprinkler application	0.10

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
Rw:							
Rowland-------------	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	flooding	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		too acid	0.32	too acid	0.91	too acid	0.91
		filtering capacity	0.01	filtering capacity	0.01	filtering capacity	0.01
StB:							
Steinsburg----------	80	Very limited:		Very limited:		Very limited:	
		droughty	1.00	low adsorption	1.00	droughty	1.00
		depth to bedrock	0.80	droughty	1.00	too acid	0.85
		too acid	0.27	too acid	0.85	depth to bedrock	0.80
		filtering capacity	0.01	depth to bedrock	0.80	too steep for surface application	0.68
				filtering capacity	0.01	filtering capacity	0.01
StC:							
Steinsburg----------	80	Very limited:		Very limited:		Very limited:	
		droughty	1.00	low adsorption	1.00	too steep for surface application	1.00
		depth to bedrock	0.80	droughty	1.00	droughty	1.00
		slope	0.63	too acid	0.85	too acid	0.85
		too acid	0.27	depth to bedrock	0.80	depth to bedrock	0.80
		filtering capacity	0.01	slope	0.63	too steep for sprinkler application	0.78
StD:							
Steinsburg----------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	low adsorption	1.00	too steep for surface application	1.00
		droughty	1.00	slope	1.00	too steep for sprinkler application	1.00
		depth to bedrock	0.80	droughty	1.00	droughty	1.00
		too acid	0.27	too acid	0.85	too acid	0.85
		filtering capacity	0.01	depth to bedrock	0.80	depth to bedrock	0.80
Uc:							
Urban land.							
UeB:							
Urban land----------	60	Not rated		Not rated		Not rated	
Conestoga-----------	15	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too acid	0.08	too acid	0.31	too steep for surface application	0.68
						too acid	0.31

Table 8a.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value	Disposal of wastewater by irrigation: Rating class and limiting features	Value
UgB:							
Urban land----------	55	Not rated		Not rated		Not rated	
Penn----------------	20	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to bedrock	0.42	low adsorption	1.00	too acid	0.85
		too acid	0.27	too acid	0.85	depth to bedrock	0.42
		droughty	0.24	depth to bedrock	0.42	droughty	0.24
				droughty	0.24	too steep for surface application	0.08
W:							
Water.							
WaA:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	restricted permeability	1.00	restricted permeability	1.00
		runoff limitation	0.40	too acid	0.77	too acid	0.77
		too acid	0.22				
WaB:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	1.00	restricted permeability	1.00	restricted permeability	1.00
		runoff limitation	0.40	too acid	0.77	too acid	0.77
		too acid	0.22			too steep for surface application	0.68
WbB:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		too stony	1.00	restricted permeability	1.00	restricted permeability	1.00
		restricted permeability	1.00	too acid	0.77	too acid	0.77
		runoff limitation	0.40	large stones on the surface	0.32	large stones on the surface	0.32
		large stones on the surface	0.32			too steep for surface application	0.08

Table 8b.--Agricultural Waste Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
AbA:							
Abbottstown---------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	restricted permeability	0.96
		too acid	0.85	depth to bedrock	1.00	too acid	0.85
		depth to bedrock	0.84			depth to bedrock	0.84
AbB:							
Abbottstown---------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	restricted permeability	0.96
		too acid	0.85	depth to bedrock	1.00	too acid	0.85
		depth to bedrock	0.84	slope	0.50	depth to bedrock	0.84
						too steep for surface application	0.68
ArB:							
Arendtsville--------	85	Very limited:		Somewhat limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	0.61	too acid	0.85
		too acid	0.85	slope	0.50	too steep for surface application	0.68
				too acid	0.14		
ArC:							
Arendtsville--------	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.61	too steep for sprinkler application	1.00
		too acid	0.85	too acid	0.14	too acid	0.85
ArD:							
Arendtsville--------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.61	too steep for sprinkler application	1.00
		too acid	0.85	too acid	0.14	too acid	0.85

Table 8b.--Agricultural Waste Management—Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
ArE:							
Arendtsville--------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.61	too steep for sprinkler application	1.00
		too acid	0.85	too acid	0.14	too acid	0.85
AtA:							
Athol---------------	85	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	1.00	too acid	0.42
		too acid	0.42				
		too acid	0.42				
AtB:							
Athol---------------	85	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	1.00	too steep for surface application	0.68
		too acid	0.42	slope	0.50	too acid	0.42
AtC:							
Athol---------------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	0.42			too acid	0.42
Ba:							
Baile---------------	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		ponding	1.00	depth to saturated zone	1.00	ponding	1.00
		too acid	0.85	ponding	1.00	restricted permeability	0.96
		seepage	0.69	too acid	0.21	too acid	0.85
Be:							
Bermudian-----------	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	depth to saturated zone	1.00	filtering capacity	1.00
		seepage	1.00	restricted permeability	0.61	too acid	0.91
		too acid	0.91	flooding	0.60	flooding	0.60
BgA:							
Birdsboro-----------	85	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	depth to saturated zone	1.00	too acid	0.85
		too acid	0.85	restricted permeability	1.00		
				too acid	0.21		

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
BgB:							
Birdsboro-----------	75	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	depth to saturated zone	1.00	too acid	0.85
		too acid	0.85	restricted permeability	1.00	too steep for surface application	0.68
				slope	0.50		
				too acid	0.21		
BgC:							
Birdsboro-----------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	depth to saturated zone	1.00	too steep for sprinkler application	1.00
		too acid	0.85	restricted permeability	1.00	too acid	0.85
				too acid	0.21		
Bo:							
Bowmansville--------	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	depth to saturated zone	1.00
		seepage	1.00	restricted permeability	1.00	flooding	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	too acid	0.42
		too acid	0.42			restricted permeability	0.21
						filtering capacity	0.01
BrB:							
Brecknock-----------	75	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	depth to bedrock	1.00	depth to bedrock	0.96
		depth to bedrock	0.96	restricted permeability	1.00	too acid	0.77
		too acid	0.77	slope	0.50	too steep for surface application	0.68
BrC:							
Brecknock-----------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	depth to bedrock	1.00	too steep for sprinkler application	1.00
		depth to bedrock	0.96	restricted permeability	1.00	depth to bedrock	0.96
		too acid	0.77			too acid	0.77

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
BrD:							
Brecknock	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	depth to bedrock	1.00	too steep for sprinkler application	1.00
		depth to bedrock	0.94	restricted permeability	1.00	depth to bedrock	0.96
		too acid	0.77			too acid	0.77
BuB:							
Buchanan	85	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	1.00	restricted permeability	0.96
		depth to saturated zone	0.90	depth to saturated zone	1.00	depth to saturated zone	0.90
		too acid	0.85	slope	0.50	too acid	0.85
				too acid	0.14	too steep for surface application	0.68
BvB:							
Buchanan	85	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	restricted	1.00	restricted permeability	0.96
		depth to saturated zone	0.90	permeability	1.00	depth to saturated zone	0.90
		too acid	0.85	depth to saturated zone	1.00	too acid	0.85
				too acid	0.14	too steep for surface application	0.08
						large stones on the surface	0.02
CcB:							
Catoctin	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	slope	0.50	too steep for surface application	0.68
		too acid	0.42	restricted permeability	0.31	too acid	0.42
				cobble content	0.02	filtering capacity	0.01
CcC:							
Catoctin	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.31	too steep for sprinkler application	1.00
		too acid	0.42	cobble content	0.02	too acid	0.42
						filtering capacity	0.01

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
CcE:							
Catoctin------------	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.31	too steep for sprinkler application	1.00
		too acid	0.42	cobble content	0.02	too acid	0.42
						filtering capacity	0.01
CkA:							
Clarksburg----------	80	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	0.95
		depth to saturated zone	0.95	depth to saturated zone	0.95	restricted permeability	0.43
		too acid	0.42			too acid	0.42
CkB:							
Clarksburg----------	80	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	0.95
		depth to saturated zone	0.95	depth to saturated zone	0.95	too steep for surface application	0.68
		too acid	0.42	slope	0.50	restricted permeability	0.43
						too acid	0.42
Cm:							
Codorus-------------	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	flooding	1.00
		seepage	1.00	depth to saturated zone	1.00	depth to saturated zone	0.95
		depth to saturated zone	0.95	restricted permeability	1.00	too acid	0.91
		too acid	0.91			filtering capacity	0.01
CnA:							
Conestoga-----------	80	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	1.00	too acid	0.31
		too acid	0.31				
CnB:							
Conestoga-----------	75	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	1.00	too steep for surface application	0.68
		too acid	0.31	slope	0.50	too acid	0.31

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
CnC:							
Conestoga-----------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	0.31			too acid	0.31
CrA:							
Croton--------------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		seepage	1.00	depth to saturated zone	1.00	ponding	1.00
		ponding	1.00	depth to bedrock	1.00	restricted permeability	0.99
		depth to bedrock	0.96	ponding	1.00	depth to bedrock	0.96
		too acid	0.85			too acid	0.85
CrB:							
Croton--------------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		seepage	1.00	depth to saturated zone	1.00	restricted permeability	0.99
		depth to bedrock	0.96	depth to bedrock	1.00	depth to bedrock	0.96
		too acid	0.85	slope	0.50	too acid	0.85
						too steep for surface application	0.68
DAM:							
Dams.							
Dx:							
Dumps.							
Dy:							
Dunning-------------	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	depth to saturated zone	1.00
		seepage	1.00	restricted permeability	1.00	flooding	1.00
		depth to saturated zone	1.00	depth to satruated zone	1.00	restricted permeability	0.96
EdB:							
Edgemont------------	75	Very limited:		Somewhat limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	0.61	too acid	0.85
		too acid	0.85	slope	0.50	too steep for surface application	0.68
				too acid	0.14		

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
EdC:							
Edgemont------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.61	too steep for sprinkler application	1.00
		too acid	0.85	too acid	0.14	too acid	0.85
EdD:							
Edgemont------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.61	too steep for sprinkler application	1.00
		too acid	0.85	too acid	0.14	too acid	0.85
EeB:							
Edgemont------------	80	Very limited:		Somewhat limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	0.61	too acid	0.85
		too acid	0.85	slope	0.50	too steep for surface application	0.68
				too acid	0.14		
EeD:							
Edgemont------------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.61	too steep for sprinkler application	1.00
		too acid	0.85	too acid	0.14	too acid	0.85
EeF:							
Edgemont------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.61	too steep for sprinkler application	1.00
		too acid	0.85	too acid	0.14	too acid	0.85
GbB:							
Glenelg-------------	80	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	depth to bedrock	1.00	too acid	0.85
		too acid	0.85	restricted permeability	1.00	too steep for surface application	0.68
		depth to bedrock	0.42	slope	0.50	depth to bedrock	0.42

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GbC:							
Glenelg-------------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	depth to bedrock	1.00	too steep for sprinkler application	1.00
		too acid	0.85	restricted permeability	1.00	too acid	0.85
		depth to bedrock	0.42			depth to bedrock	0.42
GbD:							
Glenelg-------------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	depth to bedrock	1.00	too steep for sprinkler application	1.00
		too acid	0.85	restricted permeability	1.00	too acid	0.85
		depth to bedrock	0.42			depth to bedrock	0.42
GdA:							
Glenville-----------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	restricted permeability	0.43
		too acid	0.31			too acid	0.31
GdB:							
Glenville-----------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	too steep for surface application	0.68
		too acid	0.31	slope	0.50		
Hc:							
Hatboro-------------	80	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	depth to saturated zone	1.00
		seepage	1.00	depth to saturated zone	1.00	flooding	1.00
		depth to satruated zone	1.00	restricted permeability	1.00	too acid	0.31
		too acid	o.31			filtering capacity	0.01
HgB:							
Highfield-----------	80	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	depth to bedrock	1.00	depth to bedrock	0.96
		depth to bedrock	0.96	restricted permeability	1.00	too acid	0.85
		too acid	0.85	slope	0.50	too steep for surface application	0.68
						restricted permeability	0.43
						too acid	0.31

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HgC:							
Highfield-----------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	depth to bedrock	1.00	too steep for sprinkler application	1.00
		depth to bedrock	0.96	restricted permeability	1.00	depth to bedrock	0.96
		too acid	0.85			too acid	0.85
HHD:							
Highfield-----------	45	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	depth to bedrock	1.00	too steep for sprinkler application	1.00
		depth to bedrock	0.96	restricted permeability	1.00	depth to bedrock	0.96
		too acid	0.85			too acid	0.85
Catoctin------------	35	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.31	too steep for sprinkler application	1.00
		too acid	0.42	cobble content	0.02	too acid	0.42
						filtering capacity	0.01
HKB:							
Highfield-----------	40	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	depth to bedrock	1.00	depth to bedrock	0.96
		depth to bedrock	0.96	restricted permeability	1.00	too acid	0.85
		too acid	0.85			too steep for surface application	0.08
Catoctin------------	25	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	cobble content	0.52	cobble content	1.00
		too acid	0.42	restricted permeability	0.31	too acid	0.42
		cobble content	0.04			too steep for surface application	0.08
						filtering capacity	0.01
Myersville----------	15	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	depth to bedrock	1.00	too acid	0.91
		too acid	0.91	restricted permeability	1.00	depth to bedrock	0.61
		depth to bedrock	0.61			too steep for surface application	0.08
						filtering capacity	0.01

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
HKD:							
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for	1.00
		too steep for	1.00	depth to bedrock	1.00	surface	
		surface		restricted	1.00	application	
		application		permeability		too steep for	1.00
		depth to bedrock	0.96			sprinkler	
		too acid	0.85			application	
						depth to bedrock	0.96
						too acid	0.85
Catoctin------------	30	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for	1.00
		too steep for	1.00	cobble content	0.52	surface	
		surface		restricted	0.31	application	
		application		permeability		too steep for	1.00
		too acid	0.42			sprinkler	
		cable content	0.04			application	
						cobble content	1.00
						too acid	0.42
Myersville----------	11	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for	1.00
		too steep for	1.00	depth to bedrock	1.00	surface	
		surface		restricted	1.00	application	
		application		permeability		too steep for	1.00
		too acid	0.91			sprinkler	
		depth to bedrock	0.61			application	
						too acid	0.91
						depth to bedrock	0.61
						filtering capacity	0.01
HMF:							
Highfield-----------	45	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for	1.00
		too steep for	1.00	depth to bedrock	1.00	surface	
		surface		restricted	1.00	application	
		application		permeability		too steep for	1.00
		depth to bedrock	0.96			sprinkler	
		too acid	0.85			application	
						depth to bedrock	0.96
						too acid	0.85
Catoctin------------	35	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for	1.00
		too steep for	1.00	restricted	1.00	surface	
		surface		permeability		application	
		application		cobble content	0.04	too steep for	1.00
		too acid	0.42			sprinkler	
		cobble content	0.04			application	
						cobble content	1.00
						too acid	0.42

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
KnB:							
Klinesville---------	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	slope	0.50	too acid	0.91
		too acid	0.91	restricted permeability	0.31	too steep for surface application	0.68
						filtering capacity	0.01
KnC:							
Klinesville---------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.31	too steep for sprinkler application	1.00
		too acid	0.91			too acid	0.91
						filtering capacity	0.01
KnD:							
Klinesville---------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.31	too steep for sprinkler application	1.00
		too acid	0.91			too acid	0.91
						filtering capacity	0.01
KnE:							
Klinesville---------	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for	1.00	restricted permeability	0.31	too steep for sprinkler application	1.00
		surface application	1.00			too acid	0.91
		too acid	0.91			filtering capacity	0.01
Lc:							
Lamington-----------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	ponding	1.00
		ponding	1.00	ponding	1.00	restricted permeability	0.96
		too acid	0.85			too acid	0.85

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
LeB:							
Lansdale------------	75	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	depth to bedrock	1.00	too acid	0.85
		too acid	0.85	restricted permeability	1.00	depth to bedrock	0.71
		depth to bedrock	0.71	slope	0.50	too steep for surface application	0.68
				too acid	0.03	filtering capacity	0.01
LfC:							
Lansdale------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	depth to bedrock	1.00	too steep for sprinkler application	1.00
		too acid	0.85	restricted permeability	1.00	too acid	0.85
		depth to bedrock	0.71	too acid	0.83	depth to bedrock	0.71
						filtering capacity	0.71
LgB:							
Legore--------------	80	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	1.00	too steep for surface application	0.68
		too acid	0.67	slope	0.50	too acid	0.67
LgC:							
Legore--------------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	0.67			too acid	0.67
LgD:							
Legore--------------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	0.67			too acid	0.67
LhA:							
Lehigh--------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to bedrock	0.96
		depth to bedrock	0.96	depth to bedrock	1.00	restricted permeability	0.96
		too acid	0.31			too acid	0.31

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
LhB:							
Lehigh--------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to bedrock	0.96
		depth to bedrock	0.96	depth to bedrock	1.00	restricted permeability	0.96
		too acid	0.31	slope	0.50	too steep for surface application	0.68
						too acid	0.31
LhC:							
Lehigh--------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to saturated zone	1.00
		depth to saturated zond	1.00	restricted permeability	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	depth to saturated zone	1.00	too steep for sprinkler application	1.00
		depth to bedrock	0.96	depth to bedrock	1.00	depth to bedrock	0.96
		too acid	0.31			restricted permeability	0.96
LkB:							
Lehigh--------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to bedrock	0.96
		too acid	0.67	depth to bedrock	1.00	restricted permeability	0.96
						too acid	0.67
						too steep for surface application	0.08
Lw:							
Lindside------------	80	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	flooding	1.00
		seepage	1.00	depth to saturated zone	1.00	depth to saturated zone	0.95
		depth to saturated zone	0.95	restricted permeability	1.00		
MdA:							
Mount Lucas---------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	restricted permeability	0.43
		too acid	0.42			too acid	0.42

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
MdB:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	too steep for surface application	0.68
		too acid	0.42	slope	0.50	restricted permeability	0.43
						too acid	0.42
MeB:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	too steep for surface application	0.68
		too acid	0.42	slope	0.50	restricted permeability	0.43
						too acid	0.42
MOB:							
Mt. Airy	50	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	restricted permeability	1.00	too acid	0.85
		too acid	0.85	slope	0.50	too steep for surface application	0.68
Manor	30	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	too acid	1.00
		too acid	1.00	slope	0.50	too steep for surface application	0.68
				too acid	0.83		
MOC:							
Mt. Airy	55	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	0.85			too acid	0.85
Manor	25	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	1.00	too acid	0.03	too acid	1.00

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
MOD:							
Mt. Airy	60	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	0.85			too acid	0.85
Manor	20	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	1.00	too acid	0.83	too acid	1.00
MtB:							
Mt. Zion	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	restricted permeability	1.00
		too acid	0.67	depth to saturated zone	1.00	too steep for surface application	0.68
		depth to saturated zone	0.09	slope	0.50	too acid	0.67
				cobble content	0.01	depth to saturated zone	0.09
MtC:							
Mt. Zion	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	restricted permeability	1.00
		too acid	0.67	depth to saturated zone	1.00	too steep for sprinkler application	1.00
		depth to saturated zone	0.09	cobble content	0.01	too acid	0.67
						depth to saturated zone	0.09
MtD:							
Mt. Zion	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	0.67	depth to saturated zone	1.00	restricted permeability	1.00
		depth to saturated zone	0.09	cobble content	0.01	too acid	0.67
						depth to saturated zone	0.09

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
MyB:							
Myersville----------	80	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	depth to bedrock	1.00	too acid	0.91
		too acid	0.91	restricted permeability	1.00	too steep for surface application	0.68
		depth to bedrock	0.61	slope	0.50	depth to bedrock	0.61
						filtering capacity	0.01
MyC:							
Myersville----------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	depth to bedrock	1.00	too steep for sprinkler application	1.00
		too acid	0.91	restricted permeability	1.00	too acid	0.91
		depth to bedrock	0.61			depth to bedrock	0.61
						filtering capacity	0.01
MyD:							
Myersville----------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	depth to bedrock	1.00	too steep for sprinkler application	1.00
		too acid	0.91	restricted permeability	1.00	too acid	0.91
		depth to bedrock	0.61			depth to bedrock	0.61
						filtering capacity	0.01
NaB:							
Neshaminy-----------	80	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	1.00	too acid	0.91
		too acid	0.91	slope	0.50	too steep for surface application	0.68
		cobble content	0.02	cobble content	0.05	restricted permeability	0.21
NaC:							
Neshaminy-----------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	0.91	cobble content	0.05	too acid	0.91
		cobble content	0.02			restricted permeability	0.21

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
NdB:							
Neshaminy-----------	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	large stones on the surface	1.00
		too acid	0.91	slope	0.50	too acid	0.91
		cobble content	0.06	cobble content	0.09	too steep for surface application	0.68
						restricted permeability	0.21
NdD:							
Neshaminy-----------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	0.91	cobble content	0.09	large stones on the surface	1.00
		cobble content	0.06			too acid	0.91
						restricted permeability	0.21
NdE:							
Neshaminy-----------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	0.91	cobble content	0.09	large stones on the surface	1.00
		cobble content	0.06			too acid	0.91
						restricted permeability	0.21
Pa:							
Penlaw--------------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	restricted permeability	0.96
PbD:							
Penn----------------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.61	too steep for sprinkler application	1.00
		too acid	0.85	too acid	0.03	too acid	0.85

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
PcB:							
Penn	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	restricted permeability	0.61	too acid	0.85
		too acid	0.85	slope	0.50	too steep for surface application	0.68
				too acid	0.03		
PcC:							
Penn	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.61	too steep for sprinkler application	1.00
		too acid	0.85	too acid	0.03	too acid	0.85
PoB:							
Penn	40	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	restricted permeability	0.61	too acid	0.85
		too acid	0.85	slope	0.50	too steep for surface application	0.68
				too acid	0.03		
Klinesville	35	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	slope	0.50	too acid	0.91
		too acid	0.91	restricted permeability	0.31	too steep for surface application	0.68
						filtering capacity	0.01
PoC:							
Penn	40	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.61	too steep for sprinkler application	1.00
		too acid	0.85	too acid	0.03	too acid	0.85
Klinesville	35	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.31	too steep for sprinkler application	1.00
		too acid	0.91			too acid	0.91
						filtering capacity	0.01

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
PsD:							
Pequea	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	depth to bedrock	1.00	too steep for sprinkler application	1.00
				restricted permeability	0.61		
Pt:							
Pits	80	Not rated		Not rated		Not rated	
RaA:							
Raritan	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	too acid	0.91
		too acid	0.91			restricted permeability	0.21
RaB:							
Raritan	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	too acid	0.91
		too acid	0.91	slope	0.50	too steep for surface application	0.68
						restricted permeability	0.21
RcC:							
Ravenrock	40	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	0.91	depth to saturated zone	1.00	restricted permeability	0.96
						too acid	0.91
						large stones on the surface	0.32
Highfield	35	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	1.00			too acid	1.00
						large stones on the surface	0.50
						cobble content	0.12

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RcC:							
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcD:							
Ravenrock-----------	40	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	0.91	depth to saturated zone	1.00	restricted permeability	0.96
						too acid	0.91
						large stones on the surface	0.32
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	1.00			too acid	1.00
						large stones on the surface	0.50
						cobble content	0.12
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcF:							
Ravenrock-----------	40	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	0.91	depth to saturated zone	1.00	restricted permeability	0.96
						too acid	0.91
						large stones on the surface	0.32
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	1.00	too steep for sprinkler application	1.00
		too acid	1.00			too acid	1.00
						large stones on the surface	0.50
						cobble content	0.12

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
RcF:							
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RdC:							
Ravenrock-----------	45	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	too steep for surface application	1.00
		too acid	0.91	depth to saturated zone	1.00	restricted permeability	0.96
		too steep for surface application	0.50	slope	1.00	too acid	0.91
						too steep for sprinkler application	0.50
						large stones on the surface	0.32
Rohrersville--------	45	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	too steep for surface application	1.00
		too acid	0.67	slope	1.00	restricted permeability	0.96
		too steep for surface application	0.50			too acid	0.67
						too steep for sprinkler application	0.50
ReA:							
Readington----------	75	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	1.00	too acid	0.99
		too acid	0.99	depth to bedrock	1.00	depth to saturated zone	0.95
		depth to saturated	0.95	depth to saturated zone	0.95	depth to bedrock	0.77
		depth to bedrock	0.77			restricted permeability	0.21
ReB:							
Readington----------	75	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	1.00	too acid	0.99
		too acid	0.99	depth to bedrock	1.00	depth to saturated zone	0.95
		depth to saturated zone	0.95	depth to saturated zone	0.95	depth to bedrock	0.77
		depth to bedrock	0.77	slope	0.50	too steep for surface application	0.68
						restricted permeability	0.21

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
RfA:							
Reaville------------	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	restricted permeability	0.96
		too acid	0.42			too acid	0.42
RfB:							
Reaville------------	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	restricted permeability	0.96
		too acid	0.42	slope	0.50	too steep for surface application	0.68
						too acid	0.42
RfC:							
Reaville------------	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	restricted permeability	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to saturated zone	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	depth to bedrock	1.00	too steep for sprinkler application	1.00
		too acid	0.42			restricted permeability	0.96
RoB:							
Rohrersville---------	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	too acid	0.85
		too acid	0.85	slope	0.50	too steep for surface application	0.68
						restricted permeability	0.43

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater: Rating class and limiting features	Value	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
RsB:							
Rohrersville--------	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	too steep for surface application	1.00
		too acid	0.67	slope	1.00	restricted permeability	0.96
		too steep for surface application	0.22			too acid	0.67
						too steep for sprinkler application	0.22
Rw:							
Rowland-------------	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	flooding	1.00
		seepage	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	restricted permeability	1.00	too acid	0.91
		too acid	0.91			filtering capacity	0.01
StB:							
Steinsburg----------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	slope	0.50	too acid	0.85
		too acid	0.85	restricted permeability	0.31	too steep for surface application	0.68
				too acid	0.14	filtering capacity	0.01
StC:							
Steinsburg----------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.31	too steep for sprinkler application	1.00
		too acid	0.85	too acid	0.14	too acid	0.85
						filtering capacity	0.01
StD:							
Steinsburg----------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	too steep for surface application	1.00
		too steep for surface application	1.00	restricted permeability	0.31	too steep for sprinkler application	1.00
		too acid	0.85	too acid	0.14	too acid	0.85
						filtering capacity	0.01
Uc:							
Urban land.							

Table 8b.--Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Overland flow of wastewater		Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UeB:							
Urban land	60	Not rated		Not rated		Not rated	
Conestoga	15	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	restricted permeability	1.00	too steep for surface application	0.68
		too acid	0.31	slope	0.50	too acid	0.31
UgB:							
Urban land	55	Not rated		Not rated		Not rated	
Penn	20	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	restricted permeability	0.61	too acid	0.85
		too acid	0.85	too acid	0.03	too steep for surface application	0.08
W:							
Water.							
WaA:							
Watchung	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		seepage	1.00	depth to saturated zone	1.00	restricted permeability	0.99
		too acid	0.77			too acid	0.77
WaB:							
Watchung	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		seepage	1.00	depth to saturated zone	1.00	restricted permeability	0.99
		too acid	0.77	slope	0.50	too acid	0.77
						too steep for surface application	0.68
WbB:							
Watchung	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	restricted permeability	1.00	depth to saturated zone	1.00
		seepage	1.00	depth to saturated zone	1.00	restricted permeability	0.99
		too acid	0.77			too acid	0.77
						large stones on the surface	0.32
						too steep for surface application	0.08

Table 9.--Forest Productivity

(Only the soils suitable for production of commercial trees are listed. For some units or components, a rating is not applicable.)

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Trees to manage
				cu ft/ac	
AbA:					
Abbottstown-------------	4W	Northern red oak----	70	57	Eastern white pine,
		Red maple-----------	80	57	Japanese larch,
		Sugar maple---------	70	43	Norway spruce,
		White ash-----------	70	43	white spruce,
		Yellow-poplar-------	---	---	yellow-poplar.
AbB:					
Abbottstown-------------	4W	Northern red oak----	70	57	Eastern white pine,
		Red maple-----------	80	57	Japanese larch,
		Sugar maple---------	70	43	Norway spruce,
		White ash-----------	70	43	white spruce,
		Yellow-poplar-------	---	---	yellow-poplar.
ArB:					
Arendtsville------------	4A	Northern red oak----	75	57	Eastern white pine,
		Yellow-poplar-------	75	57	European larch,
					Norway spruce,
					Virginia pine,
					yellow-poplar.
ArC:					
Arendtsville------------	4A	Northern red oak----	75	57	Eastern white pine,
		Yellow-poplar-------	75	57	European larch,
					Norway spruce,
					Virginia pine,
					yellow-poplar.
ArD:					
Arendtsville------------	4R	Northern red oak----	75	57	Eastern white pine,
		Yellow-poplar-------	75	57	European larch,
					Norway spruce,
					Virginia pine,
					yellow-poplar.
ArE:					
Arendtsville------------	4R	Northern red oak----	75	57	Eastern white pine,
		Yellow-poplar-------	75	57	European larch,
					Norway spruce,
					Virginia pine,
					yellow-poplar.
AtA:					
Athol-------------------	4A	Northern red oak----	80	57	Black walnut,
		Shortleaf pine------	80	129	eastern white
		Virginia pine-------	80	114	pine, European
		Yellow-poplar-------	90	86	larch, Norway
					spruce, yellow-
					poplar.
AtB:					
Athol-------------------	4A	Northern red oak----	80	57	Black walnut,
		Shortleaf pine------	80	129	eastern white
		Virginia pine-------	80	114	pine, European
		Yellow-poplar-------	90	86	larch, Norway
					spruce, yellow-
					poplar.

Table 9.--Forest Productivity--Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
				cu ft/ac	
AtC:					
Athol	4A	Northern red oak	80	57	Black walnut, eastern white pine, European larch, Norway spruce, yellow-poplar.
		Shortleaf pine	80	129	
		Virginia pine	80	114	
		Yellow-poplar	90	86	
Ba:					
Baile	4W	American holly	---	0	Eastern white pine, Norway spruce, white spruce.
		Pin oak	85	57	
		Red maple	55	29	
Be:					
Bermudian	4A	Northern red oak	85	57	Black walnut, eastern white pine, European larch, Norway spruce, yellow-poplar.
		Sweetgum	95	114	
		Yellow-poplar	95	100	
BgA:					
Birdsboro	4A	Northern red oak	80	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Shortleaf pine	80	129	
		Virginia pine	80	114	
		Yellow-poplar	90	86	
BgB:					
Birdsboro	4A	Northern red oak	80	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Shortleaf pine	80	129	
		Virginia pine	80	114	
		Yellow-poplar	90	86	
BgC:					
Birdsboro	4A	Northern red oak	80	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Shortleaf pine	80	129	
		Virginia pine	80	114	
		Yellow-poplar	90	86	
Bo:					
Bowmansville	5W	Pin oak	85	72	Eastern white pine, white spruce.
		Red maple	55	29	
BrB:					
Brecknock	4A	Northern red oak	65	43	Eastern white pine, Virginia pine.
		Shortleaf pine	---	---	
		Virginia pine	65	100	
		Yellow-poplar	80	71	
BrC:					
Brecknock	4A	Northern red oak	65	57	Eastern white pine, Virginia pine.
		Shortleaf pine	---	---	
		Virginia pine	65	100	
		Yellow-poplar	80	71	

Table 9.--Forest Productivity--Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
				cu ft/ac	
BrD:					
Brecknock	4R	Northern red oak	65	57	Eastern white pine, Virginia pine.
		Shortleaf pine	---	---	
		Virginia pine	65	100	
		Yellow-poplar	80	71	
BuB:					
Buchanan	3A	Northern red oak	66	43	Eastern white pine, Japanese larch, Northern red oak, Norway spruce, sugar maple, yellow-poplar.
		Yellow-poplar	91	86	
BvB:					
Buchanan	3X	Northern red oak	66	43	Eastern white pine, Japanese larch, Northern red oak, Norway spruce, sugar maple, yellow-poplar.
		Yellow-poplar	91	86	
CcB:					
Catoctin	3F	Black oak	60	43	Eastern white pine, shortleaf pine.
		Northern red oak	60	43	
		Shortleaf pine	60	86	
		Virginia pine	60	86	
		Yellow-poplar	70	57	
CcC:					
Catoctin	3F	Black oak	60	43	Eastern white pine, shortleaf pine.
		Northern red oak	60	43	
		Shortleaf pine	60	86	
		Virginia pine	60	86	
		Yellow-poplar	70	57	
CcE:					
Catoctin	3F	Black oak	60	43	Eastern white pine, shortleaf pine.
		Northern red oak	60	43	
		Shortleaf pine	60	86	
		Virginia pine	60	86	
		Yellow-poplar	70	57	
CkA:					
Clarksburg	4A	Northern red oak	75	57	Eastern white pine, Japanese larch, Norway spruce, yellow-poplar.
		Yellow-poplar	85	86	
CkB:					
Clarksburg	4A	Northern red oak	75	57	Eastern white pine, Japanese larch, Norway spruce, yellow-poplar.
		Yellow-poplar	85	86	

Table 9.--Forest Productivity--Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
				cu ft/ac	
Cm:					
Codorus	5W	Black walnut	100	---	Black walnut, eastern white pine, European larch, Norway spruce, sugar maple, white ash, yellow-poplar.
		Eastern white pine	100	143	
		Northern red oak	85	72	
		Sugar maple	90	57	
		White ash	90	72	
		Yellow-poplar	95	100	
CnA:					
Conestoga	4A	Northern red oak	85	72	Black walnut, eastern white pine, Japanese larch, yellow-poplar.
		Yellow-poplar	95	100	
CnB:					
Conestoga	4A	Northern red oak	85	72	Black walnut, eastern white pine, Japanese larch, yellow-poplar.
		Yellow-poplar	95	100	
CnC:					
Conestoga	4A	Northern red oak	85	72	Black walnut, eastern white pine, Japanese larch, yellow-poplar.
		Yellow-poplar	95	100	
CrA:					
Croton	3W	Pin oak	85	43	Eastern white pine, pin oak.
		Red maple	55	29	
		Swamp white oak	---	---	
CrB:					
Croton	3W	Pin oak	65	43	Eastern white pine, pin oak.
		Red maple	55	29	
		Swamp white oak	---	---	
DAM:					
Dams.					
Dx:					
Dumps.					
Dy:					
Dunning	6W	American sycamore	---	---	American sycamore, baldcypress, pin oak, swamp white oak, sweetgum.
		Black willow	---	---	
		Boxelder	---	---	
		Eastern cottonwood	100	129	
		Pin oak	95	86	
		Red maple	---	---	
		Swamp white oak	---	---	
		Sweetgum	95	114	

Table 9.--Forest Productivity—Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
				cu ft/ac	
EdB:					
Edgemont----------------	4A	Northern red oak----	75	57	Eastern white pine,
		Yellow-poplar-------	85	86	Japanese larch,
					Norway spruce,
					Virginia pine,
					yellow-poplar.
EdC:					
Edgemont----------------	4A	Northern red oak----	75	57	Eastern white pine,
		Yellow-poplar-------	85	86	Japanese larch,
					Norway spruce,
					Virginia pine,
					yellow-poplar.
EdD:					
Edgemont----------------	4R	Northern red oak----	75	57	Eastern white pine,
		Yellow-poplar-------	85	86	Japanese larch,
					Norway spruce,
					Virginia pine,
					yellow-poplar.
EeB:					
Edgemont----------------	4A	Northern red oak----	75	57	Eastern white pine,
		Yellow-poplar-------	85	86	Japanese larch,
					Norway spruce,
					Virginia pine,
					yellow-poplar.
EeD:					
Edgemont----------------	4R	Northern red oak----	75	57	Eastern white pine,
		Yellow-poplar-------	85	86	Japanese larch,
					Norway spruce,
					Virginia pine,
					yellow-poplar.
EeF:					
Edgemont----------------	4R	Northern red oak----	75	57	Eastern white pine,
		Yellow-poplar-------	85	86	Japanese larch,
					Norway spruce,
					Virginia pine,
					yellow-poplar.
GbB:					
Glenelg-----------------	4A	Black oak-----------	78	57	Black walnut,
		Northern red oak----	77	57	eastern white
		Shortleaf pine------	70	114	pine, Japanese
		Virginia pine-------	70	114	larch, shortleaf
		Yellow-poplar-------	90	86	pine, Virginia
					pine, yellow-
					poplar.
GbC:					
Glenelg-----------------	4A	Black oak-----------	78	57	Black walnut,
		Northern red oak----	77	57	eastern white
		Shortleaf pine------	70	114	pine, Japanese
		Virginia pine-------	70	114	larch, shortleaf.
		Yellow-poplar-------	90	86	pine, Virginia
					pine, yellow-
					poplar.

Table 9.--Forest Productivity--Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
				cu ft/ac	
GbD:					
Glenelg	4R	Black oak	78	57	Black walnut, eastern white pine, Japanese larch, shortleaf pine, Virginia pine, yellow-poplar.
		Northern red oak	77	57	
		Shortleaf pine	70	114	
		Virginia pine	70	114	
		Yellow-poplar	90	86	
GdA:					
Glenville	4W	Northern red oak	80	57	Eastern white pine, Japanese larch, Norway spruce, yellow-poplar.
		Sugar maple	80	57	
		White ash	80	57	
		Yellow-poplar	90	86	
GdB:					
Glenville	4W	Northern red oak	80	57	Eastern white pine, Japanese larch, Norway spruce, yellow-poplar.
		Sugar maple	80	57	
		White ash	80	57	
		Yellow-poplar	90	86	
Hc:					
Hatboro	3W	American sycamore	60	43	Eastern white pine, white spruce.
		Pin oak	85	72	
		Red maple	55	43	
HgB:					
Highfield	4A	Northern red oak	75	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Yellow-poplar	85	86	
HgC:					
Highfield	4A	Northern red oak	75	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Yellow-poplar	85	86	
HHD:					
Highfield	4R	Northern red oak	75	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Yellow-poplar	85	86	
Catoctin	3F	Black oak	60	43	Eastern white pine, shortleaf pine.
		Northern red oak	60	43	
		Shortleaf pine	60	86	
		Virginia pine	60	86	
		Yellow-poplar	70	57	
HKB:					
Highfield	4R	Northern red oak	75	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Yellow-poplar	85	86	

Table 9.--Forest Productivity—Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
				cu ft/ac	
HKB:					
Catoctin	6F	Black oak	60	43	Eastern white pine, shortleaf pine.
		Northern red oak	60	43	
		Shortleaf pine	60	86	
		Virginia pine	60	86	
		Yellow-poplar	70	57	
Myersville	5F	Northern red oak	85	72	Black walnut, eastern white pine, yellow-poplar.
		Yellow-poplar	95	100	
HKD:					
Highfield	4R	Northern red oak	75	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Yellow-poplar	85	72	
Catoctin	6F	Black oak	60	43	Eastern white pine, shortleaf pine.
		Northern red oak	60	43	
		Shortleaf pine	60	86	
		Virginia pine	60	86	
		Yellow-poplar	70	57	
Myersville	5F	Northern red oak	85	72	Black walnut, eastern white pine.
		Yellow-poplar	95	100	
HMF:					
Highfield	4R	Northern red oak	75	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Yellow-poplar	85	72	
Catoctin	6F	Northern red oak	60	43	Eastern white pine, shortleaf pine.
		Shortleaf pine	60	86	
		Virginia pine	60	86	
		Yellow-poplar	70	57	
KnB:					
Klinesville	3D	Northern red oak	60	43	Eastern white pine, pitch pine, red pine, Virginia pine.
		Virginia pine	60	86	
KnC:					
Klinesville	3D	Northern red oak	60	43	Eastern white pine, pitch pine, red pine, Virginia pine.
		Virginia pine	60	86	
KnD:					
Klinesville	3D	Northern red oak	60	43	Eastern white pine, pitch pine, red pine, Virginia pine.
		Virginia pine	60	86	

Table 9.--Forest Productivity--Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
				cu ft/ac	
KnE:					
Klinesville	3D	Northern red oak	60	43	Eastern white pine, pitch pine, red pine, Virginia pine.
		Virginia pine	60	86	
Lc:					
Lamington	4W	Pin oak	85	57	Eastern white pine, white spruce.
		Red maple	55	29	
LeB:					
Lansdale	4A	Northern red oak	75	57	Eastern white pine, Norway spruce, shortleaf pine, Virginia pine, yellow-poplar.
		Shortleaf pine	70	114	
		Virginia pine	70	114	
		Yellow-poplar	85	86	
LfC:					
Lansdale	4A	Northern red oak	75	57	Eastern white pine, Norway spruce, shortleaf pine, Virginia pine, yellow-poplar.
		Shortleaf pine	70	114	
		Virginia pine	70	114	
		Yellow-poplar	85	86	
LgB:					
Legore	4A	Black oak	75	57	Eastern white pine, loblolly pine, Virginia pine, yellow-poplar.
		Northern red oak	70	57	
		Shortleaf pine	75	114	
		Virginia pine	75	114	
		Yellow-poplar	80	72	
LgC:					
Legore	4A	Black oak	75	57	Eastern white pine, loblolly pine, Virginia pine, yellow-poplar.
		Northern red oak	70	57	
		Shortleaf pine	75	114	
		Virginia pine	75	114	
		Yellow-poplar	80	72	
LgD:					
Legore	4R	Black oak	75	57	Eastern white pine, loblolly pine, Virginia pine, yellow-poplar.
		Northern red oak	70	57	
		Shortleaf pine	75	114	
		Virginia pine	75	114	
		Yellow-poplar	80	72	
LhA:					
Lehigh	4W	Northern red oak	70	57	Eastern white pine, Japanese larch, Norway spruce, white spruce, yellow-poplar.
		Red maple	70	43	
		Sugar maple	70	43	
		White ash	70	43	
		Yellow-poplar	80	72	
LhB:					
Lehigh	4W	Northern red oak	70	57	Eastern white pine, Japanese larch, Norway spruce, white spruce, yellow-poplar.
		Red maple	70	43	
		Sugar maple	70	43	
		White ash	70	43	
		Yellow-poplar	80	72	

Table 9.--Forest Productivity--Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
				cu ft/ac	
LhC:					
Lehigh	4W	Northern red oak	70	57	Eastern white pine, Japanese larch, Norway spruce, white spruce, yellow-poplar.
		Red maple	70	43	
		Sugar maple	70	43	
		White ash	70	43	
		Yellow-poplar	80	72	
LkB:					
Lehigh	4W	Northern red oak	70	57	Eastern white pine, European larch, Norway spruce, white spruce, yellow-poplar.
		Red maple	70	43	
		Sugar maple	70	43	
		White ash	70	43	
		Yellow-poplar	80	72	
Lw:					
Lindside	5A	Black walnut	---	---	Black oak, black walnut, eastern white pine, Japanese larch, northern red oak, Norway spruce, shortleaf pine, Virginia pine, white ash, white oak, yellow-poplar.
		Northern red oak	85	72	
		Pin oak	85	72	
		Red maple	55	29	
		White ash	85	57	
		White oak	85	72	
		Yellow-poplar	95	100	
MdA:					
Mount Lucas	4W	Northern red oak	75	57	Eastern white pine, Virginia pine, yellow-poplar.
		Virginia pine	75	114	
		Yellow-poplar	90	86	
MdB:					
Mount Lucas	4W	Northern red oak	75	57	Eastern white pine, Virginia pine, yellow-poplar.
		Virginia pine	75	114	
		Yellow-poplar	90	86	
MeB:					
Mount Lucas	4W	Northern red oak	75	57	Eastern white pine, Virginia pine, yellow-poplar.
		Virginia pine	75	114	
		Yellow-poplar	90	86	
MOB:					
Mt. Airy	3F	Black oak	70	43	Eastern white pine, Virginia pine.
		Chestnut oak	---	---	
		Eastern white pine	80	143	
		Hickory	---	---	
		Red maple	---	---	
		Virginia pine	65	100	
		Yellow-poplar	70	57	
Manor	4A	Black oak	75	57	Eastern white pine, shortleaf pine, Virginia pine, yellow-poplar.
		Blackgum	---	---	
		Chestnut oak	---	---	
		Hickory	---	---	
		Shortleaf pine	80	129	
		Southern red oak	---	---	
		Virginia pine	80	114	
		White oak	---	---	
		Yellow-poplar	90	86	

Table 9.--Forest Productivity--Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
				cu ft/ac	
MOC:					
Mt. Airy	3F	Black oak	70	43	Eastern white pine, Virginia pine.
		Chestnut oak	---	---	
		Eastern white pine	80	143	
		Hickory	---	---	
		Red maple	---	---	
		Virginia pine	65	100	
		Yellow-poplar	70	57	
Manor	4A	Black oak	80	57	Eastern white pine, shortleaf pine, Virginia pine, yellow-poplar.
		Blackgum	---	---	
		Chestnut oak	---	---	
		Hickory	---	---	
		Shortleaf pine	80	129	
		Southern red oak	---	---	
		Virginia pine	80	114	
		White oak	---	---	
		Yellow-poplar	90	86	
MOD:					
Mt. Airy	3F	Black oak	70	43	Eastern white pine, Virginia pine.
		Chestnut oak	---	---	
		Eastern white pine	80	143	
		Hickory	---	---	
		Red maple	---	---	
		Virginia pine	65	100	
		Yellow-poplar	70	57	
Manor	4R	Black oak	80	57	Eastern white pine, shortleaf pine, Virginia pine, yellow-poplar.
		Blackgum	---	---	
		Chestnut oak	---	---	
		Hickory	---	---	
		Shortleaf pine	80	129	
		Southern red oak	---	---	
		Virginia pine	80	114	
		White oak	---	---	
		Yellow-poplar	90	86	
MtB:					
Mt. Zion	5A	Northern red oak	73	57	Eastern white pine, yellow-poplar.
		Yellow-poplar	80	72	
MtC:					
Mt. Zion	5A	Northern red oak	73	57	Eastern white pine, yellow-poplar.
		Yellow-poplar	80	72	
MtD:					
Mt. Zion	5R	Northern red oak	73	57	Eastern white pine, yellow-poplar.
		Yellow-poplar	80	72	
MyB:					
Myersville	4A	Northern red oak	85	72	Black walnut, eastern white pine, yellow-poplar.
		Yellow-poplar	95	100	

Table 9.--Forest Productivity--Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Trees to manage
				cu ft/ac	
MyC:					
Myersville	4R	Northern red oak	85	72	Black walnut, eastern white pine, yellow-poplar.
		Yellow-poplar	95	100	
MyD:					
Myersville	4R	Northern red oak	85	72	Black walnut, eastern white pine, yellow-poplar.
		Yellow-poplar	95	100	
NaB:					
Neshaminy	4A	Northern red oak	80	57	Black walnut, eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Yellow-poplar	90	86	
NaC:					
Neshaminy	4A	Northern red oak	80	57	Black walnut, eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Yellow-poplar	90	86	
NdB:					
Neshaminy	4X	Northern red oak	80	57	Black walnut, eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Yellow-poplar	90	86	
NdD:					
Neshaminy	4X	Northern red oak	80	57	Black walnut, eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Yellow-poplar	90	86	
NdE:					
Neshaminy	4X	Northern red oak	80	57	Black walnut, eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Yellow-poplar	90	86	

Table 9.--Forest Productivity--Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
				cu ft/ac	
Pa:					
Penlaw	4W	Northern red oak	75	57	Eastern white pine, Japanese larch, Norway spruce, white spruce, yellow-poplar.
		Pin oak	85	72	
		Red maple	55	29	
		Sugar maple	80	57	
		White ash	80	57	
		Yellow-poplar	85	86	
PbD:					
Penn	3R	Northern red oak	70	43	European larch, loblolly pine, Norway spruce, Virginia pine, yellow-poplar.
		Shortleaf pine	70	114	
		Virginia pine	69	114	
		Yellow-poplar	80	72	
PcB:					
Penn	3A	Northern red oak	70	43	Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Shortleaf pine	70	114	
		Virginia pine	69	114	
		Yellow-poplar	80	72	
PcC:					
Penn	3A	Northern red oak	70	43	Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Shortleaf pine	70	114	
		Virginia pine	69	114	
		Yellow-poplar	80	72	
PoB:					
Penn	3A	Northern red oak	70	43	Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Shortleaf pine	70	114	
		Virginia pine	69	114	
		Yellow-poplar	80	72	
Klinesville	3D	Northern red oak	60	43	Eastern white pine, pitch pine, red pine, Virginia pine.
		Virginia pine	60	86	
PoC:					
Penn	3A	Northern red oak	70	43	Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Shortleaf pine	70	114	
		Virginia pine	69	114	
		Yellow-poplar	80	72	
Klinesville	3D	Northern red oak	60	43	Eastern white pine, pitch pine, red pine, Virginia pine.
		Virginia pine	60	86	
PsD:					
Pequea	4R	Black oak	70	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine.
		Northern red oak	70	57	
		Virginia pine	70	114	
		Yellow-poplar	80	72	
Pt:					
Pits.					

Table 9.--Forest Productivity--Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
				cu ft/ac	
RaA:					
Raritan	4A	Northern red oak	70	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Shortleaf pine	75	114	
		Virginia pine	75	114	
		Yellow-poplar	80	72	
RaB:					
Raritan	4A	Northern red oak	70	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Shortleaf pine	75	114	
		Virginia pine	75	114	
		Yellow-poplar	80	72	
RcC:					
Ravenrock	5X	Northern red oak	85	72	Ash, eastern white pine, northern red oak, yellow-poplar.
		Yellow-poplar	95	100	
Highfield	4X	Black oak	80	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Northern red oak	73	57	
		Yellow-poplar	80	72	
Rock outcrop.					
RcD:					
Ravenrock	5X	Northern red oak	85	72	Ash, eastern white pine, northern red oak, yellow-poplar.
		Yellow-poplar	95	100	
Highfield	4X	Black oak	80	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Northern red oak	73	57	
		Yellow-poplar	80	72	
Rock outcrop.					
RcF:					
Ravenrock	5R	Northern red oak	85	72	Ash, eastern white pine, northern red oak, yellow-poplar.
		Yellow-poplar	95	100	
Highfield	4R	Black oak	80	57	Eastern white pine, Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Northern red oak	73	57	
		Yellow-poplar	80	72	
Rock outcrop.					
RdC:					
Ravenrock	5X	Northern red oak	85	72	Ash, eastern white pine, northern red oak, yellow-poplar.
		Yellow-poplar	95	100	
Rohrersville	4W	Black oak	80	57	Eastern white pine, yellow-poplar.
		Yellow-poplar	90	86	

Table 9.--Forest Productivity--Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
				cu ft/ac	
ReA:					
Readington	4A	Northern red oak	75	57	Eastern white pine,
		Shortleaf pine	75	114	Japanese larch,
		Virginia pine	75	114	Norway spruce,
		Yellow-poplar	80	72	yellow-poplar.
ReB:					
Readington	4A	Northern red oak	75	57	Eastern white pine,
		Shortleaf pine	75	114	Japanese larch,
		Virginia pine	75	114	Norway spruce,
		Yellow-poplar	80	72	yellow-poplar.
RfA:					
Reaville	4W	Northern red oak	80	57	Eastern white pine,
		Virginia pine	75	114	Virginia pine.
RfB:					
Reaville	4W	Northern red oak	80	57	Eastern white pine,
		Virginia pine	75	114	Virginia pine.
RfC:					
Reaville	4W	Northern red oak	80	57	Eastern white pine,
		Virginia pine	75	114	Virginia pine.
RoB:					
Rohrersville	4W	Black oak	80	57	Eastern white pine,
		Yellow-poplar	90	86	yellow-poplar.
RsB:					
Rohrersville	4W	Black oak	80	57	Eastern white pine,
		Yellow-poplar	90	86	yellow-poplar.
Rw:					
Rowland	4W	Northern red oak	80	57	Eastern white pine,
		Yellow-poplar	95	100	European larch,
					loblolly pine,
					Norway spruce,
					yellow-poplar.
StB:					
Steinsburg	8F	Northern red oak	70	57	Eastern white pine,
		Virginia pine	70	114	Norway spruce,
		Yellow-poplar	80	72	Virginia pine.
StC:					
Steinsburg	8F	Northern red oak	70	57	Eastern white pine,
		Virginia pine	70	114	European larch,
		Yellow-poplar	80	72	Norway spruce,
					Virginia pine.
StD:					
Steinsburg	8F	Northern red oak	70	57	Eastern white pine,
		Virginia pine	70	114	European larch,
		Yellow-poplar	80	72	Norway spruce,
					Virginia pine.
Uc:					
Urban land.					

Table 9.--Forest Productivity--Continued

Map symbol and soil name	Ordination symbol	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
				cu ft/ac	
UeB:					
Urban land.					
Conestoga	5A	Northern red oak	85	72	Black walnut, eastern white pine, Japanese larch, yellow-poplar.
		Yellow-poplar	95	100	
UgB:					
Urban land.					
Penn	3A	Northern red oak	70	43	Japanese larch, Norway spruce, Virginia pine, yellow-poplar.
		Shortleaf pine	70	114	
		Virginia pine	69	114	
		Yellow-poplar	80	57	
W:					
Water.					
WaA:					
Watchung	4W	Black oak	80	57	Eastern white pine, European larch, Norway spruce.
		Pin oak	85	72	
		Red maple	55	29	
WaB:					
Watchung	4W	Black oak	80	57	Eastern white pine, European larch, Norway spruce.
		Pin oak	85	72	
		Red maple	55	29	
WbB:					
Watchung	4X	Northern red oak	80	57	Eastern white pine, Japanese larch, Norway spruce, white spruce, yellow-poplar.
		Pin oak	85	57	
		Red maple	55	29	

Table 10a.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AbA:							
Abbottstown---------	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	wetness	0.50	strength	1.00
				strength	0.50		
AbB:							
Abbottstown---------	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	wetness	0.50	strength	1.00
				strength	0.50		
				slope	0.50		
ArB:							
Arendtsville--------	85	Slight		Moderately suited:		Moderate:	
				slope	0.50	strength	0.50
ArC:							
Arendtsville--------	85	Slight		Moderately suited:		Moderate:	
				slope	0.50	strength	0.50
ArD:							
Arendtsville--------	80	Moderate:		Poorly suited:		Moderate:	
		slope	0.50	slope	1.00	strength	0.50
		strength	0.50				
ArE:							
Arendtsville--------	80	Severe:		Poorly suited:		Moderate:	
		slope	1.00	slope	1.00	strength	0.50
		strength	0.50				
AtA:							
Athol---------------	85	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
AtB:							
Athol---------------	85	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		
AtC:							
Athol---------------	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	slope	0.50	strength	1.00
				strength	0.50		
Ba:							
Baile---------------	85	Moderate:		Poorly suited:		Severe:	
		strength	0.50	wetness	1.00	strength	1.00
				ponding	0.50		
				strength	0.50		

Table 10a.--Forestland Management—Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Be:							
Bermudian-----------	85	Severe:		Poorly suited:		Severe:	
		flooding	1.00	flooding	1.00	strength	1.00
		strength	0.50	strength	0.50		
BgA:							
Birdsboro-----------	85	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
BgB:							
Birdsboro-----------	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		
BgC:							
Birdsboro-----------	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	slope	0.50	strength	1.00
				strength	0.50		
Bo:							
Bowmansville--------	85	Severe:		Poorly suited:		Severe:	
		flooding	1.00	flooding	1.00	strength	1.00
		strength	0.50	wetness	1.00		
				strength	0.50		
BrB:							
Brecknock-----------	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		
BrC:							
Brecknock-----------	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	slope	0.50	strength	1.00
				strength	0.50		
BrD:							
Brecknock-----------	75	Moderate:		Poorly suited:		Severe:	
		slope	0.50	slope	1.00	strength	1.00
		strength	0.50	strength	0.50		
		restrictive layer	0.50				
BuB:							
Buchanan------------	85	Slight		Moderately suited:		Moderate:	
				slope	0.50	strength	0.50
BvB:							
Buchanan------------	85	Moderate:		Moderately suited:		Moderate:	
		stoniness	0.50	rock fragments	0.50	strength	0.50
CcB:							
Catoctin------------	85	Moderate:		Moderately suited:		Moderate:	
		restrictive layer	0.50	slope	0.50	strength	0.50
CcC:							
Catoctin------------	85	Moderate:		Moderately suited:		Moderate:	
		restrictive layer	0.50	slope	0.50	strength	0.50

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CcE:							
Catoctin------------	85	Severe:		Poorly suited:		Moderate:	
		restrictive layer	1.00	slope	1.00	strength	0.50
		slope	0.50				
CkA:							
Clarksburg----------	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
CkB:							
Clarksburg----------	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		
Cm:							
Codorus-------------	85	Severe:		Poorly suited:		Severe:	
		flooding	1.00	flooding	1.00	strength	1.00
		strength	0.50	strength	0.50		
CnA:							
Conestoga-----------	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
CnB:							
Conestoga-----------	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		
CnC:							
Conestoga-----------	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	slope	0.50	strength	1.00
				strength	0.50		
CrA:							
Croton--------------	75	Moderate:		Poorly suited:		Severe:	
		strength	0.50	ponding	1.00	strength	1.00
				wetness	1.00		
				strength	0.50		
CrB:							
Croton--------------	75	Moderate:		Poorly suited:		Severe:	
		strength	0.50	wetness	1.00	strength	1.00
				strength	0.50		
				slope	0.50		
DAM:							
Dams.							
Dx:							
Dumps.							
Dy:							
Dunning-------------	85	Severe:		Poorly suited:		Severe:	
		flooding	1.00	flooding	1.00	strength	1.00
		strength	0.50	wetness	1.00		
				strength	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
EdB:							
Edgemont------------	75	Slight		Moderately suited:		Moderate:	
				slope	0.50	strength	0.50
EdC:							
Edgemont------------	75	Slight		Moderately suited:		Moderate:	
				slope	0.50	strength	0.50
EdD:							
Edgemont------------	75	Moderate:		Poorly suited:		Moderate:	
		slope	0.50	slope	1.00	strength	0.50
EeB:							
Edgemont------------	80	Slight		Moderately suited:		Moderate:	
				slope	0.50	strength	0.50
EeD:							
Edgemont------------	80	Moderate:		Poorly suited:		Moderate:	
		slope	0.50	slope	1.00	strength	0.50
EeF:							
Edgemont------------	75	Severe:		Poorly suited:		Moderate:	
		slope	1.00	slope	1.00	strength	0.50
GbB:							
Glenelg-------------	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		
GbC:							
Glenelg-------------	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	slope	0.50	strength	1.00
				strength	0.50		
GbD:							
Glenelg-------------	80	Moderate:		Poorly suited:		Severe:	
		slope	0.50	slope	1.00	strength	1.00
		strength	0.50	strength	0.50		
GdA:							
Glenville-----------	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	wetness	0.50	strength	1.00
				strength	0.50		
GdB:							
Glenville-----------	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	wetness	0.50	strength	1.00
				strength	0.50		
				slope	0.50		
Hc:							
Hatboro-------------	80	Severe:		Poorly suited:		Severe:	
		flooding	1.00	flooding	1.00	strength	1.00
		strength	0.50	wetness	1.00		
				strength	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
HgB:							
Highfield-----------	80	Slight		Moderately suited:		Moderate:	
				slope	0.50	strength	0.50
HgC:							
Highfield-----------	80	Slight		Moderately suited:		Moderate:	
				slope	0.50	strength	0.50
HHD:							
Highfield-----------	45	Moderate:		Poorly suited:		Moderate:	
		slope	0.50	slope	1.00	strength	0.50
		restrictive layer	0.50				
Catoctin------------	35	Severe:		Poorly suited:		Moderate:	
		restrictive layer	1.00	slope	1.00	strength	0.50
		slope	0.50				
HKB:							
Highfield-----------	40	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
Catoctin------------	25	Moderate:		Moderately suited:		Moderate:	
		stoniness	0.50	rock fragments	0.50	strength	0.50
		strength	0.50	strength	0.50		
		restrictive layer	0.50				
Myersville----------	15	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
HKD:							
Highfield-----------	40	Moderate:		Poorly suited:		Severe:	
		slope	0.50	slope	1.00	strength	1.00
		restrictive layer	0.50	strength	0.50		
Catoctin------------	30	Severe:		Poorly suited:		Moderate:	
		restrictive layer	1.00	slope	1.00	strength	0.50
		slope	0.50	rock fragments	0.50		
		stoniness	0.50	strength	0.50		
		strength	0.50				
Myersville----------	11	Moderate:		Poorly suited:		Severe:	
		slope	0.50	slope	1.00	strength	1.00
		strength	0.50	strength	0.50		
HMF:							
Highfield-----------	45	Severe:		Poorly suited:		Severe:	
		slope	1.00	slope	1.00	strength	1.00
				strength	0.50		
Catoctin------------	35	Severe:		Poorly suited:		Moderate:	
		restrictive layer	1.00	slope	1.00	strength	0.50
		slope	0.50	rock fragments	0.50		
		stoniness	0.50	strength	0.50		
		strength	0.50				
KnB:							
Klinesville---------	85	Severe:		Moderately suited:		Moderate:	
		restrictive layer	1.00	slope	0.50	strength	0.50

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
KnC:							
Klinesville---------	80	Severe:		Moderately suited:		Moderate:	
		restrictive layer	1.00	slope	0.50	strength	0.50
KnD:							
Klinesville---------	80	Severe:		Poorly suited:		Moderate:	
		restrictive layer	1.00	slope	1.00	strength	0.50
		slope	0.50				
KnE:							
Klinesville---------	85	Severe:		Poorly suited:		Moderate:	
		restrictive layer	1.00	slope	1.00	strength	0.50
		slope	0.50				
Lc:							
Lamington-----------	75	Moderate:		Poorly suited:		Severe:	
		strength	0.50	ponding	1.00	strength	1.00
				wetness	1.00		
				strength	0.50		
LeB:							
Lansdale------------	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		
LfC:							
Lansdale------------	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	slope	0.50	strength	1.00
				strength	0.50		
LgB:							
Legore--------------	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		
LgC:							
Legore--------------	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	slope	0.50	strength	1.00
				strength	0.50		
LgD:							
Legore--------------	80	Moderate:		Poorly suited:		Severe:	
		slope	0.50	slope	1.00	strength	1.00
		strength	0.50	strength	0.50		
LhA:							
Lehigh--------------	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	wetness	0.50	strength	1.00
				strength	0.50		
LhB:							
Lehigh--------------	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	wetness	0.50	strength	1.00
				strength	0.50		
				slope	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
LhC:							
Lehigh	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	slope	0.50	strength	1.00
				wetness	0.50		
				strength	0.50		
LkB:							
Lehigh	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	wetness	0.50	strength	1.00
				strength	0.50		
Lw:							
Lindside	80	Severe:		Poorly suited:		Severe:	
		flooding	1.00	flooding	1.00	strength	1.00
		strength	0.50	strength	0.50		
MdA:							
Mount Lucas	80	Moderate:		Poorly suited:		Severe:	
		strength	0.50	wetness	1.00	strength	1.00
				strength	0.50		
MdB:							
Mount Lucas	80	Moderate:		Poorly suited:		Severe:	
		strength	0.50	wetness	1.00	strength	1.00
				strength	0.50		
				slope	0.50		
MeB:							
Mount Lucas	80	Slight		Poorly suited:		Moderate:	
				wetness	1.00	strength	0.50
				rock fragments	0.50		
				slope	0.50		
MOB:							
Mt. Airy	50	Slight		Moderately suited:		Slight	
				slope	0.50	strength	0.10
Manor	30	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		
MOC:							
Mt. Airy	55	Slight		Moderately suited:		Slight	
				slope	0.50	strength	0.10
Manor	25	Moderate:		Moderately suited:		Severe:	
		strength	0.50	slope	0.50	strength	1.00
				strength	0.50		
MOD:							
Mt. Airy	60	Moderate:		Poorly suited:		Slight	
		slope	0.50	slope	1.00	strength	0.10
Manor	20	Moderate:		Poorly suited:		Severe:	
		slope	0.50	slope	1.00	strength	1.00
				strength	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
MtB:							
Mt. Zion	85	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		
MtC:							
Mt. Zion	85	Moderate:		Moderately suited:		Severe:	
		strength	0.50	slope	0.50	strength	1.00
				strength	0.50		
MtD:							
Mt. Zion	85	Moderate:		Poorly suited:		Severe:	
		slope	0.50	slope	1.00	strength	1.00
		strength	0.50	strength	0.50		
MyB:							
Myersville	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		
MyC:							
Myersville	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	slope	0.50	strength	1.00
				strength	0.50		
MyD:							
Myersville	80	Moderate:		Poorly suited:		Severe:	
		slope	0.50	slope	1.00	strength	1.00
		strength	0.50	strength	0.50		
NaB:							
Neshaminy	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		
NaC:							
Neshaminy	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	slope	0.50	strength	1.00
				strength	0.50		
NdB:							
Neshaminy	85	Moderate:		Poorly suited:		Severe:	
		stoniness	0.50	rock fragments	1.00	strength	1.00
		strength	0.50	strength	0.50		
				slope	0.50		
NdD:							
Neshaminy	80	Moderate:		Poorly suited:		Severe:	
		slope	0.50	slope	1.00	strength	1.00
		stoniness	0.50	rock fragments	1.00		
		strength	0.50	strength	0.50		
NdE:							
Neshaminy	75	Moderate:		Poorly suited:		Severe:	
		slope	0.50	slope	1.00	strength	1.00
		stoniness	0.50	rock fragments	1.00		
		strength	0.50	strength	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Pa:							
Penlaw	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	wetness	0.50	strength	1.00
				strength	0.50		
PbD:							
Penn	80	Moderate:		Poorly suited:		Severe:	
		restrictive layer	0.50	slope	1.00	strength	1.00
		slope	0.50	strength	0.50		
		strength	0.50				
PcB:							
Penn	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
		restrictive layer	0.50	slope	0.50		
PcC:							
Penn	75	Moderate:		Moderately suited:		Severe:	
		restrictive layer	0.50	slope	0.50	strength	1.00
		strength	0.50	strength	0.50		
PoB:							
Penn	40	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
		restrictive layer	0.50	slope	0.50		
Klinesville	35	Severe:		Moderately suited:		Moderate:	
		restrictive layer	1.00	slope	0.50	strength	0.50
PoC:							
Penn	40	Moderate:		Moderately suited:		Severe:	
		restrictive layer	0.50	slope	0.50	strength	1.00
		strength	0.50	strength	0.50		
Klinesville	35	Severe:		Moderately suited:		Moderate:	
		restrictive layer	1.00	slope	0.50	strength	0.50
PsD:							
Pequea	80	Moderate:		Poorly suited:		Severe:	
		slope	0.50	slope	1.00	strength	1.00
		strength	0.50	strength	0.50		
		restrictive layer	0.50				
Pt:							
Pits:	80	Not rated		Not rated		Not rated	
RaA:							
Raritan	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	wetness	0.50	strength	1.00
				strength	0.50		
RaB:							
Raritan	80	Moderate:		Moderately suited:		Severe:	
		strength	0.50	wetness	0.50	strength	1.00
				strength	0.50		
				slope	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
RcC:							
Ravenrock-----------	40	Moderate:		Moderately suited:		Slight	
		stoniness	0.50	slope	0.50	strength	0.10
				rock fragments	0.50		
Highfield-----------	35	Moderate:		Moderately suited:		Severe:	
		stoniness	0.50	slope	0.50	strength	1.00
				rock fragments	0.50		
				strength	0.50		
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcD:							
Ravenrock-----------	40	Moderate:		Poorly suited:		Slight	
		slope	0.50	slope	1.00	strength	0.10
		stoniness	0.50	rock fragments	0.50		
		strength	0.50				
Highfield-----------	40	Moderate:		Poorly suited:		Severe:	
		slope	0.50	slope	1.00	strength	1.00
		stoniness	0.50	rock fragments	0.50		
		restrictive layer	0.50	strength	0.50		
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcF:							
Ravenrock-----------	40	Severe:		Poorly suited:		Slight	
		slope	1.00	slope	1.00	strength	0.10
		stoniness	0.50	rock fragments	0.50		
		strength	0.50				
Highfield-----------	40	Severe:		Poorly suited:		Severe:	
		slope	1.00	slope	1.00	strength	1.00
		stoniness	0.50	rock fragments	0.50		
				strength	0.50		
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RdC:							
Ravenrock-----------	45	Moderate:		Moderately suited:		Slight	
		stoniness	0.50	slope	0.50	strength	0.10
				rock fragments	0.50		
Rohrersville--------	45	Moderate:		Moderately suited:		Severe:	
		stoniness	0.50	slope	0.50	strength	1.00
		strength	0.50	rock fragments	0.50		
				strength	0.50		
				wetness	0.50		
ReA:							
Readington----------	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
ReB:							
Readington----------	75	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
RfA:							
Reaville------------	85	Moderate:		Moderately suited:		Severe:	
		strength	0.50	wetness	0.50	strength	1.00
		restrictive layer	0.50	strength	0.50		
RfB:							
Reaville------------	85	Moderate:		Moderately suited:		Severe:	
		strength	0.50	wetness	0.50	strength	1.00
		restrictive layer	0.50	strength	0.50		
				slope	0.50		
RfC:							
Reaville------------	85	Moderate:		Moderately suited:		Severe:	
		restrictive layer	0.50	slope	0.50	strength	1.00
		strength	0.50	wetness	0.50		
				strength	0.50		
RoB:							
Rohrersville--------	85	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				wetness	0.50		
				slope	0.50		
RsB:							
Rohrersville--------	85	Moderate:		Moderately suited:		Severe:	
		strength	0.50	slope	0.50	strength	1.00
				strength	0.50		
				wetness	0.50		
Rw:							
Rowland-------------	85	Severe:		Poorly suited:		Severe:	
		flooding	1.00	flooding	1.00	strength	1.00
		strength	0.50	strength	0.50		
StB:							
Steinsburg----------	80	Moderate:		Moderately suited:		Moderate:	
		restrictive layer	0.50	slope	0.50	strength	0.50
StC:							
Steinsburg----------	80	Moderate:		Moderately suited:		Moderate:	
		restrictive layer	0.50	slope	0.50	strength	0.50
StD:							
Steinsburg----------	75	Severe:		Poorly suited:		Moderate:	
		restrictive layer	1.00	slope	1.00	strength	0.50
		slope	0.50				
Uc:							
Urban land.							
UeB:							
Urban land----------	60	Not rated		Not rated		Not rated	
Conestoga-----------	15	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
				slope	0.50		

Table 10a.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UgB:							
Urban land	55	Not rated		Not rated		Not rated	
Penn	20	Moderate:		Moderately suited:		Severe:	
		strength	0.50	strength	0.50	strength	1.00
W:							
Water.							
WaA:							
Watchung	80	Moderate:		Poorly suited:		Severe:	
		strength	0.50	wetness	1.00	strength	1.00
				strength	0.50		
WaB:							
Watchung	80	Moderate:		Poorly suited:		Severe:	
		strength	0.50	wetness	1.00	strength	1.00
				strength	0.50		
				slope	0.50		
WbB:							
Watchung	80	Moderate:		Poorly suited:		Severe:	
		stoniness	0.50	rock fragments	1.00	strength	1.00
		strength	0.50	wetness	1.00		
				strength	0.50		

Table 10b.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AbA:							
Abbottstown	75	Slight		Slight		Moderately suited:	
						wetness	0.50
						strength	0.50
AbB:							
Abbottstown	75	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	wetness	0.50
						strength	0.50
						slope	0.50
ArB:							
Arendtsville	85	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
ArC:							
Arendtsville	85	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
ArD:							
Arendtsville	80	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
ArE:							
Arendtsville	80	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
AtA:							
Athol	85	Slight		Slight		Moderately suited:	
						strength	0.50
AtB:							
Athol	85	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
AtC:							
Athol	80	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
						strength	0.50
Ba:							
Baile	85	Slight		Slight		Poorly suited:	
						wetness	1.00
						ponding	0.50
						strength	0.50
Be:							
Bermudian	85	Slight		Slight		Poorly suited:	
						flooding	1.00
						strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
BgA:							
Birdsboro-----------	85	Slight		Slight		Moderately suited:	
						strength	0.50
BgB:							
Birdsboro-----------	75	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
BgC:							
Birdsboro-----------	80	Moderate:		Severe:		Moderately suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	0.50
						strength	0.50
Bo:							
Bowmansville--------	85	Slight		Slight		Poorly suited:	
						flooding	1.00
						wetness	1.00
						strength	0.50
BrB:							
Brecknock-----------	75	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
BrC:							
Brecknock-----------	75	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
						strength	0.50
BrD:							
Brecknock-----------	75	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						strength	0.50
BuB:							
Buchanan------------	85	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
BvB:							
Buchanan------------	85	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	rock fragments	0.50
CcB:							
Catoctin------------	85	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
CcC:							
Catoctin------------	85	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
CcE:							
Catoctin------------	85	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
CkA:							
Clarksburg----------	80	Slight		Slight		Moderately suited:	
						strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
CkB:							
Clarksburg----------	80	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
Cm:							
Codorus-------------	85	Slight		Slight		Poorly suited:	
						flooding	1.00
						strength	0.50
CnA:							
Conestoga-----------	80	Slight		Slight		Moderately suited:	
						strength	0.50
CnB:							
Conestoga-----------	75	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
CnC:							
Conestoga-----------	80	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
						strength	0.50
CrA:							
Croton--------------	75	Slight		Slight		Poorly suited:	
						ponding	1.00
						wetness	1.00
						strength	0.50
CrB:							
Croton--------------	75	Slight		Moderate:		Poorly suited:	
				slope/erodibility	0.50	wetness	1.00
						strength	0.50
						slope	0.50
DAM:							
Dams.							
Dx:							
Dumps.							
Dy:							
Dunning-------------	85	Slight		Slight		Poorly suited:	
						flooding	1.00
						wetness	1.00
						strength	0.50
EdB:							
Edgemont------------	75	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
EdC:							
Edgemont------------	75	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
EdD:							
Edgemont------------	75	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
EeB:							
Edgemont------------	80	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
EeD:							
Edgemont------------	80	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
EeF:							
Edgemont------------	75	Very severe		Severe:		Poorly suited:	
		slope/erodibility	0.95	slope/erodibility	0.95	slope	1.00
GbB:							
Glenelg-------------	80	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
GbC:							
Glenelg-------------	80	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
						strength	0.50
GbD:							
Glenelg-------------	80	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						strength	0.50
GdA:							
Glenville-----------	80	Slight		Slight		Moderately suited:	
						wetness	0.50
						strength	0.50
GdB:							
Glenville-----------	80	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	wetness	0.50
						strength	0.50
						slope	0.50
Hc:							
Hatboro-------------	80	Slight		Slight		Poorly suited:	
						flooding	1.00
						wetness	1.00
						strength	0.50
HgB:							
Highfield-----------	80	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
HgC:							
Highfield-----------	80	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
HHD:							
Highfield-----------	45	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
Catoctin------------	35	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
HKB:							
Highfield-----------	40	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
Catoctin------------	25	Slight		Slight		Moderately suited:	
						rock fragments	0.50
						strength	0.50
Myersville----------	15	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
HKD:							
Highfield-----------	40	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						strength	0.50
Catoctin------------	30	Moderate:		Moderate:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.50	slope	1.00
						rock fragments	0.50
						strength	0.50
Myersville----------	11	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						strength	0.50
HMF:							
Highfield-----------	45	Severe:		Severe:		Poorly suited:	
		slope/erodibility	0.75	slope/erodibility	0.95	slope	1.00
						strength	0.50
Catoctin------------	35	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						rock fragments	0.50
						strength	0.50
KnB:							
Klinesville---------	85	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
KnC:							
Klinesville---------	80	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
KnD:							
Klinesville---------	80	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
KnE:							
Klinesville---------	85	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
Lc:							
Lamington-----------	75	Slight		Slight		Poorly suited:	
						ponding	1.00
						wetness	1.00
						strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
LeB:							
Lansdale------------	75	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
LfC:							
Lansdale------------	75	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
						strength	0.50
LgB:							
Legore--------------	80	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
LgC:							
Legore--------------	80	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
						strength	0.50
LgD:							
Legore--------------	80	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						strength	0.50
LhA:							
Lehigh--------------	75	Slight		Slight		Moderately suited:	
						wetness	0.50
						strength	0.50
LhB:							
Lehigh--------------	75	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	wetness	0.50
						strength	0.50
						slope	0.50
LhC:							
Lehigh--------------	75	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
						wetness	0.50
						strength	0.50
LkB:							
Lehigh--------------	75	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	wetness	0.50
						strength	0.50
Lw:							
Lindside------------	80	Slight		Slight		Poorly suited:	
						flooding	1.00
						strength	0.50
MdA:							
Mount Lucas---------	80	Slight		Slight		Poorly suited:	
						wetness	1.00
						strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
MdB:							
Mount Lucas	80	Slight		Moderate:		Poorly suited:	
				slope/erodibility	0.50	wetness	1.00
						strength	0.50
						slope	0.50
MeB:							
Mount Lucas	80	Slight		Moderate:		Poorly suited:	
				slope/erodibility	0.50	wetness	1.00
						rock fragments	0.50
						slope	0.50
MOB:							
Mt. Airy	50	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
Manor	30	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
MOC:							
Mt. Airy	55	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
Manor	25	Moderate:		Severe:		Moderately suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	0.50
						strength	0.50
MOD:							
Mt. Airy	60	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
Manor	20	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						strength	0.50
MtB:							
Mt. Zion	85	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
MtC:							
Mt. Zion	85	Moderate:		Severe:		Moderately suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	0.50
						strength	0.50
MtD:							
Mt. Zion	85	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						strength	0.50
MyB:							
Myersville	80	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
MyC:							
Myersville----------	80	Moderate:		Severe:		Moderately suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	0.50
						strength	0.50
MyD:							
Myersville----------	80	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						strength	0.50
NaB:							
Neshaminy-----------	80	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
NaC:							
Neshaminy-----------	80	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
						strength	0.50
NdB:							
Neshaminy-----------	85	Slight		Moderate:		Poorly suited:	
				slope/erodibility	0.50	rock fragments	1.00
						strength	0.50
						slope	0.50
NdD:							
Neshaminy-----------	80	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						rock fragments	1.00
						strength	0.50
NdE:							
Neshaminy-----------	75	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						rock fragments	1.00
						strength	0.50
Pa:							
Penlaw--------------	80	Slight		Slight		Moderately suited:	
						wetness	0.50
						strength	0.50
PbD:							
Penn----------------	80	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						strength	0.50
PcB:							
Penn----------------	75	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
PcC:							
Penn----------------	75	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
						strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
PoB:							
Penn	40	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
Klinesville	35	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
PoC:							
Penn	40	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
						strength	0.50
Klinesville	35	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
PsD:							
Pequea	80	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						strength	0.50
Pt:							
Pits	80	Not rated		Not rated		Not rated	
RaA:							
Raritan	80	Slight		Slight		Moderately suited:	
						wetness	0.50
						strength	0.50
RaB:							
Raritan	80	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	wetness	0.50
						strength	0.50
						slope	0.50
RcC:							
Ravenrock	40	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
						rock fragments	0.50
Highfield	35	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
						rock fragments	0.50
						strength	0.50
Rock outcrop	11	Not rated		Not rated		Not rated	
RcD:							
Ravenrock	40	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						rock fragments	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
RcD:							
Highfield	40	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
						rock fragments	0.50
						strength	0.50
Rock outcrop	11	Not rated		Not rated		Not rated	
RcF:							
Ravenrock	40	Severe:		Severe:		Poorly suited:	
		slope/erodibility	0.75	slope/erodibility	0.95	slope	1.00
						rock fragments	0.50
Highfield	40	Severe:		Severe:		Poorly suited:	
		slope/erodibility	0.75	slope/erodibility	0.95	slope	1.00
						rock fragments	0.50
						strength	0.50
Rock outcrop	11	Not rated		Not rated		Not rated	
RdC:							
Ravenrock	45	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
						rock fragments	0.50
Rohrersville	45	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
						rock fragments	0.50
						strength	0.50
						wetness	0.50
ReA:							
Readington	75	Slight		Slight		Moderately suited:	
						strength	0.50
ReB:							
Readington	75	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
RfA:							
Reaville	85	Slight		Slight		Moderately suited:	
						wetness	0.50
						strength	0.50
RfB:							
Reaville	85	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	wetness	0.50
						strength	0.50
						slope	0.50
RfC:							
Reaville	85	Slight		Severe:		Moderately suited:	
				slope/erodibility	0.95	slope	0.50
						wetness	0.50
						strength	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
RoB:							
Rohrersville--------	85	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						wetness	0.50
						slope	0.50
RsB:							
Rohrersville--------	85	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
						strength	0.50
						wetness	0.50
Rw:							
Rowland-------------	85	Slight		Slight		Poorly suited:	
						flooding	1.00
						strength	0.50
StB:							
Steinsburg----------	80	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
StC:							
Steinsburg----------	80	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	slope	0.50
StD:							
Steinsburg----------	75	Moderate:		Severe:		Poorly suited:	
		slope/erodibility	0.50	slope/erodibility	0.95	slope	1.00
Uc:							
Urban land.							
UeB:							
Urban land----------	60	Not rated		Not rated		Not rated	
Conestoga-----------	15	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
						slope	0.50
UgB:							
Urban land----------	55	Not rated		Not rated		Not rated	
Penn----------------	20	Slight		Moderate:		Moderately suited:	
				slope/erodibility	0.50	strength	0.50
W:							
Water.							
WaA:							
Watchung-----------	80	Slight		Slight		Poorly suited:	
						wetness	1.00
						strength	0.50
WaB:							
Watchung-----------	80	Slight		Moderate:		Poorly suited:	
				slope/erodibility	0.50	wetness	1.00
						strength	0.50
						slope	0.50

Table 10b.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WbB:							
Watchung------------	80	Slight		Moderate:		Poorly suited:	
				slope/erodibility	0.50	rock fragments	1.00
						wetness	1.00
						strength	0.50

Table 10c.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AbA:							
Abbottstown---------	75	Well suited		Well suited		Moderately suited:	
						strength	0.50
AbB:							
Abbottstown---------	75	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
ArB:							
Arendtsville--------	85	Well suited		Moderately suited:		Well suited	
				slope	0.50		
ArC:							
Arendtsville--------	85	Well suited		Moderately suited:		Well suited	
				slope	0.50		
ArD:							
Arendtsville--------	80	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	slope	0.50
ArE:							
Arendtsville--------	80	Well suited		Unsuited:		Moderately suited:	
				slope	1.00	slope	0.50
AtA:							
Athol---------------	85	Well suited		Well suited		Moderately suited:	
						strength	0.50
AtB:							
Athol---------------	85	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
AtC:							
Athol---------------	80	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
Ba:							
Baile---------------	85	Well suited		Well suited		Moderately suited:	
						strength	0.50
Be:							
Bermudian-----------	85	Well suited		Well suited		Moderately suited:	
						strength	0.50
BgA:							
Birdsboro-----------	85	Well suited		Well suited		Moderately suited:	
						strength	0.50
BgB:							
Birdsboro-----------	75	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
BgC:							
Birdsboro-----------	80	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
Bo:							
Bowmansville--------	85	Well suited		Well suited		Moderately suited:	
						strength	0.50
BrB:							
Brecknock-----------	75	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
				rock fragments	0.50		
BrC:							
Brecknock-----------	75	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
				rock fragments	0.50		
BrD:							
Brecknock-----------	75	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	strength	0.50
				rock fragments	0.50	slope	0.50
BuB:							
Buchanan------------	85	Well suited		Moderately suited:		Well suited	
				slope	0.50		
				rock fragments	0.50		
BvB:							
Buchanan------------	85	Moderately suited:		Poorly suited:		Moderately suited:	
		rock fragments	0.50	rock fragments	0.75	rock fragments	0.50
CcB:							
Catoctin------------	85	Well suited		Moderately suited:		Well suited	
				slope	0.50		
				rock fragments	0.50		
CcC:							
Catoctin------------	85	Well suited		Moderately suited:		Well suited	
				slope	0.50		
				rock fragments	0.50		
CcE:							
Catoctin------------	85	Well suited		Unsuited:		Moderately suited:	
				slope	1.00	slope	0.50
				rock fragments	0.50		
CkA:							
Clarksburg----------	80	Well suited		Well suited		Moderately suited:	
						strength	0.50
CkB:							
Clarksburg----------	80	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
Cm:							
Codorus-------------	85	Well suited		Well suited		Moderately suited:	
						strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
CnA:							
Conestoga-----------	80	Moderately suited:		Moderately suited:		Moderately suited:	
		stickiness	0.50	stickiness	0.50	strength	0.50
CnB:							
Conestoga-----------	75	Moderately suited:		Moderately suited:		Moderately suited:	
		stickiness	0.50	slope	0.50	strength	0.50
				stickiness	0.50		
CnC:							
Conestoga-----------	80	Moderately suited:		Moderately suited:		Moderately suited:	
		stickiness	0.50	slope	0.50	strength	0.50
				stickiness	0.50		
CrA:							
Croton--------------	75	Well suited		Well suited		Moderately suited:	
						strength	0.50
CrB:							
Croton--------------	75	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
DAM:							
Dams.							
Dx:							
Dumps.							
Dy:							
Dunning-------------	85	Moderately suited:		Moderately suited:		Moderately suited:	
		stickiness	0.50	stickiness	0.50	strength	0.50
EdB:							
Edgemont------------	75	Well suited		Moderately suited:		Well suited	
				slope	0.50		
				rock fragments	0.50		
EdC:							
Edgemont------------	75	Well suited		Moderately suited:		Well suited	
				slope	0.50		
				rock fragments	0.50		
EdD:							
Edgemont------------	75	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	slope	0.50
				rock fragments	0.50		
EeB:							
Edgemont------------	80	Well suited		Moderately suited:		Well suited	
				rock fragments	0.50		
				slope	0.50		
EeD:							
Edgemont------------	80	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	slope	0.50
				rock fragments	0.50		

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
EeF:							
Edgemont------------	75	Moderately suited:		Unsuited:		Poorly suited:	
		slope	0.50	slope	1.00	slope	1.00
				rock fragments	0.50		
GbB:							
Glenelg-------------	80	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
GbC:							
Glenelg-------------	80	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
GbD:							
Glenelg-------------	80	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	strength	0.50
						slope	0.50
GdA:							
Glenville-----------	80	Well suited		Well suited		Moderately suited:	
						strength	0.50
GdB:							
Glenville-----------	80	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
Hc:							
Hatboro-------------	80	Well suited		Well suited		Moderately suited:	
						strength	0.50
HgB:							
Highfield-----------	80	Well suited		Moderately suited:		Well suited	
				slope	0.50		
				rock fragments	0.50		
HgC:							
Highfield-----------	80	Well suited		Moderately suited:		Well suited	
				slope	0.50		
				rock fragments	0.50		
HHD:							
Highfield-----------	45	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	slope	0.50
				rock fragments	0.50		
Catoctin------------	35	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	slope	0.50
				rock fragments	0.50		
HKB:							
Highfield-----------	40	Well suited		Moderately suited:		Moderately suited:	
				rock fragments	0.50	strength	0.50
Catoctin------------	25	Moderately suited:		Poorly suited:		Moderately suited:	
		rock fragments	0.50	rock fragments	0.75	rock fragments	0.50
						strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
HKB:							
Myersville----------	15	Well suited		Moderately suited:		Moderately suited:	
				rock fragments	0.50	strength	0.50
HKD:							
Highfield-----------	40	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	strength	0.50
				rock fragments	0.50	slope	0.50
Catoctin------------	30	Moderately suited:		Poorly suited:		Moderately suited:	
		rock fragments	0.50	rock fragments	0.75	rock fragments	0.50
				slope	0.75	strength	0.50
						slope	0.50
Myersville----------	11	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	strength	0.50
				rock fragments	0.50	slope	0.50
HMF:							
Highfield-----------	45	Moderately suited:		Unsuited:		Poorly suited:	
		slope	0.50	slope	1.00	slope	1.00
				rock fragments	0.50	strength	0.50
Catoctin------------	35	Moderately suited:		Unsuited:		Moderately suited:	
		rock fragments	0.50	slope	1.00	rock fragments	0.50
				rock fragments	0.75	strength	0.50
						slope	0.50
KnB:							
Klinesville---------	85	Well suited		Moderately suited:		Well suited	
				rock fragments	0.50		
				slope	0.50		
KnC:							
Klinesville---------	80	Well suited		Moderately suited:		Well suited	
				rock fragments	0.50		
				slope	0.50		
KnD:							
Klinesville---------	80	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	slope	0.50
				rock fragments	0.50		
KnE:							
Klinesville---------	85	Well suited		Unsuited:		Moderately suited:	
				slope	1.00	slope	0.50
				rock fragments	0.50		
Lc:							
Lamington-----------	75	Well suited		Well suited		Moderately suited:	
						strength	0.50
LeB:							
Lansdale------------	75	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
LfC:							
Lansdale------------	75	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
LgB:							
Legore--------------	80	Moderately suited:		Moderately suited:		Moderately suited:	
		stickiness	0.50	slope	0.50	strength	0.50
				stickiness	0.50		
LgC:							
Legore--------------	80	Moderately suited:		Moderately suited:		Moderately suited:	
		stickiness	0.50	slope	0.50	strength	0.50
				stickiness	0.50		
LgD:							
Legore--------------	80	Moderately suited:		Poorly suited:		Moderately suited:	
		stickiness	0.50	slope	0.75	strength	0.50
				stickiness	0.50	slope	0.50
LhA:							
Lehigh--------------	75	Well suited		Moderately suited:		Moderately suited:	
				rock fragments	0.50	strength	0.50
LhB:							
Lehigh--------------	75	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
				rock fragments	0.50		
LhC:							
Lehigh--------------	75	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
				rock fragments	0.50		
LkB:							
Lehigh--------------	75	Well suited		Moderately suited:		Moderately suited:	
				rock fragments	0.50	strength	0.50
Lw:							
Lindside------------	80	Well suited		Well suited		Moderately suited:	
						strength	0.50
MdA:							
Mount Lucas---------	80	Well suited		Well suited		Moderately suited:	
						strength	0.50
MdB:							
Mount Lucas---------	80	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
MeB:							
Mount Lucas---------	80	Well suited		Moderately suited:		Moderately suited:	
				rock fragments	0.50	rock fragments	0.50
				slope	0.50		
MOB:							
Mt. Airy------------	50	Well suited		Moderately suited:		Well suited	
				rock fragments	0.50		
				slope	0.50		

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
MOB:							
Manor	30	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
MOC:							
Mt. Airy	55	Well suited		Moderately suited:		Well suited	
				rock fragments	0.50		
				slope	0.50		
Manor	25	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
MOD:							
Mt. Airy	60	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	slope	0.50
				rock fragments	0.50		
Manor	20	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	strength	0.50
						slope	0.50
MtB:							
Mt. Zion	85	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
MtC:							
Mt. Zion	85	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
MtD:							
Mt. Zion	85	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	strength	0.50
						slope	0.50
MyB:							
Myersville	80	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
MyC:							
Myersville	80	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
MyD:							
Myersville	80	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	strength	0.50
						slope	0.50
NaB:							
Neshaminy	80	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
NaC:							
Neshaminy	80	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
NdB:							
Neshaminy-----------	85	Moderately suited:		Poorly suited:		Poorly suited:	
		rock fragments	0.50	rock fragments	0.75	rock fragments	1.00
				slope	0.50	strength	0.50
NdD:							
Neshaminy-----------	80	Moderately suited:		Poorly suited:		Poorly suited:	
		rock fragments	0.50	slope	0.75	rock fragments	1.00
				rock fragments	0.75	strength	0.50
						slope	0.50
NdE:							
Neshaminy-----------	75	Moderately suited:		Unsuited:		Poorly suited:	
		rock fragments	0.50	slope	1.00	rock fragments	1.00
				rock fragments	0.75	strength	0.50
						slope	0.50
Pa:							
Penlaw--------------	80	Well suited		Well suited		Moderately suited:	
						strength	0.50
PbD:							
Penn----------------	80	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	strength	0.50
				rock fragments	0.50	slope	0.50
PcB:							
Penn----------------	75	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
PcC:							
Penn----------------	75	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
PoB:							
Penn----------------	40	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
Klinesville---------	35	Well suited		Moderately suited:		Well suited	
				rock fragments	0.50		
				slope	0.50		
PoC:							
Penn----------------	40	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
Klinesville---------	35	Well suited		Moderately suited:		Well suited	
				rock fragments	0.50		
				slope	0.50		
PsD:							
Pequea--------------	80	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	strength	0.50
						slope	0.50
Pt:							
Pits----------------	80	Not rated		Not rated		Not rated	

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RaA:							
Raritan-------------	80	Well suited		Well suited		Moderately suited:	
						strength	0.50
RaB:							
Raritan-------------	80	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
RcC:							
Ravenrock-----------	40	Moderately suited:		Poorly suited:		Moderately suited:	
		rock fragments	0.50	rock fragments	0.75	rock fragments	0.50
				slope	0.50		
Highfield-----------	35	Moderately suited:		Poorly suited:		Moderately suited:	
		rock fragments	0.50	rock fragments	0.75	rock fragments	0.50
				slope	0.50	strength	0.50
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcD:							
Ravenrock-----------	40	Moderately suited:		Poorly suited:		Moderately suited:	
		rock fragments	0.50	slope	0.75	rock fragments	0.50
				rock fragments	0.75	slope	0.50
Highfield-----------	40	Moderately suited:		Poorly suited:		Moderately suited:	
		rock fragments	0.50	slope	0.75	rock fragments	0.50
				rock fragments	0.75	strength	0.50
						slope	0.50
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcF:							
Ravenrock-----------	40	Moderately suited:		Unsuited:		Poorly suited:	
		rock fragments	0.50	slope	1.00	slope	1.00
		slope	0.50	rock fragments	0.75	rock fragments	0.50
Highfield-----------	40	Moderately suited:		Unsuited:		Poorly suited:	
		rock fragments	0.50	slope	1.00	slope	1.00
		slope	0.50	rock fragments	0.75	rock fragments	0.50
						strength	0.50
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RdC:							
Ravenrock-----------	45	Moderately suited:		Poorly suited:		Moderately suited:	
		rock fragments	0.50	rock fragments	0.75	rock fragments	0.50
				slope	0.50		
Rohrersville--------	45	Moderately suited:		Poorly suited:		Moderately suited:	
		rock fragments	0.50	rock fragments	0.75	rock fragments	0.50
				slope	0.50	strength	0.50
ReA:							
Readington----------	75	Well suited		Well suited		Moderately suited:	
						strength	0.50

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
ReB:							
Readington----------	75	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
RfA:							
Reaville------------	85	Well suited		Moderately suited:		Moderately suited:	
				rock fragments	0.50	strength	0.50
RfB:							
Reaville------------	85	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
				rock fragments	0.50		
RfC:							
Reaville------------	85	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
				rock fragments	0.50		
RoB:							
Rohrersville--------	85	Well suited		Moderately suited:		Moderately suited:	
				slope	0.50	strength	0.50
RsB:							
Rohrersville--------	85	Well suited		Moderately suited:		Moderately suited:	
				rock fragments	0.50	strength	0.50
				slope	0.50		
Rw:							
Rowland-------------	85	Well suited		Well suited		Moderately suited:	
						strength	0.50
StB:							
Steinsburg----------	80	Well suited		Moderately suited:		Well suited	
				slope	0.50		
				rock fragments	0.50		
StC:							
Steinsburg----------	80	Well suited		Moderately suited:		Well suited	
				slope	0.50		
				rock fragments	0.50		
StD:							
Steinsburg----------	75	Well suited		Poorly suited:		Moderately suited:	
				slope	0.75	slope	0.50
				rock fragments	0.50		
Uc:							
Urban land.							
UeB:							
Urban land----------	60	Not rated		Not rated		Not rated	
Conestoga-----------	15	Moderately suited:		Moderately suited:		Moderately suited:	
		stickiness	0.50	slope	0.50	strength	0.50
				stickiness	0.50		
UgB:							
Urban land----------	55	Not rated		Not rated		Not rated	

Table 10c.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
UgB:							
Penn----------------	20	Well suited		Well suited		Moderately suited:	
						strength	0.50
W:							
Water.							
WaA:							
Watchung------------	80	Poorly suited:		Poorly suited:		Moderately suited:	
		stickiness	0.75	stickiness	0.75	strength	0.50
WaB:							
Watchung------------	80	Poorly suited:		Poorly suited:		Moderately suited:	
		stickiness	0.75	stickiness	0.75	strength	0.50
				slope	0.50		
WbB:							
Watchung------------	80	Poorly suited:		Poorly suited:		Poorly suited:	
		stickiness	0.75	rock fragments	0.75	rock fragments	1.00
		rock fragments	0.50	stickiness	0.75	strength	0.50

Table 10d.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AbA:					
Abbottstown	75	Well suited		Well suited	
AbB:					
Abbottstown	75	Well suited		Well suited	
ArB:					
Arendtsville	85	Well suited		Well suited	
ArC:					
Arendtsville	85	Well suited		Well suited	
ArD:					
Arendtsville	80	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
ArE:					
Arendtsville	80	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
AtA:					
Athol	85	Well suited		Well suited	
AtB:					
Athol	85	Well suited		Well suited	
AtC:					
Athol	80	Well suited		Well suited	
Ba:					
Baile	85	Well suited		Well suited	
Be:					
Bermudian	85	Well suited		Well suited	
BgA:					
Birdsboro	85	Well suited		Well suited	
BgB:					
Birdsboro	75	Well suited		Well suited	
BgC:					
Birdsboro	80	Well suited		Well suited	
Bo:					
Bowmansville		Well suited		Well suited	
BrD:					
Brecknock	75	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
BuB:					
Buchanan	85	Well suited		Well suited	
BvB:					
Buchanan	85	Poorly suited:		Poorly suited:	
		rock fragments	0.50	rock fragments	0.50
CcB:					
Catoctin	85	Well suited		Unsuited:	
				restrictive layer	1.00
CcC:					
Catoctin	85	Well suited		Unsuited:	
				restrictive layer	1.00
CcE:					
Catoctin	85	Poorly suited:		Unsuited:	
		slope	0.50	restrictive layer	1.00
				slope	0.50
CkA:					
Clarksburg	80	Well suited		Well suited	
CkB:					
Clarksburg	80	Well suited		Well suited	
Cm:					
Codorus	85	Well suited		Well suited	
CnA:					
Conestoga	80	Well suited		Well suited	
CnB:					
Conestoga	75	Well suited		Well suited	
CnC:					
Conestoga	80	Well suited		Well suited	
CrA:					
Croton	75	Well suited		Well suited	
CrB:					
Croton	75	Well suited		Well suited	
DAM:					
Dams.					
Dx:					
Dumps.					
Dy:					
Dunning	85	Poorly suited:		Well suited	
		stickiness	0.50		
EdB:					
Edgemont	75	Well suited		Well suited	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
EdC:					
Edgemont	75	Well suited		Well suited	
EdD:					
Edgemont	75	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
EeB:					
Edgemont	80	Well suited		Well suited	
EeD:					
Edgemont	80	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
EeF:					
Edgemont	75	Unsuited:		Unsuited:	
		slope	1.00	slope	1.00
GbB:					
Glenelg	80	Well suited		Well suited	
GbC:					
Glenelg	80	Well suited		Well suited	
GbD:					
Glenelg	80	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
GdA:					
Glenville	80	Well suited		Well suited	
GdB:					
Glenville	80	Well suited		Well suited	
Hc:					
Hatboro	80	Well suited		Well suited	
HgB:					
Highfield	80	Well suited		Well suited	
HgC:					
Highfield	80	Well suited		Well suited	
HHD:					
Highfield	45	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
Catoctin	35	Poorly suited:		Unsuited:	
		slope	0.50	restrictive layer	1.00
				slope	0.50
HKB:					
Highfield	40	Well suited		Well suited	
Catoctin	25	Poorly suited:		Poorly suited:	
		rock fragments	0.50	rock fragments	0.50
Myersville	15	Well suited		Well suited	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface) Rating class and limiting features	Value	Suitability for mechanical site preparation (deep) Rating class and limiting features	Value
HKD:					
Highfield-----------	40	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
Catoctin------------	30	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
		rock fragments	0.50	rock fragments	0.50
Myersville----------	11	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
HMF:					
Highfield-----------	45	Unsuited:		Unsuited:	
		slope	1.00	slope	1.00
Catoctin------------	35	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
		rock fragments	0.50	rock fragments	0.50
KnB:					
Klinesville---------	85	Well suited		Unsuited:	
				restrictive layer	1.00
KnC:					
Klinesville---------	80	Well suited		Unsuited:	
				restrictive layer	1.00
KnD:					
Klinesville---------	80	Poorly suited:		Unsuited:	
		slope	0.50	restrictive layer	1.00
				slope	0.50
KnE:					
Klinesville---------	85	Poorly suited:		Unsuited:	
		slope	0.50	restrictive layer	1.00
				slope	0.50
Lc:					
Lamington-----------	75	Well suited		Well suited	
LeB:					
Lansdale------------	75	Well suited		Well suited	
LfC:					
Lansdale------------	75	Well suited		Well suited	
LgB:					
Legore--------------	80	Well suited		Well suited	
LgC:					
Legore--------------	80	Well suited		Well suited	
LgD:					
Legore--------------	80	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
LhA:					
Lehigh--------------	75	Well suited		Well suited	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
LhB:					
Lehigh	75	Well suited		Well suited	
LhC:					
Lehigh	75	Well suited		Well suited	
LkB:					
Lehigh	75	Well suited		Well suited	
Lw:					
Lindside	80	Well suited		Well suited	
MdA:					
Mount Lucas	80	Well suited		Well suited	
MdB:					
Mount Lucas	80	Well suited		Well suited	
MeB:					
Mount Lucas	80	Poorly suited:		Well suited	
		rock fragments	0.50		
MOB:					
Mt. Airy	50	Well suited		Unsuited:	
				restrictive layer	1.00
Manor	30	Well suited		Well suited	
MOC:					
Mt. Airy	55	Well suited		Unsuited:	
				restrictive layer	1.00
Manor	25	Well suited		Well suited	
MOD:					
Mt. Airy	60	Poorly suited:		Unsuited:	
		slope	0.50	restrictive layer	1.00
				slope	0.50
Manor	20	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
MtB:					
Mt. Zion	85	Well suited		Well suited	
MtC:					
Mt. Zion	85	Well suited		Well suited	
MtD:					
Mt. Zion	85	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
MyB:					
Myersville	80	Well suited		Well suited	
MyC:					
Myersville	80	Well suited		Well suited	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
MyD:					
Myersville----------	80	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
NaB:					
Neshaminy-----------	80	Well suited		Well suited	
NaC:					
Neshaminy-----------	80	Well suited		Well suited	
NdB:					
Neshaminy-----------	85	Unsuited:		Poorly suited:	
		rock fragments	1.00	rock fragments	0.50
NdD:					
Neshaminy-----------	80	Unsuited:		Poorly suited:	
		rock fragments	1.00	slope	0.50
		slope	0.50	rock fragments	0.50
NdE:					
Neshaminy-----------	75	Unsuited:		Poorly suited:	
		rock fragments	1.00	slope	0.50
		slope	0.50	rock fragments	0.50
Pa:					
Penlaw--------------	80	Well suited		Well suited	
PbD:					
Penn----------------	80	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
PcB:					
Penn----------------	75	Well suited		Well suited	
PcC:					
Penn----------------	75	Well suited		Well suited	
PoB:					
Penn----------------	40	Well suited		Well suited	
Klinesville---------	35	Well suited		Unsuited:	
				restrictive layer	1.00
PoC:					
Penn----------------	40	Well suited		Well suited	
Klinesville---------	35	Well suited		Unsuited:	
				restrictive layer	1.00
PsD:					
Pequea--------------	80	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
Pt:					
Pits----------------	80	Not rated		Not rated	

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
RaA:					
Raritan	80	Well suited		Well suited	
RaB:					
Raritan	80	Well suited		Well suited	
RcC:					
Ravenrock	40	Poorly suited:		Poorly suited:	
		rock fragments	0.50	rock fragments	0.50
Highfield	35	Poorly suited:		Poorly suited:	
		rock fragments	0.50	rock fragments	0.50
Rock outcrop	11	Not rated		Not rated	
RcD:					
Ravenrock	40	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
		rock fragments	0.50	rock fragments	0.50
Highfield	40	Poorly suited:		Poorly suited:	
		slope	0.50	slope	0.50
		rock fragments	0.50	rock fragments	0.50
Rock outcrop	11	Not rated		Not rated	
RcF:					
Ravenrock	40	Unsuited:		Unsuited:	
		slope	1.00	slope	1.00
		rock fragments	0.50	rock fragments	0.50
Highfield	40	Unsuited:		Unsuited:	
		slope	1.00	slope	1.00
		rock fragments	0.50	rock fragments	0.50
Rock outcrop	11	Not rated		Not rated	
RdC:					
Ravenrock	45	Poorly suited:		Poorly suited:	
		rock fragments	0.50	rock fragments	0.50
Rohrersville	45	Poorly suited:		Poorly suited:	
		rock fragments	0.50	rock fragments	0.50
ReA:					
Readington	75	Well suited		Well suited	
ReB:					
Readington	75	Well suited		Well suited	
RfA:					
Reaville	85	Well suited		Unsuited:	
				restrictive layer	1.00
RfB:					
Reaville	85	Well suited		Unsuited:	
				restrictive layer	1.00

Table 10d.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
RfC:					
Reaville------------	85	Well suited		Unsuited:	
				restrictive layer	1.00
RoB:					
Rohrersville--------	85	Well suited		Well suited	
RsB:					
Rohrersville--------	85	Well suited		Well suited	
Rw:					
Rowland-------------	85	Well suited		Well suited	
StB:					
Steinsburg----------	80	Well suited		Unsuited:	
				restrictive layer	1.00
StC:					
Steinsburg----------	80	Well suited		Unsuited:	
				restrictive layer	1.00
StD:					
Steinsburg----------	75	Poorly suited:		Unsuited:	
		slope	0.50	restrictive layer	1.00
				slope	0.50
Uc:					
Urban land.					
UeB:					
Urban land----------	60	Not rated		Not rated	
Conestoga-----------	15	Well suited		Well suited	
UgB:					
Urban land----------	55	Not rated		Not rated	
Penn----------------	20	Well suited		Well suited	
W:					
Water.					
WaA:					
Watchung------------	80	Poorly suited:		Well suited	
		stickiness	0.50		
WaB:					
Watchung------------	80	Poorly suited:		Well suited	
		stickiness	0.50		
WbB:					
Watchung------------	80	Unsuited:		Poorly suited:	
		rock fragments	1.00	rock fragments	0.50
		stickiness	0.50		

Table 10e.--Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AbA:					
Abbottstown---------	75	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00
AbB:					
Abbottstown---------	75	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00
ArB:					
Arendtsville--------	85	Low:		Low	
		texture/coarse fragments	0.10		
ArC:					
Arendtsville--------	85	Low:		Low	
		texture/coarse fragments	0.10		
ArD:					
Arendtsville--------	80	Low:		Low	
		texture/coarse fragments	0.10		
ArE:					
Arendtsville--------	80	Low:		Low	
		texture/coarse fragments	0.10		
AtA:					
Athol---------------	85	Low:		Low	
		texture/coarse fragments	0.10		
AtB:					
Athol---------------	85	Low:		Low	
		texture/coarse fragments	0.10		
AtC:					
Athol---------------	80	Low:		Low	
		texture/coarse fragments	0.10		
Ba:					
Baile---------------	85	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00

Table 10e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
Be:					
Bermudian-----------	85	Low:		Low	
		texture/coarse fragments	0.10		
BgA:					
Birdsboro-----------	85	Low:		Low	
		texture/coarse fragments	0.10		
BgB:					
Birdsboro-----------	75	Low:		Low	
		texture/coarse fragments	0.10		
BgC:					
Birdsboro-----------	80	Low:		Low	
		texture/coarse fragments	0.10		
Bo:					
Bowmansville--------	85	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00
BrB:					
Brecknock-----------	75	Low:		Low	
		texture/coarse fragments	0.10		
BrC:					
Brecknock-----------	75	Low:		Low	
		texture/coarse fragments	0.10		
BrD:					
Brecknock-----------	75	Low:		Low	
		texture/coarse fragments	0.10		
BuB:					
Buchanan------------	85	Low:		Low	
		texture/coarse fragments	0.10		
BvB:					
Buchanan------------	85	Low		Low	
CcB:					
Catoctin------------	85	Moderate:		Low	
		texture/coarse fragments	0.50		
CcC:					
Catoctin------------	85	Moderate:		Low	
		texture/coarse fragments	0.50		

Table 10e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
CcE:					
Catoctin	85	Moderate:		Low	
		texture/coarse fragments	0.50		
CkA:					
Clarksburg	80	Low:		Low	
		texture/coarse fragments	0.10		
CkB:					
Clarksburg	80	Low:		Low	
		texture/coarse fragments	0.10		
Cm:					
Codorus	85	Low:		Low	
		texture/coarse fragments	0.10		
CnA:					
Conestoga	80	Low:		Low	
		texture/coarse fragments	0.10		
CnB:					
Conestoga	75	Low:		Low	
		texture/coarse fragments	0.10		
CnC:					
Conestoga	80	Low:		Low	
		texture/coarse fragments	0.10		
CrA:					
Croton	75	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00
CrB:					
Croton	75	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00
DAM:					
Dams.					
Dx:					
Dumps.					
Dy:					
Dunning	85	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00

Table 10e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
EdB:					
Edgemont------------	75	Low:		Low	
		texture/coarse fragments	0.10		
EdC:					
Edgemont------------	75	Low:		Low	
		texture/coarse fragments	0.10		
EdD:					
Edgemont------------	75	Low:		Low	
		texture/coarse fragments	0.10		
EeB:					
Edgemont------------	80	Low:		Low	
		texture/coarse fragments	0.10		
EeD:					
Edgemont------------	80	Low:		Low	
		texture/coarse fragments	0.10		
EeF:					
Edgemont------------	75	Low		Low	
GbB:					
Glenelg-------------	80	Low:		Low	
		texture/coarse fragments	0.10		
GbC:					
Glenelg-------------	80	Low:		Low	
		texture/coarse fragments	0.10		
GbD:					
Glenelg-------------	80	Low:		Low	
		texture/coarse fragments	0.10		
GdA:					
Glenville-----------	80	Low:		Low	
		texture/coarse fragments	0.10		
GdB:					
Glenville-----------	80	Low:		Low	
		texture/coarse fragments	0.10		
Hc:					
Hatboro-------------	80	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00

Table 10e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
HgB:					
Highfield-----------	80	Low:		Low	
		texture/coarse fragments	0.10		
HgC:					
Highfield-----------	80	Low:		Low	
		texture/coarse fragments	0.10		
HHD:					
Highfield-----------	45	Low:		Low	
		texture/coarse fragments	0.10		
Catoctin------------	35	Moderate:		Low	
		texture/coarse fragments	0.50		
HKB:					
Highfield-----------	40	Low:		Low	
		texture/coarse fragments	0.10		
Catoctin------------	25	Moderate:		Low	
		texture/coarse fragments	0.50		
Myersville----------	15	Moderate:		Low	
		texture/coarse fragments	0.50		
HKD:					
Highfield-----------	40	Low:		Low	
		texture/coarse fragments	0.10		
Catoctin------------	30	Moderate:		Low	
		texture/coarse fragments	0.50		
Myersville----------	11	Moderate:		Low	
		texture/coarse fragments	0.50		
HMF:					
Highfield-----------	45	Low:		Low	
		texture/coarse fragments	0.10		
Catoctin------------	35	Moderate:		Low	
		texture/coarse fragments	0.50		
KnB:					
Klinesville---------	85	Moderate:		Low	
		texture/coarse fragments	0.50		

Table 10e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
KnC:					
Klinesville	80	Moderate:		Low	
		texture/coarse fragments	0.50		
KnD:					
Klinesville	80	Moderate:		Low	
		texture/coarse fragments	0.50		
KnE:					
Klinesville	85	Low		Low	
Lc:					
Lamington	75	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00
LeB:					
Lansdale	75	Low:		Low	
		texture/coarse fragments	0.10		
LfC:					
Lansdale	75	Low:		Low	
		texture/coarse fragments	0.10		
LgB:					
Legore	80	Low:		Low	
		texture/coarse fragments	0.10		
LgC:					
Legore	80	Low:		Low	
		texture/coarse fragments	0.10		
LgD:					
Legore	80	Low:		Low	
		texture/coarse fragments	0.10		
LhA:					
Lehigh	75	Low:		Low	
		texture/coarse fragments	0.10		
LhB:					
Lehigh	75	Low:		Low	
		texture/coarse fragments	0.10		
LhC:					
Lehigh	75	Low:		Low	
		texture/coarse fragments	0.10		

Table 10e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
LkB:					
Lehigh	75	Low:		Low	
		texture/coarse fragments	0.10		
Lw:					
Lindside	80	Low:		Low	
		texture/coarse fragments	0.10		
MdA:					
Mount Lucas	80	Moderate:		High:	
		texture/coarse fragments	0.50	wetness	1.00
MdB:					
Mount Lucas	80	Moderate:		High:	
		texture/coarse fragments	0.50	wetness	1.00
MeB:					
Mount Lucas	80	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00
MOB:					
Mt. Airy	50	Low:		Low	
		texture/coarse fragments	0.10		
Manor	30	Low:		Low	
		texture/coarse fragments	0.10		
MOC:					
Mt. Airy	55	Low:		Low	
		texture/coarse fragments	0.10		
Manor	25	Low:		Low	
		texture/coarse fragments	0.10		
MOD:					
Mt. Airy	60	Low:		Low	
		texture/coarse fragments	0.10		
Manor	20	Low:		Low	
		texture/coarse fragments	0.10		
MtB:					
Mt. Zion	85	Low:		Low	
		texture/coarse fragments	0.10		

Table 10e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
MtC:					
Mt. Zion	85	Low:		Low	
		texture/coarse fragments	0.10		
MtD:					
Mt. Zion	85	Low:		Low	
		texture/coarse fragments	0.10		
MyB:					
Myersville	80	Low:		Low	
		texture/coarse fragments	0.10		
MyC:					
Myersville	80	Low:		Low	
		texture/coarse fragments	0.10		
MyD:					
Myersville	80	Low:		Low	
		texture/coarse fragments	0.10		
NaB:					
Neshaminy	80	Low:		Low	
		texture/coarse fragments	0.10		
NaC:					
Neshaminy	80	Low:		Low	
		texture/coarse fragments	0.10		
NdB:					
Neshaminy	85	Low:		Low	
		texture/coarse fragments	0.10		
NdD:					
Neshaminy	80	Low:		Low	
		texture/coarse fragments	0.10		
NdE:					
Neshaminy	75	Low		Low	
Pa:					
Penlaw	80	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00
PbD:					
Penn	80	Low:		Low	
		texture/coarse fragments	0.10		

Table 10e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
PcB:					
Penn	75	Low:		Low	
		texture/coarse fragments	0.10		
PcC:					
Penn	75	Low:		Low	
		texture/coarse fragments	0.10		
PoB:					
Penn	40	Low:		Low	
		texture/coarse fragments	0.10		
Klinesville	35	Moderate:		Low	
		texture/coarse fragments	0.50		
PoC:					
Penn	40	Low:		Low	
		texture/coarse fragments	0.10		
Klinesville	35	Moderate:		Low	
		texture/coarse fragments	0.50		
PsD:					
Pequea	80	Low:		Low	
		texture/coarse fragments	0.10		
Pt:					
Pits	80	Not rated		Not rated	
RaA:					
Raritan	80	Low:		Low	
		texture/coarse fragments	0.10		
RaB:					
Raritan	80	Low:		Low	
		texture/coarse fragments	0.10		
RcC:					
Ravenrock	40	Low		Low	
Highfield	35	Low		Low	
Rock outcrop	11	Not rated		Not rated	
RcD:					
Ravenrock	40	Low		Low	
Highfield	40	Low		Low	

Table 10e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
RcD:					
Rock outcrop	11	Not rated		Not rated	
RcF:					
Ravenrock	40	Moderate:		Low	
		texture/slope/ surface depth/ coarse fragments	0.50		
Highfield	40	Moderate:		Low	
		texture/slope/ surface depth/ coarse fragments	0.50		
Rock outcrop	11	Not rated		Not rated	
RdC:					
Ravenrock	45	Low		Low	
Rohrersville	45	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00
ReA:					
Readington	75	Low:		Low	
		texture/coarse fragments	0.10		
ReB:					
Readington	75	Low:		Low	
		texture/coarse fragments	0.10		
RfA:					
Reaville	85	Low:		Low	
		texture/coarse fragments	0.10		
RfB:					
Reaville	85	Low:		Low	
		texture/coarse fragments	0.10		
RfC:					
Reaville	85	Low:		Low	
		texture/coarse fragments	0.10		
RoB:					
Rohrersville	85	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00
RsB:					
Rohrersville	85	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00

Table 10e.--Forestland Management--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Rw:					
Rowland-------------	85	Low:		Low	
		texture/coarse fragments	0.10		
StB:					
Steinsburg----------	80	Low:		Low	
		texture/coarse fragments	0.10		
StC:					
Steinsburg----------	80	Low:		Low	
		texture/coarse fragments	0.10		
StD:					
Steinsburg----------	75	Low:		Low	
		texture/coarse fragments	0.10		
Uc:					
Urban land.					
UeB:					
Urban land----------	60	Not rated		Not rated	
Conestoga-----------	15	Low:		Low	
		texture/coarse fragments	0.10		
UgB:					
Urban land----------	55	Not rated		Not rated	
Penn----------------	20	Low:		Low	
		texture/coarse fragments	0.10		
W:					
Water.					
WaA:					
Watchung------------	80	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00
WaB:					
Watchung------------	80	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00
WbB:					
Watchung------------	80	Low:		High:	
		texture/coarse fragments	0.10	wetness	1.00

Table 11a.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
AbA:							
Abbottstown---------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to cemented pan	1.00	depth to saturated zone	1.00
		depth to cemented pan	1.00	depth to saturated zone	1.00	depth to cemented pan	1.00
		restricted permeability	0.96	restricted permeability	0.96	restricted permeability	0.96
AbB:							
Abbottstown---------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to cemented pan	1.00	depth to saturated zone	1.00
		depth to cemented pan	1.00	depth to saturated zone	1.00	slope	1.00
		restricted permeability	0.96	restricted permeability	0.96	depth to cemented pan	1.00
						restricted permeability	0.96
ArB:							
Arendtsville--------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		gravel content	0.59	gravel content	0.59	gravel content	1.00
						slope	1.00
ArC:							
Arendtsville--------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	gravel content	1.00
		gravel content	0.59	gravel content	0.59	slope	1.00
ArD:							
Arendtsville--------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	gravel content	1.00
		gravel content	0.59	gravel content	0.59	slope	1.00
ArE:							
Arendtsville--------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	gravel content	1.00
		gravel content	0.59	gravel content	0.59	slope	1.00
AtA:							
Athol---------------	85	Not limited		Not limited		Somewhat limited:	
						gravel content	0.18
AtB:							
Athol---------------	85	Not limited		Not limited		Very limited:	
						slope	1.00
						gravel content	0.18
AtC:							
Athol---------------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
						gravel content	0.18

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
Ba:							
Baile	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		ponding	1.00	ponding	1.00	ponding	1.00
		restricted permeability	0.96	restricted permeability	0.96	restricted permeability	0.96
						content of large stones	0.01
Be:							
Bermudian	85	Very limited:		Not limited		Somewhat limited:	
		flooding	1.00			flooding	0.60
BgA:							
Birdsboro	85	Not limited		Not limited		Not limited	
BgB:							
Birdsboro	75	Not limited		Not limited		Very limited:	
						slope	1.00
BgC:							
Birdsboro	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
Bo:							
Bowmansville	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		flooding	1.00	flooding	0.40	flooding	1.00
		restricted permeability	0.21	restricted permeability	0.21	restricted permeability	0.21
BrB:							
Brecknock	75	Somewhat limited:		Somewhat limited:		Very limited:	
		gravel content	0.22	gravel content	0.22	gravel content	1.00
						slope	1.00
						content of large stones	0.01
BrC:							
Brecknock	75	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	gravel content	1.00
		gravel content	0.22	gravel content	0.22	slope	1.00
						content of large stones	0.01
BrD:							
Brecknock	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	gravel content	1.00
		gravel content	0.22	gravel content	0.22	slope	1.00
						content of large stones	0.01

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
BuB:							
Buchanan------------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		restricted permeability	0.96	restricted permeability	0.96	gravel content	1.00
		depth to cemented pan	0.84	depth to cemented pan	0.84	slope	1.00
		gravel content	0.54	gravel content	0.54	restricted permeability	0.96
		depth to saturated zone	0.01	depth to saturated zone	0.01	depth to cemented pan	0.84
						depth to saturated zone	0.01
BvB:							
Buchanan------------	85	Very limited:		Very limited:		Very limited:	
		too stony	1.00	too stony	1.00	too stony	1.00
		restricted permeability	0.96	restricted permeability	0.96	gravel content	1.00
		depth to cemented pan	0.84	depth to cemented pan	0.84	restricted permeability	0.96
		gravel content	0.36	gravel content	0.36	depth to cemented pan	0.84
		depth to saturated zone	0.01	depth to saturated zone	0.01	slope	0.50
CcB							
Catoctin------------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		gravel content	0.62	gravel content	0.62	gravel content	1.00
						slope	1.00
						depth to bedrock	0.65
						content of large stones	0.20
CcC:							
Caztoctin-----------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
		gravel content	0.62	gravel content	0.62	gravel content	1.00
						depth to bedrock	0.65
						content of large stones	0.20
CcE:							
Catoctin------------	85	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		gravel content	0.62	gravel content	0.62	gravel content	1.00
						depth to bedrock	0.65
						content of large stones	0.20
CkA:							
Clarksburg----------	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		restricted permeability	0.43	restricted permeability	0.43	restricted permeability	0.43
		depth to cemented pan	0.29	depth to cemented pan	0.29	depth to cemented pan	0.29
		depth to saturated zone	0.07	depth to saturated zone	0.03	depth to saturated zone	0.07

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
CkB:							
Clarksburg----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		restricted permeability	0.43	restricted permeability	0.43	slope	1.00
		depth to cemented pan	0.29	depth to cemented pan	0.29	restricted permeability	0.43
		depth to saturated zone	0.07	depth to saturated zone	0.03	depth to cemented pan	0.29
						depth to saturated zone	0.07
Cm:							
Codorus-------------	85	Very limited:		Somewhat limited:		Very limited:	
		flooding	1.00	flooding	0.40	flooding	1.00
		depth to saturated zone	0.07	depth to saturated zone	0.03	gravel content	0.22
						depth to saturated zone	0.07
CnA:							
Conestoga-----------	80	Not limited		Not limited		Not limited	
CnB:							
Conestoga-----------	75	Not limited		Not limited		Very limited:	
						slope	1.00
CnC:							
Conestoga-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
CrA:							
Croton--------------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		ponding	1.00	ponding	1.00	ponding	1.00
		depth to cemented pan	1.00	depth to cemented pan	1.00	depth to cemented pan	1.00
		restricted permeability	0.96	restricted permeability	0.96	restricted permeability	0.96
CrB:							
Croton--------------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		depth to cemented pan	1.00	depth to cemented pan	1.00	slope	1.00
		restricted permeability	0.96	restricted permeability	0.96	depth to cemented pan	1.00
						restricted permeability	0.96
DAM:							
Dams.							
Dx:							
Dumps.							

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
Dy:							
Dunning-------------	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		flooding	1.00	restricted permeability	0.96	flooding	1.00
		restricted permeability	0.96	flooding	0.40	restricted permeability	0.96
EdB:							
Edgemont------------	75	Somewhat limited:		Somewhat limited:		Very limited:	
		gravel content	0.54	gravel content	0.54	gravel content	1.00
						slope	1.00
						content of large stones	0.01
EdC:							
Edgemont------------	75	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	gravel content	1.00
		gravel content	0.54	gravel content	0.54	slope	1.00
						content of large stones	0.01
EdD:							
Edgemont------------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	gravel content	1.00
		gravel content	0.54	gravel content	0.54	slope	1.00
						content of large stones	0.01
EeB:							
Edgemont------------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		too stony	0.53	too stony	0.53	slope	1.00
						gravel content	0.99
						too stony	0.53
						content of large stones	0.16
EeD:							
Edgemont------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	0.53	too stony	0.53	gravel content	0.99
						too stony	0.53
						content of large stones	0.16
EeF:							
Edgemont------------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	0.53	too stony	0.53	gravel content	0.99
						too stony	0.53
						content of large stones	0.16

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
GbB:							
Glenelg-------------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		gravel content	0.36	gravel content	0.36	gravel content	1.00
						slope	1.00
						content of large stones	0.01
GbC:							
Glenelg-------------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
		gravel content	0.36	gravel content	0.36	gravel content	1.00
						content of large stones	0.01
GbD:							
Glenelg-------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		gravel content	0.36	gravel content	0.36	gravel content	1.00
						content of large stones	0.01
GdA:							
Glenville-----------	80	Very limited:		Very limited:		Very limited:	
		depth to cemented pan	1.00	depth to cemented pan	1.00	depth to cemented pan	1.00
		depth to saturated zone	0.81	depth to saturated zone	0.48	depth to saturated zone	0.81
		restricted permeability	0.43	restricted permeability	0.43	restricted permeability	0.43
GdB:							
Glenville-----------	80	Very limited:		Very limited:		Very limited:	
		depth to cemented pan	1.00	depth to cemented pan	1.00	depth to cemented pan	1.00
		depth to saturated zone	0.81	depth to saturated zone	0.48	slope	1.00
		restricted permeability	0.43	restricted permeability	0.43	depth to saturated zone	0.81
						restricted permeability	0.43
Hc:							
Hatboro-------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		flooding	1.00	flooding	0.40	flooding	1.00
HgB:							
Highfield-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		gravel content	0.11	gravel content	0.11	gravel content	1.00
						slope	1.00
						content of large stones	0.01

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
HgC:							
Highfield	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
		gravel content	0.11	gravel content	0.11	gravel content	1.00
						content of large stones	0.01
HHD:							
Highfield	45	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		gravel content	0.11	gravel content	0.11	gravel content	1.00
						content of large stones	0.01
Catoctin	35	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		gravel content	0.62	gravel content	0.62	gravel content	1.00
						depth to bedrock	0.90
						content of large stones	0.20
HKB:							
Highfield	40	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too stony	0.53	too stony	0.53	gravel content	0.78
						too stony	0.53
						slope	0.50
						content of large stones	0.11
Catoctin	25	Very limited:		Very limited:		Very limited:	
		too stony	1.00	too stony	1.00	too stony	1.00
		content of large stones	0.14	content of large stones	0.14	content of large stones	1.00
						depth to bedrock	0.90
						slope	0.50
						gravel content	0.05
Myersville	15	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too stony	0.53	too stony	0.53	too stony	0.53
						slope	0.50
						content of large stones	0.46
HKD:							
Highfield	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	0.53	too stony	0.53	gravel content	0.78
						too stony	0.53
						content of large stones	0.11
Catoctin	30	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	1.00	too stony	1.00	too stony	1.00
		content of large stones	0.14	content of large stones	0.14	content of large stones	1.00
						depth to bedrock	0.90
						gravel content	0.05

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HKD:							
Myersville----------	11	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	0.53	too stony	0.53	too stony	0.53
						content of large stones	0.46
HMF:							
Highfield-----------	45	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	0.53	too stony	0.53	gravel content	0.78
						too stony	0.53
						content of large stones	0.11
Catoctin------------	35	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	1.00	too stony	1.00	too stony	1.00
		content of large stones	0.14	content of large stones	0.14	content of large stones	1.00
						depth to bedrock	0.90
						gravel content	0.05
KnB:							
Klinesville---------	85	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	gravel content	1.00
		gravel content	0.92	gravel content	0.92	depth to bedrock	1.00
						slope	1.00
						content of large stones	0.01
KnC:							
Klinesville---------	80	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	gravel content	1.00
		gravel content	0.92	gravel content	0.92	slope	1.00
		slope	0.63	slope	0.63	depth to bedrock	1.00
						content of large stones	0.01
KnD:							
Klinesville---------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	gravel content	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	slope	1.00
		gravel content	0.92	gravel content	0.92	depth to bedrock	1.00
						content of large stones	0.01
KnE:							
Klinesville---------	85	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	gravel content	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	slope	1.00
		gravel content	0.92	gravel content	0.92	depth to bedrock	1.00
						content of large stones	0.01

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
Lc:							
Lamington	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		depth to cemented pan	1.00	depth to cemented pan	1.00	depth to cemented pan	1.00
		ponding	1.00	ponding	1.00	ponding	1.00
		restricted permeability	0.96	restricted permeability	0.96	restricted permeability	0.96
LeB:							
Lansdale	75	Not limited		Not limited		Very limited:	
						slope	1.00
						gravel content	0.21
LfC:							
Lansdale	75	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
						gravel content	0.68
						content of large stones	0.01
LgB:							
Legore	80	Not limited		Not limited		Very limited:	
						slope	1.00
						gravel content	0.18
LgC:							
Legore	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
						gravel content	0.18
LgD:							
Legore	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
						gravel content	0.18
LhA:							
Lehigh	75	Somewhat limited:		Somewhat limited:		Very limited:	
		restricted permeability	0.96	restricted permeability	0.96	gravel content	1.00
		depth to saturated zone	0.81	depth to saturated zone	0.48	restricted permeability	0.96
		gravel content	0.36	gravel content	0.36	depth to saturated zone	0.81
						content of large stones	0.01
LhB:							
Lehigh	75	Somewhat limited:		Somewhat limited:		Very limited:	
		restricted permeability	0.96	restricted permeability	0.96	gravel content	1.00
		depth to saturated zone	0.81	depth to saturated zone	0.48	slope	1.00
		gravel content	0.36	gravel content	0.36	restricted permeability	0.96
						depth to saturated zone	0.81
						content of large stones	0.01

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
LhC:							
Lehigh	75	Somewhat limited:		Somewhat limited:		Very limited:	
		restricted permeability	0.96	restricted permeability	0.96	slope	1.00
						gravel content	1.00
		depth to saturated zone	0.81	slope	0.63	restricted permeability	0.96
		slope	0.63	depth to saturated zone	0.48	depth to saturated zone	0.81
		gravel content	0.36	gravel content	0.36	content of large stones	0.01
LkB:							
Lehigh	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		restricted permeability	0.96	restricted permeability	0.96	restricted permeability	0.96
		depth to saturated zone	0.81	too stony	0.53	depth to saturated zone	0.81
		too stony	0.53	depth to saturated zone	0.48	gravel content	0.80
						too stony	0.53
						slope	0.50
Lw:							
Lindside	80	Very limited:		Somewhat limited:		Very limited:	
		flooding	1.00	flooding	0.40	flooding	1.00
		depth to saturated zone	0.07	depth to saturated zone	0.03	depth to saturated zone	0.07
MdA:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	0.43	restricted permeability	0.43	restricted permeability	0.43
MdB:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	0.43	restricted permeability	0.43	slope	1.00
						restricted permeability	0.43
MeB:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		too stony	0.53	too stony	0.53	gravel content	1.00
		restricted permeability	0.43	restricted permeability	0.43	slope	1.00
		gravel content	0.13	gravel content	0.13	too stony	0.53
						restricted permeability	0.43

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
MOB:							
Mt. Airy------------	50	Somewhat limited:		Somewhat limited:		Very limited:	
		gravel content	0.98	gravel content	0.98	gravel content	1.00
						slope	1.00
						depth to bedrock	0.29
						content of large stones	0.01
Manor---------------	30	Somewhat limited:		Somewhat limited:		Very limited:	
		gravel content	0.36	gravel content	0.36	gravel content	1.00
						slope	1.00
						content of large stones	0.01
MOC:							
Mt. Airy------------	55	Somewhat limited:		Somewhat limited:		Very limited:	
		gravel content	0.98	gravel content	0.98	gravel content	1.00
		slope	0.63	slope	0.63	slope	1.00
						depth to bedrock	0.29
						content of large stones	0.01
Manor---------------	25	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
		gravel content	0.36	gravel content	0.36	gravel content	1.00
						content of large stones	0.01
MOD:							
Mt. Airy------------	60	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	gravel content	1.00
		gravel content	0.98	gravel content	0.98	slope	1.00
						depth to bedrock	0.29
						content of large stones	0.01
Manor---------------	20	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		gravel content	0.36	gravel content	0.36	gravel content	1.00
						content of large stones	0.01
MtB:							
Mt. Zion------------	85	Not limited		Not limited		Very limited:	
						slope	1.00
						gravel content	0.12
						content of large stones	0.05
MtC:							
Mt. Zion------------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
						gravel content	0.12
						content of large stones	0.05

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
MtD:							
Mt. Zion------------	85	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
						gravel content	0.12
						content of large stones	0.05
MyB:							
Myersville----------	80	Not limited		Not limited		Very limited:	
						slope	1.00
MyC:							
Myersville----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
MyD:							
Myersville----------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
NaB:							
Neshaminy-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		restricted permeability	0.21	restricted permeability	0.21	gravel content	1.00
						slope	1.00
		gravel content	0.01	gravel content	0.01	restricted permeability	0.21
						content of large stones	0.01
NaC:							
Neshaminy-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
		restricted permeability	0.21	restricted permeability	0.21	gravel content	1.00
						restricted permeability	0.21
		gravel content	0.01	gravel content	0.01		
						content of large stones	0.01
NdB:							
Neshaminy-----------	85	Very limited:		Very limited:		Very limited:	
		too stony	1.00	too stony	1.00	too stony	1.00
		restricted permeability	0.21	restricted permeability	0.21	slope	1.00
						content of large stones	0.99
		content of large stones	0.01	content of large stones	0.01		
						restricted permeability	0.21
						gravel content	0.01
NdD:							
Neshaminy-----------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	1.00	too stony	1.00	too stony	1.00
		restricted permeability	0.21	restricted permeability	0.21	content of large stones	0.99
		content of large stones	0.01	content of large stones	0.01	restricted permeability	0.21
						gravel content	0.01

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
NdE:							
Neshaminy-----------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	1.00	too stony	1.00	too stony	1.00
		restricted permeability	0.21	restricted permeability	0.21	content of large stones	0.99
		content of large stones	0.01	content of large stones	0.01	restricted permeability	0.21
						gravel content	0.01
Pa:							
Penlaw--------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to cemented pan	1.00	depth to saturated zone	1.00
		depth to cemented pan	1.00	depth to saturated zone	1.00	depth to cemented pan	1.00
		restricted permeability	0.96	restricted permeability	0.96	restricted permeability	0.96
PbD:							
Penn----------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	0.53	too stony	0.53	too stony	0.53
						gravel content	0.15
						depth to bedrock	0.01
						content of large stones	0.01
PcB:							
Penn----------------	75	Not limited		Not limited		Very limited:	
						slope	1.00
						depth to bedrock	0.01
PcC:							
Penn----------------	75	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
						depth to bedrock	0.01
PoB:							
Penn----------------	40	Somewhat limited:		Somewhat limited:		Very limited:	
		gravel content	0.22	gravel content	0.22	gravel content	1.00
						slope	1.00
						depth to bedrock	0.01
						content of large stones	0.01
Klinesville---------	35	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	gravel content	1.00
		gravel content	0.92	gravel content	0.92	depth to bedrock	1.00
						slope	1.00
						content of large stones	0.01

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
PoC:							
Penn	40	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
		gravel content	0.22	gravel content	0.22	gravel content	1.00
						depth to bedrock	0.01
						content of large stones	0.01
Klinesville	35	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	gravel content	1.00
		gravel content	0.92	gravel content	0.92	slope	1.00
		slope	0.63	slope	0.63	depth to bedrock	1.00
						content of large stones	0.01
PsD:							
Pequea	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
Pt:							
Pits	80	Not rated		Not rated		Not rated	
RaA:							
Raritan	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.81	depth to cemented pan	0.80	depth to saturated zone	0.81
		depth to cemented pan	0.80	depth to saturated zone	0.48	depth to cemented pan	0.80
		restricted permeability	0.21	restricted permeability	0.21	gravel content	0.50
						restricted permeability	0.21
RaB:							
Raritan	80	Somewhat limited:		Somewhat limited:		Very limited:	
		depth to saturated zone	0.81	depth to cemented pan	0.80	slope	1.00
		depth to cemented pan	0.80	depth to saturated zone	0.48	depth to saturated zone	0.81
		restricted permeability	0.21	restricted permeability	0.21	depth to cemented pan	0.80
						gravel content	0.50
						restricted permeability	0.21
RcC:							
Ravenrock	40	Very limited:		Very limited:		Very limited:	
		too stony	1.00	too stony	1.00	slope	1.00
		slope	0.63	slope	0.63	too stony	1.00
		gravel content	0.21	gravel content	0.21	gravel content	1.00
						content of large stones	0.46
Highfield	35	Very limited:		Very limited:		Very limited:	
		too stony	1.00	too stony	1.00	slope	1.00
		slope	0.63	slope	0.63	too stony	1.00
		content of large stones	0.02	content of large stones	0.02	content of large stones	1.00
						gravel content	0.95

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
RcC:							
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcD:							
Ravenrock-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	1.00	too stony	1.00	too stony	1.00
		gravel content	0.21	gravel content	0.21	gravel content	1.00
						content of large stones	0.46
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	1.00	too stony	1.00	too stony	1.00
		content of large stones	0.02	content of large stones	0.02	content of large stones	1.00
						gravel content	0.95
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcF:							
Ravenrock-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	1.00	too stony	1.00	too stony	1.00
		gravel content	0.21	gravel content	0.21	gravel content	1.00
						content of large stones	0.46
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	1.00	too stony	1.00	too stony	1.00
		content of large stones	0.02	content of large stones	0.02	content of large stones	1.00
						gravel content	0.95
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RdC:							
Ravenrock-----------	45	Very limited:		Very limited:		Very limited:	
		too stony	1.00	too stony	1.00	too stony	1.00
		gravel content	0.21	gravel content	0.21	gravel content	1.00
		slope	0.04	slope	0.04	slope	1.00
						content of large stones	0.46
Rohrersville--------	45	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	too stony	1.00	depth to saturated zone	1.00
		too stony	1.00	restricted permeability	0.96	too stony	1.00
		restricted permeability	0.96	depth to saturated zone	0.94	slope	1.00
		slope	0.04	slope	0.04	restricted permeability	0.96
						content of large stones	0.01

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
ReA:							
Readington----------	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to cemented pan	0.71	depth to cemented pan	0.71	depth to cemented pan	0.71
		restricted permeability	0.21	restricted permeability	0.21	restricted permeability	0.21
		depth to saturated zone	0.07	depth to saturated zone	0.03	depth to saturated zone	0.07
ReB:							
Readington----------	75	Somewhat limited:		Somewhat limited:		Very limited:	
		depth to cemented pan	0.71	depth to cemented pan	0.71	slope	1.00
		restricted permeability	0.21	restricted permeability	0.21	depth to cemented pan	0.71
		depth to saturated zone	0.07	depth to saturated zone	0.03	restricted permeability	0.21
						depth to saturated zone	0.07
RfA:							
Reaville------------	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		restricted permeability	0.96	restricted permeability	0.96	restricted permeability	0.96
		depth to saturated zone	0.81	depth to saturated zone	0.48	depth to saturated zone	0.81
						gravel content	0.68
						content of large stones	0.01
RfB:							
Reaville------------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		restricted permeability	0.96	restricted permeability	0.96	slope	1.00
		depth to saturated zone	0.81	depth to saturated zone	0.48	restricted permeability	0.96
						depth to bedrock	0.84
						depth to saturated zone	0.81
						gravel content	0.68
RfC:							
Reaville------------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		restricted permeability	0.96	restricted permeability	0.96	slope	1.00
		depth to saturated zone	0.81	slope	0.63	restricted permeability	0.96
		slope	0.63	depth to saturated zone	0.48	depth to bedrock	0.84
						depth to saturated zone	0.81
						depth to saturated zone	0.81
						gravel content	0.68
RoB:							
Rohrersville--------	85	Very limited:		Somewhat limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	0.94	depth to saturated zone	1.00
						slope	1.00

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value	Playgrounds: Rating class and limiting features	Value
RsB:							
Rohrersville	85	Very limited:		Somewhat limited:		Very limited:	
		depth to saturated zone	1.00	restricted permeability	0.96	depth to saturated zone	1.00
		restricted permeability	0.96	depth to saturated zone	0.94	slope	1.00
		too stony	0.53	too stony	0.53	restricted permeability	0.96
						too stony	0.53
						content of large stones	0.11
Rw:							
Rowland	85	Very limited:		Somewhat limited:		Very limited:	
		flooding	1.00	flooding	0.40	flooding	1.00
		depth to saturated zone	0.39	depth to saturated zone	0.19	depth to saturated zone	0.39
StB:							
Steinsburg	80	Not limited		Not limited		Very limited:	
						slope	1.00
						gravel content	0.96
						depth to bedrock	0.80
						content of large stones	0.03
StC:							
Steinsburg	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
						gravel content	0.96
						depth to bedrock	0.80
						content of large stones	0.03
StD:							
Steinsburg	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
						gravel content	0.96
						depth to bedrock	0.80
						content of large stones	0.03
Uc:							
Urban land.							
UeB:							
Urban land	60	Not rated		Not rated		Not rated	
Conestoga	15	Not limited		Not limited		Very limited:	
						slope	1.00
UgB:							
Urban land	55	Not rated		Not rated		Not rated	
Penn	20	Not limited		Not limited		Somewhat limited:	
						slope	0.50
						depth to bedrock	0.42

Table 11a.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
W:							
Water.							
WaA:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	0.99	restricted permeability	0.99	restricted permeability	0.99
						content of large stones	0.03
WaB:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	0.99	restricted permeability	0.99	slope	1.00
						restricted permeability	0.99
						content of large stones	0.03
WbB:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		too stony	1.00	too stony	1.00	too stony	1.00
		restricted permeability	0.99	restricted permeability	0.99	restricted permeability	0.99
						slope	0.50
						content of large stones	0.20

Table 11b.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AbA:							
Abbottstown	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to cemented pan	1.00
						depth to saturated zone	1.00
AbB:							
Abbottstown	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to cemented pan	1.00
						depth to saturated zone	1.00
ArB:							
Arendtsville	85	Not limited		Not limited		Somewhat limited:	
						gravel content	0.59
ArC:							
Arendtsville	85	Not limited		Not limited		Somewhat limited:	
						slope	0.63
						gravel content	0.59
ArD:							
Arendtsville	80	Somewhat limited:		Not limited		Very limited:	
		slope	0.50			slope	1.00
						gravel content	0.59
ArE:							
Arendtsville	80	Very limited:		Somewhat limited:		Very limited:	
		slope	1.00	slope	0.56	slope	1.00
						gravel content	0.59
AtA:							
Athol	85	Not limited		Not limited		Not limited	
AtB:							
Athol	85	Not limited		Not limited		Not limited	
AtC:							
Athol	80	Not limited		Not limited		Somewhat limited:	
						slope	0.63
Ba:							
Baile	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		ponding	1.00	ponding	1.00	ponding	1.00
						content of large stones	0.01

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Be:							
Bermudian-----------	85	Not limited		Not limited		Somewhat limited:	
						flooding	0.60
BgA:							
Birdsboro-----------	85	Not limited		Not limited		Not limited	
BgB:							
Birdsboro-----------	75	Not limited		Not limited		Not limited	
BgC:							
Birdsboro-----------	80	Very limited:		Very limited:		Somewhat limited:	
		water erosion	1.00	water erosion	1.00	slope	0.63
Bo:							
Bowmansville--------	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	flooding	1.00
		flooding	0.40	flooding	0.40	depth to saturated zone	1.00
BrB:							
Brecknock-----------	75	Not limited		Not limited		Somewhat limited:	
						gravel content	0.22
						content of large stones	0.01
BrC:							
Brecknock-----------	75	Not limited		Not limited		Somewhat limited:	
						slope	0.63
						gravel content	0.22
						content of large stones	0.01
BrD:							
Brecknock-----------	75	Somewhat limited:		Not limited		Very limited:	
		slope	0.50			slope	1.00
						gravel content	0.22
						content of large stones	0.01
BuB:							
Buchanan------------	85	Not limited		Not limited		Somewhat limited:	
						depth to cemented pan	0.84
						gravel content	0.54
						depth to saturated zone	0.01
						content of large stones	0.01

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BvB:							
Buchanan------------	85	Very limited:		Very limited:		Somewhat limited:	
		too stony	1.00	too stony	1.00	depth to cemented pan	0.84
						gravel content	0.36
						content of large stones	0.11
						depth to saturated zone	0.01
CcB:							
Catoctin------------	85	Not limited		Not limited		Somewhat limited:	
						depth to bedrock	0.65
						gravel content	0.62
						droughty	0.56
						content of large stones	0.20
CcC:							
Catoctin------------	85	Not limited		Not limited		Somewhat limited:	
						depth to bedrock	0.65
						slope	0.63
						gravel content	0.62
						droughty	0.56
						content of large stones	0.20
CcE:							
Catoctin------------	85	Very limited:		Somewhat limited:		Very limited:	
		slope	1.00	slope	0.22	slope	1.00
						depth to bedrock	0.65
						gravel content	0.62
						droughty	0.56
						content of large stones	0.20
CkA:							
Clarksburg----------	80	Not limited		Not limited		Somewhat limited:	
						depth to cemented pan	0.29
						depth to saturated zone	0.03
CkB:							
Clarksburg----------	80	Not limited		Not limited		Somewhat limited:	
						depth to cemented pan	0.29
						depth to saturated zone	0.03
Cm:							
Codorus-------------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		flooding	0.40	flooding	0.40	flooding	1.00
						depth to saturated zone	0.03
CnA:							
Conestoga-----------	80	Not limited		Not limited		Not limited	

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
CnB:							
Conestoga-----------	75	Not limited		Not limited		Not limited	
CnC:							
Conestoga-----------	80	Not limited		Not limited		Somewhat limited:	
						slope	0.63
CrA:							
Croton--------------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		ponding	1.00	ponding	1.00	ponding	1.00
						depth to cemented pan	1.00
CrB:							
Croton--------------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
						depth to cemented pan	1.00
DAM:							
Dams.							
Dx:							
Dumps.							
Dy:							
Dunning-------------	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	flooding	1.00
		flooding	0.40	flooding	0.40	depth to saturated zone	1.00
EdB:							
Edgemont------------	75	Not limited		Not limited		Somewhat limited:	
						gravel content	0.54
						droughty	0.02
						content of large stones	0.01
EdC:							
Edgemont------------	75	Not limited		Not limited		Somewhat limited:	
						slope	0.63
						gravel content	0.54
						droughty	0.02
						content of large stones	0.01
EdD:							
Edgemont------------	75	Somewhat limited:		Not limited		Very limited:	
		slope	0.50			slope	1.00
						gravel content	0.54
						droughty	0.02
						content of large stones	0.01

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
EeB:							
Edgemont	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too stony	0.53	too stony	0.53	content of large stones	0.16
EeD:							
Edgemont	80	Somewhat limited:		Somewhat limited:		Very limited:	
		too stony	0.53	too stony	0.53	slope	1.00
		slope	0.50			content of large stones	0.16
EeF:							
Edgemont	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	0.53	too stony	0.53	content of large stones	0.16
GbB:							
Glenelg	80	Not limited		Not limited		Somewhat limited:	
						gravel content	0.36
						content of large stones	0.01
GbC:							
Glenelg	80	Not limited		Not limited		Somewhat limited:	
						slope	0.63
						gravel content	0.36
						content of large stones	0.01
GbD:							
Glenelg	80	Somewhat limited:		Not limited		Very limited:	
		slope	0.50			slope	1.00
						gravel content	0.36
						content of large stones	0.01
GdA:							
Glenville	80	Somewhat limited:		Somewhat limited:		Very limited:	
		depth to saturated zone	0.11	depth to saturated zone	0.11	depth to cemented pan	1.00
						depth to saturated zone	0.48
GdB:							
Glenville	80	Somewhat limited:		Somewhat limited:		Very limited:	
		depth to saturated zone	0.11	depth to saturated zone	0.11	depth to cemented pan	1.00
						depth to saturated zone	0.48
Hc:							
Hatboro	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	flooding	1.00
		flooding	0.40	flooding	0.40	depth to saturated zone	1.00

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
HgB:							
Highfield-----------	80	Not limited		Not limited		Somewhat limited:	
						gravel content	0.11
						content of large stones	0.01
HgC:							
Highfield-----------	80	Not limited		Not limited		Somewhat limited:	
						slope	0.63
						gravel content	0.11
						content of large stones	0.01
HHD:							
Highfield-----------	45	Somewhat limited:		Not limited		Very limited:	
		slope	0.50			slope	1.00
						gravel content	0.11
						content of large stones	0.01
Catoctin------------	35	Somewhat limited:		Not limited		Very limited:	
		slope	0.50			slope	1.00
						depth to bedrock	0.90
						gravel content	0.62
						droughty	0.56
						content of large stones	0.20
HKB:							
Highfield-----------	40	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too stony	0.53	too stony	0.53	content of large stones	0.11
Catoctin------------	25	Very limited:		Very limited:		Very limited:	
		too stony	1.00	too stony	1.00	content of large stones	1.00
		content of large stones	0.14	content of large stones	0.14	depth to bedrock	0.90
						droughty	0.78
Myersville----------	15	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too stony	0.53	too stony	0.53	content of large stones	0.46
HKD:							
Highfield-----------	40	Somewhat limited:		Somewhat limited:		Very limited:	
		too stony	0.53	too stony	0.53	slope	1.00
		slope	0.50			content of large stones	0.11
Catoctin------------	30	Very limited:		Very limited:		Very limited:	
		too stony	1.00	too stony	1.00	slope	1.00
		slope	0.50	content of large stones	0.14	content of large stones	1.00
		content of large stones	0.14			depth to bedrock	0.90
						droughty	0.78

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
HKD:							
Myersville	11	Somewhat limited:		Somewhat limited:		Very limited:	
		too stony	0.53	too stony	0.53	slope	1.00
		slope	0.50			content of large stones	0.46
HMF:							
Highfield	45	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too stony	0.53	too stony	0.53	content of large stones	0.11
Catoctin	35	Very limited:		Very limited:		Very limited:	
		slope	1.00	too stony	1.00	slope	1.00
		too stony	1.00	slope	0.22	content of large stones	1.00
		content of large stones	0.14	content of large stones	0.14	depth to bedrock	0.90
						droughty	0.78
KnB:							
Klinesville	85	Not limited		Not limited		Very limited:	
						depth to bedrock	1.00
						droughty	1.00
						gravel content	0.92
						content of large stones	0.01
KnC:							
Klinesville	80	Not limited		Not limited		Very limited:	
						depth to bedrock	1.00
						droughty	1.00
						gravel content	0.92
						slope	0.63
						content of large stones	0.01
KnD:							
Klinesville	80	Somewhat limited:		Not limited		Very limited:	
		slope	0.50			depth to bedrock	1.00
						slope	1.00
						droughty	1.00
						gravel content	0.92
						content of large stones	0.01
KnE:							
Klinesville	85	Very limited:		Somewhat limited:		Very limited:	
		slope	1.00	slope	0.22	depth to bedrock	1.00
						slope	1.00
						droughty	1.00
						gravel content	0.92
						content of large stones	0.01

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
Lc:							
Lamington-----------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to cemented pan	1.00
		ponding	1.00	ponding	1.00	depth to saturated zone	1.00
						ponding	1.00
LeB:							
Lansdale------------	75	Not limited		Not limited		Not limited	
LfC:							
Lansdale------------	75	Not limited		Not limited		Somewhat limited:	
						slope	0.63
						content of large stones	0.01
LgB:							
Legore--------------	80	Not limited		Not limited		Not limited	
LgC:							
Legore--------------	80	Not limited		Not limited		Somewhat limited:	
						slope	0.63
LgD:							
Legore--------------	80	Somewhat limited:		Not limited		Very limited:	
		slope	0.50			slope	1.00
LhA:							
Lehigh--------------	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.11	depth to saturated zone	0.11	depth to saturated zone	0.48
						gravel content	0.36
						content of large stones	0.01
LhB:							
Lehigh--------------	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.11	depth to saturated zone	0.11	depth to saturated zone	0.48
						gravel content	0.36
						content of large stones	0.01
LhC:							
Lehigh--------------	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.11	depth to saturated zone	0.11	slope	0.63
						depth to saturated zone	0.48
						gravel content	0.36
						content of large stones	0.01

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
LkB:							
Lehigh	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		too stony	0.53	too stony	0.53	depth to saturated zone	0.48
		depth to saturated zone	0.11	depth to saturated zone	0.11	content of large stones	0.08
Lw:							
Lindside	80	Somewhat limited:		Somewhat limited:		Very limited:	
		flooding	0.40	flooding	0.40	flooding	1.00
						depth to saturated zone	0.03
MdA:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
MdB:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
MeB:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		too stony	0.53	too stony	0.53	gravel content	0.13
						content of large stones	0.08
MOB:							
Mt. Airy	50	Not limited		Not limited		Somewhat limited:	
						gravel content	0.98
						droughty	0.87
						depth to bedrock	0.29
						content of large stones	0.01
Manor	30	Not limited		Not limited		Somewhat limited:	
						gravel content	0.36
						content of large stones	0.01
MOC:							
Mt. Airy	55	Not limited		Not limited		Somewhat limited:	
						gravel content	0.98
						droughty	0.87
						slope	0.63
						depth to bedrock	0.29
						content of large stones	0.01
Manor	25	Very limited:		Very limited:		Somewhat limited:	
		water erosion	1.00	water erosion	1.00	slope	0.63
						gravel content	0.36
						content of large stones	0.01

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
MOD:							
Mt. Airy------------	60	Somewhat limited:		Not limited		Very limited:	
		slope	0.50			slope	1.00
						gravel content	0.98
						droughty	0.87
						depth to bedrock	0.29
						content of large stones	0.01
Manor---------------	20	Very limited:		Very limited:		Very limited:	
		water erosion	1.00	water erosion	1.00	slope	1.00
		slope	0.50			gravel content	0.36
						content of large stones	0.01
MtB:							
Mt. Zion------------	85	Not limited		Not limited		Somewhat limited:	
						content of large stones	0.05
MtC:							
Mt. Zion------------	85	Very limited:		Very limited:		Somewhat limited:	
		water erosion	1.00	water erosion	1.00	slope	0.63
						content of large stones	0.05
MtD:							
Mt. Zion------------	85	Very limited:		Very limited:		Very limited:	
		water erosion	1.00	water erosion	1.00	slope	1.00
		slope	0.50			content of large stones	0.05
MyB:							
Myersville----------	80	Not limited		Not limited		Not limited	
MyC:							
Myersville----------	80	Very limited:		Very limited:		Somewhat limited:	
		water erosion	1.00	water erosion	1.00	slope	0.63
MyD:							
Myersville----------	80	Very limited:		Very limited:		Very limited:	
		water erosion	1.00	water erosion	1.00	slope	1.00
		slope	0.50				
NaB:							
Neshaminy-----------	80	Not limited		Not limited		Somewhat limited:	
						gravel content	0.01
						content of large stones	0.01
NaC:							
Neshaminy-----------	80	Not limited		Not limited		Somewhat limited:	
						slope	0.63
						gravel content	0.01
						content of large stones	0.01

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
NdB:							
Neshaminy	85	Very limited:		Very limited:		Somewhat limited:	
		too stony	1.00	too stony	1.00	content of large stones	0.99
		content of large stones	0.01	content of large stones	0.01		
NdD:							
Neshaminy	80	Very limited:		Very limited:		Very limited:	
		too stony	1.00	too stony	1.00	slope	1.00
		slope	0.50	content of large stones	0.01	content of large stones	0.99
		content of large stones	0.01				
NdE:							
Neshaminy	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	too stony	1.00	slope	1.00
		too stony	1.00	slope	0.22	content of large stones	0.99
		content of large stones	0.01	content of large stones	0.01		
Pa:							
Penlaw	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to cemented pan	1.00
						depth to saturated zone	1.00
PbD:							
Penn	80	Somewhat limited:		Somewhat limited:		Very limited:	
		too stony	0.53	too stony	0.53	slope	1.00
		slope	0.50			depth to bedrock	0.01
						content of large stones	0.01
PcB:							
Penn	75	Not limited		Not limited		Somewhat limited:	
						depth to bedrock	0.01
PcC:							
Penn	75	Not limited		Not limited		Somewhat limited:	
						slope	0.63
						depth to bedrock	0.01
PoB:							
Penn	40	Not limited		Not limited		Somewhat limited:	
						gravel content	0.22
						depth to bedrock	0.01
						content of large stones	0.01
Klinesville	35	Not limited		Not limited		Very limited:	
						depth to bedrock	1.00
						droughty	1.00
						gravel content	0.92
						content of large stones	0.01

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
PoC:							
Penn	40	Not limited		Not limited		Somewhat limited:	
						slope	0.63
						gravel content	0.22
						depth to bedrock	0.01
						content of large stones	0.01
Klinesville	35	Not limited		Not limited		Very limited:	
						depth to bedrock	1.00
						droughty	1.00
						gravel content	0.92
						slope	0.63
						content of large stones	0.01
PsD:							
Pequea	80	Very limited:		Very limited:		Very limited:	
		water erosion	1.00	water erosion	1.00	slope	1.00
		slope	0.50				
Pt:							
Pits	80	Not rated		Not rated		Not rated	
RaA:							
Raritan	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.11	depth to saturated zone	0.11	depth to cemented pan	0.79
						depth to saturated zone	0.48
RaB:							
Raritan	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.11	depth to saturated zone	0.11	depth to cemented pan	0.79
						depth to saturated zone	0.48
RcC:							
Ravenrock	40	Very limited:		Very limited:		Somewhat limited:	
		too stony	1.00	too stony	1.00	slope	0.63
						content of large stones	0.46
						gravel content	0.21
Highfield	35	Very limited:		Very limited:		Very limited:	
		too stony	1.00	too stony	1.00	content of large stones	1.00
		content of large stones	0.02	content of large stones	0.02	slope	0.63
Rock outcrop	11	Not rated		Not rated		Not rated	

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
RcD:							
Ravenrock-----------	40	Very limited:		Very limited:		Very limited:	
		too stony	1.00	too stony	1.00	slope	1.00
		slope	0.50			content of large stones	0.46
						gravel content	0.21
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		too stony	1.00	too stony	1.00	slope	1.00
		slope	0.50	content of large stones	0.02	content of large stones	1.00
		content of large stones	0.02				
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcF:							
Ravenrock-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	too stony	1.00	slope	1.00
		too stony	1.00	slope	1.00	content of large stones	0.46
						gravel content	0.21
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	too stony	1.00	slope	1.00
		too stony	1.00	slope	1.00	content of large stones	1.00
		content of large stones	0.02	content of large stones	0.02		
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RdC:							
Ravenrock-----------	45	Very limited:		Very limited:		Somewhat limited:	
		too stony	1.00	too stony	1.00	content of large stones	0.46
						gravel content	0.21
						slope	0.04
Rohrersville--------	45	Very limited:		Very limited:		Somewhat limited:	
		too stony	1.00	too stony	1.00	depth to saturated zone	0.94
		depth to saturated zone	0.86	depth to saturated zone	0.86	slope	0.04
						content of large stones	0.01
ReA:							
Readington----------	75	Not limited		Not limited		Somewhat limited:	
						depth to cemented pan	0.71
						depth to saturated zone	0.03
ReB:							
Readington----------	75	Not limited		Not limited		Somewhat limited:	
						depth to cemented pan	0.71
						depth to saturated zone	0.03

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RfA:							
Reaville------------	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.11	depth to saturated zone	0.11	depth to bedrock	0.84
						depth to saturated zone	0.48
						droughty	0.45
						content of large stones	0.01
RfB:							
Reaville------------	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.11	depth to saturated zone	0.11	depth to bedrock	0.84
						depth to saturated zone	0.48
						droughty	0.45
						content of large stones	0.01
RfC:							
Reaville------------	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.11	depth to saturated zone	0.11	depth to bedrock	0.84
						slope	0.63
						depth to saturated zone	0.48
						droughty	0.45
						content of large stones	0.01
RoB:							
Rohrersville--------	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.86	depth to saturated zone	0.86	depth to saturated zone	0.94
RsB:							
Rohrersville--------	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.86	depth to saturated zone	0.86	depth to saturated zone	0.94
		too stony	0.53	too stony	0.53	content of large stones	0.11
Rw:							
Rowland-------------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		flooding	0.40	flooding	0.40	flooding	1.00
						depth to saturated zone	0.19
StB:							
Steinsburg----------	80	Not limited		Not limited		Somewhat limited:	
						depth to bedrock	0.80
						droughty	0.60
						content of large stones	0.03

Table 11b.--Recreational Development--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
StC:							
Steinsburg----------	80	Not limited		Not limited		Somewhat limited:	
						depth to bedrock	0.80
						slope	0.63
						droughty	0.60
						content of large stones	0.03
StD:							
Steinsburg----------	75	Somewhat limited:		Not limited		Very limited:	
		slope	0.50			slope	1.00
						depth to bedrock	0.80
						droughty	0.60
						content of large stones	0.03
Uc:							
Urban land.							
UeB:							
Urban land----------	60	Not rated		Not rated		Not rated	
Conestoga-----------	15	Not limited		Not limited		Not limited	
UgB:							
Urban land----------	55	Not rated		Not rated		Not rated	
Penn----------------	20	Not limited		Not limited		Somewhat limited:	
						depth to bedrock	0.42
W:							
Water.							
WaA:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
						content of large stones	0.03
WaB:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
						content of large stones	0.03
WbB:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		too stony	1.00	too stony	1.00	content of large stones	0.20

Table 12.--Wildlife Habitat

(See text for definitions of terms used in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hard-wood trees	Conif-erous plants	Shrubs	Wetland plants	Shallow water areas	Open-land wild-life	Wood-land wild-life	Wetland wild-life
AbA: Abbottstown	Fair	Good	Good	Good	Good	Poor	Fair	Fair	Good	Good	Fair
AbB: Abbottstown	Fair	Good	Good	Good	Good	Poor	Poor	Very poor	Good	Good	Very poor
ArB: Arendtsville	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
ArC: Arendtsville	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
ArD: Arendtsville	Poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
ArE: Arendtsville	Very poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
AtA: Athol	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
AtB: Athol	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
AtC: Athol	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Ba: Baile	Poor	Fair	Good	Fair	Fair	Poor	Good	Fair	Fair	Fair	Fair
Be: Bermudian	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BgA: Birdsboro	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BgB: Birdsboro	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BgC: Birdsboro	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Bo: Bowmansville	Poor	Fair	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
BrB:											
Brecknock	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BrC:											
Brecknock	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
BrD:											
Brecknock	Poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
BuB:											
Buchanan	Fair	Good	Good	Good	---	Fair	Poor	Very poor	Good	Good	Very poor
BvB:											
Buchanan	Very poor	Poor	Good	Good	---	Fair	Fair	Very poor	Poor	Good	Poor
CcB:											
Catoctin	Fair	Good	Good	Fair	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
CcC:											
Catoctin	Fair	Good	Good	Fair	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
CcE:											
Catoctin	Very poor	Fair	Good	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
CkA:											
Clarksburg	Good	Good	Good	Good	Good	Fair	Poor	Poor	Good	Good	Poor
CkB:											
Clarksburg	Fair	Good	Good	Good	Good	Fair	Poor	Very poor	Good	Good	Very poor
Cm:											
Codorus	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
CnA:											
Conestoga	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
CnB:											
Conestoga	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
CnC:											
Conestoga	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
CrA:											
Croton	Poor	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good
CrB:											
Croton	Poor	Fair	Fair	Fair	Fair	Poor	Poor	Very poor	Fair	Very poor	Good

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
DAM: Dams.											
Dx: Dumps.											
Dy: Dunning	Very poor	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
EdB: Edgemont	Fair	Good	Good	Good	Good	Fair	Poor	Very poor	Good	Good	Very poor
EdC: Edgemont	Fair	Good	Good	Good	Good	Fair	Very poor	Very poor	Good	Good	Very poor
EdD: Edgemont	Poor	Fair	Fair	Good	Good	Fair	Very poor	Very poor	Fair	Good	Very poor
EeB: Edgemont	Very poor	Poor	Good	Good	Good	Fair	Poor	Very poor	Poor	Good	Very poor
EeD: Edgemont	Very poor	Poor	Good	Good	Good	Fair	Very poor	Very poor	Poor	Good	Very poor
EeF: Edgemont	Very poor	Poor	Good	Good	Good	Fair	Very poor	Very poor	Poor	Good	Very poor
GbB: Glenelg	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
GbC: Glenelg	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
GbD: Glenelg	Poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
GdA: Glenville	Fair	Good	Good	Good	Good	Fair	Poor	Poor	Good	Good	Poor
GdB: Glenville	Fair	Good	Good	Good	Good	Fair	Poor	Very poor	Good	Good	Very poor
Hc: Hatboro	Poor	Fair	Fair	Fair	Fair	Poor	Good	Fair	Fair	Fair	Fair
HgB: Highfield	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
HgC:											
Highfield	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
HHD:											
Highfield	Poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Catoctin	Poor	Fair	Good	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
HKB:											
Highfield	Very poor	Poor	Good	Good	Good	Good	Poor	Very poor	Poor	Good	Very poor
Catoctin	Very poor	Fair	Good	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Myersville	Very poor	Poor	Good	Good	Good	Good	Poor	Very poor	Poor	Good	Very poor
HKD:											
Highfield	Very poor	Poor	Good	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Catoctin	Very poor	Poor	Good	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
Myersville	Very poor	Poor	Good	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
HMF:											
Highfield	Very poor	Poor	Good	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Catoctin	Very poor	Poor	Good	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor
KnB:											
Klinesville	Very poor	Poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor
KnC:											
Klinesville	Very poor	Poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor
KnD:											
Klinesville	Very poor	Poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor
KnE:											
Klinesville	Very poor	Poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor
Lc:											
Lamington	Poor	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good
LeB:											
Lansdale	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
LfC:											
Lansdale	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
LgB:											
Legore	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
LgC:											
Legore	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
LgD:											
Legore	Poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
LhA:											
Lehigh	Fair	Good	Good	Good	Good	Fair	Poor	Poor	Good	Good	Poor
LhB:											
Lehigh	Fair	Good	Good	Good	Good	Fair	Very poor	Very poor	Good	Good	Very poor
LhC:											
Lehigh	Fair	Good	Good	Good	Good	Fair	Very poor	Very poor	Good	Good	Very poor
LkB:											
Lehigh	Very poor	Poor	Fair	Fair	Fair	Fair	Poor	Very poor	Poor	Fair	Very poor
Lw:											
Lindside	Poor	Fair	Fair	Good	Good	Fair	Poor	Poor	Fair	Good	Poor
MdA:											
Mount Lucas	Good	Good	Good	Good	Good	Poor	Poor	Poor	Good	Good	Poor
MdB:											
Mount Lucas	Good	Good	Good	Good	Good	Poor	Poor	Very poor	Good	Good	Very poor
MeB:											
Mount Lucas	Very poor	Poor	Poor	Fair	Fair	Poor	Very poor	Very poor	Poor	Fair	Very poor
MOB:											
Mt. Airy	Fair	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Manor	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
MOC:											
Mt. Airy	Fair	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Manor	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hard-wood trees	Conif-erous plants	Shrubs	Wetland plants	Shallow water areas	Open-land wild-life	Wood-land wild-life	Wetland wild-life
MOD: Mt. Airy	Poor	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
MOD: Manor	Poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
MtB: Mt. Zion	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
MtC: Mt. Zion	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
MtD: Mt. Zion	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
MyB: Myersville	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
MyC: Myersville	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
MyD: Myersville	Poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
NaB: Neshaminy	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
NaC: Neshaminy	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
NdB: Neshaminy	Very poor	Very poor	Good	Good	Good	Good	Poor	Very poor	Poor	Good	Very poor
NdD: Nehsaminy	Very poor	Very poor	Good	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
NdE: Neshaminy	Very poor	Very poor	Good	Good	Good	Good	Very poor	Very poor	Poor	Good	Very poor
Pa: Penlaw	Fair	Good	Good	Good	Good	Poor	Fair	Fair	Good	Good	Fair
PbD: Penn	Very poor	Poor	Good	Fair	Fair	Fair	Very poor	Very poor	Poor	Fair	Very poor

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
PcB:											
Penn	Fair	Good	Good	Fair	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
PcC:											
Penn	Fair	Good	Good	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
PoB:											
Penn	Fair	Good	Good	Fair	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
Klinesville	Very poor	Poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor
PoC:											
Penn	Fair	Good	Good	Fair	Fair	Fair	Very poor	Very poor	Good	Fair	Very poor
Klinesville	Very poor	Poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor	Poor	Very poor	Very poor
PsD:											
Pequea	Poor	Fair	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Pt:											
Pits.											
RaA:											
Raritan	Good	Good	Good	Good	Good	Fair	Poor	Poor	Good	Good	Poor
RaB:											
Raritan	Fair	Good	Good	Good	Good	Fair	Poor	Very poor	Good	Good	Very poor
RcC:											
Ravenrock	Very poor	Poor	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Highfield	Very poor	Very poor	Good	Good	Good	Good	Very poor	Very poor	Poor	Fair	Very poor
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
RcD:											
Ravenrock	Very poor	Poor	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Highfield	Very poor	Very poor	Good	Good	Good	Good	Very poor	Very poor	Poor	Fair	Very poor
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
RcF:											
Ravenrock	Very poor	Poor	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
RcF:											
Highfield	Very poor	Very poor	Good	Good	Good	Good	Very poor	Very poor	Poor	Fair	Very poor
Rock outcrop	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
RdC:											
Ravenrock	Very poor	Poor	Good	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Rohrersville	Poor	Poor	Fair	Fair	Fair	Poor	Fair	Fair	Poor	Fair	Fair
ReA:											
Readington	Good	Good	Good	Good	Good	Fair	Poor	Poor	Good	Good	Poor
ReB:											
Readington	Fair	Good	Good	Good	Good	Fair	Poor	Very poor	Good	Good	Very poor
RfA:											
Reaville	Poor	Fair	Fair	Poor	Poor	Fair	Poor	Poor	Fair	Poor	Poor
RfB:											
Reaville	Poor	Fair	Fair	Poor	Poor	Fair	Poor	Very poor	Fair	Poor	Very poor
RfC:											
Reaville	Poor	Fair	Fair	Poor	Poor	Fair	Very poor	Very poor	Fair	Poor	Very poor
RoB:											
Rohrersville	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Very poor	Poor	Fair	Very poor
RsB:											
Rohrersville	Poor	Poor	Fair	Fair	Fair	Poor	Fair	Fair	Poor	Fair	Fair
Rw:											
Rowland	Fair	Good	Good	Good	Good	Fair	Poor	Poor	Good	Good	Poor
StB:											
Steinsburg	Fair	Good	Good	Good	Fair	Fair	Poor	Very poor	Good	Good	Very poor
StC:											
Steinsburg	Fair	Good	Good	Good	Fair	Fair	Very poor	Very poor	Good	Good	Very poor
StD:											
Steinsburg	Poor	Fair	Good	Good	Fair	Fair	Very poor	Very poor	Fair	Good	Very poor
Uc:											
Urban land.											
UeB:											
Urban land.											

Table 12.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Open- land wild- life	Wood- land wild- life	Wetland wild- life
UeB:											
Conestoga	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
UgB:											
Urban land.											
Penn	Fair	Good	Good	Fair	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
W:											
Water.											
WaA:											
Watchung	Poor	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good
WaB:											
Watchung	Poor	Fair	Fair	Fair	Fair	Poor	Poor	Very poor	Fair	Fair	Very poor
WbB:											
Watchung	Very poor	Very poor	Fair	Fair	Fair	Poor	Good	Fair	Poor	Fair	Fair

Table 13.--Map Units with Hydric Components

(The "Component" column distinguishes between component (C) and inclusion (I). The "Hydric soils criteria" columns indicate the conditions that caused the map unit component or inclusion to be classified as "Hydric" or "Nonhydric." These criteria are defined in "Hydric Soils of the United States" (USDA Miscellaneous Publication No. 1491, 1991).)

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria: Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
Ba:							
Baile-----------------	Baile (C)	Yes	depressions	2B3	Yes	No	No
	Codorus (I)	No	flood plains	---	---	---	---
	Glenville (I)	No	swales	---	---	---	---
	Hatboro (I)	Yes	flood plains	2B3	Yes	No	No
Bo:							
Bowmansville----------	Bowmansville (C)	Yes	flood plains	2B3	Yes	No	No
	Abbottstown (I)	No	swales	---	---	---	---
	Croton (I)	Yes	swales	2B3	Yes	No	No
	Lamington (I)	Yes	terraces, depressions	2B3	Yes	No	No
	Rowland (I)	No	flood plains	---	---	---	---
	Watchung (I)	Yes	swales	2B3	Yes	No	No
CrA:							
Croton----------------	Croton (C)	Yes	swales	2B3	Yes	No	No
	Abbottstown (I)	No	swales	---	---	---	---
	Bowmansville (I)	Yes	flood plains	2B3	Yes	No	No
	Lamington (I)	Yes	terraces, depressions	2B3	Yes	No	No
	Readington (I)	No	swales	---	---	---	---
	Reaville (I)	No	hillsides	---	---	---	---
CrB:							
Croton----------------	Croton (C)	Yes	swales	2B3	Yes	No	No
	Abbottstown (I)	No	swales	---	---	---	---
	Bowmansville (I)	Yes	flood plains	2B3	Yes	No	No
	Lehigh (I)	No	hillsides	---	---	---	---
	Readington (I)	No	swales	---	---	---	---
	Reaville (I)	No	hillsides	---	---	---	---
Dy:							
Dunning---------------	Dunning (C)	Yes	flood plains	2B3	Yes	No	No
	Clarksburg (I)	No	swales	---	---	---	---
	Lindside (I)	No	flood plains	---	---	---	---
	Penlaw (I)	No	swales	---	---	---	---
Hc:							
Hatboro---------------	Hatboro (C)	Yes	flood plains	2B3	Yes	No	No
	Codorus (I)	No	flood plains	---	---	---	---
	Lindside (I)	No	flood plains	---	---	---	---
	Dunning (I)	Yes	flood plains	2B3	Yes	No	No
	Glenville (I)	No	swales	---	---	---	---
	Watchung (I)	Yes	swales	2B3	Yes	No	No
	Buchanan (I)	No	mountainsides	---	---	---	---

Table 13.--Map Units with Hydric Components--Continued

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria: Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
Lc:							
Lamington	Lamington (C)	Yes	terraces, depressions	2B3	Yes	No	No
	Birdsboro (I)	No	terraces	---	---	---	---
	Raritan (I)	No	terraces	---	---	---	---
	Bowmansville (I)	Yes	flood plains	2B3	Yes	No	No
	Croton (I)	Yes	swales	2B3	Yes	No	No
	Rowland (I)	No	flood plains	---	---	---	---
	Readington (I)	No	swales	---	---	---	---
WaA:							
Watchung	Watchung (C)	Yes	swales	2B3	Yes	No	No
	Mount Lucas (I)	No	hillsides	---	---	---	---
	Dunning (I)	Yes	flood plains	2B3	Yes	No	No
	Hatboro (I)	Yes	flood plains	2B3	Yes	No	No
	Lehigh (I)	No	hillsides	---	---	---	---
	Neshaminy (I)	No	hillsides	---	---	---	---
	Croton (I)	Yes	swales	2B3	Yes	No	No
WaB:							
Watchung	Watchung (C)	Yes	swales	2B3	Yes	No	No
	Croton (I)	Yes	swales	2B3	Yes	No	No
	Hatboro (I)	Yes	flood plains	2B3	Yes	No	No
	Lehigh (I)	No	hillsides	---	---	---	---
	Mount Lucas (I)	No	hillsides	---	---	---	---
	Neshaminy (I)	No	hillsides	---	---	---	---
WbB:							
Watchung	Watchung (C)	Yes	swales	2B3	Yes	No	No
	Mount Lucas (I)	No	hillsides	---	---	---	---
	Neshaminy (I)	No	hillsides	---	---	---	---
	Croton (I)	Yes	swales	2B3	Yes	No	No
	Legore (I)	No	hillsides	---	---	---	---
	Lehigh (I)	No	hillsides	---	---	---	---
	Dunning (I)	Yes	flood plains	2B3	Yes	No	No

Table 14.--Map Units with Hydric Inclusions

(The "Component" column distinguishes between component (C) and inclusion (I). The "Hydric soils criteria" columns indicate the conditions that caused the map unit component or inclusion to be classified as "Hydric" or "Nonhydric." These criteria are defined in "Hydric Soils of the United States" (USDA Miscellaneous Publication No. 1491, 1991).)

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria: Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
AbA:							
Abbottstown-----------	Abbottstown (C)	No	swales	---	---	---	---
	Croton (I)	Yes	swales	2B3	Yes	No	No
	Klinesville (I)	No	hillsides	---	---	---	---
	Penn (I)	No	hillsides	---	---	---	---
	Readington (I)	No	swales	---	---	---	---
	Reaville (I)	No	hillsides	---	---	---	---
AbB:							
Abbottstown-----------	Abbottstown (C)	No	swales	---	---	---	---
	Croton (I)	Yes	swales	2B3	Yes	No	No
	Readington (I)	No	swales	---	---	---	---
	Reaville (I)	No	hillsides	---	---	---	---
	Penn (I)	No	hillsides	---	---	---	---
	Klinesville (I)	No	hillsides	---	---	---	---
	Lansdale (I)	No	hillsides	---	---	---	---
Be:							
Bermudian-------------	Bermudian (C)	No	flood plains	---	---	---	---
	Birdsboro (I)	No	terraces	---	---	---	---
	Bowmansville (I)	Yes	flood plains	2B3	Yes	No	No
	Rowland (I)	No	flood plains	---	---	---	---
BgA:							
Birdsboro-------------	Birdsboro (C)	No	terraces	---	---	---	---
	Bermudian (I)	No	flood plains	---	---	---	---
	Lamington (I)	Yes	terraces, depressions	2B3	Yes	No	No
	Penn (I)	No	hillsides	---	---	---	---
	Raritan (I)	No	terraces	---	---	---	---
	Rowland (I)	No	flood plains	---	---	---	---
BuB:							
Buchanan--------------	Buchanan (C)	No	mountainsides	---	---	---	---
	Edgemont (I)	No	mountainsides	---	---	---	---
	Highfield (I)	No	mountainsides	---	---	---	---
	Baile (I)	Yes	depressions	2B3	Yes	No	No
	Glenville (I)	No	swales	---	---	---	---
	Hatboro (I)	Yes	flood plains	2B3	Yes	No	No
	Myersville (I)	No	mountainsides	---	---	---	---
BvB:							
Buchanan--------------	Buchanan (C)	No	mountainsides	---	---	---	---
	Baile (I)	Yes	depressions	2B3	Yes	No	No
	Edgemont (I)	No	mountainsides	---	---	---	---
	Glenville (I)	No	swales	---	---	---	---
	Highfield (I)	No	mountainsides	---	---	---	---
	Myersville (I)	No	mountainsides	---	---	---	---
Cm:							
Codorus---------------	Codorus (C)	No	flood plains	---	---	---	---
	Lindside (I)	No	flood plains	---	---	---	---
	Hatboro (I)	Yes	flood plains	2B3	Yes	No	No
	Baile (I)	Yes	depressions	2B3	Yes	No	No
	Glenville (I)	No	swales	---	---	---	---

Table 14.--Map Units with Hydric Inclusions--Continued

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria: Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
EdB:							
Edgemont	Edgemont (C)	No	mountainsides	---	---	---	---
	Baile (I)	Yes	depressions	2B3	Yes	No	No
	Buchanan (I)	No	mountainsides	---	---	---	---
	Catoctin (I)	No	mountainsides	---	---	---	---
	Highfield (I)	No	mountainsides	---	---	---	---
	Myersville (I)	No	mountainsides	---	---	---	---
EdC:							
Edgemont	Edgemont (C)	No	mountainsides	---	---	---	---
	Baile (I)	Yes	depressions	2B3	Yes	No	No
	Buchanan (I)	No	mountainsides	---	---	---	---
	Catoctin (I)	No	mountainsides	---	---	---	---
	Highfield (I)	No	mountainsides	---	---	---	---
	Myersville (I)	No	mountainsides	---	---	---	---
GbB:							
Glenelg	Glenelg (C)	No	mountainsides	---	---	---	---
	Edgemont (I)	No	mountainsides	---	---	---	---
	Manor (I)	No	mountainsides	---	---	---	---
	Glenville (I)	No	swales	---	---	---	---
	Highfield (I)	No	mountainsides	---	---	---	---
	Mt. Airy (I)	No	mountainsides	---	---	---	---
	Baile (I)	Yes	depressions	2B3	Yes	No	No
GbC:							
Glenelg	Glenelg (C)	No	mountainsides	---	---	---	---
	Edgemont (I)	No	mountainsides	---	---	---	---
	Manor (I)	No	mountainsides	---	---	---	---
	Glenville (I)	No	swales	---	---	---	---
	Highfield (I)	No	mountainsides	---	---	---	---
	Mt. Airy (I)	No	mountainsides	---	---	---	---
	Baile (I)	Yes	depressions	2B3	Yes	No	No
GdA:							
Glenville	Glenville (C)	No	swales	---	---	---	---
	Glenelg (I)	No	mountainsides	---	---	---	---
	Manor (I)	No	mountainsides	---	---	---	---
	Buchanan (I)	No	mountainsides	---	---	---	---
	Codorus (I)	No	flood plains	---	---	---	---
	Mt. Airy (I)	No	mountainsides	---	---	---	---
	Hatboro (I)	Yes	flood plains	2B3	Yes	No	No
GdB:							
Glenville	Glenville (C)	No	swales	---	---	---	---
	Glenelg (I)	No	mountainsides	---	---	---	---
	Manor (I)	No	mountainsides	---	---	---	---
	Buchanan (I)	No	mountainsides	---	---	---	---
	Codorus (I)	No	flood plains	---	---	---	---
	Mt. Airy (I)	No	mountainsides	---	---	---	---
	Hatboro (I)	Yes	flood plains	2B3	Yes	No	No

Table 14.--Map Units with Hydric Inclusions--Continued

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria: Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
HKB:							
Highfield, Catoctin, and Myersville-------	Highfield (C)	No	mountainsides	---	---	---	---
	Catoctin (C)	No	mountainsides	---	---	---	---
	Myersville (C)	No	mountainsides	---	---	---	---
	Baile (I)	Yes	depressions	2B3	Yes	No	No
	Buchanan (I)	No	mountainsides	---	---	---	---
	Edgemont (I)	No	mountainsides	---	---	---	---
	Glenville (I)	No	swales	---	---	---	---
	Neshaminy (I)	No	hillsides	---	---	---	---
LhA:							
Lehigh----------------	Lehigh (C)	No	hillsides	---	---	---	---
	Brecknock (I)	No	hillsides	---	---	---	---
	Klinesville (I)	No	hillsides	---	---	---	---
	Reaville (I)	No	hillsides	---	---	---	---
	Mount Lucas (I)	No	hillsides	---	---	---	---
	Penn (I)	No	hillsides	---	---	---	---
	Watchung (I)	Yes	swales	2B3	Yes	No	No
LhB:							
Lehigh----------------	Lehigh (C)	No	hillsides	---	---	---	---
	Brecknock (I)	No	hillsides	---	---	---	---
	Reaville (I)	No	hillsides	---	---	---	---
	Klinesville (I)	No	hillsides	---	---	---	---
	Mount Lucas (I)	No	hillsides	---	---	---	---
	Penn (I)	No	hillsides	---	---	---	---
	Watchung (I)	Yes	swales	2B3	Yes	No	No
Lw:							
Lindside--------------	Lindside (C)	No	flood plains	---	---	---	---
	Clarksburg (I)	No	swales	---	---	---	---
	Codorus (I)	No	flood plains	---	---	---	---
	Dunning (I)	Yes	flood plains	2B3	Yes	No	No
	Glenville (I)	No	swales	---	---	---	---
	Penlaw (I)	No	swales	---	---	---	---
MdA:							
Mount Lucas-----------	Mount Lucas (C)	No	hillsides	---	---	---	---
	Watchung (I)	Yes	swales	2B3	Yes	No	No
	Lehigh (I)	No	hillsides	---	---	---	---
	Codorus (I)	No	flood plains	---	---	---	---
	Legore (I)	No	hillsides	---	---	---	---
	Neshaminy (I)	No	hillsides	---	---	---	---
	Hatboro (I)	Yes	flood plains	2B3	Yes	No	No
MdB:							
Mount Lucas-----------	Mount Lucas (C)	No	hillsides	---	---	---	---
	Watchung (I)	Yes	swales	2B3	Yes	No	No
	Lehigh (I)	No	hillsides	---	---	---	---
	Hatboro (I)	Yes	flood plains	2B3	Yes	No	No
	Legore (I)	No	hillsides	---	---	---	---
	Neshaminy (I)	No	hillsides	---	---	---	---
	Codorus (I)	No	flood plains	---	---	---	---

Table 14.--Map Units with Hydric Inclusions--Continued

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria: Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
MeB:							
Mount Lucas	Mount Lucas (C)	No	hillsides	---	---	---	---
	Neshaminy (I)	No	hillsides	---	---	---	---
	Legore (I)	No	hillsides	---	---	---	---
	Codorus (I)	No	flood plains	---	---	---	---
	Lehigh (I)	No	hillsides	---	---	---	---
	Watchung (I)	Yes	swales	2B3	Yes	No	No
	Hatboro (I)	Yes	flood plains	2B3	Yes	No	No
MOB:							
Mt. Airy and Manor	Mt. Airy (C)	No	mountainsides	---	---	---	---
	Manor (C)	No	mountainsides	---	---	---	---
	Baile (I)	Yes	depressions	2B3	Yes	No	No
	Edgemont (I)	No	mountainsides	---	---	---	---
	Glenelg (I)	No	mountainsides	---	---	---	---
	Glenville (I)	No	swales	---	---	---	---
MOC:							
Mt. Airy and Manor	Mt. Airy (C)	No	mountainsides	---	---	---	---
	Manor (C)	No	mountainsides	---	---	---	---
	Baile (I)	Yes	depressions	2B3	Yes	No	No
	Edgemont (I)	No	mountainsides	---	---	---	---
	Glenelg (I)	No	mountainsides	---	---	---	---
	Glenville (I)	No	swales	---	---	---	---
MOD:							
Mt. Airy and Manor	Mt. Airy (C)	No	mountainsides	---	---	---	---
	Manor (C)	No	mountainsides	---	---	---	---
	Baile (I)	Yes	depressions	2B3	Yes	No	No
	Edgemont (I)	No	mountainsides	---	---	---	---
	Glenelg (I)	No	mountainsides	---	---	---	---
	Glenville (I)	No	swales	---	---	---	---
MtB:							
Mt. Zion	Mt. Zion (C)	No	mountainsides	---	---	---	---
	Myersville (I)	No	mountainsides	---	---	---	---
	Very poorly drained soils (I)	Yes	depressions	2B3	Yes	No	No
MtC:							
Mt. Zion	Mt. Zion (C)	No	mountainsides	---	---	---	---
	Catoctin (I)	No	mountainsides	---	---	---	---
	Very poorly drained soils (I)	Yes	depressions	2B3	Yes	No	No
	Myersville (I)	No	mountainsides	---	---	---	---
MtD:							
Mt. Zion	Mt. Zion (C)	No	mountainsides	---	---	---	---
	Catoctin (I)	No	mountainsides	---	---	---	---
	Very poorly drained soils (I)	Yes	depressions	2B3	Yes	No	No

Table 14.--Map Units with Hydric Inclusions--Continued

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria: Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
NaB:							
Neshaminy	Neshaminy (C)	No	hillsides	---	---	---	---
	Brecknock (I)	No	hillsides	---	---	---	---
	Legore (I)	No	hillsides	---	---	---	---
	Lehigh (I)	No	hillsides	---	---	---	---
	Mount Lucas (I)	No	hillsides	---	---	---	---
	Watchung (I)	Yes	swales	2B3	Yes	No	No
RaA:							
Raritan	Raritan (C)	No	terraces	---	---	---	---
	Birdsboro (I)	No	terraces	---	---	---	---
	Lamington (I)	Yes	terraces, depressions	2B3	Yes	No	No
	Abbottstown (I)	No	swales	---	---	---	---
	Croton (I)	Yes	swales	2B3	Yes	No	No
	Readington (I)	No	swales	---	---	---	---
	Rowland (I)	No	flood plains	---	---	---	---
RaB:							
Raritan	Raritan (C)	No	terraces	---	---	---	---
	Birdsboro (I)	No	terraces	---	---	---	---
	Readington (I)	No	swales	---	---	---	---
	Abbottstown (I)	No	swales	---	---	---	---
	Croton (I)	Yes	swales	2B3	Yes	No	No
	Lamington (I)	Yes	terraces, depressions	2B3	Yes	No	No
	Rowland (I)	No	flood plains	---	---	---	---
ReA:							
Readington	Readington (C)	No	swales	---	---	---	---
	Abbottstown (I)	No	swales	---	---	---	---
	Lehigh (I)	No	hillsides	---	---	---	---
	Reaville (I)	No	hillsides	---	---	---	---
	Croton (I)	Yes	swales	2B3	Yes	No	No
	Klinesville (I)	No	hillsides	---	---	---	---
	Penn (I)	No	hillsides	---	---	---	---
RfA:							
Reaville	Reaville (C)	No	hillsides	---	---	---	---
	Penn (I)	No	hillsides	---	---	---	---
	Klinesville (I)	No	hillsides	---	---	---	---
	Abbottstown (I)	No	swales	---	---	---	---
	Croton (I)	Yes	swales	2B3	Yes	No	No
	Lehigh (I)	No	hillsides	---	---	---	---
	Readington (I)	No	swales	---	---	---	---
RfB:							
Reaville	Reaville (C)	No	hillsides	---	---	---	---
	Penn (I)	No	hillsides	---	---	---	---
	Klinesville (I)	No	hillsides	---	---	---	---
	Abbottstown (I)	No	swales	---	---	---	---
	Croton (I)	Yes	swales	2B3	Yes	No	No
	Lehigh (I)	No	hillsides	---	---	---	---
	Readington (I)	No	swales	---	---	---	---

Table 14.--Map Units with Hydric Inclusions--Continued

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria: Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
RoB:							
Rohrersville----------	Rohrersville (C)	No	mountainsides	---	---	---	---
	Catoctin (I)	No	mountainsides	---	---	---	---
	Highfield (I)	No	mountainsides	---	---	---	---
	Very poorly drained soils (I)	Yes	depressions	2B3	Yes	No	No
RsB:							
Rohrersville----------	Rohrersville (C)	No	mountainsides	---	---	---	---
	Catoctin (I)	No	mountainsides	---	---	---	---
	Highfield (I)	No	mountainsides	---	---	---	---
	Very poorly drained soils (I)	Yes	depressions	2B3	Yes	No	No
Rw:							
Rowland---------------	Rowland (C)	No	flood plains	---	---	---	---
	Bermudian (I)	No	flood plains	---	---	---	---
	Bowmansville (I)	Yes	flood plains	2B3	Yes	No	No
	Abbottstown (I)	No	swales	---	---	---	---
	Lamington (I)	Yes	terraces, depressions	2B3	Yes	No	No
	Raritan (I)	No	terraces	---	---	---	---
	Readington (I)	No	swales	---	---	---	---
UeB:							
Urban land-Conestoga--	Urban land (C)	No	---	---	---	---	---
	Conestoga (C)	No	hillsides	---	---	---	---
	Athol (I)	No	hillsides	---	---	---	---
	Clarksburg (I)	No	swales	---	---	---	---
	Dunning (I)	Yes	flood plains	2B3	Yes	No	No
	Lindside (I)	No	flood plains	---	---	---	---
	Penlaw (I)	No	swales	---	---	---	---

Table 15a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
AbA:							
Abbottstown	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
				depth to hard bedrock	0.84		
AbB:							
Abbottstown	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
				depth to hard bedrock	0.84	slope	0.50
ArB:							
Arendtsville	85	Not limited		Not limited		Somewhat limited:	
						slope	0.50
ArC:							
Arendtsville	85	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
ArD:							
Arendtsville	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
ArE:							
Arendtsville	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
AtA:							
Athol	85	Not limited		Not limited		Not limited	
AtB:							
Athol	85	Not limited		Not limited		Somewhat limited:	
						slope	0.50
AtC:							
Athol	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
Ba:							
Baile	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		ponding	1.00	ponding	1.00	ponding	1.00
		shrink-swell	0.50	shrink-swell	0.50	shrink-swell	0.50
Be:							
Bermudian	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	flooding	1.00
				depth to saturated zone	0.35		

Table 15a.--Building Site Development—Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
BgA:							
Birdsboro-----------	85	Not limited		Somewhat limited:		Not limited	
				depth to saturated zone	0.16		
BgB:							
Birdsboro-----------	75	Not limited		Somewhat limited:		Somewhat limited:	
				depth to saturated zone	0.16	slope	0.50
BgC:							
Birdsboro-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
				depth to saturated zone	0.16		
Bo:							
Bowmansville--------	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	flooding	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
BrB:							
Brecknock-----------	75	Not limited		Somewhat limited:		Somewhat limited:	
				depth to hard bedrock	0.96	slope	0.50
BrC:							
Brecknock-----------	75	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	depth to hard bedrock	0.96	slope	1.00
				slope	0.63		
BrD:							
Brecknock-----------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
				depth to hard bedrock	0.96		
BuB:							
Buchanan------------	85	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	0.01	depth to saturated zone	1.00	slope	0.50
						depth to saturated zone	0.01
BvB:							
Buchanan------------	85	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	0.01	depth to saturated zone	1.00	depth to saturated zone	0.01
CcB:							
Catoctin------------	85	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to hard bedrock	0.64	depth to hard bedrock	1.00	depth to hard bedrock	0.64
						slope	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
CcC:							
Catoctin	85	Somewhat limited:		Very limited:		Very limited:	
		depth to hard bedrock	0.64	depth to hard bedrock	1.00	slope	1.00
		slope	0.63	slope	0.63	depth to hard bedrock	0.64
CcE:							
Catoctin	85	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to hard bedrock	0.64	depth to hard bedrock	1.00	depth to hard bedrock	0.64
CkA:							
Clarksburg	80	Somewhat limited:		Very limited:		Somewhat limited:	
		shrink-swell	0.50	depth to saturated zone	1.00	shrink-swell	0.50
		depth to saturated zone	0.07	shrink-swell	0.50	depth to saturated zone	0.07
CkB:							
Clarksburg	80	Somewhat limited:		Very limited:		Somewhat limited:	
		shrink-swell	0.50	depth to saturated zone	1.00	slope	0.50
		depth to saturated zone	0.07	shrink-swell	0.50	shrink-swell	0.50
						depth to saturated zone	0.07
Cm:							
Codorus	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	flooding	1.00
		depth to saturated zone	0.07	depth to saturated zone	1.00	depth to saturated zone	0.07
CnA:							
Conestoga	80	Not limited		Not limited		Not limited	
CnB:							
Conestoga	75	Not limited		Not limited		Somewhat limited:	
						slope	0.50
CnC:							
Conestoga	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
CrA:							
Croton	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		ponding	1.00	ponding	1.00	ponding	1.00
				depth to hard bedrock	0.96		
CrB:							
Croton	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
				depth to hard bedrock	0.96	slope	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
DAM:							
Dams	100	Not rated		Not rated		Not rated	
Dx:							
Dumps	100	Not rated		Not rated		Not rated	
Dy:							
Dunning	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	flooding	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		shrink-swell	0.50	shrink-swell	0.50	shrink-swell	0.50
EdB:							
Edgemont	75	Not limited		Not limited		Somewhat limited:	
						slope	0.50
EdC:							
Edgemont	75	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
EdD:							
Edgemont	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
EeB:							
Edgemont	80	Not limited		Not limited		Somewhat limited:	
						slope	0.50
EeD:							
Edgemont	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
EeF:							
Edgemont	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
GbB:							
Glenelg	80	Not limited		Not limited		Somewhat limited:	
						slope	0.50
GbC:							
Glenelg	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
GbD:							
Glenelg	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
GdA:							
Glenville	80	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	0.81	depth to saturated zone	1.00	depth to saturated zone	0.81

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
GdB:							
Glenville-----------	80	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	0.81	depth to saturated zone	1.00	depth to saturated zone	0.81
						slope	0.50
Hc:							
Hatboro-------------	80	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	flooding	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
HgB:							
Highfield-----------	80	Not limited		Somewhat limited:		Somewhat limited:	
				depth to hard bedrock	0.96	slope	0.50
HgC:							
Highfield-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	depth to hard bedrock	0.96	slope	1.00
				slope	0.63		
HHD:							
Highfield-----------	45	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
				depth to hard bedrock	0.96		
Catoctin------------	35	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to hard bedrock	0.90	depth to hard bedrock	1.00	depth to hard bedrock	0.90
HKB:							
Highfield-----------	40	Not limited		Somewhat limited:		Not limited	
				depth to hard bedrock	0.96		
Catoctin------------	25	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to hard bedrock	0.90	depth to hard bedrock	1.00	depth to hard bedrock	0.90
		content of large stones	0.03	content of large stones	0.03	content of large stones	0.03
Myersville----------	15	Not limited		Not limited		Not limited	
HKD:							
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
				depth to hard bedrock	0.96		

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
HKD:							
Catoctin	30	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to hard bedrock	0.90	depth to hard bedrock	1.00	depth to hard bedrock	0.90
		content of large stones	0.03	content of large stones	0.03	content of large stones	0.03
Myersville	11	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
HMF:							
Highfield	45	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
				depth to hard bedrock	0.96		
Catoctin	35	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to hard bedrock	0.90	depth to hard bedrock	1.00	depth to hard bedrock	0.90
		content of large stones	0.03	content of large stones	0.03	content of large stones	0.03
KnB:							
Klinesville	85	Very limited:		Very limited:		Very limited:	
		depth to hard bedrock	1.00	depth to hard bedrock	1.00	depth to hard bedrock	1.00
						slope	0.50
KnC:							
Klinesville	80	Very limited:		Very limited:		Very limited:	
		depth to hard bedrock	1.00	depth to hard bedrock	1.00	slope	1.00
		slope	0.63	slope	0.63	depth to hard bedrock	1.00
KnD:							
Klinesville	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to hard bedrock	1.00	depth to hard bedrock	1.00	depth to hard bedrock	1.00
KnE:							
Klinesville	85	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to hard bedrock	1.00	depth to hard bedrock	1.00	depth to hard bedrock	1.00
Lc:							
Lamington	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		ponding	1.00	ponding	1.00	ponding	1.00
LeB:							
Lansdale	75	Not limited		Somewhat limited:		Somewhat limited:	
				depth to hard bedrock	0.71	slope	0.50

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
LfC:							
Lansdale	75	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	depth to hard bedrock	0.71	slope	1.00
				slope	0.63		
LgB:							
Legore	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		shrink-swell	0.50	shrink-swell	0.50	slope	0.50
						shrink-swell	0.50
LgC:							
Legore	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
		shrink-swell	0.50	shrink-swell	0.50	shrink-swell	0.50
LgD:							
Legore	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		shrink-swell	0.50	shrink-swell	0.50	shrink-swell	0.50
LhA:							
Lehigh	75	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	0.81	depth to saturated zone	1.00	depth to saturated zone	0.81
				depth to hard bedrock	0.96		
LhB:							
Lehigh	75	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	0.81	depth to saturated zone	1.00	depth to saturated zone	0.81
				depth to hard bedrock	0.96	slope	0.50
LhC:							
Lehigh	75	Somewhat limited:		Very limited:		Very limited:	
		depth to saturated zone	0.81	depth to saturated zone	1.00	slope	1.00
		slope	0.63	depth to hard bedrock	0.96	depth to saturated zone	0.81
				slope	0.63		
LkB:							
Lehigh	75	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	0.81	depth to saturated zone	1.00	depth to saturated zone	0.81
				depth to hard bedrock	0.96		
Lw:							
Lindside	80	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	flooding	1.00
		depth to saturated zone	0.07	depth to saturated zone	1.00	depth to saturated zone	0.07

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
MdA:							
Mount Lucas---------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
MdB:							
Mount Lucas---------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
						slope	0.50
MeB:							
Mount Lucas---------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
						slope	0.50
MOB:							
Mt. Airy------------	50	Not limited		Somewhat limited:		Somewhat limited:	
				depth to soft bedrock	0.29	slope	0.50
Manor---------------	30	Not limited		Not limited		Somewhat limited:	
						slope	0.50
MOC:							
Mt. Airy------------	55	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
				depth to soft bedrock	0.29		
Manor---------------	25	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
MOD:							
Mt. Airy------------	60	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
				depth to soft bedrock	0.29		
Manor---------------	20	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
MtB:							
Mt. Zion------------	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		shrink-swell	0.50	depth to saturated zone	0.82	slope	0.50
						shrink-swell	0.50
MtC:							
Mt. Zion------------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	depth to saturated zone	0.82	slope	1.00
		shrink-swell	0.50			shrink-swell	0.50
				slope	0.63		

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
MtD:							
Mt. Zion------------	85	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		shrink-swell	0.50	depth to saturated zone	0.82	shrink-swell	0.50
MyB:							
Myersville----------	80	Not limited		Not limited		Somewhat limited:	
						slope	0.50
MyC:							
Myersville----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
MyD:							
Myersville----------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
NaB:							
Neshaminy-----------	80	Not limited		Not limited		Somewhat limited:	
						slope	0.50
NaC:							
Neshaminy-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
NdB:							
Neshaminy-----------	85	Not limited		Not limited		Somewhat limited:	
						slope	0.50
NdD:							
Neshaminy-----------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
NdE:							
Neshaminy-----------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
Pa:							
Penlaw--------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		shrink-swell	0.50	shrink-swell	0.50	shrink-swell	0.50
PbD:							
Penn----------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to hard bedrock	0.01	depth to hard bedrock	1.00	depth to hard bedrock	0.01
PcB:							
Penn----------------	75	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to hard bedrock	0.01	depth to hard bedrock	1.00	slope	0.50
						depth to hard bedrock	0.01

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
PcC:							
Penn	75	Somewhat limited:		Very limited:		Very limited:	
		slope	0.63	depth to hard bedrock	1.00	slope	1.00
		depth to hard bedrock	0.01	slope	0.63	depth to hard bedrock	0.01
PoB:							
Penn	40	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to hard bedrock	0.01	depth to hard bedrock	1.00	slope	0.50
						depth to hard bedrock	0.01
Klinesville	35	Very limited:		Very limited:		Very limited:	
		depth to hard bedrock	1.00	depth to hard bedrock	1.00	depth to hard bedrock	1.00
						slope	0.50
PoC:							
Penn	40	Somewhat limited:		Very limited:		Very limited:	
		slope	0.63	depth to hard bedrock	1.00	slope	1.00
		depth to hard bedrock	0.01	slope	0.63	depth to hard bedrock	0.01
Klinesville	35	Very limited:		Very limited:		Very limited:	
		depth to hard bedrock	1.00	depth to hard bedrock	1.00	slope	1.00
		slope	0.63	slope	0.63	depth to hard bedrock	1.00
PsD:							
Pequea	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
Pt:							
Pits	80	Not rated		Not rated		Not rated	
RaA:							
Raritan	80	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	0.81	depth to saturated zone	1.00	depth to saturated zone	0.81
RaB:							
Raritan	80	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	0.81	depth to saturated zone	1.00	depth to saturated zone	0.81
						slope	0.50
RcC:							
Ravenrock	40	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	slope	0.63	slope	1.00
				depth to saturated zone	0.24		
Highfield	35	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	depth to hard bedrock	0.96	slope	1.00
				slope	0.63		
Rock outcrop	11	Not rated		Not rated		Not rated	

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
RcD:							
Ravenrock	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
				depth to saturated zone	0.24		
Highfield	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
				depth to hard bedrock	0.96		
Rock outcrop	11	Not rated		Not rated		Not rated	
RcF:							
Ravenrock	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
				depth to saturated zone	0.24		
Highfield	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
				depth to hard bedrock	0.96		
Rock outcrop	11	Not rated		Not rated		Not rated	
RdC:							
Ravenrock	45	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.04	depth to saturated zone	0.24	slope	1.00
				slope	0.04		
Rohrersville	45	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		shrink-swell	0.50	slope	0.04	slope	1.00
		slope	0.04			shrink-swell	0.50
ReA:							
Readington	75	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	0.07	depth to saturated zone	1.00	depth to saturated zone	0.07
				depth to hard bedrock	0.77		
ReB:							
Readington	75	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	0.07	depth to saturated zone	1.00	slope	0.50
				depth to hard bedrock	0.77	depth to saturated zone	0.07
RfA:							
Reaville	85	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to hard bedrock	0.84	depth to saturated zone	1.00	depth to hard bedrock	0.84
		depth to saturated zone	0.81	depth to hard bedrock	1.00	depth to saturated zone	0.81

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
RfB:							
Reaville------------	85	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to hard bedrock	0.84	depth to saturated zone	1.00	depth to hard bedrock	0.84
		depth to saturated zone	0.81	depth to hard bedrock	1.00	depth to saturated zone	0.81
						slope	0.50
RfC:							
Reaville------------	85	Somewhat limited:		Very limited:		Very limited:	
		depth to hard bedrock	0.84	depth to saturated zone	1.00	slope	1.00
		depth to saturated zone	0.81	depth to hard bedrock	1.00	depth to hard bedrock	0.84
		slope	0.63	slope	0.63	depth to saturated zone	0.81
RoB:							
Rohrersville--------	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		shrink-swell	0.50			slope	0.50
						shrink-swell	0.50
RsB:							
Rohrersville--------	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		shrink-swell	0.50			slope	1.00
						shrink-swell	0.50
Rw:							
Rowland-------------	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	flooding	1.00
		depth to saturated zone	0.39	depth to saturated zone	1.00	depth to saturated zone	0.39
StB:							
Steinsburg----------	80	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to hard bedrock	0.79	depth to hard bedrock	1.00	depth to hard bedrock	0.79
						slope	0.50
StC:							
Steinsburg----------	80	Somewhat limited:		Very limited:		Very limited:	
		depth to hard bedrock	0.79	depth to hard bedrock	1.00	slope	1.00
		slope	0.63	slope	0.63	depth to hard bedrock	0.79
StD:							
Steinsburg----------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to hard bedrock	0.79	depth to hard bedrock	1.00	depth to hard bedrock	0.79
Uc:							
Urban land----------	100	Not rated		Not rated		Not rated	

Table 15a.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
UeB:							
Urban land----------	60	Not rated		Not rated		Not rated	
Conestoga-----------	15	Not limited		Not limited		Somewhat limited:	
						slope	0.50
UgB:							
Urban land----------	55	Not rated		Not rated		Not rated	
Penn----------------	20	Not limited		Somewhat limited:		Not limited	
				depth to soft bedrock	0.42		
W:							
Water---------------	100	Not rated		Not rated		Not rated	
WaA:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		shrink-swell	0.50	shrink-swell	0.50	shrink-swell	0.50
WaB:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		shrink-swell	0.50	shrink-swell	0.50	slope	0.50
						shrink-swell	0.50
WbB:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		shrink-swell	0.50	shrink-swell	0.50	shrink-swell	0.50

Table 15b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AbA:							
Abbottstown---------	75	Very limited:		Very limited:		Very limited:	
		frost action	1.00	depth to saturated zone	1.00	depth to cemented pan	1.00
		depth to saturated zone	1.00	depth to hard bedrock	0.84	depth to saturated zone	1.00
				cutbanks cave	0.10		
AbB:							
Abbottstown---------	75	Very limited:		Very limited:		Very limited:	
		frost action	1.00	depth to saturated zone	1.00	depth to cemented pan	1.00
		depth to saturated zone	1.00	depth to hard bedrock	0.84	depth to saturated zone	1.00
				cutbanks cave	0.10		
ArB:							
Arendtsville--------	85	Somewhat limited:		Very limited:		Somewhat limited:	
		frost action	0.50	cutbanks cave	1.00	gravel content	0.59
ArC:							
Arendtsville--------	85	Somewhat limited:		Very limited:		Somewhat limited:	
		slope	0.63	cutbanks cave	1.00	slope	0.63
		frost action	0.50	slope	0.63	gravel content	0.59
ArD:							
Arendtsville--------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	cutbanks cave	1.00	gravel content	0.59
ArE:							
Arendtsville--------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	cutbanks cave	1.00	gravel content	0.59
AtA:							
Athol---------------	85	Somewhat limited:		Very limited:		Not limited	
		frost action	0.50	cutbanks cave	1.00		
AtB:							
Athol---------------	85	Somewhat limited:		Very limited:		Not limited	
		frost action	0.50	cutbanks cave	1.00		
AtC:							
Athol---------------	80	Somewhat limited:		Very limited:		Somewhat limited:	
		slope	0.63	cutbanks cave	1.00	slope	0.63
		frost action	0.50	slope	0.63		

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
Ba:							
Baile	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		frost action	1.00	ponding	1.00	ponding	1.00
		ponding	1.00	cutbanks cave	0.10	content of large stones	0.01
		low strength	0.78				
		shrink-swell	0.50				
Be:							
Bermudian	85	Very limited:		Very limited:		Somewhat limited:	
		flooding	1.00	cutbanks cave	1.00	flooding	0.60
		frost action	0.50	flooding	0.60		
				depth to saturated zone	0.35		
BgA:							
Birdsboro	85	Somewhat limited:		Very limited:		Not limited	
		frost action	0.50	cutbanks cave	1.00		
				depth to saturated zone	0.16		
BgB:							
Birdsboro	75	Somewhat limited:		Very limited:		Not limited	
		frost action	0.50	cutbanks cave	1.00		
				depth to saturated zone	0.16		
BgC:							
Birdsboro	80	Somewhat limited:		Very limited:		Somewhat limited:	
		slope	0.63	cutbanks cave	1.00	slope	0.63
		frost action	0.50	slope	0.63		
				depth to saturated zone	0.16		
Bo:							
Bowmansville	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	flooding	1.00
		frost action	1.00	cutbanks cave	1.00	depth to saturated zone	1.00
		flooding	1.00	flooding	0.80		
		low strength	0.22				
BrB:							
Brecknock	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		frost action	0.50	depth to hard bedrock	0.96	gravel content	0.22
				cutbanks cave	0.10	content of large stones	0.01
BrC:							
Brecknock	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		slope	0.63	depth to hard bedrock	0.96	slope	0.63
		frost action	0.50	slope	0.63	gravel content	0.22
				cutbanks cave	0.10	content of large stones	0.01

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
BrD:							
Brecknock	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	depth to hard bedrock	0.96	gravel content	0.22
						content of large stones	0.01
				cutbanks cave	0.10		
BuB:							
Buchanan	85	Somewhat limited:		Very limited:		Somewhat limited:	
		frost action	0.50	depth to saturated zone	1.00	depth to cemented pan	0.84
		depth to saturated zone	0.01				
				cutbanks cave	1.00	gravel content	0.54
						depth to saturated zone	0.01
						content of large stones	0.01
BvB:							
Buchanan	85	Somewhat limited:		Very limited:		Somewhat limited:	
		frost action	0.50	depth to saturated zone	1.00	depth to cemented pan	0.84
		depth to saturated zone	0.01				
				cutbanks cave	1.00	gravel content	0.36
						content of large stones	0.11
						depth to saturated zone	0.01
CcB:							
Catoctin	85	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to hard bedrock	0.64	depth to hard bedrock	1.00	depth to bedrock	0.65
						gravel content	0.62
				cutbanks cave	0.10	droughty	0.56
						content of large stones	0.20
CcC:							
Catoctin	85	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to hard bedrock	0.64	depth to hard bedrock	1.00	depth to bedrock	0.65
						slope	0.63
		slope	0.63	slope	0.63	gravel content	0.62
				cutbanks cave	0.10	droughty	0.56
						content of large stones	0.20
CcE:							
Catoctin	85	Very limited:		Very limited:		Very limited:	
		slope	1.00	depth to hard bedrock	1.00	slope	1.00
		depth to hard bedrock	0.64			depth to bedrock	0.65
				slope	1.00	gravel content	0.62
				cutbanks cave	0.10	droughty	0.56
						content of large stones	0.20

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
CkA:							
Clarksburg----------	80	Somewhat limited:		Very limited:		Somewhat limited:	
		low strength	0.78	depth to saturated zone	1.00	depth to cemented pan	0.29
		shrink-swell	0.50	cutbanks cave	0.10	depth to saturated zone	0.03
		frost action	0.50				
		depth to saturated zone	0.03				
CkB:							
Clarksburg----------	80	Somewhat limited:		Very limited:		Somewhat limited:	
		low strength	0.78	depth to saturated zone	1.00	depth to cemented pan	0.29
		shrink-swell	0.50	cutbanks cave	0.10	depth to saturated zone	0.03
		frost action	0.50				
		depth to saturated zone	0.03				
Cm:							
Codorus-------------	85	Very limited:		Very limited:		Very limited:	
		frost action	1.00	depth to saturated zone	1.00	flooding	1.00
		flooding	1.00	flooding	0.80	depth to saturated zone	0.03
		depth to saturated zone	0.03	cutbanks cave	0.10		
CnA:							
Conestoga-----------	80	Very limited:		Somewhat limited:		Not limited	
		low strength	1.00	cutbanks cave	0.10		
		frost action	0.50				
CnB:							
Conestoga-----------	75	Very limited:		Somewhat limited:		Not limited	
		low strength	1.00	cutbanks cave	0.10		
		frost action	0.50				
CnC:							
Conestoga-----------	80	Very limited:		Somewhat limited:		Somewhat limited:	
		low strength	1.00	slope	0.63	slope	0.63
		slope	0.63	cutbanks cave	0.10		
		frost action	0.50				
CrA:							
Croton--------------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		frost action	1.00	ponding	1.00	ponding	1.00
		low strength	1.00	depth to hard bedrock	0.96	depth to cemented pan	1.00
		ponding	1.00	cutbanks cave	0.10		
CrB:							
Croton--------------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		frost action	1.00	depth to hard bedrock	0.96	depth to cemented pan	1.00
		low strength	1.00	cutbanks cave	0.10		
DAM:							
Dams.							

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
Dx:							
Dumps.							
Dy:							
Dunning-------------	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	flooding	1.00
		flooding	1.00	flooding	0.80	depth to saturated zone	1.00
		low strength	1.00	too clayey	0.28		
		shrink-swell	0.50	cutbanks cave	0.10		
EdB:							
Edgemont------------	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		frost action	0.50	cutbanks cave	0.10	gravel content	0.54
						droughty	0.02
						content of large stones	0.01
EdC:							
Edgemont------------	75	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		slope	0.63	slope	0.63	slope	0.63
		frost action	0.50	cutbanks cave	0.10	gravel content	0.54
						droughty	0.02
						content of large stones	0.01
EdD:							
Edgemont------------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	cutbanks cave	0.10	gravel content	0.54
						droughty	0.02
						content of large stones	0.01
EeB:							
Edgemont------------	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		frost action	0.50	cutbanks cave	0.10	content of large stones	0.16
EeD:							
Edgemont------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	cutbanks cave	0.10	content of large stones	0.16
EeF:							
Edgemont------------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	cutbanks cave	0.10	content of large stones	0.16
GbB:							
Glenelg-------------	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		frost action	0.50	cutbanks cave	0.10	gravel content	0.36
						content of large stones	0.01

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
GbC:							
Glenelg	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		slope	0.63	slope	0.63	slope	0.63
		frost action	0.50	cutbanks cave	0.10	gravel content	0.36
						content of large stones	0.01
GbD:							
Glenelg	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	cutbanks cave	0.10	gravel content	0.36
						content of large stones	0.01
GdA:							
Glenville	80	Very limited:		Very limited:		Very limited:	
		frost action	1.00	depth to saturated zone	1.00	depth to cemented pan	1.00
		depth to saturated zone	0.48	cutbanks cave	0.10	depth to saturated zone	0.48
GdB:							
Glenville	80	Very limited:		Very limited:		Very limited:	
		frost action	1.00	depth to saturated zone	1.00	depth to cemented pan	1.00
		depth to saturated zone	0.48	cutbanks cave	0.10	depth to saturated zone	0.48
Hc:							
Hatboro	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	flooding	1.00
		frost action	1.00	cutbanks cave	1.00	depth to saturated zone	1.00
		flooding	1.00	flooding	0.80		
HgB:							
Highfield	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		frost action	0.50	depth to hard bedrock	0.96	gravel content	0.11
				depth to dense layer	0.50	content of large stones	0.01
				cutbanks cave	0.10		
HgC:							
Highfield	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		slope	0.63	depth to hard bedrock	0.96	slope	0.63
		frost action	0.50	slope	0.63	gravel content	0.11
				depth to dense layer	0.50	content of large stones	0.01
				cutbanks cave	0.10		

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
HHD:							
Highfield-----------	45	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	depth to hard bedrock	0.96	gravel content	0.11
				depth to dense layer	0.50	content of large stones	0.01
				cutbanks cave	0.10		
Catoctin------------	35	Very limited:		Very limited:		Very limited:	
		slope	1.00	depth to hard bedrock	1.00	slope	1.00
		depth to hard bedrock	0.90	slope	1.00	depth to bedrock	0.90
				cutbanks cave	0.10	gravel content	0.62
						droughty	0.56
						content of large stones	0.20
HKB:							
Highfield-----------	40	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		frost action	0.50	depth to hard bedrock	0.96	content of large stones	0.11
				cutbanks cave	0.10		
Catoctin------------	25	Somewhat limited:		Very limited:		Very limited:	
		depth to hard bedrock	0.90	depth to hard bedrock	1.00	content of large stones	1.00
		content of large stones	0.03	cutbanks cave	0.10	depth to bedrock	0.90
				content of large stones	0.03	droughty	0.78
Myersville----------	15	Very limited:		Somewhat limited:		Somewhat limited:	
		low strength	1.00	cutbanks cave	0.10	content of large stones	0.46
		frost action	0.50				
HKD:							
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	depth to hard bedrock	0.96	content of large stones	0.11
				cutbanks cave	0.10		
Catoctin------------	30	Very limited:		Very limited:		Very limited:	
		slope	1.00	depth to hard bedrock	1.00	slope	1.00
		depth to hard bedrock	0.90	slope	1.00	content of large stones	1.00
		content of large stones	0.03	cutbanks cave	0.10	depth to bedrock	0.90
				content of large stones	0.03	droughty	0.78
Myersville----------	11	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		low strength	1.00	cutbanks cave	0.10	content of large stones	0.46
		frost action	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
HMF:							
Highfield-----------	45	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	depth to hard bedrock	0.96	content of large stones	0.11
				cutbanks cave	0.10		
Catoctin------------	35	Very limited:		Very limited:		Very limited:	
		slope	1.00	depth to hard bedrock	1.00	slope	1.00
		depth to hard bedrock	0.90	slope	1.00	content of large stones	1.00
		content of large stones	0.03	cutbanks cave	0.10	depth to bedrock	0.90
				content of large stones	0.03	droughty	0.78
KnB:							
Klinesville---------	85	Very limited:		Very limited:		Very limited:	
		depth to hard bedrock	1.00	depth to hard bedrock	1.00	depth to bedrock	1.00
						droughty	1.00
		frost action	0.50	cutbanks cave	0.10	gravel content	0.92
						content of large stones	0.01
KnC:							
Klinesville---------	80	Very limited:		Very limited:		Very limited:	
		depth to hard bedrock	1.00	depth to hard bedrock	1.00	depth to bedrock	1.00
						droughty	1.00
		slope	0.63	slope	0.63	gravel content	0.92
		frost action	0.50	cutbanks cave	0.10	slope	0.63
						content of large stones	0.01
KnD:							
Klinesville---------	80	Very limited:		Very limited:		Very limited:	
		depth to hard bedrock	1.00	depth to hard bedrock	1.00	depth to bedrock	1.00
						slope	1.00
		slope	1.00	slope	1.00	droughty	1.00
		frost action	0.50	cutbanks cave	0.10	gravel content	0.92
						content of large stones	0.01
KnE:							
Klinesville---------	85	Very limited:		Very limited:		Very limited:	
		depth to hard bedrock	1.00	depth to hard bedrock	1.00	depth to bedrock	1.00
						slope	1.00
		slope	1.00	slope	1.00	droughty	1.00
		frost action	0.50	cutbanks cave	0.10	gravel content	0.92
						content of large stones	0.01
Lc:							
Lamington-----------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to cemented pan	1.00
		frost action	1.00	cutbanks cave	1.00	depth to saturated zone	1.00
		ponding	1.00	ponding	1.00	ponding	1.00

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LeB:							
Lansdale------------	75	Somewhat limited:		Very limited:		Not limited	
		frost action	0.50	cutbanks cave	1.00		
				depth to hard bedrock	0.71		
LfC:							
Lansdale------------	75	Somewhat limited:		Very limited:		Somewhat limited:	
		slope	0.63	cutbanks cave	1.00	slope	0.63
		frost action	0.50	depth to hard bedrock	0.71	content of large stones	0.01
				slope	0.63		
LgB:							
Legore--------------	80	Very limited:		Very limited:		Not limited	
		low strength	1.00	cutbanks cave	1.00		
		shrink-swell	0.50				
		frost action	0.50				
LgC:							
Legore--------------	80	Very limited:		Very limited:		Somewhat limited:	
		low strength	1.00	cutbanks cave	1.00	slope	0.63
		slope	0.63	slope	0.63		
		shrink-swell	0.50				
		frost action	0.50				
LgD:							
Legore--------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		low strength	1.00	cutbanks cave	1.00		
		shrink-swell	0.50				
		frost action	0.50				
LhA:							
Lehigh--------------	75	Very limited:		Very limited:		Somewhat limited:	
		frost action	1.00	depth to saturated zone	1.00	depth to saturated zone	0.48
		depth to saturated zone	0.48	depth to hard bedrock	0.96	gravel content	0.36
				cutbanks cave	0.10	content of large stones	0.01
LhB:							
Lehigh--------------	75	Very limited:		Very limited:		Somewhat limited:	
		frost action	1.00	depth to saturated zone	1.00	depth to saturated zone	0.48
		depth to saturated zone	0.48	depth to hard bedrock	0.96	gravel content	0.36
				cutbanks cave	0.10	content of large stones	0.01
LhC:							
Lehigh--------------	75	Very limited:		Very limited:		Somewhat limited:	
		frost action	1.00	depth to saturated zone	1.00	slope	0.63
		slope	0.63	depth to hard bedrock	0.96	depth to saturated zone	0.48
		depth to saturated	0.48	slope	0.63	gravel content	0.36
		zone	0.48	cutbanks cave	0.10	content of large stones	0.01

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
LkB:							
Lehigh	75	Very limited:		Very limited:		Somewhat limited:	
		frost action	1.00	depth to saturated zone	1.00	depth to saturated zone	0.48
		depth to saturated zone	0.48	depth to hard bedrock	0.96	content of large stones	0.08
				cutbanks cave	0.10		
Lw:							
Lindside	80	Very limited:		Very limited:		Very limited:	
		frost action	1.00	depth to saturated zone	1.00	flooding	1.00
		flooding	1.00	flooding	0.80	depth to saturated zone	0.03
		low strength	1.00	cutbanks cave	0.10		
		depth to saturated zone	0.03				
MdA:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		frost action	1.00	cutbanks cave	0.10		
MdB:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		frost action	1.00	cutbanks cave	0.10		
MeB:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		frost action	1.00	cutbanks cave	0.10	gravel content	0.13
						content of large stones	0.08
MOB:							
Mt. Airy	50	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		frost action	0.50	depth to soft bedrock	0.29	gravel content	0.98
				cutbanks cave	0.10	droughty	0.87
						depth to bedrock	0.29
						content of large stones	0.01
Manor	30	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		frost action	0.50	cutbanks cave	0.10	gravel content	0.36
						content of large stones	0.01
MOC:							
Mt. Airy	55	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		slope	0.63	slope	0.63	gravel content	0.98
		frost action	0.50	depth to soft bedrock	0.29	droughty	0.87
				cutbanks cave	0.10	slope	0.63
						depth to bedrock	0.29
						content of large stones	0.01

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
MOC:							
Manor---------------	25	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		slope	0.63	slope	0.63	slope	0.63
		frost action	0.50	cutbanks cave	0.10	gravel content	0.36
						content of large stones	0.01
MOD:							
Mt. Airy------------	60	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	depth to soft bedrock	0.29	gravel content	0.98
						droughty	0.87
				cutbanks cave	0.10	depth to bedrock	0.29
						content of large stones	0.01
Manor---------------	20	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	cutbanks cave	0.10	gravel content	0.36
						content of large stones	0.01
MtB:							
Mt. Zion------------	85	Somewhat limited:		Very limited:		Somewhat limited:	
		shrink-swell	0.50	cutbanks cave	1.00	content of large stones	0.05
		frost action	0.50	depth to saturated zone	0.82		
MtC:							
Mt. Zion------------	85	Somewhat limited:		Very limited:		Somewhat limited:	
		slope	0.63	cutbanks cave	1.00	slope	0.63
		shrink-swell	0.50	depth to saturated zone	0.82	content of large stones	0.05
		frost action	0.50				
				slope	0.63		
MtD:							
Mt. Zion------------	85	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		shrink-swell	0.50	cutbanks cave	1.00	content of large stones	0.05
		frost action	0.50	depth to saturated zone	0.82		
MyB:							
Myersville----------	80	Very limited:		Somewhat limited:		Not limited	
		low strength	1.00	cutbanks cave	0.10		
		frost action	0.50				
MyC:							
Myersville----------	80	Very limited:		Somewhat limited:		Somewhat limited:	
		low strength	1.00	slope	0.63	slope	0.63
		slope	0.63	cutbanks cave	0.10		
		frost action	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
MyD:							
Myersville----------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		low strength	1.00	cutbanks cave	0.10		
		frost action	0.50				
NaB:							
Neshaminy-----------	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		frost action	0.50	cutbanks cave	0.10	gravel content	0.01
						content of large stones	0.01
NaC:							
Neshaminy-----------	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		slope	0.63	slope	0.63	slope	0.63
		frost action	0.50	cutbanks cave	0.10	gravel content	0.01
						content of large stones	0.01
NdB:							
Neshaminy-----------	85	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		frost action	0.50	cutbanks cave	0.10	content of large stones	0.99
NdD:							
Neshaminy-----------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	cutbanks cave	0.10	content of large stones	0.99
NdE:							
Neshaminy-----------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	cutbanks cave	0.10	content of large stones	0.99
Pa:							
Penlaw--------------	80	Very limited:		Very limited:		Very limited:	
		frost action	1.00	depth to saturated zone	1.00	depth to cemented pan	1.00
		low strength	1.00	cutbanks cave	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00				
		shrink-swell	0.50				
PbD:							
Penn----------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	depth to hard bedrock	1.00	slope	1.00
		frost action	0.50	slope	1.00	depth to bedrock	0.01
		depth to hard bedrock	0.01	cutbanks cave	0.10	content of large stones	0.01
PcB:							
Penn----------------	75	Somewhat limited:		Very limited:		Somewhat limited:	
		frost action	0.50	depth to hard bedrock	1.00	depth to bedrock	0.01
		depth to hard bedrock	0.01	cutbanks cave	0.10		

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
PcC:							
Penn----------------	75	Somewhat limited:		Very limited:		Somewhat limited:	
		slope	0.63	depth to hard bedrock	1.00	slope	0.63
		frost action	0.50	slope	0.63	depth to bedrock	0.01
		depth to hard bedrock	0.01	cutbanks cave	0.10		
PoB:							
Penn----------------	40	Somewhat limited:		Very limited:		Somewhat limited:	
		frost action	0.50	depth to hard bedrock	1.00	gravel content	0.22
		depth to hard bedrock	0.01	cutbanks cave	0.10	depth to bedrock	0.01
						content of large stones	0.01
Klinesville---------	35	Very limited:		Very limited:		Very limited:	
		depth to hard bedrock	1.00	depth to hard bedrock	1.00	depth to bedrock	1.00
		frost action	0.50	cutbanks cave	0.10	droughty	1.00
						gravel content	0.92
						content of large stones	0.01
PoC:							
Penn----------------	40	Somewhat limited:		Very limited:		Somewhat limited:	
		slope	0.63	depth to hard bedrock	1.00	slope	0.63
		frost action	0.50	slope	0.63	gravel content	0.22
		depth to hard bedrock	0.01	cutbanks cave	0.10	depth to bedrock	0.01
						content of large stones	0.01
Klinesville---------	35	Very limited:		Very limited:		Very limited:	
		depth to hard bedrock	1.00	depth to hard bedrock	1.00	depth to bedrock	1.00
		slope	0.63	slope	0.63	droughty	1.00
		frost action	0.50	cutbanks cave	0.10	gravel content	0.92
						slope	0.63
						content of large stones	0.01
PsD:							
Pequea--------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	cutbanks cave	0.10		
Pt:							
Pits----------------	80	Not rated		Not rated		Not rated	
RaA:							
Raritan-------------	80	Very limited:		Very limited:		Somewhat limited:	
		frost action	1.00	depth to saturated zone	1.00	depth to cemented pan	0.79
		depth to saturated zone	0.48	cutbanks cave	1.00	depth to saturated zone	0.48
RaB:							
Raritan-------------	80	Very limited:		Very limited:		Somewhat limited:	
		frost action	1.00	depth to saturated zone	1.00	depth to cemented pan	0.79
		depth to saturated zone	0.48	cutbanks cave	1.00	depth to saturated zone	0.48

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
RcC:							
Ravenrock-----------	40	Somewhat limited:		Very limited:		Somewhat limited:	
		slope	0.63	cutbanks cave	1.00	slope	0.63
		frost action	0.50	slope	0.63	content of large	0.46
				depth to saturated	0.24	stones	
				zone	0.24	gravel content	0.21
				too clayey	0.02		
Highfield-----------	35	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.63	depth to hard	0.96	content of large	1.00
		frost action	0.50	bedrock		stones	
				slope	0.63	slope	0.63
				cutbanks cave	0.10		
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcD:							
Ravenrock-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	cutbanks cave	1.00	content of large	0.46
				depth to saturated	0.24	stones	
				zone		gravel content	0.21
				too clayey	0.02		
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	depth to hard	0.96	content of large	1.00
				bedrock		stones	
				cutbanks cave	0.10		
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcF:							
Ravenrock-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	cutbanks cave	1.00	content of large	0.46
				depth to saturated	0.24	stones	
				zone	0.24	gravel content	0.21
				too clayey	0.02		
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		frost action	0.50	depth to hard	0.96	content of large	1.00
				bedrock		stones	
				cutbanks cave	0.10		
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RdC:							
Ravenrock-----------	45	Somewhat limited:		Very limited:		Somewhat limited:	
		frost action	0.50	cutbanks cave	1.00	content of large	0.46
		slope	0.04	depth to saturated	0.24	stones	
				zone		gravel content	0.21
				slope	0.04	slope	0.04
				too clayey	0.02		

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
RdC:							
Rohrersville--------	45	Very limited:		Very limited:		Somewhat limited:	
		frost action	1.00	depth to saturated zone	1.00	depth to saturated zone	0.94
		low strength	1.00	cutbanks cave	0.10	slope	0.04
		depth to saturated zone	0.94	slope	0.04	content of large stones	0.01
		shrink-swell	0.50				
		slope	0.04				
ReA:							
Readington----------	75	Somewhat limited:		Very limited:		Somewhat limited:	
		frost action	0.50	depth to saturated zone	1.00	depth to cemented pan	0.71
		depth to saturated zone	0.03	depth to hard bedrock	0.77	depth to saturated zone	0.03
				cutbanks cave	0.10		
ReB:							
Readington----------	75	Somewhat limited:		Very limited:		Somewhat limited:	
		frost action	0.50	depth to saturated zone	1.00	depth to cemented pan	0.71
		depth to saturated zone	0.03	depth to hard bedrock	0.77	depth to saturated zone	0.03
				cutbanks cave	0.10		
RfA:							
Reaville------------	85	Very limited:		Very limited:		Somewhat limited:	
		frost action	1.00	depth to hard bedrock	1.00	depth to bedrock	0.84
		depth to hard bedrock	0.84	depth to saturated zone	1.00	depth to saturated zone	0.48
		depth to saturated zone	0.48	cutbanks cave	0.10	droughty	0.45
						content of large stones	0.01
RfB:							
Reaville------------	85	Very limited:		Very limited:		Somewhat limited:	
		frost action	1.00	depth to hard bedrock	1.00	depth to bedrock	0.84
		depth to hard bedrock	0.84	depth to saturated zone	1.00	depth to saturated zone	0.48
		depth to saturated zone	0.48	cutbanks cave	0.10	droughty	0.45
						content of large stones	0.01
RfC:							
Reaville------------	85	Very limited:		Very limited:		Somewhat limited:	
		frost action	1.00	depth to hard bedrock	1.00	depth to bedrock	0.84
		depth to hard bedrock	0.84	depth to saturated zone	1.00	slope	0.63
		slope	0.63	slope	0.63	depth to saturated zone	0.48
		depth to saturated zone	0.48	cutbanks cave	0.10	droughty	0.45
						content of large stones	0.01

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
RoB:							
Rohrersville--------	85	Very limited:		Very limited:		Somewhat limited:	
		frost action	1.00	depth to saturated zone	1.00	depth to saturated zone	0.94
		low strength	1.00	cutbanks cave	0.10		
		depth to saturated zone	0.94				
		shrink-swell	0.50				
RsB:							
Rohrersville--------	85	Very limited:		Very limited:		Somewhat limited:	
		frost action	1.00	depth to saturated zone	1.00	depth to saturated zone	0.94
		low strength	1.00	cutbanks cave	0.10	content of large stones	0.11
		depth to saturated zone	0.94				
		shrink-swell	0.50				
Rw:							
Rowland-------------	85	Very limited:		Very limited:		Very limited:	
		frost action	1.00	depth to saturated zone	1.00	flooding	1.00
		flooding	1.00	cutbanks cave	1.00	depth to saturated zone	0.19
		low strength	1.00	flooding	0.80		
		depth to saturated zone	0.19				
StB:							
Steinsburg----------	80	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to hard bedrock	0.79	depth to hard bedrock	1.00	depth to bedrock	0.80
				cutbanks cave	0.10	droughty	0.60
						content of large stones	0.03
StC:							
Steinsburg----------	80	Somewhat limited:		Very limited:		Somewhat limited:	
		depth to hard bedrock	0.79	depth to hard bedrock	1.00	depth to bedrock	0.80
		slope	0.63	slope	0.63	slope	0.63
				cutbanks cave	0.10	droughty	0.60
						content of large stones	0.03
StD:							
Steinsburg----------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	depth to hard bedrock	1.00	slope	1.00
		depth to hard bedrock	0.79	slope	1.00	depth to bedrock	0.80
				cutbanks cave	0.10	droughty	0.60
						content of large stones	0.63
Uc:							
Urban land.							
UeB:							
Urban land----------	60	Not rated		Not rated		Not rated	
Conestoga-----------	15	Very limited:		Somewhat limited:		Not limited	
		low strength	1.00	cutbanks cave	0.10		
		frost action	0.50				

Table 15b.--Building Site Development--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
UgB:							
Urban land----------	55	Not rated		Not rated		Not rated	
Penn----------------	20	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		frost action	0.50	depth to soft bedrock	0.42	depth to bedrock	0.42
				cutbanks cave	0.10		
W:							
Water.							
WaA:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		frost action	1.00	too clayey	0.72	content of large stones	0.03
		low strength	1.00	cutbanks cave	0.10		
		shrink-swell	0.50				
WaB:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		frost action	1.00	too clayey	0.72	content of large stones	0.03
		low strength	1.00	cutbanks cave	0.10		
		shrink-swell	0.50				
WbB:							
Watchung------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		frost action	1.00	too clayey	0.72	content of large stones	0.20
		low strength	1.00	cutbanks cave	0.10		
		shrink-swell	0.50				

Table 16a.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AbA:					
Abbottstown---------	75	Very limited:		Somewhat limited:	
		restricted permeability	1.00	depth to hard bedrock	0.84
		depth to cemented pan	1.00	seepage	0.53
		depth to saturated zone	1.00		
		depth to bedrock	0.94		
AbB:					
Abbottstown---------	75	Very limited:		Somewhat limited:	
		restricted permeability	1.00	slope	0.92
				depth to hard bedrock	0.84
		depth to cemented pan	1.00	seepage	0.53
		depth to saturated zone	1.00		
		depth to bedrock	0.94		
ArB:					
Arendtsville--------	85	Not limited		Very limited:	
				seepage	1.00
				slope	0.92
ArC:					
Arendtsville--------	85	Somewhat limited:		Very limited:	
		slope	0.63	slope	1.00
				seepage	1.00
ArD:					
Arendtsville--------	80	Very limited:		Very limited:	
		slope	1.00	slope	1.00
				seepage	1.00
ArE:					
Arendtsville--------	80	Very limited:		Very limited:	
		slope	1.00	slope	1.00
				seepage	1.00
AtA:					
Athol---------------	85	Somewhat limited:		Somewhat limited:	
		restricted permeability	0.46	seepage	0.53
AtB:					
Athol---------------	85	Somewhat limited:		Somewhat limited:	
		restricted permeability	0.46	slope	0.92
				seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AtC:					
Athol---------------	80	Somewhat limited:		Very limited:	
		slope	0.63	slope	1.00
		restricted permeability	0.46	seepage	0.53
Ba:					
Baile---------------	85	Very limited:		Very limited:	
		restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	ponding	1.00
		ponding	1.00		
Be:					
Bermudian-----------	85	Very limited:		Very limited:	
		flooding	1.00	flooding	1.00
		filtering capacity	1.00	seepage	1.00
		depth to saturated zone	0.84	depth to saturated zone	0.17
BgA:					
Birdsboro-----------	85	Somewhat limited:		Somewhat limited:	
		restricted permeability	0.46	seepage	0.53
		depth to saturated zone	0.43		
BgB:					
Birdsboro-----------	75	Somewhat limited:		Somewhat limited:	
		restricted permeability	0.46	slope	0.92
				seepage	0.53
		depth to saturated zone	0.43		
BgC:					
Birdsboro-----------	80	Somewhat limited:		Very limited:	
		slope	0.63	slope	1.00
		restricted permeability	0.46	seepage	0.53
		depth to saturated zone	0.43		
Bo:					
Bowmansville--------	85	Very limited:		Very limited:	
		flooding	1.00	flooding	1.00
		depth to saturated zone	1.00	seepage	1.00
				depth to saturated zone	1.00
		restricted permeability	1.00		
BrB:					
Brecknock-----------	75	Somewhat limited:		Very limited:	
		depth to bedrock	0.99	seepage	1.00
		restricted permeability	0.46	depth to hard bedrock	0.96
				slope	0.92

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BrC:					
Brecknock-----------	75	Somewhat limited:		Very limited:	
		depth to bedrock	0.99	slope	1.00
		slope	0.63	seepage	1.00
		restricted permeability	0.46	depth to hard bedrock	0.96
BrD:					
Brecknock-----------	75	Very limited:		Very limited:	
		slope	1.00	slope	1.00
		depth to bedrock	0.99	seepage	1.00
		restricted permeability	0.46	depth to hard bedrock	0.96
BuB:					
Buchanan------------	85	Very limited:		Very limited:	
		restricted permeability	1.00	depth to saturated zone	1.00
		depth to cemented pan	1.00	slope	0.92
				seepage	0.53
		depth to saturated zone	1.00		
BvB:					
Buchanan------------	85	Very limited:		Very limited:	
		restricted permeability	1.00	depth to saturated zone	1.00
		depth to cemented pan	1.00	seepage	0.53
				slope	0.32
		depth to saturated zone	1.00		
CcB:					
Catoctin------------	85	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
				seepage	1.00
				slope	0.92
CcC:					
Catoctin------------	85	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	0.63		
				slope	1.00
				seepage	1.00
CcE:					
Catoctin------------	85	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	1.00		
				slope	1.00
				seepage	1.00

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
CkA:					
Clarksburg----------	80	Very limited:		Somewhat limited:	
		depth to cemented pan	1.00	depth to saturated zone	0.56
		depth to saturated zone	1.00	seepage	0.53
		restricted permeability	1.00		
CkB:					
Clarksburg----------	80	Very limited:		Somewhat limited:	
		depth to cemented pan	1.00	slope	0.92
		depth to saturated zone	1.00	depth to saturated zone	0.56
		restricted permeability	1.00	seepage	0.53
Cm:					
Codorus-------------	85	Very limited:		Very limited:	
		flooding	1.00	flooding	1.00
		depth to saturated zone	1.00	seepage	1.00
		filtering capacity	1.00	depth to saturated zone	1.00
		restricted permeability	0.46		
CnA:					
Conestoga-----------	80	Somewhat limited:		Somewhat limited:	
		restricted permeability	0.46	seepage	0.53
CnB:					
Conestoga-----------	75	Somewhat limited:		Somewhat limited:	
		restricted permeability	0.46	slope	0.92
				seepage	0.53
CnC:					
Conestoga-----------	80	Somewhat limited:		Very limited:	
		slope	0.63	slope	1.00
		restricted permeability	0.46	seepage	0.53
CrA:					
Croton--------------	75	Very limited:		Very limited:	
		restricted permeability	1.00	ponding	1.00
		depth to cemented pan	1.00	depth to hard bedrock	0.96
		depth to saturated zone	1.00		
		ponding	1.00		
		depth to bedrock	0.99		

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
CrB:					
Croton	75	Very limited:		Somewhat limited:	
		restricted permeability	1.00	depth to hard bedrock	0.96
		depth to cemented pan	1.00	slope	0.92
		depth to saturated zone	1.00		
		depth to bedrock	0.99		
DAM:					
Dams	100	Not rated		Not rated	
Dx:					
Dumps	100	Not rated		Not rated	
Dy:					
Dunning	85	Very limited:		Very limited:	
		flooding	1.00	flooding	1.00
		restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	seepage	1.00
EdB:					
Edgemont	75	Not limited		Very limited:	
				seepage	1.00
				slope	0.92
EdC:					
Edgemont	75	Somewhat limited:		Very limited:	
		slope	0.63	slope	1.00
				seepage	1.00
EdD:					
Edgemont	75	Very limited:		Very limited:	
		slope	1.00	slope	1.00
				seepage	1.00
EeB:					
Edgemont	80	Not limited		Very limited:	
				seepage	1.00
				slope	0.92
EeD:					
Edgemont	80	Very limited:		Very limited:	
		slope	1.00	slope	1.00
				seepage	1.00
EeF:					
Edgemont	75	Very limited:		Very limited:	
		slope	1.00	slope	1.00
				seepage	1.00

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
GbB:					
Glenelg-------------	80	Somewhat limited:		Somewhat limited:	
		depth to bedrock	0.78	slope	0.92
		restricted permeability	0.46	seepage	0.53
				depth to soft bedrock	0.42
GbC:					
Glenelg-------------	80	Somewhat limited:		Very limited:	
		depth to bedrock	0.78	slope	1.00
		slope	0.63	seepage	0.53
		restricted permeability	0.46	depth to soft bedrock	0.42
GbD:					
Glenelg-------------	80	Very limited:		Very limited:	
		slope	1.00	slope	1.00
		depth to bedrock	0.78	seepage	0.53
		restricted permeability	0.46	depth to soft bedrock	0.42
GdA:					
Glenville-----------	80	Very limited:		Very limited:	
		depth to cemented pan	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	seepage	0.53
		restricted permeability	1.00		
GdB:					
Glenville-----------	80	Very limited:		Very limited:	
		depth to cemented pan	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	slope	0.92
		restricted permeability	1.00	seepage	0.53
Hc:					
Hatboro-------------	80	Very limited:		Very limited:	
		flooding	1.00	flooding	1.00
		depth to saturated zone	1.00	seepage	1.00
		restricted permeability	0.46	depth to saturated	1.00
HgB:					
Highfield-----------	80	Somewhat limited:		Somewhat limited:	
		depth to bedrock	0.99	depth to hard bedrock	0.96
		restricted permeability	0.46	slope	0.92
				seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
HgC:					
Highfield-----------	80	Somewhat limited:		Very limited:	
		depth to bedrock	0.99	slope	1.00
		slope	0.63	depth to hard bedrock	0.96
		restricted permeability	0.46	seepage	0.53
HHD:					
Highfield-----------	45	Very limited:		Very limited:	
		slope	1.00	slope	1.00
		depth to bedrock	0.99	depth to hard bedrock	0.96
		restricted permeability	0.46	seepage	0.53
Catoctin------------	35	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	1.00	slope	1.00
				seepage	1.00
HKB:					
Highfield-----------	40	Somewhat limited:		Somewhat limited:	
		depth to bedrock	0.99	depth to hard bedrock	0.96
		restricted permeability	0.46	seepage	0.53
				slope	0.32
Catoctin------------	25	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		content of large stones	0.03	seepage	1.00
				content of large stones	0.60
				slope	0.32
Myersville----------	15	Somewhat limited:		Somewhat limited:	
		depth to bedrock	0.86	depth to soft bedrock	0.61
		restricted permeability	0.46	seepage	0.53
				slope	0.32
HKD:					
Highfield-----------	40	Very limited:		Very limited:	
		slope	1.00	slope	1.00
		depth to bedrock	0.99	depth to hard bedrock	0.96
		restricted permeability	0.46	seepage	0.53

Table 16a.--Sanitary Facilities—Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
HKD:					
Catoctin------------	30	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	1.00	slope	1.00
		content of large stones	0.63	seepage	1.00
				content of large stones	0.60
Myersville----------	11	Very limited:		Very limited:	
		slope	1.00	slope	1.00
		depth to bedrock	0.86	depth to soft bedrock	0.61
		restricted permeability	0.46	seepage	0.53
HMF:					
Highfield-----------	45	Very limited:		Very limited:	
		slope	1.00	slope	1.00
		depth to bedrock	0.99	depth to hard bedrock	0.96
		restricted permeability	0.46	seepage	0.53
Catoctin------------	35	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	1.00	slope	1.00
		content of large stones	0.03	seepage	1.00
				content of large stones	0.60
KnB:					
Klinesville---------	85	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
				seepage	1.00
				slope	0.92
KnC:					
Klinesville---------	80	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	0.63	slope	1.00
				seepage	1.00
KnD:					
Klinesville---------	80	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	1.00	slope	1.00
				seepage	1.00
KnE:					
Klinesville---------	85	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	1.00	slope	1.00
				seepage	1.00

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
Lc:					
Lamington-----------	75	Very limited:		Very limited:	
		restricted permeability	1.00	depth to saturated zone	1.00
		depth to cemented pan	1.00	seepage	1.00
		depth to saturated zone	1.00	ponding	1.00
		filtering capacity	1.00		
		ponding	1.00		
LeB:					
Lansdale------------	75	Somewhat limited:		Very limited:	
		depth to bedrock	0.89	seepage	1.00
				slope	0.92
				depth to hard bedrock	0.71
LfC:					
Lansdale------------	75	Somewhat limited:		Very limited:	
		depth to bedrock	0.89	slope	1.00
		slope	0.63	seepage	1.00
				depth to hard bedrock	0.71
LgB:					
Legore--------------	80	Somewhat limited:		Very limited:	
		restricted permeability	0.46	seepage	1.00
				slope	0.92
LgC:					
Legore--------------	80	Somewhat limited:		Very limited:	
		slope	0.63	slope	1.00
		restricted permeability	0.46	seepage	1.00
LgD:					
Legore--------------	80	Very limited:		Very limited:	
		slope	1.00	slope	1.00
		restricted permeability	0.46	seepage	1.00
LhA:					
Lehigh--------------	75	Very limited:		Very limited:	
		restricted permeability	1.00	seepage	1.00
		depth to saturated zone	1.00	depth to hard bedrock	0.96
		depth to bedrock	0.99	depth to saturated zone	0.06

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
LhB:					
Lehigh	75	Very limited:		Very limited:	
		restricted permeability	1.00	seepage	1.00
		depth to saturated zone	1.00	depth to hard bedrock	0.96
		depth to bedrock	0.99	slope	0.92
				depth to saturated zone	0.06
LhC:					
Lehigh	75	Very limited:		Very limited:	
		restricted permeability	1.00	slope	1.00
		depth to saturated zone	1.00	seepage	1.00
		depth to bedrock	0.99	depth to hard bedrock	0.96
		slope	0.63	depth to saturated zone	0.06
LkB:					
Lehigh	75	Very limited:		Very limited:	
		restricted permeability	1.00	seepage	1.00
		depth to saturated zone	1.00	depth to hard bedrock	0.96
		depth to bedrock	0.99	slope	0.32
				depth to saturated zone	0.06
Lw:					
Lindside	80	Very limited:		Very limited:	
		flooding	1.00	flooding	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00
		restricted permeability	0.72	seepage	1.00
MdA:					
Mount Lucas	80	Very limited:		Very limited:	
		depth to saturated zone	1.00	seepage	1.00
		restricted permeability	1.00		
MdB:					
Mount Lucas	80	Very limited:		Very limited:	
		depth to saturated zone	1.00	seepage	1.00
		restricted permeability	1.00	slope	0.92
MeB:					
Mount Lucas	80	Very limited:		Very limited:	
		depth to saturated zone	1.00	seepage	1.00
		restricted permeability	1.00	slope	0.92

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
MOB:					
Mt. Airy------------	50	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to soft bedrock	1.00
				seepage	1.00
				slope	0.92
Manor---------------	30	Not limited		Very limited:	
				seepage	1.00
				slope	0.92
MOC:					
Mt. Airy------------	55	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to soft bedrock	1.00
		slope	0.63	slope	1.00
				seepage	1.00
Manor---------------	25	Somewhat limited:		Very limited:	
		slope	0.63	slope	1.00
				seepage	1.00
MOD:					
Mt. Airy------------	60	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to soft bedrock	1.00
		slope	1.00	slope	1.00
				seepage	1.00
Manor---------------	20	Very limited:		Very limited:	
		slope	1.00	slope	1.00
				seepage	1.00
MtB:					
Mt. Zion------------	85	Very limited:		Somewhat limited:	
		restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	slope	0.92
				seepage	0.53
MtC:					
Mt. Zion------------	85	Very limited:		Very limited:	
		restricted permeability	1.00	slope	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00
		slope	0.63	seepage	0.53
MtD:					
Mt. Zion------------	85	Very limited:		Very limited:	
		restricted permeability	1.00	slope	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00
		slope	1.00	seepage	0.53

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
MyB:					
Myresville----------	80	Somewhat limited:		Somewhat limited:	
		depth to bedrock	0.86	slope	0.92
		restricted permeability	0.46	depth to soft bedrock	0.61
				seepage	0.53
MyC:					
Myersville----------	80	Somewhat limited:		Very limited:	
		depth to bedrock	0.86	slope	1.00
		slope	0.63	depth to soft bedrock	0.61
		restricted permeability	0.46	seepage	0.53
MyD:					
Myersville----------	80	Very limited:		Very limited:	
		slope	1.00	slope	1.00
		depth to bedrock	0.86	depth to soft bedrock	0.61
		restricted permeability	0.46	seepage	0.53
NaB:					
Neshaminy-----------	80	Very limited:		Somewhat limited:	
		restricted permeability	1.00	slope	0.92
NaC:					
Neshaminy-----------	80	Very limited:		Very limited:	
		restricted permeability	1.00	slope	1.00
		slope	0.63		
NdB:					
Neshaminy-----------	85	Very limited:		Somewhat limited:	
		restricted permeability	1.00	slope	0.92
				content of large stones	0.13
NdD:					
Neshaminy-----------	80	Very limited:		Very limited:	
		slope	1.00	slope	1.00
		restricted permeability	1.00	content of large stones	0.13
NdE:					
Neshaminy-----------	75	Very limited:		Very limited:	
		slope	1.00	slope	1.00
		restricted permeability	1.00	content of large stones	0.13
Pa:					
Penlaw--------------	80	Very limited:		Somewhat limited:	
		restricted permeability	1.00	seepage	0.53
		depth to cemented pan	1.00		
		depth to saturated zone	1.00		

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
PbD:					
Penn	80	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	1.00	slope	1.00
				seepage	1.00
PcB:					
Penn	75	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
				seepage	1.00
				slope	0.92
PcC:					
Penn	75	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	0.63	slope	1.00
				seepage	1.00
PoB:					
Penn	40	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
				seepage	1.00
				slope	0.92
Klinesville	35	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
				seepage	1.00
				slope	0.92
PoC:					
Penn	40	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	0.63	slope	1.00
				seepage	1.00
Klinesville	35	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	0.63	slope	1.00
				seepage	1.00
PsD:					
Pequea	80	Very limited:		Very limited:	
		slope	1.00	slope	1.00
		depth to bedrock	0.30	seepage	1.00
Pt:					
Pits	80	Not rated		Not rated	

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
RaA:					
Raritan	80	Very limited:		Very limited:	
		depth to cemented pan	1.00	seepage	1.00
		depth to saturated zone	1.00	depth to saturated zone	0.06
		restricted permeability	1.00		
RaB:					
Raritan	80	Very limited:		Very limited:	
		depth to cemented pan	1.00	seepage	1.00
		depth to saturated zone	1.00	slope	0.92
		restricted permeability	1.00	depth to saturated zone	0.06
RcC:					
Ravenrock	40	Very limited:		Very limited:	
		restricted permeability	1.00	slope	1.00
		depth to saturated zone	0.65	seepage	0.53
		slope	0.63	depth to saturated zone	0.02
Highfield	35	Somewhat limited:		Very limited:	
		depth to bedrock	0.99	slope	1.00
		slope	0.63	depth to hard bedrock	0.96
				seepage	0.53
Rock outcrop	11	Not rated		Not rated	
RcD:					
Ravenrock	40	Very limited:		Very limited:	
		restricted permeability	1.00	slope	1.00
		slope	1.00	seepage	0.53
		depth to saturated zone	0.65	depth to saturated zone	0.02
Highfield	40	Very limited:		Very limited:	
		slope	1.00	slope	1.00
		depth to bedrock	0.99	depth to hard bedrock	0.96
				seepage	0.53
Rock outcrop	11	Not rated		Not rated	
RcF:					
Ravenrock	40	Very limited:		Very limited:	
		restricted permeability	1.00	slope	1.00
		slope	1.00	seepage	0.53
		depth to saturated zone	0.65	depth to saturated zone	0.02

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
RcF:					
Highfield-----------	40	Very limited:		Very limited:	
		slope	1.00	slope	1.00
		depth to bedrock	0.99	depth to hard bedrock	0.96
				seepage	0.53
Rock outcrop--------	11	Not rated		Not rated	
RdC:					
Ravenrock-----------	45	Very limited:		Very limited:	
		restricted permeability	1.00	slope	1.00
				seepage	0.53
		depth to saturated zone	0.65	depth to saturated zone	0.02
		slope	0.04		
Rohrersville--------	45	Very limited:		Very limited:	
		restricted permeability	1.00	slope	1.00
				seepage	0.53
		depth to saturated zone	1.00		
		slope	0.04		
ReA:					
Readington----------	75	Very limited:		Somewhat limited:	
		depth to cemented pan	1.00	depth to hard bedrock	0.77
		depth to saturated zone	1.00	depth to saturated zone	0.56
		restricted permeability	1.00	seepage	0.53
		depth to bedrock	0.91		
ReB:					
Readington----------	75	Very limited:		Somewhat limited:	
		depth to cemented pan	1.00	slope	0.92
				depth to hard bedrock	0.77
		depth to saturated zone	1.00	depth to saturated zone	0.56
		restricted permeability	1.00	seepage	0.53
		depth to bedrock	0.91		
RfA:					
Reaville------------	85	Very limited:		Very limited:	
		restricted permeability	1.00	depth to hard bedrock	1.00
		depth to bedrock	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	seepage	0.21

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
RfB:					
Reaville------------	85	Very limited:		Very limited:	
		restricted permeability	1.00	depth to hard bedrock	1.00
		depth to bedrock	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	slope	0.92
				seepage	0.21
RfC:					
Reaville------------	85	Very limited:		Very limited:	
		restricted permeability	1.00	depth to hard bedrock	1.00
		depth to bedrock	1.00	slope	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00
		slope	0.63	seepage	0.21
RoB:					
Rohrersville--------	85	Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	slope	0.92
		restricted permeability	1.00	seepage	0.53
RsB:					
Rohrersville--------	85	Very limited:		Very limited:	
		restricted permeability	1.00	slope	1.00
		depth to saturated zone	1.00	seepage	0.53
Rw:					
Rowland-------------	85	Very limited:		Very limited:	
		flooding	1.00	flooding	1.00
		depth to saturated zone	1.00	seepage	1.00
		restricted permeability	0.72	depth to saturated zone	1.00
StB:					
Steinsburg----------	80	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
				seepage	1.00
				slope	0.92
StC:					
Steinsburg----------	80	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	0.63	slope	1.00
				seepage	1.00

Table 16a.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
StD:					
Steinsburg----------	75	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to hard bedrock	1.00
		slope	1.00	slope	1.00
				seepage	1.00
Uc:					
Urban land.					
UeB:					
Urban land----------	60	Not rated		Not rated	
Conestoga-----------	15	Somewhat limited:		Somewhat limited:	
		restricted permeability	0.46	slope	0.92
				seepage	0.53
UgB:					
Urban land----------	55	Not rated		Not rated	
Penn----------------	20	Very limited:		Very limited:	
		depth to bedrock	1.00	depth to soft bedrock	1.00
				seepage	1.00
				slope	0.32
W:					
Water.					
WaA:					
Watchung------------	80	Very limited:		Very limited:	
		restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	seepage	0.28
WaB:					
Watchung------------	80	Very limited:		Very limited:	
		restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	slope	0.92
				seepage	0.28
WbB:					
Watchung------------	80	Very limited:		Very limited:	
		restricted permeability	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	slope	0.32
				seepage	0.28

Table 16b.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AbA:							
Abbottstown---------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		depth to bedrock	1.00	depth to bedrock	0.84	depth to bedrock	0.84
AbB:							
Abbottstown---------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		depth to bedrock	1.00	depth to bedrock	0.84	depth to bedrock	0.84
ArB:							
Arendtsville--------	85	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	seepage	1.00	gravel content	0.29
						seepage	0.22
ArC:							
Arendtsville--------	85	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	seepage	1.00	slope	0.63
		slope	0.63	slope	0.63	gravel content	0.29
						seepage	0.22
ArD:							
Arendtsville--------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		seepage	1.00	seepage	1.00	gravel content	0.29
						seepage	0.22
ArE:							
Arendtsville--------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		seepage	1.00	seepage	1.00	gravel content	0.29
						seepage	0.22
AtA:							
Athol---------------	85	Not limited		Not limited		Not limited	
AtB:							
Athol---------------	85	Not limited		Not limited		Not limited	
AtC:							
Athol---------------	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		slope	0.63	slope	0.63	slope	0.63
Ba:							
Baile---------------	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		ponding	1.00	ponding	1.00	ponding	1.00

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
Be:							
Bermudian-----------	85	Very limited:		Very limited:		Somewhat limited:	
		flooding	1.00	flooding	1.00	seepage	0.22
		depth to saturated zone	1.00	depth to saturated zone	1.00	gravel content	0.01
		seepage	1.00	seepage	1.00		
BgA:							
Birdsboro-----------	85	Very limited:		Very limited:		Not limited	
		depth to saturated zone	1.00	depth to saturated zone	1.00		
BgB:							
Birdsboro-----------	75	Very limited:		Very limited:		Not limited	
		depth to saturated zone	1.00	depth to saturated zone	1.00		
BgC:							
Birdsboro-----------	80	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	slope	0.63
		slope	0.63	slope	0.63		
Bo:							
Bowmansville--------	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00		
		seepage	1.00	seepage	1.00		
BrB:							
Brecknock-----------	75	Very limited:		Somewhat limited:		Somewhat limited:	
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
						gravel content	0.14
BrC:							
Brecknock-----------	75	Very limited:		Somewhat limited:		Somewhat limited:	
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
		slope	0.63	slope	0.63	slope	0.63
						gravel content	0.14
BrD:							
Brecknock-----------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
						gravel content	0.14
BuB:							
Buchanan------------	85	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	0.56
		too clayey	0.50			too clayey	0.50
						gravel content	0.35

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
BvB:							
Buchanan	85	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	0.56
		too clayey	0.50			too clayey	0.50
						gravel content	0.33
CcB:							
Catoctin	85	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	seepage	1.00	depth to bedrock	1.00
		seepage	1.00	depth to bedrock	1.00	seepage	0.52
						gravel content	0.41
CcC:							
Catoctin	85	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	seepage	1.00	depth to bedrock	1.00
		seepage	1.00	depth to bedrock	1.00	slope	0.63
		slope	0.63	slope	0.63	seepage	0.52
						gravel content	0.41
CcE:							
Catoctin	85	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	seepage	1.00	slope	1.00
		seepage	1.00	depth to bedrock	1.00	seepage	0.52
						gravel content	0.41
CkA:							
Clarksburg	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.95	depth to saturated zone	0.95	depth to saturated zone	0.68
CkB:							
Clarksburg	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		depth to saturated zone	0.95	depth to saturated zone	0.95	depth to saturated zone	0.68
Cm:							
Codorus	85	Very limited:		Very limited:		Somewhat limited:	
		flooding	1.00	flooding	1.00	depth to saturated zone	0.68
		depth to saturated zone	1.00	depth to saturated zone	1.00		
		seepage	1.00				
CnA:							
Conestoga	80	Somewhat limited:		Not limited		Somewhat limited:	
		too clayey	0.50			too clayey	0.50
CnB:							
Conestoga	75	Somewhat limited:		Not limited		Somewhat limited:	
		too clayey	0.50			too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
CnC:							
Conestoga	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		slope	0.63	slope	0.63	slope	0.63
		too clayey	0.50			too clayey	0.50
CrA:							
Croton	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		depth to bedrock	1.00	ponding	1.00	ponding	1.00
		ponding	1.00	depth to bedrock	0.96	depth to bedrock	0.96
CrB:							
Croton	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
DAM:							
Dams.							
Dx:							
Dumps.							
Dy:							
Dunning	85	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00	too clayey	1.00
		too clayey	1.00				
		seepage	1.00				
EdB:							
Edgemont	75	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	seepage	1.00	gravel content	0.84
						seepage	0.22
EdC:							
Edgemont	75	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	seepage	1.00	gravel content	0.84
		slope	0.63	slope	0.63	slope	0.63
						seepage	0.22
EdD:							
Edgemont	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		seepage	1.00	seepage	1.00	gravel content	0.84
						seepage	0.22
EeB:							
Edgemont	80	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	seepage	1.00	gravel content	0.54
						seepage	0.22

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
EeD:							
Edgemont------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		seepage	1.00	seepage	1.00	gravel content	0.54
						seepage	0.22
EeF:							
Edgemont------------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		seepage	1.00	seepage	1.00	gravel content	0.54
						seepage	0.22
GbB:							
Glenelg-------------	80	Very limited:		Somewhat limited:		Somewhat limited:	
		depth to bedrock	1.00	depth to bedrock	0.42	depth to bedrock	0.42
GbC:							
Glenelg-------------	80	Very limited:		Somewhat limited:		Somewhat limited:	
		depth to bedrock	1.00	slope	0.63	slope	0.63
		slope	0.63	depth to bedrock	0.42	depth to bedrock	0.42
GbD:							
Glenelg-------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to bedrock	1.00	depth to bedrock	0.42	depth to bedrock	0.42
GdA:							
Glenville-----------	80	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	0.96
						gravel content	0.04
GdB:							
Glenville-----------	80	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	0.96
						gravel content	0.04
Hc:							
Hatboro-------------	80	Very limited:		Very limited:		Very limited:	
		flooding	1.00	flooding	1.00	depth to saturated zone	1.00
		depth to saturated zone	1.00	depth to saturated zone	1.00		
		seepage	1.00				
HgB:							
Highfield-----------	80	Very limited:		Somewhat limited:		Somewhat limited:	
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
						gravel content	0.54
HgC:							
Highfield-----------	80	Very limited:		Somewhat limited:		Somewhat limited:	
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
		slope	0.63	slope	0.63	slope	0.63
						gravel content	0.54

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
HHD:							
Highfield-----------	45	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
						gravel content	0.54
Catoctin------------	35	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	seepage	1.00	slope	1.00
		seepage	1.00	depth to bedrock	1.00	gravel content	0.81
						seepage	0.52
HKB:							
Highfield-----------	40	Very limited:		Somewhat limited:		Somewhat limited:	
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
						gravel content	0.42
Catoctin------------	25	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	seepage	1.00	depth to bedrock	1.00
		seepage	1.00	depth to bedrock	1.00	seepage	0.52
		content of large stones	0.03			gravel content	0.12
						content of large stones	0.03
Myersville----------	15	Very limited:		Somewhat limited:		Somewhat limited:	
		depth to bedrock	1.00	depth to bedrock	0.61	depth to bedrock	0.61
		too clayey	0.50			too clayey	0.50
HKD:							
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
						gravel content	0.42
Catoctin------------	30	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	seepage	1.00	slope	1.00
		seepage	1.00	depth to bedrock	1.00	seepage	0.52
		content of large stones	0.03			gravel content	0.12
						content of large stones	0.03
Myersville----------	11	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to bedrock	1.00	depth to bedrock	0.61	depth to bedrock	0.61
		too clayey	0.50			too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
HMF:							
Highfield-----------	45	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
						gravel content	0.42
Catoctin------------	35	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	seepage	1.00	slope	1.00
		seepage	1.00	depth to bedrock	1.00	seepage	0.52
		content of large stones	0.03			gravel content	0.12
						content of large stones	0.03
KnB:							
Klinesville---------	85	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		seepage	1.00			gravel content	1.00
						seepage	0.52
KnC:							
Klinesville---------	80	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		seepage	1.00	slope	0.63	gravel content	1.00
		slope	0.63			slope	0.63
						seepage	0.52
KnD:							
Klinesville---------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	slope	1.00
		seepage	1.00			gravel content	1.00
						seepage	0.52
KnE:							
Klinesville---------	85	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	slope	1.00
		seepage	1.00			gravel content	1.00
						seepage	0.52
Lc:							
Lamington-----------	75	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		seepage	1.00	ponding	1.00	ponding	1.00
		ponding	1.00			too clayey	0.50
		too clayey	0.50				
LeB:							
Lansdale------------	75	Very limited:		Very limited:		Somewhat limited:	
		depth to bedrock	1.00	seepage	1.00	depth to bedrock	0.71
		seepage	1.00	depth to bedrock	0.71	seepage	0.22

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LfC:							
Lansdale------------	75	Very limited:		Very limited:		Somewhat limited:	
		depth to bedrock	1.00	seepage	1.00	depth to bedrock	0.71
		seepage	1.00	depth to bedrock	0.71	slope	0.63
		slope	0.63	slope	0.63	seepage	0.22
						gravel content	0.01
LgB:							
Legore--------------	80	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	seepage	1.00	too clayey	0.50
		too clayey	0.50				
LgC:							
Legore--------------	80	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	seepage	1.00	slope	0.63
		slope	0.63	slope	0.63	too clayey	0.50
		too clayey	0.50				
LgD:							
Legore--------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		seepage	1.00	seepage	1.00	too clayey	0.50
		too clayey	0.50				
LhA:							
Lehigh--------------	75	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	0.96
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
						gravel content	0.65
LhB:							
Lehigh--------------	75	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	0.96
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
						gravel content	0.65
LhC:							
Lehigh--------------	75	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	0.96
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
		slope	0.63	slope	0.63	gravel content	0.65
						slope	0.63
LkB:							
Lehigh--------------	75	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	0.96
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
						gravel content	0.42

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
Lw:							
Lindside------------	80	Very limited:		Very limited:		Somewhat limited:	
		flooding	1.00	flooding	1.00	depth to saturated zone	0.68
		depth to saturated zone	1.00	depth to saturated zone	1.00	seepage	0.16
		seepage	1.00	seepage	1.00		
MdA:							
Mount Lucas---------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		seepage	1.00	seepage	1.00	gravel content	0.06
MdB:							
Mount Lucas---------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		seepage	1.00	seepage	1.00	gravel content	0.06
MeB:							
Mount Lucas---------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		seepage	1.00	seepage	1.00	gravel content	0.16
MOB:							
Mt. Airy------------	50	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		seepage	1.00	seepage	1.00	gravel content	1.00
						seepage	0.22
Manor---------------	30	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	seepage	1.00	seepage	0.22
						gravel content	0.01
MOC:							
Mt. Airy------------	55	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		seepage	1.00	seepage	1.00	gravel content	1.00
		slope	0.63	slope	0.63	slope	0.63
						seepage	0.22
Manor---------------	25	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	seepage	1.00	slope	0.63
		slope	0.63	slope	0.63	seepage	0.22
						gravel content	0.01
MOD:							
Mt. Airy------------	60	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	slope	1.00
		seepage	1.00	seepage	1.00	gravel content	1.00
						seepage	0.22

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
MOD:							
Manor	20	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		seepage	1.00	seepage	1.00	seepage	0.22
						gravel content	0.01
MtB:							
Mt. Zion	85	Very limited:		Very limited:		Not limited	
		depth to saturated zone	1.00	depth to saturated zone	1.00		
MtC:							
Mt. Zion	85	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	slope	0.63
		slope	0.63	slope	0.63		
MtD:							
Mt. Zion	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	slope	1.00	slope	1.00
		slope	1.00	depth to saturated zone	1.00		
MyB:							
Myersville	80	Very limited:		Somewhat limited:		Somewhat limited:	
		depth to bedrock	1.00	depth to bedrock	0.61	depth to bedrock	0.61
MyC:							
Myersville	80	Very limited:		Somewhat limited:		Somewhat limited:	
		depth to bedrock	1.00	slope	0.63	slope	0.63
		slope	0.63	depth to bedrock	0.61	depth to bedrock	0.61
MyD:							
Myersville	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to bedrock	1.00	depth to bedrock	0.61	depth to bedrock	0.61
NaB:							
Neshaminy	80	Somewhat limited:		Not limited		Somewhat limited:	
		too clayey	0.50			too clayey	0.50
NaC:							
Neshaminy	80	Somewhat limited:		Somewhat limited:		Somewhat limited:	
		slope	0.63	slope	0.63	slope	0.63
		too clayey	0.50			too clayey	0.50
NdB:							
Neshaminy	85	Somewhat limited:		Not limited		Somewhat limited:	
		too clayey	0.50			too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
NdD:							
Neshaminy-----------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too clayey	0.50			too clayey	0.50
NdE:							
Neshaminy-----------	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		too clayey	0.50			too clayey	0.50
Pa:							
Penlaw--------------	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		too clayey	0.50			too clayey	0.50
PbD:							
Penn----------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	slope	1.00
		seepage	1.00	seepage	1.00	seepage	0.22
						gravel content	0.01
PcB:							
Penn----------------	75	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		seepage	1.00	seepage	1.00	seepage	0.22
						gravel content	0.01
PcC:							
Penn----------------	75	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		seepage	1.00	seepage	1.00	slope	0.63
		slope	0.63	slope	0.63	seepage	0.22
						gravel content	0.01
PoB:							
Penn----------------	40	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		seepage	1.00	seepage	1.00	seepage	0.22
						gravel content	0.11
Klinesville---------	35	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		seepage	1.00			gravel content	1.00
						seepage	0.52
PoC:							
Penn----------------	40	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		seepage	1.00	seepage	1.00	slope	0.63
		slope	0.63	slope	0.63	seepage	0.22
						gravel content	0.11

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PoC:							
Klinesville---------	35	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		seepage	1.00	slope	0.63	gravel content	1.00
		slope	0.63			slope	0.63
						seepage	0.52
PsD:							
Pequea--------------	80	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to bedrock	1.00	seepage	1.00	seepage	0.22
		seepage	1.00				
Pt:							
Pits----------------	80	Not rated		Not rated		Not rated	
RaA:							
Raritan-------------	80	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	0.96
		seepage	1.00				
RaB:							
Raritan-------------	80	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	0.96
		seepage	1.00				
RcC:							
Ravenrock-----------	40	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	slope	0.63
						gravel content	0.01
		slope	0.63	slope	0.63		
Highfield-----------	35	Very limited:		Somewhat limited:		Somewhat limited:	
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
		slope	0.63	slope	0.63	slope	0.63
						gravel content	0.59
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcD:							
Ravenrock-----------	40	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	slope	1.00	slope	1.00
				depth to saturated zone	1.00	gravel content	0.01
		slope	1.00				
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
						gravel content	0.59
Rock outcrop--------	11	Not rated		Not rated		Not rated	

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
RcF:							
Ravenrock-----------	40	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	slope	1.00	slope	1.00
		slope	1.00	depth to saturated zone	1.00	gravel content	0.01
Highfield-----------	40	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	slope	1.00
		depth to bedrock	1.00	depth to bedrock	0.96	depth to bedrock	0.96
						gravel content	0.59
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RdC:							
Ravenrock-----------	45	Very limited:		Very limited:		Somewhat limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	slope	0.04
		slope	0.04	slope	0.04	gravel content	0.01
Rohrersville--------	45	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		too clayey	0.50	slope	0.04	too clayey	0.50
		slope	0.04			slope	0.04
ReA:							
Readington----------	75	Very limited:		Somewhat limited:		Somewhat limited:	
		depth to bedrock	1.00	depth to saturated zone	0.95	depth to bedrock	0.77
		depth to saturated zone	0.95	depth to bedrock	0.77	depth to saturated zone	0.68
ReB:							
Readington----------	75	Very limited:		Somewhat limited:		Somewhat limited:	
		depth to bedrock	1.00	depth to saturated zone	0.95	depth to bedrock	0.77
		depth to saturated zone	0.95	depth to bedrock	0.77	depth to saturated zone	0.68
RfA:							
Reaville------------	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	depth to saturated zone	0.96
						gravel content	0.01
RfB:							
Reaville------------	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	depth to saturated zone	0.96
						gravel content	0.01

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
RfC:							
Reaville	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	depth to bedrock	1.00	depth to saturated zone	0.96
		slope	0.63	slope	0.63	slope	0.63
						gravel content	0.01
RoB:							
Rohrersville	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
RsB:							
Rohrersville	85	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		too clayey	0.50			too clayey	0.50
Rw:							
Rowland	85	Very limited:		Very limited:		Somewhat limited:	
		flooding	1.00	flooding	1.00	depth to saturated zone	0.86
		depth to saturated zone	1.00	depth to saturated zone	1.00		
		seepage	1.00				
StB:							
Steinsburg	80	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	seepage	1.00	depth to bedrock	1.00
		seepage	1.00	depth to bedrock	1.00	seepage	0.52
						gravel content	0.01
StC:							
Steinsburg	80	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	seepage	1.00	depth to bedrock	1.00
		seepage	1.00	depth to bedrock	1.00	slope	0.63
		slope	0.63	slope	0.63	seepage	0.52
						gravel content	0.01
StD:							
Steinsburg	75	Very limited:		Very limited:		Very limited:	
		slope	1.00	slope	1.00	depth to bedrock	1.00
		depth to bedrock	1.00	seepage	1.00	slope	1.00
		seepage	1.00	depth to bedrock	1.00	seepage	0.52
						gravel content	0.01
Uc:							
Urban land.							
UeB:							
Urban land	60	Not rated		Not rated		Not rated	
Conestoga	15	Somewhat limited:		Not limited		Somewhat limited:	
		too clayey	0.50			too clayey	0.50

Table 16b.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
UgB:							
Urban land	55	Not rated		Not rated		Not rated	
Penn	20	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	depth to bedrock	1.00	depth to bedrock	1.00
		seepage	1.00	seepage	1.00	seepage	0.22
W:							
Water.							
WaA:							
Watchung	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		too clayey	0.50			too clayey	0.50
WaB:							
Watchung	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		too clayey	0.50			too clayey	0.50
WbB:							
Watchung	80	Very limited:		Very limited:		Very limited:	
		depth to saturated zone	1.00	depth to saturated zone	1.00	depth to saturated zone	1.00
		too clayey	0.50			too clayey	0.50

Table 17a.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
AbA:					
Abbottstown---------	75	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
AbB:					
Abbottstown---------	75	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
ArB:					
Arendtsville--------	85	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.04
ArC:					
Arendtsville--------	85	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.04
ArD:					
Arendtsville--------	80	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.04
ArE:					
Arendtsville--------	80	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.04
AtA:					
Athol---------------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
AtB:					
Athol---------------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
AtC:					
Athol---------------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Ba:					
Baile---------------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
Be:					
Bermudian-----------	85	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
BgA:					
Birdsboro-----------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
BgB:					
Birdsboro-----------	75	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
BgC:					
Birdsboro-----------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Bo:					
Bowmansville--------	85	Poor:		Fair:	
		bottom layer	0.00	thickest layer	0.00
		thickest layer	0.00	bottom layer	0.04
BrB:					
Brecknock-----------	75	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
BrC:					
Brecknock-----------	75	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
BrD:					
Brecknock-----------	75	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
BuB:					
Buchanan------------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
BvB:					
Buchanan------------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
CcB:					
Catoctin------------	85	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
CcC:					
Catoctin------------	85	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
CcE:					
Catoctin------------	85	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
CkA:					
Clarksburg----------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
CkB:					
Clarksburg----------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Cm:					
Codorus-------------	85	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
CnA:					
Conestoga-----------	80	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
CnB:					
Conestoga-----------	75	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
CnC:					
Conestoga-----------	80	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
CrA:					
Croton--------------	75	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
CrB:					
Croton--------------	75	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
DAM:					
Dams.					
Dx:					
Dumps.					
Dy:					
Dunning-------------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
EdB:					
Edgemont------------	75	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.04
EdC:					
Edgemont------------	75	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.04
EdD:					
Edgemont------------	75	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.04
EeB:					
Edgemont------------	80	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.04
EeD:					
Edgemont------------	80	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.04
EeF:					
Edgemont------------	75	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.04
GbB:					
Glenelg-------------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
GbC:					
Glenelg-------------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
GbD:					
Glenelg-------------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
GdA:					
Glenville-----------	80	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
GdB:					
Glenville-----------	80	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
Hc:					
Hatboro-------------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
HgB:					
Highfield-----------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
HgC:					
Highfield-----------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
HHD:					
Highfield-----------	45	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Catoctin------------	35	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
HKB:					
Highfield-----------	40	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Catoctin------------	25	Not rated		Not rated	
Myersville----------	15	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
HKD:					
Highfield-----------	40	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Catoctin------------	30	Not rated		Not rated	
Myersville----------	11	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
HMF:					
Highfield-----------	45	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Catoctin------------	35	Not rated		Not rated	
KnB:					
Klinesville---------	85	Fair:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.31	thickest layer	0.00
KnC:					
Klinesville---------	80	Fair:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.31	thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
KnD:					
Klinesville---------	80	Fair:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.31	thickest layer	0.00
KnE:					
Klinesville---------	85	Fair:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.31	thickest layer	0.00
Lc:					
Lamington-----------	75	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.11
LeB:					
Lansdale------------	75	Poor:		Fair:	
		bottom layer	0.00	thickest layer	0.04
		thickest layer	0.00	bottom layer	0.11
LfC:					
Lansdale------------	75	Poor:		Fair:	
		bottom layer	0.00	thickest layer	0.04
		thickest layer	0.00	bottom layer	0.11
LgB:					
Legore--------------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
LgC:					
Legore--------------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
LgD:					
Legore--------------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
LhA:					
Lehigh--------------	75	Fair:		Poor:	
		thickest layer	0.01	bottom layer	0.00
		bottom layer	0.06	thickest layer	0.00
LhB:					
Lehigh--------------	75	Fair:		Poor:	
		thickest layer	0.01	bottom layer	0.00
		bottom layer	0.06	thickest layer	0.00
LhC:					
Lehigh--------------	75	Fair:		Poor:	
		thickest layer	0.01	bottom layer	0.00
		bottom layer	0.06	thickest layer	0.00
LkB:					
Lehigh--------------	75	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
Lw:					
Lindside	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
MdA:					
Mount Lucas	80	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.04
MdB:					
Mount Lucas	80	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.04
MeB:					
Mount Lucas	80	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.04
MOB:					
Mt. Airy	50	Fair:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.19	thickest layer	0.00
Manor	30	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
MOC:					
Mt. Airy	55	Fair:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.19	thickest layer	0.00
Manor	25	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
MOD:					
Mt. Airy	60	Fair:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.19	thickest layer	0.00
Manor	20	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
MtB:					
Mt. Zion	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
MtC:					
Mt. Zion	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
MtD:					
Mt. Zion------------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
MyB:					
Myersville----------	80	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
MyC:					
Myersville----------	80	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
MyD:					
Myersville----------	80	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
NaB:					
Neshaminy-----------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
NaC:					
Neshaminy-----------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
NdB:					
Neshaminy-----------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
NdD:					
Neshaminy-----------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
NdE:					
Neshaminy-----------	75	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Pa:					
Penlaw--------------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
PbD:					
Penn----------------	80	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
PcB:					
Penn----------------	75	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
PcC:					
Penn	75	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
PoB:					
Penn	40	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
Klinesville	35	Fair:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.31	thickest layer	0.00
PoC:					
Penn	40	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
Klinesville	35	Fair:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.31	thickest layer	0.00
PsD:					
Pequea	80	Poor:		Fair:	
		bottom layer	0.00	bottom layer	0.03
		thickest layer	0.00	thickest layer	0.03
Pt:					
Pits	80	Not rated		Not rated	
RaA:					
Raritan	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
RaB:					
Raritan	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
RcC:					
Ravenrock	40	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Highfield	35	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Rock outcrop	11	Not rated		Not rated	
RcD:					
Ravenrock	40	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
RcD:					
Highfield-----------	40	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Rock outcrop--------	11	Not rated		Not rated	
RcF:					
Ravenrock-----------	40	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Highfield-----------	40	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Rock outcrop--------	11	Not rated		Not rated	
RdC:					
Ravenrock-----------	45	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Rohrersville--------	45	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
ReA:					
Readington----------	75	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
ReB:					
Readington----------	75	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
RfA:					
Reaville------------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
RfB:					
Reaville------------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
RfC:					
Reaville------------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
RoB:					
Rohrersville--------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
RsB:					
Rohrersville--------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
Rw:					
Rowland-------------	85	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
StB:					
Steinsburg----------	80	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.02
StC:					
Steinsburg----------	80	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.02
StD:					
Steinsburg----------	75	Poor:		Fair:	
		thickest layer	0.00	thickest layer	0.00
		bottom layer	0.00	bottom layer	0.02
Uc:					
Urban land.					
UeB:					
Urban land----------	60	Not rated		Not rated	
Conestoga-----------	15	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
UgB:					
Urban land----------	55	Not rated		Not rated	
Penn----------------	20	Poor:		Poor:	
		thickest layer	0.00	bottom layer	0.00
		bottom layer	0.00	thickest layer	0.00
W:					
Water.					
WaA:					
Watchung------------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00
WaB:					
Watchung------------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00

Table 17a.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
WbB:					
Watchung------------	80	Poor:		Poor:	
		bottom layer	0.00	bottom layer	0.00
		thickest layer	0.00	thickest layer	0.00

Table 17b.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
AbA:							
Abbottstown---------	75	Poor:		Poor:		Poor:	
		depth to cemented pan	0.00	depth to cemented pan	0.00	depth to saturated zone	0.00
		too acid	0.61	depth to saturated zone	0.00	hard to reclaim	0.00
		low content of organic matter	0.88	depth to bedrock	0.16	depth to saturated zone	0.00
		water erosion	0.90				
		droughty	0.99				
AbB:							
Abbottstown---------	75	Poor:		Poor:		Poor:	
		depth to cemented pan	0.00	depth to cemented pan	0.00	depth to saturated zone	0.00
		too acid	0.61	depth to saturated zone	0.00	hard to reclaim	0.00
		low content of organic matter	0.88	depth to bedrock	0.16	depth to cemented pan	0.00
		water erosion	0.90				
		droughty	0.99				
ArB:							
Arendtsville--------	85	Fair:		Good		Poor:	
		too acid	0.12			rock fragments	0.00
		low content of organic matter	0.12			hard to reclaim	0.02
						too acid	0.59
ArC:							
Arendtsville--------	85	Fair:		Good		Poor:	
		too acid	0.12			rock fragments	0.00
		low content of organic matter	0.12			hard to reclaim	0.02
						slope	0.37
						too acid	0.59
ArD:							
Arendtsville--------	80	Fair:		Fair:		Poor:	
		too acid	0.12	slope	0.50	slope	0.00
		low content of organic matter	0.12			rock fragments	0.00
						hard to reclaim	0.02
						too acid	0.59
ArE:							
Arendtsville--------	80	Fair:		Poor:		Poor:	
		too acid	0.12	slope	0.00	slope	0.00
		low content of organic matter	0.12			rock fragments	0.00
						hard to reclaim	0.02
						too acid	0.59

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
AtA:							
Athol	85	Fair:		Good		Fair:	
		low content of organic matter	0.02			rock fragments	0.88
		too acid	0.54			too acid	0.98
AtB:							
Athol	85	Fair:		Good		Fair:	
		low content of organic matter	0.02			rock fragments	0.88
		too acid	0.74				
AtC:							
Athol	80	Fair:		Good		Fair:	
		low content of organic matter	0.02			slope	0.37
		too acid	0.74			rock fragments	0.88
Ba:							
Baile	85	Fair:		Poor:		Poor:	
		too acid	0.08	depth to saturated zone	0.00	depth to saturated zone	0.00
		low content of organic matter	0.12	low strength	0.22	too acid	0.50
		water erosion	0.90	shrink-swell	0.99		
Be:							
Bermudian	85	Fair:		Good		Poor:	
		too acid	0.54			rock fragments	0.00
		water erosion	0.99			hard to reclaim	0.92
						too acid	0.98
BgA:							
Birdsboro	85	Fair:		Good		Fair:	
		too acid	0.08			too acid	0.50
		low content of organic matter	0.12			rock fragments	0.72
		water erosion	0.99				
BgB:							
Birdsboro	75	Fair:		Good		Fair:	
		too acid	0.08			too acid	0.50
		low content of organic matter	0.12			rock fragments	0.72
		water erosion	0.99				
BgC:							
Birdsboro	80	Fair:		Good		Fair:	
		too acid	0.08			slope	0.37
		low content of organic matter	0.12			too acid	0.50
		water erosion	0.99			rock fragments	0.72
Bo:							
Bowmansville	85	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	depth to saturated zone	0.00	depth to saturated zone	0.00
		too acid	0.84	low strength	0.78		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
BrB:							
Brecknock-----------	75	Fair:		Fair:		Fair:	
		low content of organic matter	0.12	depth to bedrock	0.04	hard to reclaim	0.02
		droughty	0.41			rock fragments	0.03
		too acid	0.68				
BrC:							
Brecknock-----------	75	Fair:		Fair:		Fair:	
		low content of organic matter	0.12	depth to bedrock	0.04	hard to reclaim	0.02
						rock fragments	0.03
		droughty	0.41			slope	0.37
		too acid	0.68				
BrD:							
Brecknock-----------	75	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.04	slope	0.00
				slope	0.50	hard to reclaim	0.02
		droughty	0.41			rock fragments	0.03
		too acid	0.68				
BuB:							
Buchanan------------	85	Fair:		Poor:		Poor:	
		low content of organic matter	0.01	depth to cemented pan	0.00	rock fragments	0.00
						hard to reclaim	0.08
		too acid	0.12	depth to saturated zone	0.84	depth to cemented pan	0.16
		depth to cemented pan	0.16				
						too acid	0.59
						depth to saturated zone	0.84
BvB:							
Buchanan------------	85	Fair:		Poor:		Poor:	
		low content of organic matter	0.01	depth to cemented pan	0.00	rock fragments	0.00
						hard to reclaim	0.08
		too acid	0.12	depth to saturated zone	0.84	depth to cemented pan	0.16
		depth to cemented pan	0.16				
						too acid	0.59
						depth to saturated zone	0.84
CcB:							
Catoctin------------	85	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	rock fragments	0.00
		depth to bedrock	0.35			depth to bedrock	0.35
		too acid	0.84				
CcC:							
Catoctin------------	85	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	rock fragments	0.00
		depth to bedrock	0.35			depth to bedrock	0.35
		too acid	0.84			slope	0.37
CcE:							
Catoctin------------	85	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	slope	0.00
		depth to bedrock	0.35	slope	0.00	rock fragments	0.00
		too acid	0.84			depth to bedrock	0.35

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
CkA:							
Clarksburg----------	80	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	depth to cemented pan	0.00	depth to cemented pan	0.71
		depth to cemented pan	0.71	low strength	0.22	rock fragments	0.72
		too acid	0.84	depth to saturated zone	0.76	depth to saturated zone	0.76
		water erosion	0.99	shrink-swell	0.87	hard to reclaim	0.95
CkB:							
Clarksburg----------	80	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	depth to cemented pan	0.00	depth to cemented pan	0.71
		depth to cemented pan	0.71	low strength	0.22	rock fragments	0.72
		too acid	0.84	depth to saturated zone	0.76	depth to saturated zone	0.76
		water erosion	0.99	shrink-swell	0.87	hard to reclaim	0.95
Cm:							
Codorus-------------	85	Fair:		Fair:		Fair:	
		low content of organic matter	0.12	depth to saturated zone	0.76	depth to saturated zone	0.76
		too acid	0.54			rock fragments	0.97
		water erosion	0.99				
CnA:							
Conestoga-----------	80	Fair:		Poor:		Fair:	
		low content of organic matter	0.08	low strength	0.00	hard to reclaim	0.32
		too acid	0.88			rock fragments	0.72
CnB:							
Conestoga-----------	75	Fair:		Poor:		Fair:	
		low content of organic matter	0.08	low strength	0.00	hard to reclaim	0.32
		too acid	0.88			rock fragments	0.72
CnC:							
Conestoga-----------	80	Fair:		Poor:		Fair:	
		low content of organic matter	0.08	low strength	0.00	hard to reclaim	0.32
						slope	0.37
		too acid	0.88			rock fragments	0.72
CrA:							
Croton--------------	75	Poor:		Poor:		Poor:	
		depth to cemented pan	0.00	depth to saturated zone	0.00	depth to saturated zone	0.00
		low content of organic matter	0.12	depth to cemented pan	0.00	depth to cemented pan	0.00
		too acid	0.54	low strength	0.00	hard to reclaim	0.98
		water erosion	0.90	depth to bedrock	0.04	too acid	0.98
		droughty	0.95				

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
CrB:							
Croton--------------	75	Poor:		Poor:		Poor:	
		depth to cemented pan	0.00	depth to saturated zone	0.00	depth to saturated zone	0.00
		low content of organic matter	0.12	depth to cemented pan	0.00	depth to cemented pan	0.00
		too acid	0.54	low strength	0.00	hard to reclaim	0.98
		water erosion	0.90	depth to bedrock	0.04	too acid	0.98
		droughty	0.95				
DAM:							
Dams.							
Dx:							
Dumps.							
Dy:							
Dunning-------------	85	Poor:		Poor:		Poor:	
		too clayey	0.00	depth to saturated zone	0.00	depth to saturated zone	0.00
				low strength	0.00	too clayey	0.00
				shrink-swell	0.99	rock fragments	0.88
EdB:							
Edgemont------------	75	Fair:		Good		Poor:	
		low content of organic matter	0.12			hard to reclaim	0.00
						rock fragments	0.00
		too acid	0.50			too acid	0.59
		droughty	0.95				
EdC:							
Edgemont------------	75	Fair:		Good		Poor:	
		low content of organic matter	0.12			hard to reclaim	0.00
						rock fragments	0.00
		too acid	0.50			slope	0.37
		droughty	0.95			too acid	0.59
EdD:							
Edgemont------------	75	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	slope	0.50	slope	0.00
						hard to reclaim	0.00
		too acid	0.50			rock fragments	0.00
		droughty	0.95			too acid	0.59
EeB:							
Edgemont------------	80	Fair:		Good		Poor:	
		low content of organic matter	0.12			hard to reclaim	0.00
						rock fragments	0.00
		too acid	0.50			too acid	0.59
		droughty	0.99				
EeD:							
Edgemont------------	80	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	slope	0.50	slope	0.00
						hard to reclaim	0.00
		too acid	0.50			rock fragments	0.00
		droughty	0.99			too acid	0.59

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
EeF:							
Edgemont	75	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	slope	0.00	slope	0.00
		too acid	0.50			hard to reclaim	0.00
		droughty	0.99			rock fragments	0.00
						too acid	0.59
GbB:							
Glenelg	80	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.58	hard to reclaim	0.00
		too acid	0.61			rock fragments	0.00
		water erosion	0.68				
GbC:							
Glenelg	80	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.58	hard to reclaim	0.00
		too acid	0.61			rock fragments	0.00
		water erosion	0.68			slope	0.37
GbD:							
Glenelg	80	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	slope	0.50	slope	0.00
		too acid	0.61	depth to bedrock	0.58	hard to reclaim	0.00
		water erosion	0.68			rock fragments	0.00
GdA:							
Glenville	80	Poor:		Poor:		Poor:	
		depth to cemented pan	0.00	depth to cemented pan	0.00	depth to cemented pan	0.00
		low content of organic matter	0.12	depth to saturated zone	0.29	hard to reclaim	0.00
		too acid	0.50			depth to saturated zone	0.29
						rock fragments	0.50
						too acid	0.98
GdB:							
Glenville	80	Poor:		Poor:		Poor:	
		depth to cemented pan	0.00	depth to cemented pan	0.00	depth to cemented pan	0.00
		low content of organic matter	0.12	depth to saturated zone	0.29	hard to reclaim	0.00
		too acid	0.50			depth to saturated zone	0.29
						rock fragments	0.50
						too acid	0.98
Hc:							
Hatboro	80	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	depth to saturated zone	0.00	depth to saturated zone	0.00
		too acid	0.88			hard to reclaim	0.50
		water erosion	0.99				

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
HgB:							
Highfield-----------	80	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.04	rock fragments	0.00
						hard to reclaim	0.00
		too acid	0.50				
		droughty	0.55				
HgC:							
Highfield-----------	80	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.04	rock fragments	0.00
						hard to reclaim	0.00
		too acid	0.50			slope	0.37
		droughty	0.55				
HHD:							
Highfield-----------	45	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.04	slope	0.00
				slope	0.50	rock fragments	0.00
		too acid	0.50			hard to reclaim	0.00
		droughty	0.55				
Catoctin------------	35	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	slope	0.00
		depth to bedrock	0.10	slope	0.50	rock fragments	0.00
		too acid	0.84			depth to bedrock	0.10
HKB:							
Highfield-----------	40	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.04	rock fragments	0.00
						hard to reclaim	0.00
		too acid	0.50				
		droughty	0.61				
Catoctin------------	25	Not rated		Poor:		Not rated	
				depth to bedrock	0.00		
				cobble content	0.96		
Myersville----------	15	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	low strength	0.00	hard to reclaim	0.00
				depth to bedrock	0.39	rock fragments	0.72
		too acid	0.54			too acid	0.98
HKD:							
Highfield-----------	40	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.04	slope	0.00
				slope	0.50	rock fragments	0.00
		too acid	0.50			hard to reclaim	0.00
		droughty	0.61				
Catoctin------------	30	Not rated		Poor:		Not rated	
				depth to bedrock	0.00		
				slope	0.50		
				cobble content	0.96		

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
HKD:							
Myersville----------	11	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	low strength	0.00	slope	0.00
		too acid	0.54	depth to bedrock	0.39	hard to reclaim	0.00
				slope	0.50	rock fragments	0.72
						too acid	0.98
HMF:							
Highfield-----------	45	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	slope	0.00	slope	0.00
		too acid	0.50	depth to bedrock	0.04	rock fragments	0.00
		droughty	0.61			hard to reclaim	0.00
Catoctin------------	35	Not rated		Poor:		Not rated	
				depth to bedrock	0.00		
				slope	0.00		
				cobble content	0.96		
KnB:							
Klinesville---------	85	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	rock fragments	0.00
		depth to bedrock	0.00			depth to bedrock	0.00
		too acid	0.54			too acid	0.98
KnC:							
Klinesville---------	80	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	rock fragments	0.00
		depth to bedrock	0.00			depth to bedrock	0.00
		too acid	0.54			slope	0.37
						too acid	0.98
KnD:							
Klinesville---------	80	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	slope	0.00
		depth to bedrock	0.00	slope	0.50	rock fragments	0.00
		too acid	0.54			depth to bedrock	0.00
						too acid	0.98
KnE:							
Klinesville---------	85	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	slope	0.00
		depth to bedrock	0.00	slope	0.00	rock fragments	0.00
		too acid	0.54			depth to bedrock	0.00
						too acid	0.98
Lc:							
Lamington-----------	75	Poor:		Poor:		Poor:	
		depth to cemented pan	0.00	depth to saturated zone	0.00	depth to saturated zone	0.00
		low content of organic matter	0.12	depth to cemented pan	0.00	depth to cemented pan	0.00
		too acid	0.32			hard to reclaim	0.32
		too clayey	0.59			too clayey	0.35
		water erosion	0.99			rock fragments	0.68
						too acid	0.88

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
LeB:							
Lansdale------------	75	Fair:		Fair:		Fair:	
		too acid	0.20	depth to bedrock	0.29	hard to reclaim	0.32
		low content of organic matter	0.88			rock fragments	0.50
						too acid	0.76
		droughty	0.98				
LfC:							
Lansdale------------	75	Fair:		Fair:		Fair:	
		too acid	0.20	depth to bedrock	0.29	hard to reclaim	0.32
		low content of organic matter	0.88			slope	0.37
						rock fragments	0.50
		droughty	0.95			too acid	0.76
LgB:							
Legore--------------	80	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	low strength	0.00	rock fragments	0.12
						too clayey	0.58
		too acid	0.74			hard to reclaim	0.95
		too clayey	0.99				
LgC:							
Legore--------------	80	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	low strength	0.00	rock fragments	0.12
						slope	0.37
		too acid	0.74			too clayey	0.58
		too clayey	0.99			hard to reclaim	0.95
LgD:							
Legore--------------	80	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	low strength	0.00	slope	0.00
				slope	0.50	rock fragments	0.12
		too acid	0.74			too clayey	0.58
		too clayey	0.99			hard to reclaim	0.95
LhA:							
Lehigh--------------	75	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.04	rock fragments	0.00
				depth to saturated zone	0.29	hard to reclaim	0.00
		too acid	0.88			depth to saturated zone	0.29
		droughty	0.99				
LhB:							
Lehigh--------------	75	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.04	rock fragments	0.00
				depth to saturated zone	0.29	hard to reclaim	0.00
		too acid	0.88			depth to saturated zone	0.29
		droughty	0.99				
LhC:							
Lehigh--------------	75	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.04	rock fragments	0.00
				depth to saturated zone	0.29	hard to reclaim	0.00
		too acid	0.88			depth to saturated zone	0.29
		droughty	0.99				
						slope	0.37

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
LkB:							
Lehigh--------------	75	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.04	rock fragments	0.00
		too acid	0.74	depth to saturated zone	0.29	hard to reclaim	0.00
						depth to saturated zone	0.29
Lw:							
Lindside------------	80	Fair:		Fair:		Fair:	
		low content of organic matter	0.12	depth to saturated zone	0.76	depth to saturated zone	0.76
		water erosion	0.99				
MdA:							
Mount Lucas---------	80	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	depth to saturated zone	0.00	depth to saturated zone	0.00
		too acid	0.84			hard to reclaim	0.00
						rock fragments	0.12
MdB:							
Mount Lucas---------	80	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	depth to saturated zone	0.00	depth to saturated zone	0.00
		too acid	0.84			hard to reclaim	0.00
						rock fragments	0.12
MeB:							
Mount Lucas---------	80	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	depth to saturated zone	0.00	depth to saturated zone	0.00
		too acid	0.84			hard to reclaim	0.00
						rock fragments	0.12
MOB:							
Mt. Airy------------	50	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	rock fragments	0.00
		low content of organic matter	0.08			depth to bedrock	0.71
		too acid	0.50			too acid	0.88
		depth to bedrock	0.71				
Manor---------------	30	Fair:		Good		Fair:	
		low content of organic matter	0.12			rock fragments	0.12
		too acid	0.50			too acid	0.76
		water erosion	0.68				
MOC:							
Mt. Airy------------	55	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	rock fragments	0.00
		low content of organic matter	0.08			slope	0.37
		too acid	0.50			depth to bedrock	0.71
		depth to bedrock	0.71			too acid	0.88

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
MOC:							
Manor	25	Fair:		Good		Fair:	
		low content of organic matter	0.12			rock fragments	0.12
		too acid	0.50			slope	0.37
		water erosion	0.68			too acid	0.76
MOD:							
Mt. Airy	60	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	slope	0.00
		low content of organic matter	0.08	slope	0.50	rock fragments	0.00
		too acid	0.50			depth to bedrock	0.71
		depth to bedrock	0.71			too acid	0.88
							0.88
Manor	20	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	slope	0.50	slope	0.00
		too acid	0.50			rock fragments	0.12
		water erosion	0.68			too acid	0.76
MtB:							
Mt. Zion	85	Fair:		Good		Poor:	
		low content of organic matter	0.08			hard to reclaim	0.00
		too acid	0.74			rock fragments	0.68
		water erosion	0.90				
MtC:							
Mt. Zion	85	Fair:		Good		Poor:	
		low content of organic matter	0.08			hard to reclaim	0.00
		too acid	0.74			slope	0.37
		water erosion	0.90			rock fragments	0.68
MtD:							
Mt. Zion	85	Fair:		Fair:		Poor:	
		low content of organic matter	0.08	slope	0.50	slope	0.00
		too acid	0.74			hard to reclaim	0.00
		water erosion	0.90			rock fragments	0.68
MyB:							
Myersville	80	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	low strength	0.00	hard to reclaim	0.00
		too acid	0.54	depth to bedrock	0.39	rock fragments	0.72
		water erosion	0.99			too acid	0.98
MyC:							
Myersville	80	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	low strength	0.00	hard to reclaim	0.00
		too acid	0.54	depth to bedrock	0.39	slope	0.37
		water erosion	0.99			rock fragments	0.72
						too acid	0.98

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
MyD:							
Myersville----------	80	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	low strength	0.00	slope	0.00
		too acid	0.54	depth to bedrock	0.39	hard to reclaim	0.00
		water erosion	0.99	slope	0.50	rock fragments	0.72
						too acid	0.98
NaB:							
Neshaminy-----------	80	Fair:		Fair:		Fair:	
		low content of organic matter	0.12	cobble content	0.98	hard to reclaim	0.12
		too acid	0.54			rock fragments	0.12
NaC:							
Neshaminy-----------	80	Fair:		Fair:		Fair:	
		low content of organic matter	0.12	cobble content	0.98	hard to reclaim	0.12
		too acid	0.54			rock fragments	0.12
						slope	0.37
NdB:							
Neshaminy-----------	85	Fair:		Fair:		Fair:	
		low content of organic matter	0.12	cobble content	0.94	hard to reclaim	0.12
		too acid	0.54			rock fragments	0.12
NdD:							
Neshaminy-----------	80	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	slope	0.50	slope	0.00
		too acid	0.54	cobble content	0.94	hard to reclaim	0.12
						rock fragments	0.12
NdE:							
Neshaminy-----------	75	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	slope	0.00	slope	0.00
		too acid	0.54	cobble content	0.94	hard to reclaim	0.12
						rock fragments	0.12
Pa:							
Penlaw--------------	80	Poor:		Poor:		Poor:	
		depth to cemented pan	0.00	depth to cemented pan	0.00	depth to saturated zone	0.00
		low content of organic matter	0.12	low strength	0.00	hard to reclaim	0.00
		water erosion	0.90	depth to saturated zone	0.00	depth to cemented pan	0.00
				shrink-swell	0.87	rock fragments	0.97
PbD:							
Penn----------------	80	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.00	slope	0.00
		too acid	0.50	slope	0.50	rock fragments	0.12
		droughty	0.71			too acid	0.76
		depth to bedrock	0.99			depth to bedrock	0.99

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
PcB:							
Penn----------------	75	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	depth to bedrock	0.00	rock fragments	0.12
		too acid	0.50			too acid	0.76
		droughty	0.76			depth to bedrock	0.99
		depth to bedrock	0.99				
PcC:							
Penn----------------	75	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	depth to bedrock	0.00	rock fragments	0.12
						slope	0.37
		too acid	0.50			too acid	0.76
		droughty	0.76			depth to bedrock	0.99
		depth to bedrock	0.99				
PoB:							
Penn----------------	40	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	depth to bedrock	0.00	rock fragments	0.12
						too acid	0.76
		too acid	0.50			depth to bedrock	0.99
		droughty	0.66				
		depth to bedrock	0.99				
Klinesville---------	35	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	rock fragments	0.00
		depth to bedrock	0.00			depth to bedrock	0.00
		too acid	0.54			too acid	0.98
PoC:							
Penn----------------	40	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	depth to bedrock	0.00	rock fragments	0.12
						slope	0.37
		too acid	0.50			too acid	0.76
		droughty	0.66			depth to bedrock	0.99
		depth to bedrock	0.99				
Klinesville---------	35	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	rock fragments	0.00
		depth to bedrock	0.00			depth to bedrock	0.00
		too acid	0.54			slope	0.37
						too acid	0.98
PsD:							
Pequea--------------	80	Fair:		Fair:		Poor:	
		water erosion	0.90	slope	0.50	slope	0.00
						rock fragments	0.28
						hard to reclaim	0.98
Pt:							
Pits----------------	80	Not rated		Not rated		Not rated	

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RaA:							
Raritan-------------	80	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	depth to cemented pan	0.00	depth to cemented pan	0.21
		depth to cemented pan	0.21	depth to saturated zone	0.29	depth to saturated zone	0.29
		too acid	0.54			rock fragments	0.97
		water erosion	0.99			too acid	0.98
RaB:							
Raritan-------------	80	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	depth to cemented pan	0.00	depth to cemented pan	0.21
		depth to cemented pan	0.21	depth to saturated zone	0.29	depth to saturated zone	0.29
		too acid	0.54			rock fragments	0.97
		water erosion	0.99			too acid	0.98
RcC:							
Ravenrock-----------	40	Fair:		Fair:		Poor:	
		too acid	0.54	shrink-swell	0.99	rock fragments	0.00
						slope	0.37
Highfield-----------	35	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.04	rock fragments	0.00
						hard to reclaim	0.00
		droughty	0.42			slope	0.37
		too acid	0.50				
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcD:							
Ravenrock-----------	40	Fair:		Fair:		Poor:	
		too acid	0.54	slope	0.50	slope	0.00
				shrink-swell	0.99	rock fragments	0.00
Highfield-----------	40	Fair:		Fair:		Poor:	
		low content of organic matter	0.12	depth to bedrock	0.04	slope	0.00
				slope	0.50	rock fragments	0.00
		droughty	0.42			hard to reclaim	0.00
		too acid	0.50				
Rock outcrop--------	11	Not rated		Not rated		Not rated	
RcF:							
Ravenrock-----------	40	Fair:		Poor:		Poor:	
		too acid	0.54	slope	0.00	slope	0.00
				shrink-swell	0.99	rock fragments	0.00
Highfield-----------	40	Fair:		Poor:		Poor:	
		low content of organic matter	0.12	slope	0.00	slope	0.00
				depth to bedrock	0.04	rock fragments	0.00
		droughty	0.42			hard to reclaim	0.00
		too acid	0.50				
Rock outcrop--------	11	Not rated		Not rated		Not rated	

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
RdC:							
Ravenrock-----------	45	Fair:		Fair:		Poor:	
		too acid	0.54	shrink-swell	0.99	rock fragments	0.00
						slope	0.96
Rohrersville--------	45	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	low strength	0.00	depth to saturated zone	0.04
		too acid	0.74	depth to saturated zone	0.04	slope	0.96
ReA:							
Readington----------	75	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	depth to cemented pan	0.00	depth to cemented pan	0.29
		depth to cemented pan	0.29	depth to bedrock	0.23	hard to reclaim	0.68
		too acid	0.39	depth to saturated zone	0.76	depth to saturated zone	0.76
		water erosion	0.90			rock fragments	0.88
		droughty	0.96			too acid	0.92
ReB:							
Readington----------	75	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	depth to cemented pan	0.00	depth to cemented pan	0.29
		depth to cemented pan	0.29	depth to bedrock	0.23	hard to reclaim	0.68
		too acid	0.39	depth to saturated zone	0.76	depth to saturated zone	0.76
		water erosion	0.90			rock fragments	0.88
		droughty	0.96			too acid	0.92
RfA:							
Reaville------------	85	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	rock fragments	0.00
		low content of organic matter	0.12	depth to saturated zone	0.29	depth to bedrock	0.16
		depth to bedrock	0.16			depth to saturated zone	0.29
		too acid	0.84				
RfB:							
Reaville------------	85	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	rock fragments	0.00
		low content of organic matter	0.12	depth to saturated zone	0.29	depth to bedrock	0.16
		depth to bedrock	0.16			depth to saturated zone	0.29
		too acid	0.84				
RfC:							
Reaville------------	85	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	rock fragments	0.00
		low content of organic matter	0.12	depth to saturated zone	0.29	depth to bedrock	0.16
		depth to bedrock	0.16			depth to saturated zone	0.29
		too acid	0.84			slope	0.37

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
RoB:							
Rohrersville--------	85	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	low strength	0.00	depth to saturated zone	0.04
		too acid	0.61	depth to saturated zone	0.04		
		water erosion	0.90	shrink-swell	0.98		
RsB:							
Rohrersville--------	85	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	low strength	0.00	depth to saturated zone	0.04
		too acid	0.74	depth to saturated zone	0.04		
Rw:							
Rowland-------------	85	Fair:		Poor:		Poor:	
		too acid	0.54	low strength	0.00	hard to reclaim	0.00
		low content of organic matter	0.88	depth to saturated zone	0.53	depth to saturated zone	0.53
		water erosion	0.90			too acid	0.98
StB:							
Steinsburg----------	80	Poor:		Poor:		Fair:	
		droughty	0.00	depth to bedrock	0.00	rock fragments	0.12
		low content of organic matter	0.12			depth to bedrock	0.21
		depth to bedrock	0.21			too acid	0.59
		too acid	0.50				
StC:							
Steinsburg----------	80	Poor:		Poor:		Fair:	
		droughty	0.00	depth to bedrock	0.00	rock fragments	0.12
		low content of organic matter	0.12			depth to bedrock	0.21
						slope	0.37
		depth to bedrock	0.21			too acid	0.59
		too acid	0.50				
StD:							
Steinsburg----------	75	Poor:		Poor:		Poor:	
		droughty	0.00	depth to bedrock	0.00	slope	0.00
		low content of organic matter	0.12	slope	0.50	rock fragments	0.12
						depth to bedrock	0.21
		depth to bedrock	0.21			too acid	0.59
		too acid	0.50				
Uc:							
Urban land.							
UeB:							
Urban land----------	60	Not rated		Not rated		Not rated	
Conestoga-----------	15	Fair:		Poor:		Fair:	
		low content of organic matter	0.08	low strength	0.00	hard to reclaim	0.32
						rock fragments	0.72
		too acid	0.88				
UgB:							
Urban land----------	55	Not rated		Not rated		Not rated	

Table 17b.--Construction Materials--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
UgB:							
Penn----------------	20	Fair:		Poor:		Fair:	
		low content of organic matter	0.12	depth to bedrock	0.00	rock fragments	0.12
		too acid	0.50			depth to bedrock	0.58
		depth to bedrock	0.58			too acid	0.76
		droughty	0.76				
W:							
Water.							
WaA:							
Watchung------------	80	Poor:		Poor:		Poor:	
		too clayey	0.00	depth to saturated zone	0.00	depth to saturated zone	0.00
		low content of organic matter	0.18	low strength	0.00	too clayey	0.00
		too acid	0.68	shrink-swell	0.87	hard to reclaim	0.95
		water erosion	0.90			rock fragments	0.95
WaB:							
Watchung------------	80	Poor:		Poor:		Poor:	
		too clayey	0.00	depth to saturated zone	0.00	depth to saturated	0.00
		low content of organic matter	0.18	low strength	0.00	too clayey zone	0.00
		too acid	0.68	shrink-swell	0.87	hard to reclaim	0.95
		water erosion	0.90			rock fragments	0.95
WbB:							
Watchung------------	80	Poor:		Poor:		Poor:	
		too clayey	0.00	depth to saturated zone	0.00	depth to saturated zone	0.00
		low content of organic matter	0.18	low strength	0.00	too clayey	0.00
		too acid	0.68	shrink-swell	0.87		
		water erosion	0.90				

Table 18.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table. For some units or components, a rating is not applicable.)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AbA:							
Abbottstown---------	75	Somewhat limited:		Very limited:		Very limited:	
		depth to cemented pan	1.00	depth to saturated zone	1.00	depth to water	1.00
		seepage	0.72	piping	1.00		
		depth to bedrock	0.26	thin layer	0.26		
AbB:							
Abbottstown---------	75	Somewhat limited:		Very limited:		Very limited:	
		depth to cemented pan	1.00	depth to saturated zone	1.00	depth to water	1.00
		seepage	0.72	piping	1.00		
		depth to bedrock	0.26	thin layer	0.26		
ArB:							
Arendtsville--------	85	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	seepage	0.04	depth to water	1.00
ArC:							
Arendtsville--------	85	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	seepage	0.04	depth to water	1.00
		slope	0.01				
ArD:							
Arendtsville--------	80	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	seepage	0.04	depth to water	1.00
		slope	0.12				
ArE:							
Arendtsville--------	80	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	seepage	0.04	depth to water	1.00
		slope	0.64				
AtA:							
Athol---------------	85	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	piping	1.00	depth to water	1.00
AtB:							
Athol---------------	85	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	piping	1.00	depth to water	1.00
AtC:							
Athol---------------	80	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	piping	1.00	depth to water	1.00
		slope	0.01				
Ba:							
Baile---------------	85	Somewhat limited:		Very limited:		Somewhat limited:	
		seepage	0.02	depth to saturated zone	1.00	slow refill	0.96
						cutbanks cave	0.10
				ponding	1.00		
				piping	0.99		

Table 18.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
Be:							
Bermudian-----------	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	piping	1.00	cutbanks cave	1.00
						depth to water	0.96
BgA:							
Birdsboro-----------	85	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	piping	1.00	depth to water	1.00
BgB:							
Birdsboro-----------	75	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	piping	1.00	depth to water	1.00
BgC:							
Birdsboro-----------	80	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	piping	1.00	depth to water	1.00
		slope	0.01				
Bo:							
Bowmansville--------	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to saturated zone	1.00	cutbanks cave	1.00
				piping	0.42		
				seepage	0.04		
BrB:							
Brecknock-----------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	piping	1.00	depth to water	1.00
		depth to bedrock	0.37	thin layer	0.37		
BrC:							
Brecknock-----------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	piping	1.00	depth to water	1.00
		depth to bedrock	0.37	thin layer	0.37		
		slope	0.01				
BrD:							
Brecknock-----------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	piping	1.00	depth to water	1.00
		depth to bedrock	0.37	thin layer	0.37		
		slope	0.12				
BuB:							
Buchanan------------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		depth to cemented pan	0.96	depth to saturated zone	0.90	cutbanks cave	1.00
						slow refill	0.28
		seepage	0.72			depth to water	0.04
BvB:							
Buchanan------------	85	Somewhat limited:		Somewhat limited:		Very limited:	
		depth to cemented pan	0.96	depth to saturated zone	0.90	cutbanks cave	1.00
						slow refill	0.28
		seepage	0.72			depth to water	0.04
CcB:							
Catoctin------------	85	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.91	depth to water	1.00
		depth to bedrock	0.91				

Table 18.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CcC:							
Catoctin------------	85	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.91	depth to water	1.00
		depth to bedrock	0.91				
		slope	0.01				
CcE:							
Catoctin------------	85	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.91	depth to water	1.00
		depth to bedrock	0.91				
		slope	0.50				
CkA:							
Clarksburg----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		depth to cemented pan	0.81	depth to saturated zone	0.95	depth to water	1.00
		seepage	0.72	piping	0.91		
CkB:							
Clarksburg----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		depth to cemented pan	0.81	depth to saturated zone	0.95	depth to water	1.00
		seepage	0.72	piping	0.91		
Cm:							
Codorus-------------	85	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	piping	1.00	cutbanks cave	0.10
				depth to saturated zone	0.95	depth to water	0.02
CnA:							
Conestoga-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	piping	0.11	depth to water	1.00
CnB:							
Conestoga-----------	75	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	piping	0.11	depth to water	1.00
CnC:							
Conestoga-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	piping	0.11	depth to water	1.00
		slope	0.01				
CrA:							
Croton--------------	75	Somewhat limited:		Very limited:		Very limited:	
		depth to cemented pan	1.00	depth to saturated zone	1.00	depth to water	1.00
		depth to bedrock	0.37	ponding	1.00		
		seepage	0.04	piping	0.94		
				thin layer	0.37		
CrB:							
Croton--------------	75	Somewhat limited:		Very limited:		Very limited:	
		depth to cemented pan	1.00	depth to saturated zone	1.00	depth to water	1.00
		depth to bedrock	0.37	piping	0.94		
		seepage	0.04	thin layer	0.37		

Table 18.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
DAM:							
Dams.							
Dx:							
Dumps.							
Dy:							
Dunning-------------	85	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	depth to saturated zone	1.00	cutbanks cave	0.10
EdB:							
Edgemont------------	75	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	seepage	0.04	depth to water	1.00
EdC:							
Edgemont------------	75	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	seepage	0.04	depth to water	1.00
		slope	0.01				
EdD:							
Edgemont------------	75	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	seepage	0.04	depth to water	1.00
		slope	0.12				
EeB:							
Edgemont------------	80	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	seepage	0.04	depth to water	1.00
EeD:							
Edgemont------------	80	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	seepage	0.04	depth to water	1.00
		slope	0.12				
EeF:							
Edgemont------------	75	Very limited:		Somewhat limited:		Very limited:	
		slope	1.00	seepage	0.04	depth to water	1.00
		seepage	1.00				
GbB:							
Glenelg-------------	80	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	piping	1.00	depth to water	1.00
		depth to bedrock	0.01	thin layer	0.11		
GbC:							
Glenelg-------------	80	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	piping	1.00	depth to water	1.00
		slope	0.01	thin layer	0.11		
		depth to bedrock	0.01				
GbD:							
Glenelg-------------	80	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	piping	1.00	depth to water	1.00
		slope	0.12	thin layer	0.11		
		depth to bedrock	0.01				

Table 18.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
GdA:							
Glenville-----------	80	Very limited:		Very limited:		Somewhat limited:	
		depth to cemented pan	1.00	depth to saturated zone	1.00	slow refill	0.96
		seepage	0.04	piping	1.00	cutbanks cave	0.10
GdB:							
Glenville-----------	80	Very limited:		Very limited:		Somewhat limited:	
		depth to cemented pan	1.00	depth to saturated zone	1.00	slow refill	0.96
		seepage	0.04	piping	1.00	cutbanks cave	0.10
Hc:							
Hatboro-------------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to saturated zone	1.00	cutbanks cave	1.00
				piping	1.00		
HgB:							
Highfield-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	thin layer	0.37	depth to water	1.00
		depth to bedrock	0.37				
HgC:							
Highfield-----------	80	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	thin layer	0.37	depth to water	1.00
		depth to bedrock	0.37				
		slope	0.01				
HHD:							
Highfield-----------	45	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	thin layer	0.37	depth to water	1.00
		depth to bedrock	0.37				
		slope	0.12				
Catoctin------------	35	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.98	depth to water	1.00
		depth to bedrock	0.98				
		slope	0.12				
HKB:							
Highfield-----------	40	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	thin layer	0.37	depth to water	1.00
		depth to bedrock	0.37				
Catoctin------------	25	Very limited:		Not limited		Very limited:	
		seepage	1.00			depth to water	1.00
		depth to bedrock	0.98				
Myersville----------	15	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	piping	0.93	depth to water	1.00
		depth to bedrock	0.01	thin layer	0.16		
HKD:							
Highfield-----------	40	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	thin layer	0.37	depth to water	1.00
		depth to bedrock	0.37				
		slope	0.12				

Table 18.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
HKD:							
Catoctin	30	Very limited:		Not limited		Very limited:	
		seepage	1.00			depth to water	1.00
		depth to bedrock	0.98				
		slope	0.12				
Myersville	11	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	piping	0.93	depth to water	1.00
		slope	0.12	thin layer	0.16		
		depth to bedrock	0.01				
HMF:							
Highfield	45	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.99	thin layer	0.37	depth to water	1.00
		seepage	0.72				
		depth to bedrock	0.37				
Catoctin	35	Very limited:		Not limited		Very limited:	
		seepage	1.00			depth to water	1.00
		depth to bedrock	0.98				
		slope	0.50				
KnB:							
Klinesville	85	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	thin layer	1.00	depth to water	1.00
		seepage	0.54	seepage	0.31		
KnC:							
Klinesville	80	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	thin layer	1.00	depth to water	1.00
		seepage	0.54	seepage	0.31		
		slope	0.01				
KnD:							
Klinesville	80	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	thin layer	1.00	depth to water	1.00
		seepage	0.54	seepage	0.31		
		slope	0.12				
KnE:							
Klinesville	85	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	thin layer	1.00	depth to water	1.00
		seepage	0.54	seepage	0.31		
		slope	0.50				
Lc:							
Lamington	75	Very limited:		Very limited:		Very limited:	
		depth to cemented pan	1.00	depth to saturated zone	1.00	cutbanks cave	1.00
		seepage	1.00	piping	1.00		
				ponding	1.00		
				seepage	0.11		
LeB:							
Lansdale	75	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.19	depth to water	1.00
		depth to bedrock	0.19	seepage	0.11		

Table 18.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LfC:							
Lansdale------------	75	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.19	depth to water	1.00
		depth to bedrock	0.19	seepage	0.11		
		slope	0.01				
LgB:							
Legore--------------	80	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	piping	0.83	depth to water	1.00
LgC:							
Legore--------------	80	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	piping	0.83	depth to water	1.00
		slope	0.01				
LgD:							
Legore--------------	80	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	piping	0.83	depth to water	1.00
		slope	0.12				
LhA:							
Lehigh--------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to saturated zone	1.00	depth to water	1.00
		depth to bedrock	0.37	thin layer	0.37		
				seepage	0.06		
LhB:							
Lehigh--------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to saturated zone	1.00	depth to water	1.00
		depth to bedrock	0.37	thin layer	0.37		
				seepage	0.06		
LhC:							
Lehigh--------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to saturated zone	1.00	depth to water	1.00
		depth to bedrock	0.37	thin layer	0.37		
		slope	0.01	seepage	0.06		
LkB:							
Lehigh--------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to saturated zone	1.00	depth to water	1.00
		depth to bedrock	0.37	piping	1.00		
				thin layer	0.37		
Lw:							
Lindside------------	80	Very limited:		Very limited:		Somewhat limited:	
		seepage	1.00	piping	0.99	cutbanks cave	0.10
				depth to saturated zone	0.95	depth to water	0.02

Table 18.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
MdA:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to saturated zone	1.00	depth to water	1.00
				piping	1.00		
				seepage	0.04		
MdB:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to saturated zone	1.00	depth to water	1.00
				piping	1.00		
				seepage	0.04		
MeB:							
Mount Lucas	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to saturated zone	1.00	depth to water	1.00
				seepage	0.04		
MOB:							
Mt. Airy	50	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.81	depth to water	1.00
		depth to bedrock	0.08	seepage	0.19		
Manor	30	Very limited:		Not limited		Very limited:	
		seepage	1.00			depth to water	1.00
MOC:							
Mt. Airy	55	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.81	depth to water	1.00
		depth to bedrock	0.08	seepage	0.19		
		slope	0.01				
Manor	25	Very limited:		Not limited		Very limited:	
		seepage	1.00			depth to water	1.00
		slope	0.01				
MOD:							
Mt. Airy	60	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.81	depth to water	1.00
		slope	0.12	seepage	0.19		
		depth to bedrock	0.08				
Manor	20	Very limited:		Not limited		Very limited:	
		seepage	1.00			depth to water	1.00
		slope	0.12				
MtB:							
Mt. Zion	85	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	piping	1.00	cutbanks cave	1.00
				depth to saturated zone	0.09	depth to water	0.54
						slow refill	0.46

Table 18.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
MtC:							
Mt. Zion	85	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	piping	1.00	cutbanks cave	1.00
		slope	0.01	depth to saturated zone	0.09	depth to water	0.54
						slow refill	0.46
MtD:							
Mt. Zion	85	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	piping	1.00	cutbanks cave	1.00
		slope	0.12	depth to saturated zone	0.09	depth to water	0.54
						slow refill	0.46
MyB:							
Myersville	80	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	piping	0.93	depth to water	1.00
		depth to bedrock	0.01	thin layer	0.16		
MyC:							
Myersville	80	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	piping	0.93	depth to water	1.00
		slope	0.01	thin layer	0.16		
		depth to bedrock	0.01				
MyD:							
Myersville	80	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	piping	0.93	depth to water	1.00
		slope	0.12	thin layer	0.16		
		depth to bedrock	0.01				
NaB:							
Neshaminy	80	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.04	piping	1.00	depth to water	1.00
NaC:							
Neshaminy	80	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.04	piping	1.00	depth to water	1.00
		slope	0.01				
NdB:							
Nehsaminy	85	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.04	piping	1.00	depth to water	1.00
NdD:							
Neshaminy	80	Somewhat limited:		Very limited:		Very limited:	
		slope	0.12	piping	1.00	depth to water	1.00
		seepage	0.04				
NdE:							
Neshaminy	75	Somewhat limited:		Very limited:		Very limited:	
		slope	0.50	piping	1.00	depth to water	1.00
		seepage	0.04				
Pa:							
Penlaw	80	Somewhat limited:		Very limited:		Very limited:	
		depth to cemented pan	1.00	depth to saturated zone	1.00	depth to water	1.00
		seepage	0.72	piping	0.17		

Table 18.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PbD:							
Penn----------------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	piping	1.00	depth to water	1.00
		depth to bedrock	0.56	thin layer	0.56		
		slope	0.12				
PcB:							
Penn----------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	piping	1.00	depth to water	1.00
		depth to bedrock	0.56	thin layer	0.56		
PcC:							
Penn----------------	75	Very limited:		Very limited:		Very limited:	
		seepage	1.00	piping	1.00	depth to water	1.00
		depth to bedrock	0.56	thin layer	0.56		
		slope	0.01				
PoB:							
Penn----------------	40	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.56	depth to water	1.00
		depth to bedrock	0.56				
Klinesville---------	35	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	thin layer	1.00	depth to water	1.00
		seepage	0.54	seepage	0.31		
PoC:							
Penn----------------	40	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.56	depth to water	1.00
		depth to bedrock	0.56				
		slope	0.01				
Klinesville---------	35	Very limited:		Very limited:		Very limited:	
		depth to bedrock	1.00	thin layer	1.00	depth to water	1.00
		seepage	0.54	seepage	0.31		
		slope	0.01				
PsD:							
Pequea--------------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	piping	1.00	depth to water	1.00
		slope	0.12	seepage	0.03		
Pt:							
Pits----------------	80	Not rated		Not rated		Not rated	
RaA:							
Raritan-------------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to saturated zone	1.00	depth to water	1.00
		depth to cemented pan	0.95	piping	1.00		
RaB:							
Raritan-------------	80	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to saturated zone	1.00	depth to water	1.00
		depth to cemented pan	0.95	piping	1.00		

Table 18.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
RcC:							
Ravenrock-----------	40	Somewhat limited:		Not limited		Very limited:	
		seepage	0.72			cutbanks cave	1.00
		slope	0.01			slow refill	1.00
						depth to water	0.99
Highfield-----------	35	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	thin layer	0.37	depth to water	1.00
		depth to bedrock	0.37				
		slope	0.01				
Rock outcrop--------	11	Very limited:		Not rated		Not rated	
		depth to bedrock	1.00				
		seepage	1.00				
		slope	0.01				
RcD:							
Ravenrock-----------	40	Somewhat limited:		Not limited		Very limited:	
		seepage	0.72			cutbanks cave	1.00
		slope	0.12			slow refill	1.00
						depth to water	0.99
Highfield-----------	40	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	thin layer	0.37	depth to water	1.00
		depth to bedrock	0.37				
		slope	0.12				
Rock outcrop--------	11	Very limited:		Not rated		Not rated	
		depth to bedrock	1.00				
		seepage	1.00				
		slope	0.12				
RcF:							
Ravenrock-----------	40	Somewhat limited:		Not limited		Very limited:	
		slope	0.97			cutbanks cave	1.00
		seepage	0.72			slow refill	1.00
						depth to water	0.99
Highfield-----------	40	Somewhat limited:		Somewhat limited:		Very limited:	
		slope	0.97	thin layer	0.37	depth to water	1.00
		seepage	0.72				
		depth to bedrock	0.37				
Rock outcrop--------	11	Very limited:		Not rated		Not rated	
		depth to bedrock	1.00				
		seepage	1.00				
		slope	0.97				
RdC:							
Ravenrock-----------	45	Somewhat limited:		Not limited		Very limited:	
		seepage	0.72			cutbanks cave	1.00
						slow refill	1.00
						depth to water	0.99

Table 18.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
RdC:							
Rohrersville--------	45	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	depth to saturated zone	1.00	depth to water	1.00
				piping	0.41		
ReA:							
Readington----------	75	Somewhat limited:		Very limited:		Very limited:	
		depth to cemented pan	0.93	piping	1.00	depth to water	1.00
				depth to saturated zone	0.95		
		seepage	0.72				
		depth to bedrock	0.22	thin layer	0.22		
ReB:							
Readington----------	75	Somewhat limited:		Very limited:		Very limited:	
		depth to cemented pan	0.93	piping	1.00	depth to water	1.00
				depth to saturated zone	0.95		
		seepage	0.72				
		depth to bedrock	0.22	thin layer	0.22		
RfA:							
Reaville------------	85	Somewhat limited:		Very limited:		Very limited:	
		depth to bedrock	0.96	depth to saturated zone	1.00	depth to hard bedrock	1.00
		seepage	0.47				
				piping	1.00	slow refill	0.53
				thin layer	0.96	cutbanks cave	0.10
RfB:							
Reaville------------	85	Somewhat limited:		Very limited:		Very limited:	
		depth to bedrock	0.96	depth to saturated zone	1.00	depth to hard bedrock	1.00
		seepage	0.47				
				piping	1.00	slow refill	0.53
				thin layer	0.96	cutbanks cave	0.10
RfC:							
Reaville------------	85	Somewhat limited:		Very limited:		Very limited:	
		depth to bedrock	0.96	depth to saturated zone	1.00	depth to hard bedrock	1.00
		seepage	0.47				
		slope	0.01	piping	1.00	slow refill	0.53
				thin layer	0.96	cutbanks cave	0.10
RoB:							
Rohrersville--------	85	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	depth to saturated zone	1.00	depth to water	1.00
				piping	0.79		
RsB:							
Rohrersville--------	85	Somewhat limited:		Very limited:		Very limited:	
		seepage	0.72	depth to saturated zone	1.00	depth to water	1.00
				piping	0.49		
Rw:							
Rowland-------------	85	Very limited:		Very limited:		Very limited:	
		seepage	1.00	depth to saturated zone	1.00	cutbanks cave	1.00
						depth to water	0.01
				piping	0.94		

Table 18.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
StB:							
Steinsburg----------	80	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.95	depth to water	1.00
		depth to bedrock	0.95	seepage	0.03		
StC:							
Steinsburg----------	80	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.95	depth to water	1.00
		depth to bedrock	0.95	seepage	0.03		
		slope	0.01				
StD:							
Steinsburg----------	75	Very limited:		Somewhat limited:		Very limited:	
		seepage	1.00	thin layer	0.95	depth to water	1.00
		depth to bedrock	0.95	seepage	0.03		
		slope	0.12				
Uc:							
Urban land.							
UeB:							
Urban land----------	60	Not limited		Not rated		Not rated	
Conestoga-----------	15	Somewhat limited:		Somewhat limited:		Very limited:	
		seepage	0.72	piping	0.11	depth to water	1.00
UgB:							
Urban land----------	55	Not limited		Not rated		Not rated	
Penn----------------	20	Very limited:		Not limited		Very limited:	
		seepage	1.00			depth to water	1.00
		depth to bedrock	0.11				
W:							
Water.							
WaA:							
Watchung------------	80	Somewhat limited:		Very limited:		Somewhat limited:	
		seepage	0.54	depth to saturated zone	1.00	slow refill	0.46
						cutbanks cave	0.10
				Hard to pack	0.39		
WaB:							
Watchung------------	80	Somewhat limited:		Very limited:		Somewhat limited:	
		seepage	0.54	depth to saturated zone	1.00	slow refill	0.46
						cutbanks cave	0.10
				Hard to pack	0.39		
WbB:							
Watchung------------	80	Somewhat limited:		Very limited:		Somewhat limited:	
		seepage	0.54	depth to saturated zone	1.00	slow refill	0.46
						cutbanks cave	0.10
				Hard to pack	0.39		

Table 19.--Engineering Index Properties

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
AbA:												
Abbottstown-----	0-10	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	90-100	80-100	75-100	55-90	20-35	5-15
	10-20	Silty clay loam, silt loam, loam	CL, CL-ML	A-4, A-6	0	0-5	90-100	80-100	75-95	55-85	20-35	5-15
	20-25	Silty clay loam, channery silt loam, loam	CL-ML, CL, SC	A-4, A-6	0	0-10	75-100	65-90	60-90	40-85	20-35	5-15
	25-32	Silt loam, silty clay loam, loam, channery silt loam	CL, CL-ML, SC	A-4, A-6	0	0-10	75-100	65-90	60-90	40-85	20-35	5-15
	32-40	Channery silt loam, silty clay loam, loam	CL, CL-ML, SC	A-4, A-6	0	0-10	75-100	65-90	60-90	40-85	20-35	5-15
	40-45	Extremely channery silt loam, channery silt loam, loam, silty clay loam	CL, CL-ML, SC	A-4, A-6	0	0-20	75-100	45-90	40-90	40-85	20-35	5-15
	45-55	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
AbB:												
Abbottstown-----	0-10	Silt loam	CL-ML, CL	A-4, A-6	0	0-5	90-100	80-100	75-100	55-90	20-35	5-15
	10-20	Silty clay loam, silt loam, loam	CL, CL-ML	A-4, A-6	0	0-5	90-100	80-100	75-95	55-85	20-35	5-15
	20-25	Silty clay loam, channery silt loam, loam	SC, CL, CL-ML	A-4, A-6	0	0-10	75-100	65-90	60-90	40-85	20-35	5-15
	25-32	Silt loam, silty clay loam, channery silt loam, loam	CL-ML, CL, SC	A-4, A-6	0	0-10	75-100	65-90	60-90	40-85	20-35	5-15
	32-40	Channery silt loam, silty clay loam, loam	SC, CL-ML, CL	A-4, A-6	0	0-10	75-100	65-90	60-90	40-85	20-35	5-15
	40-45	Extremely channery silt loam, channery silt loam, loam, silty clay loam	SC, CL-ML, CL	A-4, A-6	0	0-20	75-100	45-90	40-90	40-85	20-35	5-15
	45-55	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
ArB:												
Arendtsville----	0-9	Gravelly loam	SM, GM, ML	A-4	0	0-5	65-85	50-70	45-65	40-55	25-35	8-16
	9-16	Gravelly loam, clay loam, gravelly sandy loam	SC, GC, CL	A-4, A-6	0	0-5	55-100	50-85	45-85	40-65	25-38	8-16
	16-40	Gravelly sandy clay loam, gravelly sandy loam, clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	55-100	50-85	45-85	40-65	25-38	8-16
	40-53	Gravelly sandy loam, clay loam, gravelly loam	GC, SC, CL	A-4, A-6	0	0-5	55-100	50-85	45-85	40-65	25-38	8-16
	53-72	Very gravelly sandy loam, gravelly loam, very gravelly loam	GM, SM, ML	A-1, A-2, A-4, A-6	0-1	0-30	25-90	20-85	20-85	15-60	23-39	1-12
ArC:												
Arendtsville----	0-9	Gravelly loam	SM, GM, ML	A-4	0	0-5	65-85	50-70	45-65	40-55	25-35	8-16
	9-16	Gravelly loam, clay loam, gravelly sandy loam	GC, SC, CL	A-4, A-6	0	0-5	55-100	50-85	45-85	40-65	25-38	8-16
	16-40	Gravelly sandy clay loam, gravelly sandy loam, clay loam, gravelly loam	GC, SC, CL	A-4, A-6	0	0-5	55-100	50-85	45-85	40-65	25-38	8-16
	40-53	Gravelly sandy clay loam, gravelly sandy loam, clay loam, gravelly loam	GC, CL, SC	A-4, A-6	0	0-5	55-100	50-85	45-85	40-65	25-38	8-16
	53-72	Very gravelly sandy loam, gravelly loam, very gravelly loam	ML, SM, GM	A-1, A-2, A-4, A-6	0-1	0-30	25-90	20-85	20-85	15-60	23-39	1-12

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
ArD:												
Arendtsville----	0-9	Gravelly loam	GM, ML, SM	A-4	0	0-5	65-85	50-70	45-65	40-55	25-35	8-16
	9-16	Gravelly loam, clay loam, gravelly sandy loam	SC, GC, CL	A-6, A-4	0	0-5	55-100	50-85	45-85	40-65	25-38	8-16
	16-40	Gravelly sandy clay loam, gravelly sandy loam, clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	55-100	50-85	45-85	40-65	25-38	8-16
	40-53	Gravelly sandy clay loam, gravelly sandy loam, clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	55-100	50-85	45-85	40-65	25-38	8-16
	53-72	Very gravelly sandy loam, gravelly loam, very gravelly loam	SM, ML, GM	A-1, A-2, A-4, A-6	0-1	0-30	25-90	20-85	20-85	15-60	23-39	1-12
ArE:												
Arendtsville----	0-9	Gravelly loam	ML, SM, GM	A-4	0	0-5	65-85	50-70	45-65	40-55	25-35	8-16
	9-16	Gravelly loam, clay loam, gravelly sandy loam	CL, GC, SC	A-4, A-6	0	0-5	55-100	50-85	45-85	40-65	25-38	8-16
	16-40	Gravelly sandy clay loam, gravelly sandy loam, clay loam, gravelly loam	CL, GC, SC	A-4, A-6	0	0-5	55-100	50-85	45-85	40-65	25-38	8-16
	40-53	Gravelly sandy loam, clay loam, gravelly loam	GC, SC, CL	A-4, A-6	0	0-5	55-100	50-85	45-85	40-65	25-38	8-16
	53-72	Very gravelly sandy loam, gravelly loam, very gravelly loam	GM, ML, SM	A-1, A-2, A-4, A-6	0-1	0-30	25-90	20-85	20-85	15-60	23-39	1-12

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
AtA:												
Athol-----------	0-10	Gravelly silt loam	CL-ML, ML	A-4	0	0-5	90-100	75-95	65-90	50-75	20-35	1-10
	10-24	Silt loam, gravelly silty clay loam, gravelly clay loam	ML	A-4	0	0-5	90-100	75-95	65-90	50-75	25-40	2-10
	24-52	Silt loam, silty clay loam, gravelly silty clay loam, gravelly clay loam	ML	A-4	0	0-5	90-100	75-95	65-90	50-75	25-40	2-10
	52-60	Gravelly silt loam, loam, gravelly silty clay loam	ML, SM	A-2, A-4	0	0-5	90-100	65-85	60-80	30-65	20-40	NP-10
AtB:												
Athol-----------	0-10	Gravelly silt loam	CL-ML, ML	A-4	0	0-5	90-100	75-95	65-90	50-75	20-35	1-10
	10-24	Silt loam, gravelly silty clay loam, gravelly clay loam	ML	A-4	0	0-5	90-100	75-95	65-90	50-75	25-40	2-10
	24-52	Silt loam, silty clay loam, gravelly silty clay loam, gravelly clay loam	ML	A-4	0	0-5	90-100	75-95	65-90	50-75	25-40	2-10
	52-60	Gravelly silt loam, loam, gravelly silty clay loam	ML, SM	A-2, A-4	0	0-5	90-100	65-85	60-80	30-65	20-40	NP-10

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
AtC:												
Athol-----------	0-10	Gravelly silt loam	CL-ML, ML	A-4	0	0-5	90-100	75-95	65-90	50-75	20-35	1-10
	10-24	Silt loam, gravelly silty clay loam, gravelly clay loam	ML	A-4	0	0-5	90-100	75-95	65-90	50-75	25-40	2-10
	24-52	Silt loam, silty clay loam, gravelly silty clay loam, gravelly clay loam	ML	A-4	0	0-5	90-100	75-95	65-90	50-75	25-40	2-10
	52-60	Gravelly silt loam, loam, gravelly silty clay loam	ML, SM	A-2, A-4	0	0-5	90-100	65-85	60-80	30-65	20-40	NP-10
Ba:												
Baile-----------	0-12	Silt loam	MH, ML	A-4, A-6, A-7	0	0-10	85-100	80-100	70-100	50-95	33-67	7-24
	12-40	Silt loam, silty clay loam, clay loam	CL	A-6	0	0	90-100	80-100	70-100	55-95	28-34	11-14
	40-60	Silt loam, loam, sandy loam, channery silt loam	CL, ML, SC, SM	A-2, A-4, A-6	0	0	80-100	80-100	50-100	25-90	0-35	NP-11

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Be:												
Bermudian-------	0-8	Silt loam	ML	A-4	0	0	90-100	90-100	70-90	60-80	35-45	10-15
	8-30	Channery silt loam, gravelly silty clay loam, channery sandy clay loam, loam, clay loam	ML, SC, SM	A-4, A-6, A-7-6	0	0-10	65-90	60-80	55-75	40-60	30-45	8-15
	30-50	Channery silt loam, silty clay loam, channery sandy clay loam, clay loam	ML, SC, SM	A-4, A-6, A-7-6	0	0-10	65-90	60-80	55-75	40-60	30-45	8-15
	50-60	Stratified very gravelly sand to gravelly sandy clay loam	GM, CL-ML, ML, SM	A-1, A-2, A-4	0	0-15	40-95	25-90	20-80	20-65	0-20	NP-5
BgA:												
Birdsboro-------	0-10	Silt loam	ML, CL, CL-ML	A-4	0	0	95-100	85-100	80-100	65-90	20-35	2-10
	10-18	Gravelly silty clay loam, gravelly silt loam, gravelly clay loam	CL, GM, ML, SM	A-4, A-6	0	0-5	70-100	65-100	60-100	45-95	25-35	3-11
	18-30	Gravelly loam, silt loam, sandy clay loam, gravelly clay loam	SM, CL, GM, ML	A-4, A-6	0	0-5	70-100	65-100	60-100	45-95	25-35	3-11
	30-50	Gravelly sandy clay loam, silt loam, silty clay loam, gravelly clay loam	SM, CL, GM, ML	A-4, A-6	0	0-5	70-100	65-100	60-100	45-95	25-35	3-11
	50-60	Gravelly silty clay loam, silt loam, sandy clay loam, gravelly clay loam	GM, ML, SM, CL	A-4, A-6	0	0-5	80-100	70-100	65-100	45-95	15-35	NP-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
BgB:												
Birdsboro-------	0-10	Silt loam	CL-ML, ML, CL	A-4	0	0	95-100	85-100	80-100	65-90	20-35	2-10
	10-18	Gravelly silty clay loam, gravelly silt loam, sandy clay loam, gravelly clay loam	CL, GM, ML, SM	A-4, A-6	0	0-5	70-100	65-100	60-100	45-95	25-35	3-11
	18-30	Gravelly loam, silt loam, sandy clay loam, gravelly clay loam	GM, ML, SM, CL	A-4, A-6	0	0-5	70-100	65-100	60-100	45-95	25-35	3-11
	30-50	Gravelly sandy clay loam, silt loam, silty clay loam, gravelly clay loam	CL, GM, ML, SM	A-4, A-6	0	0-5	70-100	65-100	60-100	45-95	25-35	3-11
	50-60	Gravelly silty clay loam, silt loam, sandy clay loam, gravelly clay loam	CL, GM, ML, SM	A-4, A-6	0	0-5	80-100	70-100	65-100	45-95	15-35	NP-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
BgC:												
Birdsboro-------	0-10	Silt loam	CL, CL-ML, ML	A-4	0	0	95-100	85-100	80-100	65-90	20-35	2-10
	10-18	Gravelly silty clay loam, gravelly silt loam, sandy clay loam, gravelly clay loam	ML, GM, CL, SM	A-4, A-6	0	0-5	70-100	65-100	60-100	45-95	25-35	3-11
	18-30	Gravelly loam, silt loam, sandy clay loam, gravelly clay loam	CL, SM, ML, GM	A-4, A-6	0	0-5	70-100	65-100	60-100	45-95	25-35	3-11
	30-50	Gravelly sandy clay loam, silt loam, silty clay loam, gravelly clay loam	SM, ML, GM, CL	A-4, A-6	0	0-5	70-100	65-100	60-100	45-95	25-35	3-11
	50-60	Gravelly silty clay loam, silt loam, sandy clay loam, gravelly clay loam	CL, ML, SM, GM	A-4, A-6	0	0-5	80-100	70-100	65-100	45-95	15-35	NP-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
Bo:												
Bowmansville----	0-11	Silt loam	SM, ML	A-4	0	0-5	95-100	80-100	60-100	35-90	20-45	NP-15
	11-34	Silt loam, silty clay loam, sandy clay loam	ML, CL, SC, SM	A-4, A-6, A-7	0	0-5	95-100	80-100	80-100	40-90	30-45	8-15
	34-55	Silt loam, silty clay loam, sandy loam, gravelly silt loam, silty clay loam	CL, SM, MH, ML	A-7, A-6	0	0-10	90-100	65-100	60-100	35-100	35-55	15-25
	55-72	Gravelly sandy loam, gravelly sandy clay loam, sandy loam, gravelly silt loam, silty clay loam	SM, CL, MH, ML	A-7, A-6	0	0-10	90-100	65-100	60-100	35-100	35-55	15-25
BrB:												
Brecknock-------	0-7	Channery silt loam	ML, GM	A-4, A-6	0	0-10	65-80	60-70	50-65	40-65	0-14	NP-12
	7-12	Channery silt loam, silt loam, clay loam, loam	GM, ML, SM	A-2, A-4, A-6	0	0-15	65-100	50-95	40-85	30-85	25-40	NP-13
	12-30	Channery silt loam, clay loam, silt loam, loam	GM, ML, SM	A-6, A-2, A-4	0	0-15	65-100	50-95	40-85	30-85	25-40	NP-13
	30-42	Very channery silt loam, channery silt loam, channery loam, very channery clay loam	ML, SM, GM, GP-GM	A-1, A-2, A-4, A-6	0	0-20	20-90	15-90	10-85	10-75	25-40	NP-12
	42-52	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
BrC:												
Brecknock-------	0-7	Channery silt loam	GM, ML	A-4, A-6	0	0-10	65-80	60-70	50-65	40-65	0-14	NP-12
	7-12	Channery silt loam, silt loam, clay loam, loam	SM, ML, GM	A-2, A-4, A-6	0	0-15	65-100	50-95	40-85	30-85	25-40	NP-13
	12-30	Channery silt loam, clay loam, silt loam, loam	GM, ML, SM	A-2, A-4, A-6	0	0-15	65-100	50-95	40-85	30-85	25-40	NP-13
	30-42	Very channery silt loam, channery silt loam, channery loam, very channery clay loam	GM, GP-GM, ML, SM	A-1, A-2, A-4, A-6	0	0-20	20-90	15-90	10-85	10-75	25-40	NP-12
	42-52	Bedrock			---	---	---	---	---	---	---	---
BrD:												
Brecknock-------	0-7	Channery silt loam	ML, GM	A-4, A-6	0	0-10	65-80	60-70	50-65	40-65	0-14	NP-12
	7-12	Channery silt loam, silt loam, clay loam, loam	SM, GM, ML	A-2, A-4, A-6	0	0-15	65-100	50-95	40-85	30-85	25-40	NP-13
	12-30	Channery silt loam, clay loam, silt loam, loam	GM, ML, SM	A-2, A-4, A-6	0	0-15	65-100	50-95	40-85	30-85	25-40	NP-13
	30-42	Very channery silt loam, channery silt loam, channery loam, very channery clay loam	GM, GP-GM, ML, SM	A-1, A-2, A-4, A-6	0	0-20	20-90	15-90	10-85	10-75	25-40	NP-12
	42-52	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
BuB:												
Buchanan--------	0-7	Channery loam	CL, CL-ML, GM, ML, SC	A-2, A-4, A-6	0	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	7-25	Channery loam, channery silt loam, channery sandy clay loam	CL, GM, ML, SM	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	25-54	Very channery clay loam, silt loam, channery loam	CL, GM, ML, SM, SC	A-2, A-4, A-6	0-1	0-20	50-100	30-80	30-75	20-60	20-35	2-15
	54-60	Gravelly sandy clay loam, gravelly loam, silt loam, channery sandy loam	SM, CL, GM, ML	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
BvB:												
Buchanan--------	0-7	Channery loam	CL, CL-ML, GM, ML, SC	A-2, A-4, A-6	2-10	0-10	50-100	45-75	40-75	30-65	20-35	2-11
	7-25	Channery loam, silt loam, gravelly sandy clay loam	GM, ML, SM, CL	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15
	25-54	Very channery clay loam, silt loam, channery loam	SC, CL, GM, ML, SM	A-2, A-4, A-6	0-1	0-20	50-100	30-80	30-75	20-60	20-35	2-15
	54-60	Gravelly sandy clay loam, gravelly loam, silt loam, channery sandy loam	ML, GM, CL, SM	A-2, A-4, A-6	0	0-20	50-100	45-90	40-90	20-80	20-35	2-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
CcB:												
Catoctin--------	0-9	Channery silt loam	GM, ML, SM, SC, CL	A-2, A-4	0	0-25	50-80	35-75	30-65	25-60	0-30	NP-8
	9-16	Very channery silt loam, channery silt loam, channery silty clay loam	CL, GM, SC, SM	A-2, A-4, A-6	0	0-25	50-80	35-75	30-60	25-60	20-34	2-12
	16-24	Extremely channery silt loam, very channery silt loam, channery silt loam	GC, SM, SC, GM	A-1, A-2, A-3, A-4	0	10-40	30-75	10-60	9-55	7-50	0-28	NP-8
	24-34	Bedrock			---	---	---	---	---	---	---	---
CcC:												
Catoctin--------	0-9	Channery silt loam	SC, SM, ML, CL, GM	A-2, A-4	0	0-25	50-80	35-75	30-65	25-60	0-30	NP-8
	9-16	Very channery silt loam, channery silt loam, channery silty clay loam	CL, GM, SM, SC	A-2, A-4, A-6	0	0-25	50-80	35-75	30-60	25-60	20-34	2-12
	16-24	Extremely channery silt loam, very channery silt loam, channery silt loam	GM, SC, SM, GC	A-1, A-2, A-3, A-4	0	10-40	30-75	10-60	9-55	7-50	0-28	NP-8
	24-34	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
CcE:												
Catoctin--------	0-9	Channery silt loam	CL, GM, ML, SM, SC	A-2, A-4	0	0-25	50-80	35-75	30-65	25-60	0-30	NP-8
	9-16	Very channery silt loam, channery silt loam, channery silty clay loam	CL, GM, SC, SM	A-2, A-4, A-6	0	0-25	50-80	35-75	30-60	25-60	20-34	2-12
	16-24	Extremely channery silt loam, very channery silt loam, channery silt loam	GC, GM, SC, SM	A-1, A-2, A-3, A-4	0	10-40	30-75	10-60	9-55	7-50	0-28	NP-8
	24-34	Bedrock			---	---	---	---	---	---	---	---
CkA:												
Clarksburg------	0-8	Silt loam	ML, CL	A-4, A-6	0	0-5	90-100	85-100	80-95	75-90	25-35	2-11
	8-32	Silt loam, loam, silty clay loam, gravelly silt loam	CL-ML, CL	A-4, A-6, A-7	0	0-10	80-100	65-100	60-95	55-85	25-45	6-20
	32-40	Silty clay loam, channery loam, gravelly silt loam, silt loam, clay loam	CL, CL-ML, SC, SC-SM	A-6, A-7, A-4	0	0-15	75-100	55-100	50-95	45-90	20-45	4-20
	40-54	Clay loam, silty clay loam, channery loam, gravelly silt loam	CL, CL-ML, SC, SC-SM	A-6, A-7, A-4	0	0-15	75-100	55-100	50-95	45-90	20-45	4-20
	54-64	Very channery clay loam, silty clay loam, channery loam, clay	SC-SM, CH, CL, GC	A-2, A-4, A-6, A-7	0	0-20	50-100	20-100	15-95	15-90	20-52	4-25

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
CkB:												
Clarksburg------	0-8	Silt loam	CL, ML	A-4, A-6	0	0-5	90-100	85-100	80-95	75-90	25-35	2-11
	8-32	Silt loam, loam, silty clay loam, gravelly silt loam	CL-ML, CL	A-4, A-6, A-7	0	0-10	80-100	65-100	60-95	55-85	25-45	6-20
	32-40	Silty clay loam, channery loam, gravelly silt loam, silt loam, clay loam	CL-ML, CL, SC, SC-SM	A-6, A-7, A-4	0	0-15	75-100	55-100	50-95	45-90	20-45	4-20
	40-54	Clay loam, silty clay loam, channery loam, gravelly silt loam	CL, CL-ML, SC, SC-SM	A-6, A-7, A-4	0	0-15	75-100	55-100	50-95	45-90	20-45	4-20
	54-64	Very channery clay loam, silty clay loam, channery loam, clay	CH, CL, GC, SC-SM	A-2, A-4, A-6, A-7	0	0-20	50-100	20-100	15-95	15-90	20-52	4-25
Cm:												
Codorus---------	0-12	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	80-100	70-100	65-100	55-95	22-35	2-12
	12-48	Silt loam, loam, silty clay loam	CL-ML, CL, ML	A-4, A-6	0	0	80-100	75-100	65-100	55-85	22-35	2-12
	48-60	Silt loam, loam, stratified sand to silt loam	SM, ML, GM	A-1, A-2, A-4	0	0	25-100	20-100	20-85	15-65	0-35	NP-7

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
CnA:												
Conestoga-------	0-9	Silt loam	ML	A-4	0	0-5	90-100	85-100	80-100	70-90	20-30	NP-6
	9-17	Silt loam, silty clay loam, channery silt loam, loam	CH, CL	A-6, A-7	0	0-10	70-100	65-100	60-100	55-95	35-60	14-30
	17-40	Silty clay loam, silt loam, channery silt loam	CH, CL	A-6, A-7	0	0-10	70-100	65-100	60-100	55-95	35-60	14-30
	40-46	Silt loam, channery silt loam, channery loam, channery sandy loam	GM, MH, ML, SM	A-2, A-6, A-7	0	0-15	35-90	35-85	30-80	25-75	35-60	10-25
	46-60	Loam, channery loam, channery silt loam, channery sandy loam	GM, MH, ML, SM	A-2, A-6, A-7	0	0-15	35-90	35-85	30-80	25-75	35-60	10-25
CnB:												
Conestoga-------	0-9	Silt loam	ML	A-4	0	0-5	90-100	85-100	80-100	70-90	20-30	NP-6
	9-17	Silt loam, silty clay loam, channery silt loam, loam	CH, CL	A-6, A-7	0	0-10	70-100	65-100	60-100	55-95	35-60	14-30
	17-40	Silty clay loam, silt loam, channery silt loam	CL, CH	A-6, A-7	0	0-10	70-100	65-100	60-100	55-95	35-60	14-30
	40-46	Silt loam, channery silt loam, channery loam, channery sandy loam	SM, ML, MH, GM	A-2, A-6, A-7	0	0-15	35-90	35-85	30-80	25-75	35-60	10-25
	46-60	Loam, channery loam, channery silt loam, channery sandy loam	SM, ML, MH, GM	A-2, A-6, A-7	0	0-15	35-90	35-85	30-80	25-75	35-60	10-25

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
CnC:												
Conestoga-------	0-9	Silt loam	ML	A-4	0	0-5	90-100	85-100	80-100	70-90	20-30	NP-6
	9-17	Silt loam, silty clay loam, channery silt loam, loam	CH, CL	A-6, A-7	0	0-10	70-100	65-100	60-100	55-95	35-60	14-30
	17-40	Silty clay loam, silt loam, channery silt loam	CH, CL	A-6, A-7	0	0-10	70-100	65-100	60-100	55-95	35-60	14-30
	40-46	Silt loam, channery silt loam, channery loam, channery sandy loam	GM, MH, ML, SM	A-2, A-6, A-7	0	0-15	35-90	35-85	30-80	25-75	35-60	10-25
	46-60	Loam, channery loam, channery silt loam, channery sandy loam	GM, MH, ML, SM	A-2, A-6, A-7	0	0-15	35-90	35-85	30-80	25-75	35-60	10-25
CrA:												
Croton----------	0-12	Silt loam	CL, CL-ML	A-4, A-6	0	0-1	90-100	90-100	85-95	75-90	25-40	5-15
	12-20	Silt loam, silty clay loam, channery silt loam	CL	A-6	0	0-10	90-100	85-95	80-90	70-85	30-40	10-15
	20-37	Silt loam, silty clay loam, channery silt loam	CL	A-6	0	0-10	90-100	85-95	80-90	70-85	30-40	10-15
	37-42	Channery silt loam, channery silty clay loam, channery clay loam	CL	A-6	0	0-10	75-95	65-80	60-75	50-70	30-40	10-15
	42-52	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
CrB:												
Croton----------	0-12	Silt loam	CL, CL-ML	A-4, A-6	0	0-1	90-100	90-100	85-95	75-90	25-40	5-15
	12-20	Silt loam, silty clay loam, channery silt loam	CL	A-6	0	0-10	90-100	85-95	80-90	70-85	30-40	10-15
	20-37	Silt loam, silty clay loam, channery silt loam	CL	A-6	0	0-10	90-100	85-95	80-90	70-85	30-40	10-15
	37-42	Channery silt loam, channery silty clay loam, channery clay loam	CL	A-6	0	0-10	75-95	65-80	60-75	50-70	30-40	10-15
	42-52	Bedrock			---	---	---	---	---	---	---	---
DAM:												
Dams------------	0-6	Material			---	---	---	---	---	---	0-0	---
Dx:												
Dumps.												
Dy:												
Dunning---------	0-11	Silty clay loam	CL, CH	A-6, A-7, A-7-6	0	0	100	95-100	90-100	85-95	34-55	15-25
	11-36	Silty clay, silty clay loam, clay	CH, CL	A-7, A-7-6	0	0-5	90-100	70-100	60-100	60-100	45-70	20-40
	36-42	Silty clay loam, silty clay, clay	CL, CH	A-7, A-7-6	0	0-5	90-100	70-100	60-100	60-100	45-70	20-40
	42-60	Stratified sandy clay loam to gravelly sandy clay loam, gravelly clay loam, loam, sandy loam	SC-SM, CL, ML, SC, SM	A-2, A-4, A-6	0	0-10	65-100	50-100	40-95	20-75	10-35	NP-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
EdB:												
Edgemont--------	0-8	Channery loam	SM, GM, ML	A-2, A-4	0	0-10	55-90	50-70	35-60	15-55	0-14	---
	8-24	Channery loam, channery sandy clay loam, gravelly clay loam, fine sandy loam	GM, GP-GM, SM, SP-SM, SC-SM	A-1, A-2, A-4	0	0-15	55-95	50-90	30-65	10-40	0-31	NP-8
	24-30	Very channery sandy loam, sandy loam, channery loamy sand, very gravelly clay loam	SP-SM, SM, GP-GM, GM	A-1, A-2, A-3, A-4	0	5-25	35-75	10-70	10-65	5-45	0-31	NP-6
	30-60	Extremely channery sandy loam, very channery sandy loam, sandy loam, channery loamy sand	GM, SP-SM, SM, GP-GM	A-1, A-2, A-3, A-4	0	5-25	35-75	10-70	10-65	5-45	0-31	NP-6

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
EdC:												
Edgemont--------	0-8	Channery loam	ML, GM, SM	A-2, A-4	0	0-10	55-90	50-70	35-60	15-55	0-14	---
	8-24	Channery loam, channery sandy clay loam, gravelly clay loam, fine sandy loam	GM, GP-GM, SM, SP-SM, SC-SM	A-1, A-2, A-4	0	0-15	55-95	50-90	30-65	10-40	0-31	NP-8
	24-30	Very channery sandy loam, sandy loam, channery loamy sand, very gravelly clay loam	GP-GM, SM, SP-SM, GM	A-1, A-2, A-3, A-4	0	5-25	35-75	10-70	10-65	5-45	0-31	NP-6
	30-60	Extremely channery sandy loam, very channery sandy loam, sandy loam, channery loamy sand, very gravelly clay loam	GP-GM, SP-SM, GM, SM	A-1, A-2, A-3, A-4	0	5-25	35-75	10-70	10-65	5-45	0-31	NP-6

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
EdD:												
Edgemont--------	0-8	Channery loam	GM, ML, SM	A-2, A-4	0	0-10	55-90	50-70	35-60	15-55	0-14	---
	8-24	Channery loam, channery sandy clay loam, gravelly clay loam, fine sandy loam	GM, GP-GM, SM, SP-SM, SC-SM	A-1, A-2, A-4	0	0-15	55-95	50-90	30-65	10-40	0-31	NP-8
	24-30	Very channery sandy loam, sandy loam, channery loamy sand, very gravelly clay loam	SM, GM, SP-SM, GP-GM	A-1, A-2, A-3, A-4	0	5-25	35-75	10-70	10-65	5-45	0-31	NP-6
	30-60	Extremely channery sandy loam, very channery sandy loam, sandy loam, channery loamy sand, very gravelly clay loam	GP-GM, GM, SP-SM, SM	A-1, A-2, A-3, A-4	0	5-25	35-75	10-70	10-65	5-45	0-31	NP-6

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
EeB:												
Edgemont--------	0-8	Channery loam	SM, GM, ML	A-2, A-4	1-5	3-15	55-100	50-95	35-90	15-80	0-14	---
	8-24	Channery loam, fine sandy loam, channery sandy clay loam, gravelly clay loam	SP-SM, SC-SM, SM, GP-GM, GM	A-1, A-2, A-4	0-3	0-15	55-95	50-90	30-65	10-40	0-31	NP-8
	24-30	Very channery sandy loam, channery sandy clay loam, sandy loam, channery loamy sand, very gravelly clay loam	SM, SP-SM, SC-SM, GP-GM, GM	A-1, A-2, A-4	0-3	0-15	55-95	50-90	30-65	10-40	0-31	NP-8
	30-60	Extremely channery sandy loam, sandy loam, channery loamy sand, very channery sandy loam	GM, GP-GM, SM, SP-SM	A-1, A-2, A-3, A-4	1-3	5-25	35-75	10-70	10-65	5-45	0-31	NP-6

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
EeD:												
Edgemont--------	0-8	Channery loam	ML, GM, SM	A-2, A-4	1-5	3-15	55-100	50-95	35-90	15-80	0-14	---
	8-24	Channery loam, fine sandy loam, channery sandy clay loam, gravelly clay loam	SC-SM, GM, GP-GM, SM, SP-SM	A-2, A-4, A-1	0-3	0-15	55-95	50-90	30-65	10-40	0-31	NP-8
	24-30	Very channery sandy loam, channery sandy clay loam, sandy loam, channery loamy sand, very gravelly clay loam	SC-SM, SP-SM, SM, GP-GM, GM	A-1, A-2, A-4	0-3	0-15	55-95	50-90	30-65	10-40	0-31	NP-8
	30-60	Extremely channery sandy loam, sandy loam, channery loamy sand, very channery sandy loam	GM, GP-GM, SM, SP-SM	A-1, A-2, A-3, A-4	1-3	5-25	35-75	10-70	10-65	5-45	0-31	NP-6

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
EeF:												
Edgemont--------	0-8	Channery loam	GM, ML, SM	A-2, A-4	1-5	3-15	55-100	50-95	35-90	15-80	0-14	---
	8-24	Channery loam, fine sandy loam, channery sandy clay loam, gravelly clay loam	GP-GM, SC-SM, SP-SM, SM, GM	A-1, A-2, A-4	0-3	0-15	55-95	50-90	30-65	10-40	0-31	NP-8
	24-30	Very channery sandy loam, channery sandy clay loam, sandy loam, channery loamy sand, very gravelly clay loam	GP-GM, GM, SC-SM, SM, SP-SM	A-1, A-2, A-4	0-3	0-15	55-95	50-90	30-65	10-40	0-31	NP-8
	30-60	Extremely channery sandy loam, sandy loam, channery loamy sand, very channery sandy loam	GM, GP-GM, SM, SP-SM	A-1, A-2, A-3, A-4	1-3	5-25	35-75	10-70	10-65	5-45	0-31	NP-6

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
GbB:												
Glenelg---------	0-8	Channery silt loam	GM, ML, SM	A-2-4, A-2-6, A-4, A-6	0	0-10	60-100	50-75	40-75	30-70	32-40	7-12
	8-16	Channery silt loam, silty clay loam, loam	GM, ML, SM	A-4, A-6, A-7	0	0-10	60-100	50-100	45-100	35-95	34-46	9-15
	16-22	Channery silty clay loam, channery silt loam, silty clay loam, loam	GM, SM, ML	A-4, A-6, A-7	0	0-10	60-100	50-100	45-100	35-95	34-46	9-15
	22-25	Channery silt loam, silty clay loam, loam	SM, ML, GM	A-4, A-6, A-7	0	0-10	60-100	50-100	45-100	35-95	34-46	9-15
	25-29	Channery loam, sandy loam, loam	ML, GM, SM	A-2, A-4	0	0-50	60-100	50-100	40-95	25-75	0-40	NP-6
	29-50	Very channery loam, loam, channery loam, sandy loam	GM, ML, SM	A-2, A-4	0	0-50	60-100	50-100	40-95	25-75	0-40	NP-6
	50-55	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
GbC:												
Glenelg---------	0-8	Channery silt loam	GM, SM, ML	A-2-4, A-2-6, A-4, A-6	0	0-10	60-100	50-75	40-75	30-70	32-40	7-12
	8-16	Channery silt loam, silty clay loam, loam	SM, ML, GM	A-4, A-6, A-7	0	0-10	60-100	50-100	45-100	35-95	34-46	9-15
	16-22	Channery silty clay loam, channery silt loam, silty clay loam, loam	GM, ML, SM	A-4, A-6, A-7	0	0-10	60-100	50-100	45-100	35-95	34-46	9-15
	22-25	Channery silt loam, silty clay loam, loam	ML, SM, GM	A-4, A-6, A-7	0	0-10	60-100	50-100	45-100	35-95	34-46	9-15
	25-29	Channery loam, sandy loam, loam	SM, ML, GM	A-2, A-4	0	0-50	60-100	50-100	40-95	25-75	0-40	NP-6
	29-50	Very channery loam, loam, sandy loam, channery loam	ML, SM, GM	A-2, A-4	0	0-50	60-100	50-100	40-95	25-75	0-40	NP-6
	50-55	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
GbD:												
Glenelg---------	0-8	Channery silt loam	GM, ML, SM	A-2-4, A-2-6, A-4, A-6	0	0-10	60-100	50-75	40-75	30-70	32-40	7-12
	8-16	Channery silt loam, silty clay loam, loam	GM, SM, ML	A-4, A-6, A-7	0	0-10	60-100	50-100	45-100	35-95	34-46	9-15
	16-22	Channery silty clay loam, channery silt loam, silty clay loam, loam	SM, ML, GM	A-4, A-6, A-7	0	0-10	60-100	50-100	45-100	35-95	34-46	9-15
	22-25	Channery silt loam, silty clay loam, loam	ML, GM, SM	A-4, A-6, A-7	0	0-10	60-100	50-100	45-100	35-95	34-46	9-15
	25-29	Channery loam, sandy loam, loam	ML, SM, GM	A-2, A-4	0	0-50	60-100	50-100	40-95	25-75	0-40	NP-6
	29-50	Very channery loam, loam, sandy loam, channery loam	GM, ML, SM	A-2, A-4	0	0-50	60-100	50-100	40-95	25-75	0-40	NP-6
	50-55	Bedrock			---	---	---	---	---	---	---	---
GdA:												
Glenville-------	0-10	Silt loam	ML, SM	A-4	0	0	85-100	85-100	70-95	45-80	25-35	3-10
	10-19	Silt loam, channery silt loam, channery loam, channery silty clay loam	CL, CL-ML, GM, ML, SC	A-4, A-6	0	0-10	70-100	60-100	60-95	45-80	25-40	5-13
	19-36	Silt loam, channery silt loam, channery loam, silty clay loam	CL-ML, GM, SC, CL, ML	A-4, A-6	0	0-10	65-100	60-100	55-95	45-80	25-40	5-13
	36-60	Channery loam, channery fine sandy loam, very channery sandy loam, extremely channery loam	CL-ML, GM, ML, SM	A-1, A-2, A-4, A-2-4	0	0-20	45-90	20-75	10-75	5-65	25-35	5-10

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
GdB:												
Glenville-------	0-10	Silt loam	SM, ML	A-4	0	0	85-100	85-100	70-95	45-80	25-35	3-10
	10-19	Silt loam, channery silt loam, channery loam, channery silty clay loam	CL-ML, GM, SC, ML, CL	A-4, A-6	0	0-10	70-100	60-100	60-95	45-80	25-40	5-13
	19-36	Silt loam, channery silt loam, channery loam, silty clay loam	CL-ML, ML, SC, CL, GM	A-4, A-6	0	0-10	65-100	60-100	55-95	45-80	25-40	5-13
	36-60	Channery loam, channery fine sandy loam, very channery sandy loam, extremely channery loam	CL-ML, GM, ML, SM	A-1, A-2, A-4, A-2-4	0	0-20	45-90	20-75	10-75	5-65	25-35	5-10
Hc:												
Hatboro---------	0-12	Silt loam	CL, ML	A-4, A-6	0	0	95-100	90-100	70-100	60-90	22-35	2-12
	12-45	Silt loam, silty clay loam, sandy clay loam	CL, CL-ML, ML	A-4, A-6	0	0	85-100	80-100	70-95	55-85	22-35	2-12
	45-60	Gravelly silt loam, stratified gravelly sand to clay	GC, GM, SC, SM, SC-SM	A-1, A-2, A-2-4	0	0	50-85	45-80	45-80	15-35	0-32	NP-14

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
HgB:												
Highfield-------	0-9	Channery silt loam	GM, SM, ML	A-4	0	0-10	65-85	60-75	45-65	40-55	0-14	NP
	9-24	Channery silt loam, silt loam, channery loam	ML, GM, SM	A-4, A-6, A-7	0-1	0-10	55-85	50-80	45-70	40-55	30-49	5-19
	24-42	Very channery silt loam, channery silt loam, channery loam, very channery loam	GM, SM	A-2, A-4, A-5, A-7	0-5	0-20	45-75	25-70	20-55	20-40	30-45	3-13
	42-52	Bedrock			---	---	---	---	---	---	0-14	---
HgC:												
Highfield-------	0-9	Channery silt loam	SM, ML, GM	A-4	0	0-10	65-85	60-75	45-65	40-55	0-14	NP
	9-24	Channery silt loam, silt loam, channery loam	GM, ML, SM	A-4, A-6, A-7	0-1	0-10	55-85	50-80	45-70	40-55	30-49	5-19
	24-42	Very channery silt loam, channery silt loam, channery loam, very channery loam	GM, SM	A-2, A-4, A-5, A-7	0-5	0-20	45-75	25-70	20-55	20-40	30-45	3-13
	42-52	Bedrock			---	---	---	---	---	---	0-14	---
HHD:												
Highfield-------	0-9	Channery silt loam	GM, ML, SM	A-4	0	0-10	65-85	60-75	45-65	40-55	0-14	NP
	9-24	Channery silt loam, silt loam, channery loam	SM, ML, GM	A-4, A-6, A-7	0-1	0-10	55-85	50-80	45-70	40-55	30-49	5-19
	24-42	Very channery silt loam, channery silt loam, channery loam, very channery loam	GM, SM	A-2, A-4, A-5, A-7	0-5	0-20	45-75	25-70	20-55	20-40	30-45	3-13
	42-52	Bedrock			---	---	---	---	---	---	0-14	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
HHD:												
Catoctin--------	0-9	Channery silt loam	CL, SC, GM, ML, SM	A-2, A-4	0	0-25	50-80	35-75	30-65	25-60	0-30	NP-8
	9-16	Very channery silt loam, channery silt loam, channery silty clay loam	SC, CL, GM, SM	A-2, A-4, A-6	0	0-25	50-80	35-75	30-60	25-60	20-34	2-12
	16-24	Extremely channery silt loam, very channery silt loam, channery silt loam	GC, GM, SC, SM	A-1, A-2, A-3, A-4	0	10-40	30-75	10-60	9-55	7-50	0-28	NP-8
	24-34	Bedrock			---	---	---	---	---	---	---	---
HKB:												
Highfield-------	0-9	Channery silt loam	GM, ML	A-4	1-3	3-15	55-100	55-100	45-95	40-95	0-14	---
	9-24	Channery silt loam, silt loam, channery loam	SM, GM, ML	A-4, A-6, A-7	0	0-10	55-85	50-80	45-70	40-55	30-49	5-19
	24-42	Very channery silt loam, very channery loam, channery silt loam, channery loam	SM, GM	A-7, A-2, A-4, A-5	0	0-20	45-75	25-70	20-55	20-40	30-45	3-13
	42-52	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
HKB:												
Catoctin--------	0-9	Channery silt loam	CL-ML, ML, CL	A-4	0-5	20-50	80-90	75-85	70-80	60-70	0-30	NP-8
	9-16	Very channery silt loam, channery silt loam, channery silty clay loam	CL, GM, SM, SC	A-2, A-4, A-6	0-5	0-25	50-80	35-75	30-60	25-60	20-34	2-12
	16-24	Extremely channery silt loam, very channery silt loam, channery silt loam	GM, SC, SM, GC	A-1, A-2, A-3, A-4	0-5	10-40	30-75	10-60	9-55	7-50	0-28	NP-8
	24-34	Bedrock			---	---	---	---	---	---	---	---
Myersville------	0-9	Silt loam	ML, CL-ML, CL	A-4	2-5	5-20	95-100	90-100	80-95	55-85	15-28	2-10
	9-14	Silty clay loam, clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	14-27	Channery silty clay loam, silty clay loam, clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	27-38	Channery silt loam, clay loam, silty clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	38-48	Channery loam, channery silt loam, very channery silty clay loam, silt loam	GM, GC, GC-GM, CL-ML, CL	A-1, A-2, A-3, A-4	0-7	3-20	30-85	20-75	12-70	8-65	0-28	NP-10
	48-60	Bedrock			---	---	---	---	---	---	---	---
	60-70	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
HKD:												
Highfield-------	0-9	Channery silt loam	ML, GM	A-4	1-3	3-15	55-100	55-100	45-95	40-95	0-14	---
	9-24	Channery silt loam, silt loam, channery loam	GM, SM, ML	A-4, A-6, A-7	0	0-10	55-85	50-80	45-70	40-55	30-49	5-19
	24-42	Very channery silt loam, very channery loam, channery silt loam, channery loam	GM, SM	A-2, A-4, A-5, A-7	0	0-20	45-75	25-70	20-55	20-40	30-45	3-13
	42-52	Bedrock			---	---	---	---	---	---	---	---
Catoctin--------	0-9	Channery silt loam	ML, CL-ML, CL	A-4	0-5	20-50	80-90	75-85	70-80	60-70	0-30	NP-8
	9-16	Very channery silt loam, channery silt loam, channery silty clay loam	SM, SC, CL, GM	A-2, A-4, A-6	0-5	0-25	50-80	35-75	30-60	25-60	20-34	2-12
	16-24	Extremely channery silt loam, very channery silt loam, channery silt loam	GM, SC, SM, GC	A-1, A-2, A-3, A-4	0-5	10-40	30-75	10-60	9-55	7-50	0-28	NP-8
	24-34	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
HKD:												
Myersville------	0-9	Silt loam	ML, CL, CL-ML	A-4	2-5	5-20	95-100	90-100	80-95	55-85	15-28	2-10
	9-14	Silty clay loam, clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	14-27	Channery silty clay loam, silty clay loam, clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	27-38	Channery silt loam, clay loam, silty clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	38-48	Channery loam, channery silt loam, very channery silty clay loam, silt loam	CL, CL-ML, GC, GM, GC-GM	A-1, A-2, A-3, A-4	0-7	3-20	30-85	20-75	12-70	8-65	0-28	NP-10
	48-60	Bedrock			---	---	---	---	---	---	---	---
	60-70	Bedrock			---	---	---	---	---	---	---	---
HMF:												
Highfield-------	0-9	Channery silt loam	GM, ML	A-4	1-3	3-15	55-100	55-100	45-95	40-95	0-14	---
	9-24	Channery silt loam, silt loam, channery loam	GM, ML, SM	A-4, A-6, A-7	0	0-10	55-85	50-80	45-70	40-55	30-49	5-19
	24-42	Very channery silt loam, very channery loam, channery silt loam, channery loam	GM, SM	A-2, A-4, A-5, A-7	0	0-20	45-75	25-70	20-55	20-40	30-45	3-13
	42-52	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
HMF:												
Catoctin--------	0-9	Channery silt loam	CL, CL-ML, ML	A-4	0-5	20-50	80-90	75-85	70-80	60-70	0-30	NP-8
	9-16	Very channery silt loam, channery silt loam, channery silty clay loam	CL, SC, SM, GM	A-2, A-4, A-6	0-5	0-25	50-80	35-75	30-60	25-60	20-34	2-12
	16-24	Extremely channery silt loam, very channery silt loam, channery silt loam	GM, SC, GC, SM	A-1, A-2, A-3, A-4	0-5	10-40	30-75	10-60	9-55	7-50	0-28	NP-8
	24-34	Bedrock			---	---	---	---	---	---	---	---
KnB:												
Klinesville-----	0-8	Channery silt loam	GM, SM	A-2-4, A-4	0	0-10	55-85	45-60	35-50	25-40	0-14	NP
	8-14	Very channery silt loam, channery silt loam	GM, SM, SP, GP	A-1-b, A-2, A-4	0	0-10	25-75	15-55	10-50	4-40	20-35	NP-9
	14-16	Very channery silt loam, extremely channery silt loam	GM, SM, SP, GP	A-1-b, A-2	0	0-20	15-60	10-50	10-40	4-30	20-35	NP-7
	16-26	Bedrock			---	---	---	---	---	---	---	---
KnC:												
Klinesville-----	0-8	Channery silt loam	SM, GM	A-2-4, A-4	0	0-10	55-85	45-60	35-50	25-40	0-14	NP
	8-14	Very channery silt loam, channery silt loam	GM, GP, SM, SP	A-1-b, A-2, A-4	0	0-10	25-75	15-55	10-50	4-40	20-35	NP-9
	14-16	Very channery silt loam, extremely channery silt loam	SP, SM, GP, GM	A-1-b, A-2	0	0-20	15-60	10-50	10-40	4-30	20-35	NP-7
	16-26	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
KnD:												
Klinesville-----	0-8	Channery silt loam	SM, GM	A-2-4, A-4	0	0-10	55-85	45-60	35-50	25-40	0-14	NP
	8-14	Very channery silt loam, channery silt loam	SM, SP, GP, GM	A-1-b, A-2, A-4	0	0-10	25-75	15-55	10-50	4-40	20-35	NP-9
	14-16	Very channery silt loam, extremely channery silt loam	SP, GP, SM, GM	A-1-b, A-2	0	0-20	15-60	10-50	10-40	4-30	20-35	NP-7
	16-26	Bedrock			---	---	---	---	---	---	---	---
KnE:												
Klinesville-----	0-8	Channery silt loam	GM, SM	A-2-4, A-4	0	0-10	55-85	45-60	35-50	25-40	0-14	NP
	8-14	Very channery silt loam, channery silt loam	SP, SM, GP, GM	A-1-b, A-2, A-4	0	0-10	25-75	15-55	10-50	4-40	20-35	NP-9
	14-16	Very channery silt loam, extremely channery silt loam	SP, GM, GP, SM	A-1-b, A-2	0	0-20	15-60	10-50	10-40	4-30	20-35	NP-7
	16-26	Bedrock			---	---	---	---	---	---	---	---
Lc:												
Lamington-------	0-11	Silt loam	ML	A-4	0	0	90-100	90-100	90-100	80-95	0-14	---
	11-17	Silty clay loam, loam, silt loam	CL-ML, CL	A-4, A-6	0	0-5	90-100	80-100	75-100	70-95	20-35	5-15
	17-46	Cobbly clay loam, cobbly loam, gravelly silt loam	CL, CL-ML	A-4, A-6	0	0-25	75-100	70-100	70-95	65-95	20-30	4-12
	46-60	Stratified sand to gravel, stratified gravelly silty clay loam	CL-ML, GM, ML, SM	A-1, A-2, A-4	0-1	0-30	40-90	35-85	30-70	15-55	0-25	NP-5

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
LeB:												
Lansdale--------	0-10	Loam	SM, CL-ML, ML, SC-SM	A-2, A-4	0	0-2	80-95	75-95	55-80	30-60	15-25	NP-5
	10-17	Channery loam, sandy loam, sandy clay loam, channery sandy loam	SC, SC-SM, SM	A-2-4	0	0-10	80-90	75-85	50-70	25-35	20-30	3-10
	17-30	Channery sandy loam, sandy clay loam, sandy loam	SC, SC-SM, SM	A-2-4	0	0-10	80-90	75-85	50-70	25-35	20-30	3-10
	30-42	Channery loamy sand, channery sandy loam, very channery sandy loam	SC, SC-SM, GM, SM	A-1-b, A-2	0	0-20	55-80	50-70	30-45	15-25	20-25	3-8
	42-47	Channery loamy sand, channery sandy loam, very channery sandy loam	SM, GM, SC-SM, SC	A-1-b, A-2	0	0-20	55-80	50-70	30-45	15-25	20-25	3-8
	47-57	Bedrock			---	---	---	---	---	---	---	---
LfC:												
Lansdale--------	0-10	Channery loam	ML, CL-ML	A-4	0	0-10	80-90	75-85	65-75	50-60	15-25	NP-5
	10-17	Channery loam, sandy loam, sandy clay loam, channery sandy loam	SM, SC-SM, SC	A-2-4	0	0-10	80-90	75-85	50-70	25-35	20-30	3-10
	17-30	Channery sandy loam, sandy clay loam, sandy loam	SC-SM, SC, SM	A-2-4	0	0-10	80-90	75-85	50-70	25-35	20-30	3-10
	30-42	Channery loamy sand, channery sandy loam, very channery sandy loam	SC-SM, SM, SC, GM	A-1-b, A-2	0	0-20	55-80	50-70	30-45	15-25	20-25	3-8
	42-47	Channery loamy sand, channery sandy loam, very channery sandy loam	SM, SC-SM, SC, GM	A-1-b, A-2	0	0-20	55-80	50-70	30-45	15-25	20-25	3-8
	47-57	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
LgB:												
Legore----------	0-10	Channery silt loam, silt loam	CL	A-4, A-6	0	0-5	80-100	70-100	60-100	50-95	0-40	7-15
	10-30	Gravelly silty clay loam, clay loam, silty clay loam	ML, MH, SM	A-7	0	0-15	80-100	50-100	50-100	40-95	40-65	14-30
	30-44	Channery loam, silty clay loam, sandy loam, gravelly silt loam	SM, ML, GM	A-2, A-4, A-5, A-7	0	0-15	60-100	50-100	45-100	25-95	0-50	NP-15
	44-60	Channery sandy clay loam, sandy loam, silty clay loam, gravelly silt loam	SM, GM, ML	A-2, A-4, A-5, A-7	0	0-15	60-100	50-100	45-100	25-95	0-50	NP-15
LgC:												
Legore----------	0-10	Channery silt loam, silt loam	CL	A-4, A-6	0	0-5	80-100	70-100	60-100	50-95	0-40	7-15
	10-30	Gravelly silty clay loam, clay loam, silty clay loam	SM, ML, MH	A-7	0	0-15	80-100	50-100	50-100	40-95	40-65	14-30
	30-44	Channery loam, silty clay loam, sandy loam, gravelly silt loam	GM, ML, SM	A-2, A-4, A-5, A-7	0	0-15	60-100	50-100	45-100	25-95	0-50	NP-15
	44-60	Channery sandy clay loam, sandy loam, silty clay loam, gravelly silt loam	ML, GM, SM	A-4, A-5, A-7, A-2	0	0-15	60-100	50-100	45-100	25-95	0-50	NP-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
LgD:												
Legore----------	0-10	Channery silt loam, silt loam	CL	A-4, A-6	0	0-5	80-100	70-100	60-100	50-95	0-40	7-15
	10-30	Gravelly silty clay loam, clay loam, silty clay loam	SM, ML, MH	A-7	0	0-15	80-100	50-100	50-100	40-95	40-65	14-30
	30-44	Channery loam, silty clay loam, sandy loam, gravelly silt loam	SM, ML, GM	A-2, A-4, A-5, A-7	0	0-15	60-100	50-100	45-100	25-95	0-50	NP-15
	44-60	Channery sandy clay loam, sandy loam, silty clay loam, gravelly silt loam	SM, ML, GM	A-2, A-4, A-5, A-7	0	0-15	60-100	50-100	45-100	25-95	0-50	NP-15

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
LhA:												
Lehigh----------	0-8	Channery silt loam	CL	A-4	0	0-10	55-80	50-75	45-75	40-70	25-30	5-10
	8-14	Channery silt loam, channery silty clay loam, very channery silt loam	CL, GC, GM, ML	A-4, A-6	0	0-10	55-90	45-85	40-80	40-70	29-40	5-15
	14-21	Channery silty clay loam, very channery silt loam	ML, GM, GC, CL	A-4, A-6	0	0-10	55-90	45-85	40-80	40-70	29-40	5-15
	21-30	Channery silty clay loam, channery silt loam, very channery silt loam	GM, GC, CL, ML	A-4, A-6	0	0-10	55-90	45-85	40-80	40-70	29-40	5-15
	30-42	Very channery silt loam, extremely channery silt loam, channery silty clay loam	GC, GM, ML, CL	A-1, A-2, A-4, A-6	0-1	0-20	25-70	15-65	10-60	10-55	29-40	5-15
	42-52	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
LhB:												
Lehigh----------	0-8	Channery silt loam	CL	A-4	0	0-10	55-80	50-75	45-75	40-70	25-30	5-10
	8-14	Channery silt loam, channery silty clay loam, very channery silt loam	CL, GC, ML, GM	A-4, A-6	0	0-10	55-90	45-85	40-80	40-70	29-40	5-15
	14-21	Channery silty clay loam, very channery silt loam	ML, GM, GC, CL	A-4, A-6	0	0-10	55-90	45-85	40-80	40-70	29-40	5-15
	21-30	Channery silty clay loam, channery silt loam, very channery silt loam	ML, GM, GC, CL	A-4, A-6	0	0-10	55-90	45-85	40-80	40-70	29-40	5-15
	30-42	Very channery silt loam, extremely channery silt loam, channery silty clay loam	ML, GM, GC, CL	A-1, A-2, A-4, A-6	0-1	0-20	25-70	15-65	10-60	10-55	29-40	5-15
	42-52	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
LhC:												
Lehigh----------	0-8	Channery silt loam	CL	A-4	0	0-10	55-80	50-75	45-75	40-70	25-30	5-10
	8-14	Channery silt loam, channery silty clay loam, very channery silt loam	CL, GC, GM, ML	A-4, A-6	0	0-10	55-90	45-85	40-80	40-70	29-40	5-15
	14-21	Channery silty clay loam, very channery silt loam	GM, ML, GC, CL	A-4, A-6	0	0-10	55-90	45-85	40-80	40-70	29-40	5-15
	21-30	Channery silty clay loam, channery silt loam, very channery silt loam	CL, GC, GM, ML	A-4, A-6	0	0-10	55-90	45-85	40-80	40-70	29-40	5-15
	30-42	Very channery silt loam, extremely channery silt loam, channery silty clay loam	ML, CL, GM, GC	A-1, A-2, A-4, A-6	0-1	0-20	25-70	15-65	10-60	10-55	29-40	5-15
	42-52	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
LkB:												
Lehigh----------	0-8	Channery silt loam	CL, GM, ML	A-4	1-5	3-10	60-100	55-100	50-100	45-95	25-30	NP-10
	8-14	Channery silt loam, channery silty clay loam, very channery silt loam	CL, GC, GM, ML	A-4, A-6	0-1	0-10	55-90	45-85	40-80	40-70	29-40	5-15
	14-21	Channery silty clay loam, very channery silt loam	CL, GC, GM, ML	A-4, A-6	0-1	0-10	55-90	45-85	40-80	40-70	29-40	5-15
	21-30	Channery silty clay loam, channery silt loam, very channery silt loam	ML, GM, GC, CL	A-4, A-6	0-1	0-10	55-90	45-85	40-80	40-70	29-40	5-15
	30-42	Very channery silt loam, extremely channery silt loam, channery silty clay loam	ML, GM, CL, GC	A-1, A-2, A-4, A-6	0-2	0-20	35-70	15-65	10-60	10-55	29-40	5-15
	42-52	Bedrock			---	---	---	---	---	---	---	---
Lw:												
Lindside--------	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	80-100	55-90	20-35	2-15
	8-31	Silt loam, silty clay loam, very fine sandy loam	CL-ML, CL	A-4, A-6	0	0	100	95-100	90-100	70-95	25-40	4-18
	31-60	Silt loam, stratified silty clay loam to gravelly sandy loam	SC, CL	A-2, A-4, A-6	0	0	60-100	55-100	45-100	30-95	20-40	4-18

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MdA:												
Mount Lucas-----	0-8	Silt loam	ML	A-4	0	0-5	95-100	80-100	75-95	60-90	0-14	NP
	8-16	Silty clay loam, silt loam, sandy clay loam, clay loam	ML, GM, SM	A-2, A-4, A-5, A-7	0	0-10	85-95	80-95	45-95	30-90	30-49	3-15
	16-37	Channery loam, channery clay loam, silt loam, sandy clay loam, gravelly silty clay loam	GM, ML, SM	A-2, A-4, A-5, A-7	0	0-10	70-95	55-95	45-95	30-90	30-49	3-15
	37-44	Very channery loam, channery sandy loam, channery loamy sand, silt loam	SP-SM, GM, ML, SM	A-1, A-2, A-4, A-6	0-1	0-10	45-80	30-70	15-70	10-55	25-40	NP-11
	44-60	Very channery sandy loam, channery loam, channery loamy sand, channery silt loam	SM, SP-SM, ML, GM	A-1, A-2, A-4, A-6	0-1	0-10	45-80	30-70	15-70	10-55	25-40	NP-11

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MdB:												
Mount Lucas-----	0-8	Silt loam	ML	A-4	0	0-5	95-100	80-100	75-95	60-90	0-14	NP
	8-16	Silty clay loam, silt loam, sandy clay loam, clay loam	SM, GM, ML	A-2, A-4, A-5, A-7	0	0-10	85-95	80-95	45-95	30-90	30-49	3-15
	16-37	Channery loam, channery clay loam, silt loam, sandy clay loam, gravelly silty clay loam	GM, SM, ML	A-2, A-4, A-5, A-7	0	0-10	70-95	55-95	45-95	30-90	30-49	3-15
	37-44	Very channery loam, channery silt loam, channery loamy sand, sandy loam	GM, SP-SM, ML, SM	A-1, A-2, A-4, A-6	0-1	0-10	45-80	30-70	15-70	10-55	25-40	NP-11
	44-60	Very channery sandy loam, channery loam, channery loamy sand, channery silt loam	ML, SM, SP-SM, GM	A-1, A-2, A-4, A-6	0-1	0-10	45-80	30-70	15-70	10-55	25-40	NP-11

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MeB:												
Mount Lucas-----	0-8	Channery silt loam	SM, ML	A-4	1-5	3-10	75-100	55-75	50-70	35-55	0-14	NP
	8-16	Silty clay loam, silt loam, sandy clay loam, clay loam	GM, ML, SM	A-2, A-4, A-5, A-7	0	0-10	85-95	80-95	45-95	30-90	30-49	3-15
	16-37	Channery loam, channery clay loam, silt loam, sandy clay loam, gravelly silty clay loam	ML, GM, SM	A-2, A-4, A-5, A-7	0	0-10	70-95	55-95	45-95	30-90	30-49	3-15
	37-44	Very channery loam, channery silt loam, channery loamy sand, sandy loam	SP-SM, GM, ML, SM	A-1, A-2, A-4, A-6	0-1	0-10	45-80	30-70	15-70	10-55	25-40	NP-11
	44-60	Very channery sandy loam, channery loam, channery loamy sand, channery silt loam	GM, ML, SM, SP-SM	A-1, A-2, A-4, A-6	0-1	0-10	45-80	30-70	15-70	10-55	25-40	NP-11

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MOB:												
Mt. Airy--------	0-8	Channery loam	GM, ML	A-2, A-4, A-6	0	0-10	40-60	40-60	25-60	20-55	32-40	6-12
	8-15	Very channery silt loam, very channery loam, extremely channery clay loam	GM	A-1, A-2	0	0-15	35-50	30-50	25-40	10-25	26-40	4-12
	15-20	Very channery silt loam, channery silt loam, very channery loam, extremely channery clay loam	GM	A-1, A-2	0	0-15	35-50	30-50	25-40	10-25	26-40	4-12
	20-32	Extremely channery loam, very channery loam, channery silt loam, extremely channery clay loam	GM	A-1, A-2	0	0-15	35-50	30-50	25-40	10-25	26-40	4-12
	32-42	Bedrock			---	---	---	---	---	---	---	---
Manor-----------	0-8	Channery loam	GM, ML, SM	A-2-4, A-2-6, A-4, A-6	0	0-10	65-100	50-75	40-75	30-70	32-40	6-12
	8-18	Channery silt loam, silt loam, channery loam, loam	SM, GM, ML	A-2-4, A-2-6, A-4, A-6	0	0-10	65-100	50-100	40-100	30-90	26-40	4-12
	18-60	Channery loam, loam, sandy loam, channery sandy loam	CL-ML, ML, SC-SM, SM	A-1, A-2, A-4, A-6	0	0-5	65-100	50-100	30-95	15-75	20-40	2-12

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MOC:												
Mt. Airy--------	0-8	Channery loam	GM, ML	A-2, A-4, A-6	0	0-10	40-60	40-60	25-60	20-55	32-40	6-12
	8-15	Very channery silt loam, very channery loam, extremely channery clay loam	GM	A-1, A-2	0	0-15	35-50	30-50	25-40	10-25	26-40	4-12
	15-20	Very channery silt loam, channery silt loam, very channery loam, extremely channery clay loam	GM	A-1, A-2	0	0-15	35-50	30-50	25-40	10-25	26-40	4-12
	20-32	Extremely channery loam, very channery loam, channery silt loam, extremely channery clay loam	GM	A-1, A-2	0	0-15	35-50	30-50	25-40	10-25	26-40	4-12
	32-42	Bedrock			---	---	---	---	---	---	---	---
Manor-----------	0-8	Channery loam	GM, ML, SM	A-2-6, A-4, A-6, A-2-4	0	0-10	65-100	50-75	40-75	30-70	32-40	6-12
	8-18	Channery silt loam, silt loam, channery loam, loam	SM, GM, ML	A-2-4, A-2-6, A-4, A-6	0	0-10	65-100	50-100	40-100	30-90	26-40	4-12
	18-60	Channery loam, loam, sandy loam, channery sandy loam	SM, SC-SM, ML, CL-ML	A-1, A-2, A-4, A-6	0	0-5	65-100	50-100	30-95	15-75	20-40	2-12

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MOD:												
Mt. Airy--------	0-8	Channery loam	ML, GM	A-2, A-4, A-6	0	0-10	40-60	40-60	25-60	20-55	32-40	6-12
	8-15	Very channery silt loam, very channery loam, extremely channery clay loam	GM	A-1, A-2	0	0-15	35-50	30-50	25-40	10-25	26-40	4-12
	15-20	Very channery silt loam, channery silt loam, very channery loam, extremely channery clay loam	GM	A-1, A-2	0	0-15	35-50	30-50	25-40	10-25	26-40	4-12
	20-32	Extremely channery loam, very channery loam, channery silt loam, extremely channery clay loam	GM	A-1, A-2	0	0-15	35-50	30-50	25-40	10-25	26-40	4-12
	32-42	Bedrock			---	---	---	---	---	---	---	---
Manor-----------	0-8	Channery loam	GM, ML, SM	A-2-4, A-2-6, A-4, A-6	0	0-10	65-100	50-75	40-75	30-70	32-40	6-12
	8-18	Channery silt loam, silt loam, channery loam, loam	GM, ML, SM	A-2-4, A-2-6, A-4, A-6	0	0-10	65-100	50-100	40-100	30-90	26-40	4-12
	18-60	Channery loam, loam, sandy loam, channery sandy loam	SM, SC-SM, CL-ML, ML	A-1, A-2, A-4, A-6	0	0-5	65-100	50-100	30-95	15-75	20-40	2-12

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MtB:												
Mt. Zion--------	0-6	Silt loam	ML, CL-ML, CL	A-4, A-6	0-2	0-15	85-90	80-90	75-85	50-75	20-35	3-15
	6-12	Gravelly silt loam, silt loam, loam	CL-ML, ML, CL	A-6, A-4	0-1	5-20	85-95	80-90	75-85	50-75	20-40	3-20
	12-19	Loam, silt loam	ML, CL-ML, CL	A-6, A-4	0-1	5-20	85-95	80-90	75-85	50-75	20-40	3-20
	19-31	Gravelly loam, loam, gravelly silt loam	CL, ML, CL-ML	A-4, A-6	0-1	5-20	85-95	80-90	75-85	50-75	20-40	3-20
	31-48	Gravelly silt loam, gravelly loam, silt loam	CL-ML, ML, CL	A-4, A-6	0	5-20	85-95	80-90	75-85	50-75	20-35	3-15
	48-69	Very channery loam, gravelly loam, very gravelly silt loam	ML, CL, CL-ML, GM	A-4, A-6	0	15-40	70-95	70-80	65-75	45-70	20-35	3-15
	69-72	Bedrock			---	---	---	---	---	---	---	---
MtC:												
Mt. Zion--------	0-6	Silt loam	CL, CL-ML, ML	A-4, A-6	0-2	0-15	85-90	80-90	75-85	50-75	20-35	3-15
	6-12	Gravelly silt loam, silt loam, loam	CL-ML, ML, CL	A-6, A-4	0-1	5-20	85-95	80-90	75-85	50-75	20-40	3-20
	12-19	Loam, silt loam	ML, CL-ML, CL	A-6, A-4	0-1	5-20	85-95	80-90	75-85	50-75	20-40	3-20
	19-31	Gravelly loam, loam, gravelly silt loam	CL, CL-ML, ML	A-4, A-6	0-1	5-20	85-95	80-90	75-85	50-75	20-40	3-20
	31-48	Gravelly silt loam, gravelly loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	5-20	85-95	80-90	75-85	50-75	20-35	3-15
	48-69	Very channery loam, gravelly loam, very gravelly silt loam	ML, CL, CL-ML, GM	A-4, A-6	0	15-40	70-95	70-80	65-75	45-70	20-35	3-15
	69-72	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MtD:												
Mt. Zion--------	0-6	Silt loam	ML, CL, CL-ML	A-4, A-6	0-2	0-15	85-90	80-90	75-85	50-75	20-35	3-15
	6-12	Gravelly silt loam, silt loam, loam	ML, CL-ML, CL	A-6, A-4	0-1	5-20	85-95	80-90	75-85	50-75	20-40	3-20
	12-19	Loam, silt loam	ML, CL, CL-ML	A-6, A-4	0-1	5-20	85-95	80-90	75-85	50-75	20-40	3-20
	19-31	Gravelly loam, loam, gravelly silt loam	ML, CL-ML, CL	A-4, A-6	0-1	5-20	85-95	80-90	75-85	50-75	20-40	3-20
	31-48	Gravelly silt loam, gravelly loam, silt loam	ML, CL-ML, CL	A-4, A-6	0	5-20	85-95	80-90	75-85	50-75	20-35	3-15
	48-69	Very channery loam, gravelly loam, very gravelly silt loam	ML, GM, CL-ML, CL	A-4, A-6	0	15-40	70-95	70-80	65-75	45-70	20-35	3-15
	69-72	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MyB:												
Myersville------	0-9	Silt loam	CL, CL-ML, ML	A-4	0	0-3	95-100	80-100	80-95	55-85	18-28	2-10
	9-14	Channery silt loam, silty clay loam, clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	14-27	Channery silt loam, channery silty clay loam, silty clay loam, clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	27-38	Channery silt loam, clay loam, silty clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	38-48	Very channery loam, channery silt loam, very channery silty clay loam, silt loam	GM, GC-GM, CL, CL-ML, GC	A-1, A-2, A-3, A-4	0-7	3-20	30-85	20-75	12-70	8-65	0-28	NP-10
	48-60	Bedrock			---	---	---	---	---	---	---	---
	60-70	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MyC:												
Myersville------	0-9	Silt loam	CL, CL-ML, ML	A-4	0	0-3	95-100	80-100	80-95	55-85	18-28	2-10
	9-14	Channery silt loam, silty clay loam, clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	14-27	Channery silt loam, channery silty clay loam, silty clay loam, clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	27-38	Channery silt loam, clay loam, silty clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	38-48	Channery loam, channery silt loam, very channery silty clay loam, silt loam	CL-ML, CL, GM, GC-GM, GC	A-1, A-2, A-3, A-4	0-7	3-20	30-85	20-75	12-70	8-65	0-28	NP-10
	48-60	Bedrock			---	---	---	---	---	---	---	---
	60-70	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MyD:												
Myersville------	0-9	Silt loam	ML, CL-ML, CL	A-4	0	0-3	95-100	80-100	80-95	55-85	18-28	2-10
	9-14	Channery silt loam, silty clay loam, clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	14-27	Channery silt loam, channery silty clay loam, silty clay loam, clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	27-38	Channery silt loam, clay loam, silty clay loam, channery clay loam	CL	A-6	0-7	3-20	75-95	70-95	55-90	50-85	28-38	12-20
	38-48	Channery loam, channery silt loam, very channery silty clay loam, silt loam	GC, CL, GM, GC-GM, CL-ML	A-1, A-2, A-3, A-4	0-7	3-20	30-85	20-75	12-70	8-65	0-28	NP-10
	48-60	Bedrock			---	---	---	---	---	---	---	---
	60-70	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
NaB:												
Neshaminy-------	0-8	Channery silt loam	ML	A-4, A-6	0	0-10	70-90	65-80	60-75	55-65	0-14	---
	8-15	Channery silt loam, silt loam, gravelly silty clay loam, gravelly sandy clay loam	MH, GM, SM, ML	A-7, A-2, A-4, A-6	0-2	0-40	60-100	55-100	45-100	30-75	25-55	NP-22
	15-70	Clay loam, channery clay loam, silt loam, gravelly silty clay loam, gravelly sandy clay loam	SM, ML, MH, GM	A-2, A-4, A-6, A-7	0-2	0-40	60-100	55-100	45-100	30-75	25-55	NP-22
NaC:												
Neshaminy-------	0-8	Channery silt loam	ML	A-4, A-6	0	0-10	70-90	65-80	60-75	55-65	0-14	---
	8-15	Channery silt loam, silt loam, gravelly silty clay loam, gravelly sandy clay loam	MH, SM, GM, ML	A-7, A-2, A-4, A-6	0-2	0-40	60-100	55-100	45-100	30-75	25-55	NP-22
	15-70	Clay loam, channery clay loam, silt loam, gravelly silty clay loam, gravelly sandy clay loam	ML, MH, GM, SM	A-2, A-4, A-6, A-7	0-2	0-40	60-100	55-100	45-100	30-75	25-55	NP-22

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
NdB:												
Neshaminy-------	0-8	Channery silt loam	ML	A-4	5-25	5-20	80-100	70-100	60-100	55-85	30-40	NP-5
	8-15	Channery silt loam, silt loam, gravelly silty clay loam, gravelly sandy clay loam	SM, ML, GM, MH	A-7, A-2, A-4, A-6	0-2	0-40	60-100	55-100	45-100	30-75	25-55	NP-22
	15-70	Clay loam, channery clay loam, silt loam, gravelly silty clay loam, gravelly sandy clay loam	SM, ML, MH, GM	A-2, A-4, A-6, A-7	0-2	0-40	60-100	55-100	45-100	30-75	25-55	NP-22
NdD:												
Neshaminy-------	0-8	Channery silt loam	ML	A-4	5-25	5-20	80-100	70-100	60-100	55-85	30-40	NP-5
	8-15	Channery silt loam, silt loam, gravelly silty clay loam, gravelly sandy clay loam	SM, ML, MH, GM	A-7, A-2, A-4, A-6	0-2	0-40	60-100	55-100	45-100	30-75	25-55	NP-22
	15-70	Clay loam, channery clay loam, silt loam, gravelly silty clay loam, gravelly sandy clay loam	MH, ML, SM, GM	A-2, A-4, A-6, A-7	0-2	0-40	60-100	55-100	45-100	30-75	25-55	NP-22

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
NdE:												
Neshaminy-------	0-8	Channery silt loam	ML	A-4	5-25	5-20	80-100	70-100	60-100	55-85	30-40	NP-5
	8-15	Channery silt loam, silt loam, gravelly silty clay loam, gravelly sandy clay loam	GM, ML, SM, MH	A-7, A-2, A-4, A-6	0-2	0-40	60-100	55-100	45-100	30-75	25-55	NP-22
	15-70	Clay loam, channery clay loam, silt loam, gravelly silty clay loam, gravelly sandy clay loam	GM, ML, SM, MH	A-2, A-4, A-6, A-7	0-2	0-40	60-100	55-100	45-100	30-75	25-55	NP-22
Pa:												
Penlaw----------	0-10	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	95-100	95-100	90-100	70-100	10-40	5-25
	10-20	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6	0	0-5	95-100	95-100	90-100	70-100	10-40	5-25
	20-26	Gravelly silt loam, silt loam, silty clay loam	CL, CL-ML, CH	A-4, A-6, A-7	0	0-5	85-100	75-100	55-100	50-95	15-55	6-30
	26-38	Silty clay loam, silt loam, gravelly silt loam	CL-ML, CL, CH	A-4, A-6, A-7	0	0-5	85-100	75-100	55-100	50-95	15-55	6-30
	38-47	Gravelly silt loam, silt loam, silty clay loam	CL-ML, CL, CH	A-4, A-6, A-7	0	0-5	85-100	75-100	55-100	50-95	15-55	6-30
	47-65	Gravelly silty clay loam, gravelly silt loam, loam, silty clay, clay	GC, SC, CH, CL	A-4, A-6, A-7	0	0-20	65-100	60-100	55-100	40-95	15-55	6-30

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
PbD:												
Penn------------	0-9	Loam	GM, ML	A-4	1-5	3-15	90-100	70-100	45-95	35-85	0-14	---
	9-24	Silt loam, channery silt loam, channery loam	GM, ML, SM	A-2, A-4	0-1	0-10	55-100	50-100	45-95	30-75	20-37	1-10
	24-30	Channery silt loam, very channery silt loam, very channery loam	GM, ML, SM, CL	A-4, A-2, A-1	0-1	0-15	35-100	20-100	15-95	15-70	20-35	3-10
	30-38	Very channery silt loam, very channery loam	GM, SM, CL, ML	A-1, A-2, A-4	0-1	0-15	35-100	20-100	15-95	15-70	20-35	3-10
	38-48	Bedrock			---	---	---	---	---	---	---	---
PcB:												
Penn------------	0-9	Silt loam	ML	A-4	0	0-5	95-100	80-100	75-95	60-85	0-14	---
	9-24	Silt loam, channery silt loam, channery loam	SM, GM, ML	A-2, A-4	0-1	0-10	55-100	50-100	45-95	30-75	20-37	1-10
	24-30	Channery silt loam, very channery silt loam, very channery loam	CL, GM, ML, SM	A-4, A-2, A-1	0-1	0-15	35-100	20-100	15-95	15-70	20-35	3-10
	30-38	Very channery silt loam, very channery loam	GM, ML, SM, CL	A-1, A-2, A-4	0-1	0-15	35-100	20-100	15-95	15-70	20-35	3-10
	38-48	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
PcC:												
Penn------------	0-9	Silt loam	ML	A-4	0	0-5	95-100	80-100	75-95	60-85	0-14	---
	9-24	Silt loam, channery silt loam, channery loam	GM, ML, SM	A-2, A-4	0-1	0-10	55-100	50-100	45-95	30-75	20-37	1-10
	24-30	Channery silt loam, very channery silt loam, very channery loam	CL, GM, ML, SM	A-4, A-2, A-1	0-1	0-15	35-100	20-100	15-95	15-70	20-35	3-10
	30-38	Very channery silt loam, very channery loam	SM, CL, ML, GM	A-1, A-2, A-4	0-1	0-15	35-100	20-100	15-95	15-70	20-35	3-10
	38-48	Bedrock			---	---	---	---	---	---	---	---
PoB:												
Penn------------	0-9	Channery silt loam	ML, GM	A-4	0	0-10	60-90	50-80	45-75	40-65	0-14	---
	9-24	Silt loam, channery silt loam, channery loam	GM, ML, SM	A-2, A-4	0-1	0-10	55-100	50-100	45-95	30-75	20-37	1-10
	24-30	Channery silt loam, very channery silt loam, very channery loam	CL, GM, ML, SM	A-4, A-2, A-1	0-1	0-15	35-100	20-100	15-95	15-70	20-35	3-10
	30-38	Very channery silt loam, very channery loam	GM, ML, SM, CL	A-1, A-2, A-4	0-1	0-15	35-100	20-100	15-95	15-70	20-35	3-10
	38-48	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
PoB:												
Klinesville-----	0-8	Channery silt loam	GM, SM	A-2-4, A-4	0	0-10	55-85	45-60	35-50	25-40	0-14	NP
	8-14	Very channery silt loam, channery silt loam	GM, GP, SM, SP	A-1-b, A-2, A-4	0	0-10	25-75	15-55	10-50	4-40	20-35	NP-9
	14-16	Extremely channery silt loam, very channery silt loam	GP, SP, SM, GM	A-1-b, A-2	0	0-20	15-60	10-50	10-40	4-30	20-35	NP-7
	16-26	Bedrock			---	---	---	---	---	---	---	---
PoC:												
Penn------------	0-9	Channery silt loam	ML, GM	A-4	0	0-10	60-90	50-80	45-75	40-65	0-14	---
	9-24	Silt loam, channery silt loam, channery loam	GM, ML, SM	A-2, A-4	0-1	0-10	55-100	50-100	45-95	30-75	20-37	1-10
	24-30	Channery silt loam, very channery silt loam, very channery loam	CL, GM, SM, ML	A-4, A-2, A-1	0-1	0-15	35-100	20-100	15-95	15-70	20-35	3-10
	30-38	Very channery silt loam, very channery loam	GM, CL, SM, ML	A-1, A-2, A-4	0-1	0-15	35-100	20-100	15-95	15-70	20-35	3-10
	38-48	Bedrock			---	---	---	---	---	---	---	---
Klinesville-----	0-8	Channery silt loam	SM, GM	A-2-4, A-4	0	0-10	55-85	45-60	35-50	25-40	0-14	NP
	8-14	Very channery silt loam, channery silt loam	SP, SM, GP, GM	A-1-b, A-2, A-4	0	0-10	25-75	15-55	10-50	4-40	20-35	NP-9
	14-16	Extremely channery silt loam, very channery silt loam	GM, SP, SM, GP	A-1-b, A-2	0	0-20	15-60	10-50	10-40	4-30	20-35	NP-7
	16-26	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
PsD:												
Pequea----------	0-8	Silt loam	ML, SM	A-4	0	0	90-100	90-100	65-95	35-85	20-30	NP-6
	8-24	Channery silt loam, channery loam, channery sandy loam	SM, GM, ML	A-4	0	0-5	70-95	60-95	55-90	35-80	20-35	NP-10
	24-40	Channery loam, loam, channery sandy loam	GM, ML, SM	A-4	0	0-10	70-95	55-90	50-90	35-70	20-35	NP-10
	40-59	Channery sandy loam, channery loam, loam	GM, SM, ML	A-4	0	0-10	70-95	55-90	50-90	35-70	20-35	NP-10
	59-70	Bedrock			---	---	---	---	---	---	---	---
Pt:												
Pits.												
RaA:												
Raritan---------	0-9	Silt loam	ML, SM	A-4	0	0	85-100	75-90	60-90	45-80	0-14	---
	9-20	Silt loam, loam, clay loam	CL, ML	A-4, A-6	0	0-5	90-100	80-95	70-90	50-70	25-35	3-11
	20-26	Silty clay loam, silt loam, clay loam, loam	CL, ML	A-4, A-6	0	0-5	90-100	80-95	70-90	50-70	25-35	3-11
	26-36	Clay loam, loam, silt loam	CL, ML	A-4, A-6	0	0-5	90-100	80-95	70-90	50-70	25-35	3-11
	36-48	Silty clay loam, silt loam, clay loam, loam	ML, CL	A-4, A-6	0	0-5	90-100	80-95	70-90	50-70	25-35	3-11
	48-54	Clay loam, loam, silt loam	ML, CL	A-4, A-6	0	0-5	90-100	80-95	70-90	50-70	25-35	3-11
	54-60	Stratified gravelly loamy sand to silty clay loam	ML, GW-GM, SM, GM	A-1, A-2, A-4	0-1	0-10	60-100	40-90	20-90	10-85	25-35	NP-7

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
RaB:												
Raritan---------	0-9	Silt loam	SM, ML	A-4	0	0	85-100	75-90	60-90	45-80	0-14	---
	9-20	Silt loam, loam, clay loam	CL, ML	A-4, A-6	0	0-5	90-100	80-95	70-90	50-70	25-35	3-11
	20-26	Silty clay loam, silt loam, clay loam, loam	CL, ML	A-4, A-6	0	0-5	90-100	80-95	70-90	50-70	25-35	3-11
	26-36	Clay loam, loam, silt loam	CL, ML	A-4, A-6	0	0-5	90-100	80-95	70-90	50-70	25-35	3-11
	36-48	Silty clay loam, silt loam, clay loam, loam	ML, CL	A-4, A-6	0	0-5	90-100	80-95	70-90	50-70	25-35	3-11
	48-54	Clay loam, loam, silt loam	ML, CL	A-4, A-6	0	0-5	90-100	80-95	70-90	50-70	25-35	3-11
	54-60	Stratified gravelly loamy sand to silty clay loam	GW-GM, ML, SM, GM	A-1, A-2, A-4	0-1	0-10	60-100	40-90	20-90	10-85	25-35	NP-7

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
RcC:												
Ravenrock-------	0-4	Gravelly loam	GC-GM, GC, GM, ML, SM	A-4, A-6	3-15	0-15	50-85	45-75	40-70	35-65	20-30	3-11
	4-7	Gravelly silt loam, gravelly loam, gravelly clay loam, very gravelly sandy clay loam	GC, CL, ML, GM	A-4, A-6	0-5	0-15	50-95	45-90	40-85	35-80	25-40	3-15
	7-16	Gravelly silt loam, gravelly loam, gravelly clay loam, very gravelly sandy clay loam	ML, GM, GC, CL	A-4, A-6	0-5	0-15	50-95	45-90	40-85	35-80	25-40	3-15
	16-43	Very gravelly clay loam, gravelly loam, gravelly clay loam, very gravelly sandy clay loam	GM, ML, CL, GC	A-4, A-6	0-5	0-15	50-95	45-90	40-85	35-80	25-40	3-15
	43-57	Gravelly silty clay, cobbly silty clay, cobbly clay loam, gravelly loam	CL, CH	A-6, A-7	0-1	0-15	50-95	45-90	40-85	35-80	30-55	10-30
	57-65	Gravelly clay loam, cobbly clay loam, gravelly loam, cobbly silty clay	CH, CL	A-6, A-7	0-1	0-15	50-95	45-90	40-85	35-80	30-55	10-30
	65-80	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
RcC:												
Highfield-------	0-3	Channery silt loam	ML, GM, GC-GM	A-4	5-15	15-25	65-85	60-85	45-65	40-55	---	---
	3-21	Channery silt loam, silt loam, channery loam	SM, ML, GM	A-4, A-6, A-7	0-3	0-10	55-85	50-80	45-70	40-55	30-49	5-19
	21-64	Very channery silt loam, channery silt loam, channery loam, very channery loam	SM, GM	A-2, A-4, A-5, A-7	1-3	0-20	45-75	25-70	20-55	20-40	30-45	3-13
	64-70	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
RcD:												
Ravenrock-------	0-4	Gravelly loam	GC-GM, SM, ML, GM, GC	A-4, A-6	3-15	0-15	50-85	45-75	40-70	35-65	20-30	3-11
	4-7	Gravelly silt loam, gravelly loam, gravelly clay loam, very gravelly sandy clay loam	CL, GC, ML, GM	A-4, A-6	0-5	0-15	50-95	45-90	40-85	35-80	25-40	3-15
	7-16	Gravelly silt loam, gravelly loam, gravelly clay loam, very gravelly sandy clay loam	CL, GC, GM, ML	A-4, A-6	0-5	0-15	50-95	45-90	40-85	35-80	25-40	3-15
	16-43	Very gravelly clay loam, gravelly loam, gravelly clay loam, very gravelly sandy clay loam	ML, CL, GC, GM	A-4, A-6	0-5	0-15	50-95	45-90	40-85	35-80	25-40	3-15
	43-57	Gravelly silty clay, cobbly silty clay, cobbly clay loam, gravelly loam	CL, CH	A-6, A-7	0-1	0-15	50-95	45-90	40-85	35-80	30-55	10-30
	57-65	Gravelly clay loam, cobbly clay loam, gravelly loam, cobbly silty clay	CH, CL	A-6, A-7	0-1	0-15	50-95	45-90	40-85	35-80	30-55	10-30
	65-80	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
RcD:												
Highfield-------	0-3	Channery silt loam	GC-GM, ML, GM	A-4	5-15	15-25	65-85	60-85	45-65	40-55	---	---
	3-21	Channery silt loam, silt loam, channery loam	SM, ML, GM	A-4, A-6, A-7	0-3	0-10	55-85	50-80	45-70	40-55	30-49	5-19
	21-64	Very channery silt loam, channery silt loam, channery loam, very channery loam	SM, GM	A-2, A-4, A-5, A-7	1-3	0-20	45-75	25-70	20-55	20-40	30-45	3-13
	64-70	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
RcF:												
Ravenrock-------	0-4	Gravelly loam	GC-GM, SM, ML, GM, GC	A-4, A-6	3-15	0-15	50-85	45-75	40-70	35-65	20-30	3-11
	4-7	Gravelly silt loam, gravelly loam, gravelly clay loam, very gravelly sandy clay loam	GC, CL, ML, GM	A-4, A-6	0-5	0-15	50-95	45-90	40-85	35-80	25-40	3-15
	7-16	Gravelly silt loam, gravelly loam, gravelly clay loam, very gravelly sandy clay loam	ML, GM, GC, CL	A-4, A-6	0-5	0-15	50-95	45-90	40-85	35-80	25-40	3-15
	16-43	Very gravelly clay loam, gravelly loam, gravelly clay loam, very gravelly sandy clay loam	CL, GC, GM, ML	A-4, A-6	0-5	0-15	50-95	45-90	40-85	35-80	25-40	3-15
	43-57	Gravelly silty clay, cobbly silty clay, cobbly clay loam, gravelly loam	CH, CL	A-6, A-7	0-1	0-15	50-95	45-90	40-85	35-80	30-55	10-30
	57-65	Gravelly clay loam, cobbly clay loam, gravelly loam, cobbly silty clay	CL, CH	A-6, A-7	0-1	0-15	50-95	45-90	40-85	35-80	30-55	10-30
	65-80	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
RcF:												
Highfield-------	0-3	Channery silt loam	ML, GM, GC-GM	A-4	5-15	15-25	65-85	60-85	45-65	40-55	---	---
	3-21	Channery silt loam, silt loam, channery loam	SM, GM, ML	A-4, A-6, A-7	0-3	0-10	55-85	50-80	45-70	40-55	30-49	5-19
	21-64	Very channery silt loam, channery silt loam, channery loam, very channery loam	SM, GM	A-2, A-4, A-5, A-7	1-3	0-20	45-75	25-70	20-55	20-40	30-45	3-13
	64-70	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
RdC:												
Ravenrock-------	0-4	Gravelly loam	GC-GM, SM, ML, GM, GC	A-4, A-6	3-15	0-15	50-85	45-75	40-70	35-65	20-30	3-11
	4-7	Gravelly silt loam, gravelly loam, gravelly clay loam, very gravelly sandy clay loam	GM, ML, CL, GC	A-4, A-6	0-5	0-15	50-95	45-90	40-85	35-80	25-40	3-15
	7-16	Gravelly silt loam, gravelly loam, gravelly clay loam, very gravelly sandy clay loam	CL, GC, GM, ML	A-4, A-6	0-5	0-15	50-95	45-90	40-85	35-80	25-40	3-15
	16-43	Very gravelly clay loam, gravelly loam, gravelly clay loam, very gravelly sandy clay loam	CL, GC, GM, ML	A-4, A-6	0-5	0-15	50-95	45-90	40-85	35-80	25-40	3-15
	43-57	Gravelly silty clay, cobbly silty clay, cobbly clay loam, gravelly loam	CH, CL	A-6, A-7	0-1	0-15	50-95	45-90	40-85	35-80	30-55	10-30
	57-65	Gravelly clay loam, cobbly clay loam, gravelly loam, cobbly silty clay	CH, CL	A-6, A-7	0-1	0-15	50-95	45-90	40-85	35-80	30-55	10-30
	65-80	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
RdC:												
Rohrersville----	0-9	Silt loam	CL	A-6, A-7-6	0-6	0-20	90-100	85-95	85-90	70-90	29-47	12-21
	9-25	Silt loam, loam	CL	A-6	0-3	0-20	90-100	85-95	70-90	70-85	29-38	12-18
	25-31	Silty clay loam, silt loam, silty clay	CL	A-6, A-7-6	0-3	0-20	90-100	85-95	70-90	70-85	31-52	13-30
	31-43	Silt loam, silty clay loam, silty clay	CL	A-6, A-7-6	0-3	0-20	90-100	85-95	70-90	70-85	29-50	13-30
	43-62	Silty clay loam, silt loam, clay	CL	A-6, A-7-6	0-3	0-20	90-100	85-95	70-90	70-85	29-50	13-30
	62-70	Bedrock			---	---	---	---	---	---	---	---
ReA:												
Readington------	0-10	Silt loam	ML	A-4	0	0-5	90-100	80-100	80-100	65-100	0-14	NP
	10-27	Silt loam, channery silt loam, silty clay loam, loam	CL, CL-ML, ML	A-4, A-6	0	0-10	80-100	70-100	65-100	55-95	25-39	5-12
	27-35	Channery silt loam, silt loam, channery loam	GM, ML, SM, SC-SM, CL	A-2, A-4, A-6	0	0-10	60-95	40-90	30-85	25-55	20-35	NP-12
	35-40	Very channery silt loam, channery silt loam, silt loam, channery loam	SC-SM, SM, ML, GM, CL	A-2, A-4, A-6	0	0-10	60-95	40-90	30-85	25-55	20-35	NP-12
	40-46	Extremely channery silt loam, channery silt loam, channery loam, silt loam	CL, ML, SM, SC-SM, GM	A-2, A-4, A-6	0	0-10	60-95	40-90	30-85	25-55	20-35	NP-12
	46-56	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
ReB:												
Readington------	0-10	Silt loam	ML	A-4	0	0-5	90-100	80-100	80-100	65-100	0-14	NP
	10-27	Silt loam, channery silt loam, silty clay loam, loam	CL, ML, CL-ML	A-4, A-6	0	0-10	80-100	70-100	65-100	55-95	25-39	5-12
	27-35	Channery silt loam, silt loam, channery loam	CL, GM, ML, SM, SC-SM	A-2, A-4, A-6	0	0-10	60-95	40-90	30-85	25-55	20-35	NP-12
	35-40	Very channery silt loam, channery silt loam, silt loam, channery loam	CL, GM, SC-SM, ML, SM	A-2, A-4, A-6	0	0-10	60-95	40-90	30-85	25-55	20-35	NP-12
	40-46	Extremely channery silt loam, channery silt loam, channery loam, silt loam	ML, CL, GM, SM, SC-SM	A-2, A-4, A-6	0	0-10	60-95	40-90	30-85	25-55	20-35	NP-12
	46-56	Bedrock			---	---	---	---	---	---	---	---
RfA:												
Reaville--------	0-9	Channery silt loam	ML	A-4	0	0-10	80-95	70-90	60-85	55-85	0-14	NP
	9-15	Channery silt loam, silt loam, channery silty clay loam	SC, GC, CL, CL-ML	A-4, A-6	0	0-15	65-90	55-85	45-75	40-75	25-39	5-15
	15-25	Very channery silt loam, channery silt loam, very channery loam	CL-ML, GM, ML, GC	A-1-b, A-2, A-4	0	0-40	55-80	40-75	30-70	20-65	25-35	5-10
	25-35	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
RfB:												
Reaville--------	0-9	Channery silt loam	ML	A-4	0	0-10	80-95	70-90	60-85	55-85	0-14	NP
	9-15	Channery silt loam, silt loam, channery silty clay loam	CL-ML, GC, CL, SC	A-4, A-6	0	0-15	65-90	55-85	45-75	40-75	25-39	5-15
	15-25	Very channery silt loam, channery silt loam, very channery loam	GM, ML, GC, CL-ML	A-1-b, A-2, A-4	0	0-40	55-80	40-75	30-70	20-65	25-35	5-10
	25-35	Bedrock			---	---	---	---	---	---	---	---
RfC:												
Reaville--------	0-9	Channery silt loam	ML	A-4	0	0-10	80-95	70-90	60-85	55-85	0-14	NP
	9-15	Channery silt loam, silt loam, channery silty clay loam	CL, CL-ML, GC, SC	A-4, A-6	0	0-15	65-90	55-85	45-75	40-75	25-39	5-15
	15-25	Very channery silt loam, channery silt loam, very channery loam	GC, ML, CL-ML, GM	A-1-b, A-2, A-4	0	0-40	55-80	40-75	30-70	20-65	25-35	5-10
	25-35	Bedrock			---	---	---	---	---	---	---	---
RoB:												
Rohrersville----	0-9	Silt loam	CL, ML	A-6, A-4, A-7-6	0	0	95-100	90-100	85-90	70-90	29-49	9-20
	9-25	Silt loam, silty clay loam, loam	CL	A-7-6, A-6	0	0	95-100	90-100	70-90	70-85	27-43	10-21
	25-31	Silty clay loam, loam, silt loam	CL	A-7-6, A-6	0	0	95-100	90-100	70-90	70-85	27-43	10-21
	31-43	Silt loam, silty clay loam, loam	CL	A-6, A-7-6	0	0	95-100	90-100	70-90	70-85	27-43	10-21
	43-62	Silty clay loam, silt loam, loam	CL	A-6, A-4	0	0	95-100	90-100	70-90	70-85	24-40	9-21
	62-70	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
RsB:												
Rohrersville----	0-9	Silt loam	CL	A-6, A-7-6	0-6	3-20	90-100	85-95	85-90	70-90	29-47	12-21
	9-25	Silt loam, loam	CL	A-6	0-3	0-20	90-100	85-95	70-90	70-85	29-38	12-18
	25-31	Silty clay loam, silt loam, silty clay	CL	A-6, A-7-6	0-3	0-20	90-100	85-95	70-90	70-85	31-52	13-30
	31-43	Silt loam, silty clay loam, silty clay	CL	A-6, A-7-6	0-3	0-20	90-100	85-95	70-90	70-85	29-50	13-30
	43-62	Silty clay loam, clay, silt loam	CL	A-6, A-7-6	0-3	0-20	90-100	85-95	70-90	70-85	29-50	13-30
	62-72	Bedrock			---	---	---	---	---	---	---	---
Rw:												
Rowland---------	0-10	Silt loam	ML, SC	A-4, A-6	0	0-5	95-100	95-100	75-100	35-95	25-39	6-13
	10-28	Silt loam, loam, sandy clay loam	CL, SC	A-6, A-7-6	0	0-5	95-100	95-100	75-100	35-95	26-43	9-22
	28-44	Silty clay loam, silt loam, sandy clay	CL, SC	A-6, A-7-6	0	0-10	90-100	70-100	65-100	35-95	26-43	9-22
	44-60	Stratified sand to gravel	SM, GC-GM, GM, SC-SM	A-1-b, A-2-4	0-1	0-15	55-80	30-70	20-40	15-30	0-26	NP-7
StB:												
Steinsburg------	0-10	Channery sandy loam	SC, SC-SM, CL	A-4	0	0-15	80-95	65-85	35-60	35-55	22-37	6-13
	10-20	Channery sandy loam, loam, fine sandy loam	SC-SM, SC	A-1, A-2-4, A-4	0	0-10	75-95	65-85	35-60	15-40	20-32	6-13
	20-26	Very channery sandy loam, very gravelly loamy sand	SM, GM	A-1-b, A-2	0	10-40	45-85	40-80	35-60	15-35	16-30	2-12
	26-36	Bedrock			---	---	---	---	---	---	---	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
StC:												
Steinsburg------	0-10	Channery sandy loam	CL, SC-SM, SC	A-4	0	0-15	80-95	65-85	35-60	35-55	22-37	6-13
	10-20	Channery sandy loam, loam, fine sandy loam	SC, SC-SM	A-1, A-2-4, A-4	0	0-10	75-95	65-85	35-60	15-40	20-32	6-13
	20-26	Very channery sandy loam, very gravelly loamy sand	SM, GM	A-1-b, A-2	0	10-40	45-85	40-80	35-60	15-35	16-30	2-12
	26-36	Bedrock			---	---	---	---	---	---	---	---
StD:												
Steinsburg------	0-10	Channery sandy loam	SC-SM, CL, SC	A-4	0	0-15	80-95	65-85	35-60	35-55	22-37	6-13
	10-20	Channery sandy loam, loam, fine sandy loam	SC, SC-SM	A-1, A-2-4, A-4	0	0-10	75-95	65-85	35-60	15-40	20-32	6-13
	20-26	Very channery sandy loam, very gravelly loamy sand	GM, SM	A-1-b, A-2	0	10-40	45-85	40-80	35-60	15-35	16-30	2-12
	26-36	Bedrock			---	---	---	---	---	---	---	---
Uc:												
Urban land------	0-6	Variable			---	---	---	---	---	---	0-14	---
UeB:												
Urban land------	0-6	Variable			---	---	---	---	---	---	0-14	---

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
UeB:												
Conestoga-------	0-9	Silt loam	ML	A-4	0	0-5	90-100	85-100	80-100	70-90	20-30	NP-6
	9-17	Silt loam, silty clay loam, channery silt loam	CL, CH	A-6, A-7	0	0-10	70-100	65-100	60-100	55-95	35-60	14-30
	17-40	Silty clay loam, silt loam, channery silt loam	CL, CH	A-6, A-7	0	0-10	70-100	65-100	60-100	55-95	35-60	14-30
	40-46	Silt loam, channery silt loam, channery loam, channery sandy loam	ML, SM, GM, MH	A-2, A-6, A-7	0	0-15	35-90	35-85	30-80	25-75	35-60	10-25
	46-60	Loam, channery loam, channery silt loam, channery sandy loam	GM, MH, ML, SM	A-2, A-6, A-7	0	0-15	35-90	35-85	30-80	25-75	35-60	10-25
UgB:												
Urban land------	0-6	Variable			---	---	---	---	---	---	0-14	---
Penn------------	0-9	Silt loam	ML	A-4	0	0-5	95-100	80-100	75-95	60-85	0-14	---
	9-24	Silt loam, channery silt loam, channery loam	ML, GM, SM	A-2, A-4	0-1	0-10	55-100	50-100	45-95	30-75	20-37	1-10
	24-30	Channery silt loam, very channery silt loam, very channery loam	SM, ML, GM, CL	A-4, A-2, A-1	0-1	0-15	35-100	20-100	15-95	15-70	20-35	3-10
	30-38	Channery silt loam, very channery loam	SM, CL, GM, ML	A-1, A-2, A-4	0-1	0-15	35-100	20-100	15-95	15-70	20-35	3-10
	38-48	Bedrock			---	---	---	---	---	---	---	---
W:												
Water.												

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
WaA:												
Watchung--------	0-9	Silt loam	CL	A-6, A-4, A-7-6	0-1	0-15	85-100	80-100	70-100	50-95	27-54	9-28
	9-18	Clay, silty clay, silty clay loam	CL, CH	A-7-6	0	0-15	85-100	80-100	70-100	60-95	48-71	28-47
	18-25	Clay, silty clay, silty clay loam	CL, CH	A-7-6	0	0-15	85-100	80-100	70-100	60-95	48-71	28-47
	25-30	Clay, silty clay, silty clay loam	CL, CH	A-7-6	0	0-15	85-100	80-100	70-100	60-95	48-71	28-47
	30-40	Clay, silty clay, silty clay loam	CL, CH	A-7-6	0	0-15	85-100	80-100	70-100	60-95	48-71	28-47
	40-60	Silt loam, silty clay loam, loam	CL	A-6, A-7-6	0	0-15	85-100	80-100	70-100	50-95	26-49	10-29
WaB:												
Watchung--------	0-9	Silt loam	CL	A-6, A-4, A-7-6	0-1	0-15	85-100	80-100	70-100	50-95	27-54	9-28
	9-18	Clay, silty clay, silty clay loam	CL, CH	A-7-6	0	0-15	85-100	80-100	70-100	60-95	48-71	28-47
	18-25	Clay, silty clay, silty clay loam	CL, CH	A-7-6	0	0-15	85-100	80-100	70-100	60-95	48-71	28-47
	25-30	Clay, silty clay, silty clay loam	CL, CH	A-7-6	0	0-15	85-100	80-100	70-100	60-95	48-71	28-47
	30-40	Clay, silty clay, silty clay loam	CL, CH	A-7-6	0	0-15	85-100	80-100	70-100	60-95	48-71	28-47
	40-60	Silt loam, silty clay loam, loam	CL	A-6, A-7-6	0	0-15	85-100	80-100	70-100	50-95	26-49	10-29

Table 19.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct	Pct					Pct	
WbB:												
Watchung--------	0-9	Extremely stony silt loam	CL	A-6, A-4, A-7-6	3-15	1-60	85-100	80-100	70-100	50-95	24-48	9-28
	9-18	Clay, silty clay, silty clay loam	CL, CH	A-7-6	0	0-15	85-100	80-100	70-100	60-95	48-71	28-47
	18-25	Clay, silty clay, silty clay loam	CL, CH	A-7-6	0	0-15	85-100	80-100	70-100	60-95	48-71	28-47
	25-30	Clay, silty clay, silty clay loam	CL, CH	A-7-6	0	0-15	85-100	80-100	70-100	60-95	48-71	28-47
	30-40	Clay, silty clay, silty clay loam	CL, CH	A-7-6	0	0-15	85-100	80-100	70-100	60-95	48-71	28-47
	40-60	Silt loam, silty clay loam, loam	CL	A-6, A-7-6	0	0-15	85-100	80-100	70-100	50-95	26-49	10-29

Table 20.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. For some units or components, a rating is not applicable.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
AbA:														
Abbottstown---------	0-10	15-35	51-70	10-25	1.10-1.40	0.6-2	0.16-0.22	0.0-2.9	2.0-3.0	.43	.43	3	5	56
	10-20	10-30	40-70	17-32	1.20-1.40	0.6-2	0.14-0.22	0.0-2.9	0.5-1.0	.43	.43			
	20-25	10-30	40-70	17-32	1.30-1.60	0.06-0.2	0.06-0.10	0.0-2.9	0.1-0.5	.28	.32			
	25-32	10-30	40-70	17-32	1.30-1.60	0.06-0.2	0.06-0.10	0.0-2.9	0.1-0.2	.28	.32			
	32-40	10-30	40-70	17-32	1.30-1.60	0.06-0.2	0.06-0.10	0.0-2.9	0.1-0.2	.28	.32			
	40-45	15-35	35-65	17-32	1.50-1.90	0.06-0.6	0.06-0.12	0.0-2.9	0.1-0.2	.28	.32			
	45-55	---	---	---	---	0.06-0.6	---	---	---	---	---			
AbB:														
Abbottstown---------	0-10	15-35	51-70	10-25	1.10-1.40	0.6-2	0.16-0.22	0.0-2.9	2.0-3.0	.43	.43	3	5	56
	10-20	10-30	40-70	17-32	1.20-1.40	0.6-2	0.14-0.22	0.0-2.9	0.5-1.0	.43	.43			
	20-25	10-30	40-70	17-32	1.30-1.60	0.06-0.2	0.06-0.10	0.0-2.9	0.1-0.5	.28	.32			
	25-32	10-30	40-70	17-32	1.30-1.60	0.06-0.2	0.06-0.10	0.0-2.9	0.1-0.2	.28	.32			
	32-40	10-30	40-70	17-32	1.30-1.60	0.06-0.2	0.06-0.10	0.0-2.9	0.1-0.2	.28	.32			
	40-45	15-35	35-65	17-32	1.50-1.90	0.06-0.6	0.06-0.12	0.0-2.9	0.1-0.2	.28	.32			
	45-55	---	---	---	---	0.06-0.6	---	---	---	---	---			
ArB:														
Arendtsville--------	0-9	30-50	30-50	10-25	1.25-1.40	0.6-6	0.12-0.16	0.0-2.9	2.0-3.0	.17	.20	4	6	48
	9-16	30-60	30-50	17-32	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
	16-40	40-70	10-35	17-32	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
	40-53	40-70	10-35	10-32	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
	53-72	45-75	10-35	10-25	1.50-1.70	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.24			
ArC:														
Arendtsville--------	0-9	30-50	30-50	10-25	1.25-1.40	0.6-6	0.12-0.16	0.0-2.9	2.0-3.0	.17	.20	4	6	48
	9-16	30-60	30-50	17-32	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
	16-40	40-70	10-35	17-32	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
	40-53	40-70	10-35	17-32	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
	53-72	45-75	10-35	10-25	1.50-1.70	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.24			
ArD:														
Arendtsville--------	0-9	30-50	30-50	10-25	1.25-1.40	0.6-6	0.12-0.16	0.0-2.9	2.0-3.0	.17	.20	4	6	48
	9-16	30-60	30-50	17-32	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
	16-40	40-70	10-35	17-32	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
	40-53	40-70	10-35	17-32	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
	53-72	45-75	10-35	10-25	1.50-1.70	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.24			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
ArE:														
Arendtsville--------	0-9	30-50	30-50	10-25	1.25-1.40	0.6-6	0.12-0.16	0.0-2.9	2.0-3.0	.17	.20	4	6	48
	9-16	30-60	30-50	17-32	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
	16-40	40-70	10-35	17-32	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
	40-53	40-70	10-35	10-32	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.20			
	53-72	45-75	10-35	10-25	1.50-1.70	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.17	.24			
AtA:														
Athol---------------	0-10	15-35	50-70	10-27	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	2.0-4.0	.28	.32	4	6	48
	10-24	10-30	40-60	15-35	1.30-1.75	0.6-2	0.12-0.16	0.0-2.9	0.5-1.5	.24	.24			
	24-52	10-30	40-60	15-35	1.30-1.75	0.6-2	0.12-0.16	0.0-2.9	0.1-0.2	.24	.24			
	52-60	10-30	40-60	15-35	1.30-1.75	0.6-2	0.10-0.14	0.0-2.9	0.1-0.2	.24	.28			
AtB:														
Athol---------------	0-10	15-35	50-70	10-27	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	2.0-4.0	.28	.32	4	6	48
	10-24	10-30	40-60	15-35	1.30-1.75	0.6-2	0.12-0.16	0.0-2.9	0.5-1.5	.24	.24			
	24-52	10-30	40-60	15-35	1.30-1.75	0.6-2	0.12-0.16	0.0-2.9	0.1-0.2	.24	.24			
	52-60	10-30	40-60	15-35	1.30-1.75	0.6-2	0.10-0.14	0.0-2.9	0.1-0.2	.24	.28			
AtC:														
Athol---------------	0-10	15-35	50-70	10-27	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	2.0-4.0	.28	.32	4	6	48
	10-24	10-30	40-60	15-35	1.30-1.75	0.6-2	0.12-0.16	0.0-2.9	0.5-1.5	.24	.24			
	24-52	10-30	40-60	15-35	1.30-1.75	0.6-2	0.12-0.16	0.0-2.9	0.1-0.2	.24	.24			
	52-60	10-30	40-60	15-35	1.30-1.75	0.6-2	0.10-0.14	0.0-2.9	0.1-0.2	.24	.28			
Ba:														
Baile---------------	0-12	10-30	50-70	15-32	1.20-1.40	0.2-0.6	0.16-0.25	0.0-2.9	1.0-4.0	.43	.43	5	5	56
	12-40	10-30	45-65	10-35	1.30-1.60	0.06-0.2	0.12-0.24	3.0-5.9	0.0-0.5	.43	.43			
	40-60	20-55	40-65	10-25	1.30-1.60	0.06-0.6	0.10-0.24	0.0-2.9	0.0-0.5	.43	.43			
Be:														
Bermudian-----------	0-8	20-40	50-70	10-25	1.25-1.40	0.6-6	0.12-0.16	0.0-2.9	2.0-3.0	.37	.37	4	5	56
	8-30	10-50	25-60	17-35	1.30-1.50	0.6-6	0.12-0.16	0.0-2.9	0.5-1.5	.28	.32			
	30-50	10-55	20-65	17-35	1.30-1.50	0.6-6	0.12-0.16	0.0-2.9	0.1-1.0	.28	.32			
	50-60	15-90	10-60	5-20	1.35-1.55	6-20	0.04-0.08	0.0-2.9	0.1-0.5	.17	.24			
BgA:														
Birdsboro-----------	0-10	15-35	45-65	10-27	1.20-1.50	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37	4	5	56
	10-18	10-50	25-65	20-35	1.30-1.60	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
	18-30	10-50	25-65	20-35	1.30-1.60	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
	30-50	10-60	17-65	20-35	1.30-1.60	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
	50-60	10-50	25-65	20-35	1.30-1.60	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
BgB:														
Birdsboro-----------	0-10	15-35	45-65	10-27	1.20-1.50	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37	4	5	56
	10-18	10-50	25-65	20-35	1.30-1.60	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
	18-30	10-50	25-65	20-35	1.30-1.60	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
	30-50	10-60	15-65	20-35	1.30-1.60	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
	50-60	10-50	25-65	20-35	1.30-1.60	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
BgC:														
Birdsboro-----------	0-10	15-35	45-65	10-27	1.20-1.50	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.37	.37	4	5	56
	10-18	10-50	25-65	20-35	1.30-1.60	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
	18-30	10-50	25-65	20-35	1.30-1.60	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
	30-50	10-60	10-65	20-35	1.30-1.60	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
	50-60	10-50	25-65	20-35	1.30-1.60	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
Bo:														
Bowmansville--------	0-11	20-40	45-65	10-17	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-4.0	.32	.32	4	5	56
	11-34	15-50	25-65	15-30	1.30-1.50	0.2-0.6	0.16-0.20	0.0-2.9	0.0-0.5	.28	.28			
	34-55	15-55	25-65	15-30	1.20-1.50	2-6	0.12-0.18	0.0-2.9	0.0-0.5	.28	.28			
	55-72	15-70	10-60	15-30	1.20-1.50	2-6	0.12-0.18	0.0-2.9	0.0-0.5	.28	.28			
BrB:														
Brecknock-----------	0-7	20-40	45-65	10-20	1.20-1.30	0.6-2	0.10-0.16	0.0-2.9	2.0-3.0	.24	.32	3	6	48
	7-12	10-30	40-65	17-32	1.30-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.24	.28			
	12-30	10-30	40-65	17-32	1.30-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.24	.28			
	30-42	10-30	40-65	17-32	1.30-1.50	0.6-2	0.03-0.10	0.0-2.9	0.0-0.5	.24	.32			
	42-52	---	---	---	---	0.6-6	---	---	---	---	---			
BrC:														
Brecknock-----------	0-7	20-40	45-65	10-20	1.20-1.30	0.6-2	0.10-0.16	0.0-2.9	2.0-3.0	.24	.32	3	6	48
	7-12	10-30	40-65	17-32	1.30-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.24	.28			
	12-30	10-30	40-65	17-32	1.30-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.24	.28			
	30-42	10-30	40-65	17-32	1.30-1.50	0.6-2	0.03-0.10	0.0-2.9	0.0-0.5	.24	.32			
	42-52	---	---	---	---	0.6-6	---	---	---	---	---			
BrD:														
Brecknock-----------	0-7	20-40	45-65	10-20	1.20-1.30	0.6-2	0.10-0.16	0.0-2.9	2.0-3.0	.24	.32	3	6	48
	7-12	10-30	40-65	17-32	1.30-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.24	.28			
	12-30	10-30	40-65	17-32	1.30-1.50	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.24	.28			
	30-42	10-30	40-65	17-32	1.30-1.50	0.6-2	0.03-0.10	0.0-2.9	0.0-0.5	.24	.32			
	42-52	---	---	---	---	0.6-6	---	---	---	---	---			
BuB:														
Buchanan------------	0-7	35-55	30-50	10-27	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	3	6	48
	7-25	30-50	20-55	18-30	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.1-0.5	.24	.28			
	25-54	25-45	30-60	18-45	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			
	54-60	30-70	10-55	18-30	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.1	.24	.28			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
BvB:														
Buchanan------------	0-7	35-55	30-50	10-27	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.24	.32	3	8	0
	7-25	30-50	20-55	18-30	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.1-0.5	.24	.28			
	25-54	25-45	30-60	18-45	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.1	.17	.24			
	54-60	30-70	10-55	18-30	1.30-1.60	0.6-2	0.10-0.16	0.0-2.9	0.0-0.1	.24	.28			
CcB:														
Catoctin------------	0-9	20-40	45-65	5-20	1.20-1.50	2-6	0.11-0.16	0.0-2.9	0.5-2.0	.17	.32	2	5	56
	9-16	10-30	45-65	10-35	1.20-1.50	2-6	0.08-0.16	0.0-2.9	0.0-0.8	.17	.24			
	16-24	20-40	45-65	10-25	1.20-1.50	2-6	0.04-0.15	0.0-2.9	0.0-0.5	.17	.28			
	24-34	---	---	---	---	0.06-2	---	---	---	---	---			
CcC:														
Catoctin------------	0-9	20-40	45-65	5-20	1.20-1.50	2-6	0.11-0.16	0.0-2.9	0.5-2.0	.17	.32	2	5	56
	9-16	10-30	45-65	10-35	1.20-1.50	2-6	0.08-0.16	0.0-2.9	0.0-0.8	.17	.24			
	16-24	20-40	45-65	10-25	1.20-1.50	2-6	0.04-0.15	0.0-2.9	0.0-0.5	.17	.28			
	24-34	---	---	---	---	0.06-2	---	---	---	---	---			
CcE:														
Catoctin------------	0-9	20-40	45-65	5-20	1.20-1.50	2-6	0.11-0.16	0.0-2.9	0.5-2.0	.17	.32	2	5	56
	9-16	10-30	45-65	10-35	1.20-1.50	2-6	0.08-0.16	0.0-2.9	0.0-0.8	.17	.24			
	16-24	20-40	45-65	10-25	1.20-1.50	2-6	0.04-0.15	0.0-2.9	0.0-0.5	.17	.28			
	24-34	---	---	---	---	0.06-2	---	---	---	---	---			
CkA:														
Clarksburg----------	0-8	15-35	45-65	10-27	1.20-1.40	0.6-2	0.14-0.20	0.0-2.9	1.0-3.0	.37	.37	3	5	56
	8-32	10-30	45-65	22-35	1.30-1.50	0.6-2	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	32-40	10-30	45-65	22-35	1.40-1.70	0.06-0.6	0.06-0.12	3.0-5.9	0.0-0.5	.28	.32			
	40-54	15-40	30-60	22-35	1.40-1.70	0.06-0.6	0.06-0.12	3.0-5.9	0.0-0.5	.28	.32			
	54-64	15-40	30-60	22-40	1.20-1.60	0.06-0.6	0.06-0.16	3.0-5.9	0.0-0.5	.28	.32			
CkB:														
Clarksburg----------	0-8	15-35	45-65	10-27	1.20-1.40	0.6-2	0.14-0.20	0.0-2.9	1.0-3.0	.37	.37	3	5	56
	8-32	10-30	45-65	22-35	1.30-1.50	0.6-2	0.12-0.18	3.0-5.9	0.0-0.5	.28	.28			
	32-40	10-30	45-65	22-35	1.40-1.70	0.06-0.6	0.06-0.12	3.0-5.9	0.0-0.5	.28	.32			
	40-54	15-40	30-60	22-35	1.40-1.70	0.06-0.6	0.06-0.12	3.0-5.9	0.0-0.5	.28	.32			
	54-64	15-40	30-60	22-40	1.20-1.60	0.06-0.6	0.06-0.16	3.0-5.9	0.0-0.5	.28	.32			
Cm:														
Codorus-------------	0-12	15-35	45-65	15-25	1.20-1.40	0.6-2	0.14-0.20	0.0-2.9	2.0-4.0	.37	.37	5	5	56
	12-48	15-35	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.37	.37			
	48-60	15-90	10-65	5-12	1.20-1.50	2-20	0.04-0.08	0.0-2.9	0.0-0.5	.24	.28			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
CnA:														
Conestoga-----------	0-9	15-35	45-65	15-25	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	9-17	10-30	45-65	22-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.2-0.8	.24	.24			
	17-40	10-30	45-65	22-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.1-0.5	.24	.24			
	40-46	20-60	30-60	13-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.1-0.5	.24	.28			
	46-60	20-60	30-60	13-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.1-0.2	.24	.28			
CnB:														
Conestoga-----------	0-9	15-35	45-65	15-25	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	4	5	56
	9-17	10-30	45-65	22-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.2-0.8	.24	.24			
	17-40	10-30	45-65	22-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.1-0.5	.24	.24			
	40-46	20-60	30-60	13-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.1-0.5	.24	.28			
	46-60	20-60	30-60	13-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.1-0.2	.24	.28			
CnC:														
Conestoga-----------	0-9	15-35	45-65	15-25	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	4	5	56
	9-17	10-30	45-65	22-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.2-0.8	.24	.24			
	17-40	10-30	45-65	22-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.1-0.5	.24	.24			
	40-46	20-60	30-60	13-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.1-0.5	.24	.28			
	46-60	20-60	30-60	13-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.1-0.2	.24	.28			
CrA:														
Croton--------------	0-12	5-25	60-80	15-30	1.28-1.42	0.2-2	0.15-0.22	0.0-2.9	3.0-5.0	.43	.43	3	8	0
	12-20	5-25	55-75	20-35	1.38-1.55	0.2-0.6	0.12-0.20	3.0-5.9	0.5-1.0	.43	.49			
	20-37	5-25	55-75	20-30	1.65-1.80	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.5	.43	.49			
	37-42	5-25	45-75	20-30	1.60-1.80	0.06-0.2	0.08-0.12	0.0-2.9	0.0-0.5	.37	.43			
	42-52	---	---	---	---	0.0-0.2	---	---	---	---	---			
CrB:														
Croton--------------	0-12	5-25	60-80	15-30	1.28-1.42	0.2-2	0.15-0.22	0.0-2.9	3.0-5.0	.43	.43	3	8	0
	12-20	5-25	55-75	20-35	1.38-1.55	0.2-0.6	0.12-0.20	3.0-5.9	0.5-1.0	.43	.49			
	20-37	5-25	55-75	20-30	1.65-1.80	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.5	.43	.49			
	37-42	5-25	45-75	20-30	1.60-1.80	0.06-0.2	0.08-0.12	0.0-2.9	0.0-0.5	.37	.43			
	42-52	---	---	---	---	0.0-0.2	---	---	---	---	---			
DAM:														
Dams----------------	0-6	---	---	---	---	---	0.00-0.00	---	---	---	---	--	---	---
Dx:														
Dumps.														
Dy:														
Dunning-------------	0-11	10-30	35-55	27-45	1.20-1.40	0.6-2	0.19-0.23	3.0-5.9	2.0-10	.32	.32	5	4	86
	11-36	2-10	35-55	35-60	1.40-1.65	0.06-0.2	0.14-0.18	3.0-5.9	1.0-5.0	.28	.28			
	36-42	2-10	35-55	35-60	1.40-1.65	0.06-0.2	0.14-0.18	3.0-5.9	0.2-0.8	.28	.28			
	42-60	27-50	20-50	18-35	1.25-1.35	2-6	0.08-0.17	0.0-2.9	0.1-0.5	.17	.24			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
EdB:														
Edgemont------------	0-8	35-55	30-50	5-20	1.20-1.40	0.6-6	0.10-0.14	0.0-2.9	2.0-3.0	.15	.15	3	6	48
	8-24	35-55	25-45	18-30	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.15	.17			
	24-30	40-75	10-30	5-30	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.15	.20			
	30-60	40-75	10-30	5-30	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.15	.20			
EdC:														
Edgemont------------	0-8	35-55	30-50	5-20	1.20-1.40	0.6-6	0.10-0.14	0.0-2.9	2.0-3.0	.15	.15	3	6	48
	8-24	35-55	25-45	18-30	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.15	.17			
	24-30	40-75	10-30	5-30	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.15	.20			
	30-60	40-75	10-30	5-30	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.15	.20			
EdD:														
Edgemont------------	0-8	35-55	30-50	5-20	1.20-1.40	0.6-6	0.10-0.14	0.0-2.9	2.0-3.0	.15	.15	3	6	48
	8-24	35-55	25-45	18-30	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.15	.17			
	24-30	40-75	10-30	5-30	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.15	.20			
	30-60	40-75	10-30	5-30	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.15	.20			
EeB:														
Edgemont------------	0-8	35-55	30-50	5-20	1.20-1.40	0.6-6	0.10-0.18	0.0-2.9	2.0-4.0	.15	.15	3	8	0
	8-24	35-55	25-45	18-30	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.15	.17			
	24-30	40-75	10-30	5-30	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.15	.17			
	30-60	40-75	10-30	5-30	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.15	.20			
EeD:														
Edgemont------------	0-8	35-55	30-50	5-20	1.20-1.40	0.6-6	0.10-0.18	0.0-2.9	2.0-4.0	.15	.15	3	8	0
	8-24	35-55	25-45	18-30	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.15	.17			
	24-30	40-75	10-30	5-30	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.15	.17			
	30-60	40-75	10-30	5-30	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.15	.20			
EeF:														
Edgemont------------	0-8	35-55	30-50	5-20	1.20-1.40	0.6-6	0.10-0.18	0.0-2.9	2.0-4.0	.15	.15	3	8	0
	8-24	35-55	25-45	18-30	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.15	.17			
	24-30	40-75	10-30	5-30	1.30-1.50	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.15	.17			
	30-60	40-75	10-30	5-30	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.15	.20			
GbB:														
Glenelg-------------	0-8	15-35	45-65	15-25	1.10-1.40	0.6-2	0.14-0.17	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	8-16	15-35	45-65	20-32	1.20-1.60	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.43	.49			
	16-22	10-30	45-65	20-32	1.20-1.60	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.43	.49			
	22-25	10-30	45-65	20-32	1.20-1.60	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.43	.49			
	25-29	35-55	30-50	5-20	1.20-1.40	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.49	.55			
	29-50	35-55	30-50	5-20	1.20-1.40	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.49	.55			
	50-55	---	---	---	---	0.2-2	---	---	---	---	---			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
GbC:														
Glenelg-------------	0-8	15-35	45-65	15-25	1.10-1.40	0.6-2	0.14-0.17	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	8-16	15-35	45-65	20-32	1.20-1.60	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.43	.49			
	16-22	10-30	45-65	20-32	1.20-1.60	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.43	.49			
	22-25	10-30	45-65	20-32	1.20-1.60	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.43	.49			
	25-29	35-55	30-50	5-20	1.20-1.40	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.49	.55			
	29-50	35-55	30-50	5-20	1.20-1.40	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.49	.55			
	50-55	---	---	---	---	0.2-2	---	---	---	---	---			
GbD:														
Glenelg-------------	0-8	15-35	45-65	15-25	1.10-1.40	0.6-2	0.14-0.17	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	8-16	15-35	45-65	20-32	1.20-1.60	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.43	.49			
	16-22	10-30	45-65	20-32	1.20-1.60	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.43	.49			
	22-25	10-30	45-65	20-32	1.20-1.60	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.43	.49			
	25-29	35-55	30-50	5-20	1.20-1.40	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.49	.55			
	29-50	35-55	30-50	5-20	1.20-1.40	0.6-2	0.10-0.20	0.0-2.9	0.0-0.5	.49	.55			
	50-55	---	---	---	---	0.2-2	---	---	---	---	---			
GdA:														
Glenville-----------	0-10	20-40	45-65	10-20	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-4.0	.32	.32	3	5	56
	10-19	10-30	45-65	20-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	19-36	10-30	45-65	15-35	1.60-1.80	0.06-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	36-60	35-55	30-50	5-25	1.40-1.60	0.2-0.6	0.06-0.12	0.0-2.9	0.0-0.5	.24	.32			
GdB:														
Glenville-----------	0-10	20-40	45-65	10-20	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-4.0	.32	.32	3	5	56
	10-19	10-30	45-65	20-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.24	.28			
	19-36	10-30	45-65	15-35	1.60-1.80	0.06-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.24	.28			
	36-60	35-55	30-50	5-25	1.40-1.60	0.2-0.6	0.06-0.12	0.0-2.9	0.0-0.5	.24	.32			
Hc:														
Hatboro-------------	0-12	20-40	45-65	10-20	1.20-1.40	0.6-2	0.16-0.22	0.0-2.9	2.0-4.0	.37	.37	5	5	56
	12-45	15-50	25-65	15-35	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	0.0-0.5	.20	.20			
	45-60	15-90	10-90	5-45	1.10-1.60	2-6	0.04-0.08	0.0-2.9	0.0-0.5	.17	.20			
HgB:														
Highfield-----------	0-9	20-40	45-65	10-20	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	1.0-3.0	.28	.37	3	6	48
	9-24	15-35	45-65	15-27	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.32			
	24-42	15-35	45-65	15-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.37			
	42-52	---	---	---	2.25-2.35	0.06-0.2	0.00-0.00	---	---	---	---			
HgC:														
Highfield-----------	0-9	20-40	45-65	10-20	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	1.0-3.0	.28	.37	3	6	48
	9-24	15-35	45-65	15-27	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.32			
	24-42	15-35	45-65	15-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.37			
	42-52	---	---	---	2.25-2.35	0.06-0.2	0.00-0.00	---	---	---	---			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
HHD:														
Highfield-----------	0-9	20-40	45-65	10-20	1.20-1.40	0.6-2	0.12-0.16	0.0-2.9	1.0-3.0	.28	.37	3	6	48
	9-24	15-35	45-65	15-27	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.32			
	24-42	15-35	45-65	15-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.37			
	42-52	---	---	---	2.25-2.35	0.06-0.2	0.00-0.00	---	---	---	---			
Catoctin------------	0-9	20-40	45-65	5-20	1.20-1.50	2-6	0.11-0.16	0.0-2.9	0.5-2.0	.17	.32	2	5	56
	9-16	10-30	45-65	10-35	1.20-1.50	2-6	0.08-0.16	0.0-2.9	0.0-0.8	.17	.24			
	16-24	20-40	45-65	10-25	1.20-1.50	2-6	0.04-0.15	0.0-2.9	0.0-0.5	.17	.28			
	24-34	---	---	---	---	0.06-2	---	---	---	---	---			
HKB:														
Highfield-----------	0-9	20-40	45-65	10-20	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.28	.37	3	8	0
	9-24	15-35	45-65	15-27	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.32			
	24-42	15-35	45-56	15-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.37			
	42-52	---	---	---	---	0.06-2	---	---	---	---	---			
Catoctin------------	0-9	20-40	45-65	5-20	1.20-1.50	2-6	0.08-0.14	0.0-2.9	0.5-2.0	.20	.32	2	8	0
	9-16	10-30	45-65	10-35	1.20-1.50	2-6	0.08-0.16	0.0-2.9	0.0-0.8	.17	.24			
	16-24	20-40	45-65	10-25	1.20-1.50	2-6	0.04-0.15	0.0-2.9	0.0-0.5	.17	.28			
	24-34	---	---	---	---	0.06-2	---	---	---	---	---			
Myersville----------	0-9	20-40	45-65	5-20	1.20-1.50	2-6	0.11-0.16	0.0-2.9	0.5-2.0	.28	.37	4	8	0
	9-14	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.1-0.5	.32	.37			
	14-27	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.1-0.5	.32	.37			
	27-38	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.37			
	38-48	15-45	30-60	10-32	1.20-1.50	0.6-2	0.08-0.16	0.0-2.9	0.0-0.5	.32	.43			
	48-60	---	---	---	---	0.0-0.06	---	---	---	---	---			
	60-70	---	---	---	---	0.0-0.06	---	---	---	---	---			
HKD:														
Highfield-----------	0-9	20-40	45-65	10-20	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.28	.37	3	8	0
	9-24	15-35	45-65	15-27	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.32			
	24-42	15-35	45-56	15-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.37			
	42-52	---	---	---	---	0.06-2	---	---	---	---	---			
Catoctin------------	0-9	20-40	45-65	5-20	1.20-1.50	2-6	0.08-0.14	0.0-2.9	0.5-2.0	.20	.32	2	8	0
	9-16	10-30	45-65	10-35	1.20-1.50	2-6	0.08-0.16	0.0-2.9	0.0-0.8	.17	.24			
	16-24	20-40	45-65	10-25	1.20-1.50	2-6	0.04-0.15	0.0-2.9	0.0-0.5	.17	.28			
	24-34	---	---	---	---	0.06-2	---	---	---	---	---			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
HKD:														
Myersville----------	0-9	20-40	45-65	5-20	1.20-1.50	2-6	0.11-0.16	0.0-2.9	0.5-2.0	.28	.37	4	8	0
	9-14	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.1-0.5	.32	.37			
	14-27	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.1-0.5	.32	.37			
	27-38	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.37			
	38-48	15-45	30-60	10-32	1.20-1.50	0.6-2	0.08-0.16	0.0-2.9	0.0-0.5	.32	.43			
	48-60	---	---	---	---	0.0-0.06	---	---	---	---	---			
	60-70	---	---	---	---	0.0-0.06	---	---	---	---	---			
HMF:														
Highfield-----------	0-9	20-40	45-65	10-20	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.28	.37	3	8	0
	9-24	15-35	45-65	15-27	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.32			
	24-42	15-35	45-56	15-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.37			
	42-52	---	---	---	---	0.06-2	---	---	---	---	---			
Catoctin------------	0-9	20-40	45-65	5-20	1.20-1.50	2-6	0.08-0.14	0.0-2.9	0.5-2.0	.20	.32	2	8	0
	9-16	10-30	45-65	10-35	1.20-1.50	2-6	0.08-0.16	0.0-2.9	0.0-0.8	.17	.24			
	16-24	20-40	45-65	10-25	1.20-1.50	2-6	0.04-0.15	0.0-2.9	0.0-0.5	.17	.28			
	24-34	---	---	---	---	0.06-2	---	---	---	---	---			
KnB:														
Klinesville---------	0-8	20-40	45-65	10-25	1.20-1.40	2-6	0.08-0.12	0.0-2.9	0.5-2.0	.20	.28	2	6	48
	8-14	20-40	45-65	10-20	1.40-1.60	2-6	0.06-0.10	0.0-2.9	0.1-1.0	.20	.28			
	14-16	20-40	45-65	10-20	1.40-1.60	2-6	0.04-0.08	0.0-2.9	0.0-0.1	.20	.28			
	16-26	---	---	---	---	0.2-2	0.00-0.00	---	---	---	---			
KnC:														
Klinesville---------	0-8	20-40	45-65	10-25	1.20-1.40	2-6	0.08-0.12	0.0-2.9	0.5-2.0	.20	.28	2	6	48
	8-14	20-40	45-65	10-20	1.40-1.60	2-6	0.06-0.10	0.0-2.9	0.1-1.0	.20	.28			
	14-16	20-40	45-65	10-20	1.40-1.60	2-6	0.04-0.08	0.0-2.9	0.0-0.1	.20	.28			
	16-26	---	---	---	---	0.2-2	0.00-0.00	---	---	---	---			
KnD:														
Klinesville---------	0-8	20-40	45-65	10-25	1.20-1.40	2-6	0.08-0.12	0.0-2.9	0.5-2.0	.20	.28	2	6	48
	8-14	20-40	45-65	10-20	1.40-1.60	2-6	0.06-0.10	0.0-2.9	0.1-1.0	.20	.28			
	14-16	20-40	45-65	10-20	1.40-1.60	2-6	0.04-0.08	0.0-2.9	0.0-0.1	.20	.28			
	16-26	---	---	---	---	0.2-2	0.00-0.00	---	---	---	---			
KnE:														
Klinesville---------	0-8	20-40	45-65	10-25	1.20-1.40	2-6	0.08-0.12	0.0-2.9	0.5-2.0	.20	.28	2	6	48
	8-14	20-40	45-65	10-20	1.40-1.60	2-6	0.06-0.10	0.0-2.9	0.1-1.0	.20	.28			
	14-16	20-40	45-65	10-20	1.40-1.60	2-6	0.04-0.08	0.0-2.9	0.0-0.1	.20	.28			
	16-26	---	---	---	---	0.2-2	0.00-0.00	---	---	---	---			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
Lc:														
Lamington-----------	0-11	20-40	45-65	10-25	1.20-1.40	0.6-2	0.14-0.18	0.0-2.9	2.0-4.0	.32	.32	3	5	56
	11-17	10-30	45-65	18-35	1.40-1.60	0.6-2	0.12-0.18	0.0-2.9	0.0-0.5	.37	.37			
	17-46	30-50	30-55	18-35	1.60-1.80	0.06-0.2	0.08-0.12	0.0-2.9	0.+-0.5	.24	.28			
	46-60	18-90	1-50	5-30	1.46-1.60	0.6-20	0.06-0.10	0.0-2.9	0.0-0.5	.24	.32			
LeB:														
Lansdale------------	0-10	30-50	30-50	5-15	1.25-1.35	0.6-2	0.12-0.18	0.0-2.9	2.0-4.0	.32	.32	4	5	56
	10-17	35-55	25-45	10-25	1.35-1.45	0.6-6	0.09-0.16	0.0-2.9	0.5-1.0	.28	.32			
	17-30	55-75	10-30	10-25	1.35-1.45	0.6-6	0.09-0.16	0.0-2.9	0.5-1.0	.28	.32			
	30-42	70-90	1-20	10-18	1.40-1.55	2-6	0.07-0.10	0.0-2.9	0.0-0.5	.28	.32			
	42-47	70-90	1-20	10-18	1.40-1.55	2-6	0.07-0.10	0.0-2.9	0.0-0.5	.28	.32			
	47-57	---	---	---	---	0.2-0.6	---	---	---	---	---			
LfC:														
Lansdale------------	0-10	30-50	35-55	5-15	1.30-1.40	0.6-2	0.10-0.16	0.0-2.9	2.0-4.0	.28	.32	4	5	56
	10-17	35-55	25-45	10-25	1.35-1.45	0.6-6	0.09-0.16	0.0-2.9	0.5-1.0	.28	.32			
	17-30	55-75	10-30	10-25	1.35-1.45	0.6-6	0.09-0.16	0.0-2.9	0.5-1.0	.28	.32			
	30-42	70-90	1-20	10-18	1.40-1.55	2-6	0.07-0.10	0.0-2.9	0.0-0.5	.28	.32			
	42-47	70-90	1-20	10-18	1.40-1.55	2-6	0.07-0.10	0.0-2.9	0.0-0.5	.28	.32			
	47-57	---	---	---	---	0.2-0.6	---	---	---	---	---			
LgB:														
Legore--------------	0-10	10-30	45-65	12-34	1.20-1.40	0.6-6	0.12-0.24	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	10-30	10-30	40-60	27-34	1.40-1.60	0.6-2	0.12-0.24	3.0-5.9	0.0-0.5	.17	.20			
	30-44	15-55	30-60	18-34	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.28	.32			
	44-60	15-65	10-60	18-34	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.28	.32			
LgC:														
Legore--------------	0-10	10-30	45-65	12-34	1.20-1.40	0.6-6	0.12-0.24	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	10-30	10-30	40-60	27-34	1.40-1.60	0.6-2	0.12-0.24	3.0-5.9	0.0-0.5	.17	.20			
	30-44	15-55	30-60	18-34	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.28	.32			
	44-60	15-65	10-60	18-34	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.28	.32			
LgD:														
Legore--------------	0-10	10-30	45-65	12-34	1.20-1.40	0.6-6	0.12-0.24	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	10-30	10-30	40-60	27-34	1.40-1.60	0.6-2	0.12-0.24	3.0-5.9	0.0-0.5	.17	.20			
	30-44	15-55	30-60	18-34	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.28	.32			
	44-60	15-65	10-60	18-34	1.40-1.60	0.6-6	0.08-0.12	0.0-2.9	0.0-0.5	.28	.32			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
LhA:														
Lehigh--------------	0-8	20-40	45-65	10-20	1.30-1.40	0.6-2	0.14-0.20	0.0-2.9	2.0-3.0	.28	.37	3	6	48
	8-14	10-30	45-65	17-32	1.30-1.50	0.06-0.2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.32			
	14-21	10-30	45-65	17-32	1.30-1.50	0.06-0.2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.32			
	21-30	10-30	45-65	17-32	1.30-1.50	0.06-0.2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.32			
	30-42	10-30	45-65	17-32	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.37			
	42-52	---	---	---	---	0.6-6	---	---	---	---	---			
LhB:														
Lehigh--------------	0-8	20-40	45-65	10-20	1.30-1.40	0.6-2	0.14-0.20	0.0-2.9	2.0-3.0	.28	.37	3	6	48
	8-14	10-30	45-65	17-32	1.30-1.50	0.06-0.2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.32			
	14-21	10-30	45-65	17-32	1.30-1.50	0.06-0.2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.32			
	21-30	10-30	45-65	17-32	1.30-1.50	0.06-0.2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.32			
	30-42	10-30	45-65	17-32	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.37			
	42-52	---	---	---	---	0.6-6	---	---	---	---	---			
LhC:														
Lehigh--------------	0-8	20-40	45-65	10-20	1.30-1.40	0.6-2	0.14-0.20	0.0-2.9	2.0-3.0	.28	.37	3	6	48
	8-14	10-30	45-65	17-32	1.30-1.50	0.06-0.2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.32			
	14-21	10-30	45-65	17-32	1.30-1.50	0.06-0.2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.32			
	21-30	10-30	45-65	17-32	1.30-1.50	0.06-0.2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.32			
	30-42	10-30	45-65	17-32	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.37			
	42-52	---	---	---	---	0.6-6	---	---	---	---	---			
LkB:														
Lehigh--------------	0-8	20-40	45-65	10-20	1.20-1.40	0.6-2	0.14-0.22	0.0-2.9	2.0-3.0	.28	.37	3	8	0
	8-14	10-30	45-65	17-32	1.30-1.50	0.06-0.2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.32			
	14-21	10-30	45-65	17-32	1.30-1.50	0.06-0.2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.32			
	21-30	10-30	45-65	17-32	1.30-1.50	0.06-0.2	0.14-0.18	0.0-2.9	0.0-0.5	.28	.32			
	30-42	10-30	45-65	17-32	1.40-1.70	0.06-0.2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.37			
	42-52	---	---	---	---	0.6-6	---	---	---	---	---			
Lw:														
Lindside------------	0-8	5-15	55-75	15-27	1.20-1.40	0.6-2	0.20-0.26	0.0-2.9	2.0-4.0	.32	.32	5	5	56
	8-31	5-50	40-75	18-35	1.20-1.40	0.2-2	0.17-0.22	0.0-2.9	0.0-0.5	.37	.37			
	31-60	5-50	40-75	18-35	1.20-1.40	0.2-6	0.12-0.18	0.0-2.9	0.0-0.5	.32	.32			
MdA:														
Mount Lucas---------	0-8	20-40	45-65	10-20	1.20-1.30	0.6-2	0.18-0.22	0.0-2.9	1.0-2.0	.32	.32	4	5	56
	8-16	10-50	25-60	17-32	1.30-1.60	0.06-0.6	0.12-0.16	0.0-2.9	0.0-0.5	.28	.32			
	16-37	15-55	25-60	17-32	1.30-1.60	0.06-0.6	0.12-0.16	0.0-2.9	0.0-0.5	.28	.32			
	37-44	30-70	20-60	3-20	1.30-1.70	0.06-6	0.04-0.12	0.0-2.9	0.0-0.5	.28	.37			
	44-60	40-75	15-55	5-20	1.30-1.70	0.06-6	0.04-0.12	0.0-2.9	0.0-0.5	.28	.37			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
MdB:														
Mount Lucas---------	0-8	20-40	45-65	10-20	1.20-1.30	0.6-2	0.18-0.22	0.0-2.9	1.0-2.0	.32	.32	4	5	56
	8-16	10-50	25-60	17-32	1.30-1.60	0.06-0.6	0.12-0.16	0.0-2.9	0.0-0.5	.28	.32			
	16-37	15-55	25-60	17-32	1.30-1.60	0.06-0.6	0.12-0.16	0.0-2.9	0.0-0.5	.28	.32			
	37-44	30-70	20-60	3-20	1.30-1.70	0.06-6	0.04-0.12	0.0-2.9	0.0-0.5	.28	.37			
	44-60	40-75	15-55	5-20	1.30-1.70	0.06-6	0.04-0.12	0.0-2.9	0.0-0.5	.28	.37			
MeB:														
Mount Lucas---------	0-8	20-40	45-65	10-20	1.20-1.30	0.6-2	0.16-0.22	0.0-2.9	2.0-4.0	.28	.32	3	8	0
	8-16	10-50	25-60	17-32	1.30-1.60	0.06-0.6	0.12-0.16	0.0-2.9	0.0-0.5	.28	.32			
	16-37	15-55	25-60	17-32	1.30-1.60	0.06-0.6	0.12-0.16	0.0-2.9	0.0-0.5	.28	.32			
	37-44	30-70	20-60	3-20	1.30-1.70	0.06-6	0.04-0.12	0.0-2.9	0.0-0.5	.28	.37			
	44-60	40-75	15-55	5-20	1.30-1.70	0.06-6	0.04-0.12	0.0-2.9	0.0-0.5	.28	.37			
MOB:														
Mt. Airy------------	0-8	30-50	25-45	15-26	1.20-1.40	0.6-2	0.08-0.12	0.0-2.9	1.0-3.0	.28	.37	3	6	48
	8-15	15-35	45-65	15-30	1.20-1.40	0.6-6	0.05-0.09	0.0-2.9	0.1-1.0	.17	.24			
	15-20	15-35	45-65	15-30	1.20-1.40	0.6-6	0.05-0.09	0.0-2.9	0.0-0.6	.17	.24			
	20-32	30-50	35-55	15-30	1.20-1.40	0.6-6	0.05-0.09	0.0-2.9	0.0-0.4	.17	.24			
	32-42	---	---	---	---	0.01-0.05	---	---	---	---	---			
Manor---------------	0-8	35-55	30-50	10-25	1.20-1.40	0.6-2	0.14-0.17	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	8-18	20-40	40-60	10-25	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.32	.37			
	18-60	35-55	30-50	5-20	1.25-1.50	0.6-6	0.10-0.20	0.0-2.9	0.0-0.5	.49	.55			
MOC:														
Mt. Airy------------	0-8	30-50	25-45	15-26	1.20-1.40	0.6-2	0.08-0.12	0.0-2.9	1.0-3.0	.28	.37	3	6	48
	8-15	15-35	45-65	15-30	1.20-1.40	0.6-6	0.05-0.09	0.0-2.9	0.1-1.0	.17	.24			
	15-20	15-35	45-65	15-30	1.20-1.40	0.6-6	0.05-0.09	0.0-2.9	0.0-0.6	.17	.24			
	20-32	30-50	35-55	15-30	1.20-1.40	0.6-6	0.05-0.09	0.0-2.9	0.0-0.4	.17	.24			
	32-42	---	---	---	---	0.01-0.05	---	---	---	---	---			
Manor---------------	0-8	35-55	30-50	10-25	1.20-1.40	0.6-2	0.14-0.17	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	8-18	20-40	40-60	10-25	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.32	.37			
	18-60	35-55	30-50	5-20	1.25-1.50	0.6-6	0.10-0.20	0.0-2.9	0.0-0.5	.49	.55			
MOD:														
Mt. Airy------------	0-8	30-50	25-45	15-26	1.20-1.40	0.6-2	0.08-0.12	0.0-2.9	1.0-3.0	.28	.37	3	6	48
	8-15	15-35	45-65	15-30	1.20-1.40	0.6-6	0.05-0.09	0.0-2.9	0.1-1.0	.17	.24			
	15-20	15-35	45-65	15-30	1.20-1.40	0.6-6	0.05-0.09	0.0-2.9	0.0-0.6	.17	.24			
	20-32	30-50	35-55	15-30	1.20-1.40	0.6-6	0.05-0.09	0.0-2.9	0.0-0.4	.17	.24			
	32-42	---	---	---	---	0.01-0.05	---	---	---	---	---			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
MOD:														
Manor---------------	0-8	35-55	30-50	10-25	1.20-1.40	0.6-2	0.14-0.17	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	8-18	20-40	40-60	10-25	1.20-1.50	0.6-2	0.14-0.20	0.0-2.9	0.0-0.5	.32	.37			
	18-60	35-55	30-50	5-20	1.25-1.50	0.6-6	0.10-0.20	0.0-2.9	0.0-0.5	.49	.55			
MtB:														
Mt. Zion------------	0-6	10-30	60-80	10-20	1.20-1.40	0.6-2	0.17-0.20	0.0-2.9	2.0-4.0	.43	.43	4	5	56
	6-12	10-30	45-75	10-20	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.1-1.0	.43	.43			
	12-19	10-40	45-75	10-20	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.1-1.0	.43	.43			
	19-31	10-40	45-75	10-20	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.1-1.0	.43	.43			
	31-48	10-40	45-75	10-20	1.40-1.60	0.06-2	0.14-0.17	0.0-2.9	0.1-0.3	.32	.20			
	48-69	10-40	45-75	10-20	1.20-1.40	0.2-2	0.14-0.20	0.0-2.9	0.1-0.3	.32	.20			
	69-72	---	---	---	---	0.0-0.06	---	---	---	---	---			
MtC:														
Mt. Zion------------	0-6	10-30	60-80	10-20	1.20-1.40	0.6-2	0.17-0.20	0.0-2.9	2.0-4.0	.43	.43	4	5	56
	6-12	10-30	45-75	10-20	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.1-1.0	.43	.43			
	12-19	10-40	45-75	10-20	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.1-1.0	.43	.43			
	19-31	10-40	45-75	10-20	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.1-1.0	.43	.43			
	31-48	10-40	45-75	10-20	1.40-1.60	0.06-2	0.14-0.17	0.0-2.9	0.1-0.3	.32	.20			
	48-69	10-40	45-75	10-20	1.20-1.40	0.2-2	0.14-0.20	0.0-2.9	0.1-0.3	.32	.20			
	69-72	---	---	---	---	0.0-0.06	---	---	---	---	---			
MtD:														
Mt. Zion------------	0-6	10-30	60-80	10-20	1.20-1.40	0.6-2	0.17-0.20	0.0-2.9	2.0-4.0	.43	.43	4	5	56
	6-12	10-30	45-75	10-20	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.1-1.0	.43	.43			
	12-19	10-40	45-75	10-20	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.1-1.0	.43	.43			
	19-31	10-40	45-75	10-20	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.1-1.0	.43	.43			
	31-48	10-40	45-75	10-20	1.40-1.60	0.06-2	0.14-0.17	0.0-2.9	0.1-0.3	.32	.20			
	48-69	10-40	45-75	10-20	1.20-1.40	0.2-2	0.14-0.20	0.0-2.9	0.1-0.3	.32	.20			
	69-72	---	---	---	---	0.0-0.06	---	---	---	---	---			
MyB:														
Myersville----------	0-9	20-40	45-65	5-20	1.20-1.50	2-6	0.14-0.20	0.0-2.9	1.0-3.0	.37	.37	4	6	48
	9-14	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.1-0.5	.32	.37			
	14-27	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.1-0.5	.32	.37			
	27-38	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.37			
	38-48	15-45	30-60	10-32	1.20-1.50	0.6-2	0.08-0.16	0.0-2.9	0.0-0.5	.32	.43			
	48-60	---	---	---	---	0.0-0.06	---	---	---	---	---			
	60-70	---	---	---	---	0.0-0.06	---	---	---	---	---			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
MyC:														
Myersville----------	0-9	20-40	45-65	5-20	1.20-1.50	2-6	0.14-0.20	0.0-2.9	1.0-3.0	.37	.37	4	6	48
	9-14	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.1-0.5	.32	.37			
	14-27	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.1-0.5	.32	.37			
	27-38	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.37			
	38-48	15-45	30-60	10-32	1.20-1.50	0.6-2	0.08-0.16	0.0-2.9	0.0-0.5	.32	.43			
	48-60	---	---	---	---	0.0-0.06	---	---	---	---	---			
	60-70	---	---	---	---	0.0-0.06	---	---	---	---	---			
MyD:														
Myersville----------	0-9	20-40	45-65	5-20	1.20-1.50	2-6	0.14-0.20	0.0-2.9	1.0-3.0	.37	.37	4	6	48
	9-14	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.1-0.5	.32	.37			
	14-27	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.1-0.5	.32	.37			
	27-38	10-30	40-60	18-35	1.20-1.50	0.6-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.37			
	38-48	15-45	30-60	10-32	1.20-1.50	0.6-2	0.08-0.16	0.0-2.9	0.0-0.5	.32	.43			
	48-60	---	---	---	---	0.0-0.06	---	---	---	---	---			
	60-70	---	---	---	---	0.0-0.06	---	---	---	---	---			
NaB:														
Neshaminy-----------	0-8	20-40	45-65	10-25	1.20-1.40	0.6-2	0.14-0.18	0.0-2.9	2.0-4.0	.28	.32	4	6	48
	8-15	10-50	20-60	20-40	1.40-1.60	0.2-0.6	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
	15-70	15-50	20-60	20-40	1.40-1.60	0.2-0.6	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
NaC:														
Neshaminy-----------	0-8	20-40	45-65	10-25	1.20-1.40	0.6-2	0.14-0.18	0.0-2.9	2.0-4.0	.28	.32	4	6	48
	8-15	10-50	20-60	20-40	1.40-1.60	0.2-0.6	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
	15-70	15-50	20-60	20-40	1.40-1.60	0.2-0.6	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
NdB:														
Neshaminy-----------	0-8	20-40	45-65	10-25	1.20-1.40	0.6-2	0.12-0.20	0.0-2.9	3.0-5.0	.24	.32	4	8	0
	8-15	10-50	20-60	20-40	1.40-1.60	0.2-0.6	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
	15-70	15-50	20-60	20-40	1.40-1.60	0.2-0.6	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
NdD:														
Neshaminy-----------	0-8	20-40	45-65	10-25	1.20-1.40	0.6-2	0.12-0.20	0.0-2.9	3.0-5.0	.24	.32	4	8	0
	8-15	10-50	20-60	20-40	1.40-1.60	0.2-0.6	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
	15-70	15-50	20-60	20-40	1.40-1.60	0.2-0.6	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
NdE:														
Neshaminy-----------	0-8	20-40	45-65	10-25	1.20-1.40	0.6-2	0.12-0.20	0.0-2.9	3.0-5.0	.24	.32	4	8	0
	8-15	10-50	20-60	20-40	1.40-1.60	0.2-0.6	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			
	15-70	15-50	20-60	20-40	1.40-1.60	0.2-0.6	0.10-0.14	0.0-2.9	0.0-0.5	.17	.20			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
Pa:														
Penlaw--------------	0-10	5-25	55-75	15-25	1.10-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-4.0	.43	.43	3	5	56
	10-20	5-25	55-75	20-35	1.20-1.60	0.6-2	0.16-0.20	3.0-5.9	0.0-0.5	.24	.24			
	20-26	5-25	55-75	20-35	1.30-1.90	0.06-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24			
	26-38	5-25	55-75	20-35	1.30-1.90	0.06-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24			
	38-47	5-25	55-75	20-35	1.30-1.90	0.06-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.24	.24			
	47-65	5-30	35-65	15-50	1.20-1.80	0.06-0.6	0.12-0.16	3.0-5.9	0.0-0.5	.24	.28			
PbD:														
Penn----------------	0-9	35-55	30-50	10-20	1.20-1.40	0.6-6	0.14-0.20	0.0-2.9	2.0-4.0	.24	.32	3	8	0
	9-24	15-35	40-60	18-25	1.40-1.60	0.6-6	0.14-0.18	0.0-2.9	0.0-0.5	.24	.28			
	24-30	15-35	40-60	18-25	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.24	.28			
	30-38	15-35	40-60	18-25	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.24	.28			
	38-48	---	---	---	---	0.2-6	---	---	---	---	---			
PcB:														
Penn----------------	0-9	20-40	45-65	10-20	1.20-1.40	0.6-6	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	3	5	56
	9-24	15-35	40-60	18-25	1.40-1.60	0.6-6	0.14-0.18	0.0-2.9	0.0-0.5	.24	.28			
	24-30	15-35	40-60	18-25	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.24	.28			
	30-38	15-35	40-60	18-25	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.24	.28			
	38-48	---	---	---	---	0.2-6	---	---	---	---	---			
PcC:														
Penn----------------	0-9	20-40	45-65	10-20	1.20-1.40	0.6-6	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	3	5	56
	9-24	15-35	40-60	18-25	1.40-1.60	0.6-6	0.14-0.18	0.0-2.9	0.0-0.5	.24	.28			
	24-30	15-35	40-60	18-25	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.24	.28			
	30-38	15-35	40-60	18-25	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.24	.28			
	38-48	---	---	---	---	0.2-6	---	---	---	---	---			
PoB:														
Penn----------------	0-9	20-40	45-65	10-20	1.20-1.40	0.6-6	0.14-0.18	0.0-2.9	1.0-3.0	.28	.32	3	6	48
	9-24	15-35	40-60	18-25	1.40-1.60	0.6-6	0.14-0.18	0.0-2.9	0.0-0.5	.24	.28			
	24-30	15-35	40-60	18-25	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.24	.28			
	30-38	15-35	40-60	18-25	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.24	.28			
	38-48	---	---	---	---	0.2-6	---	---	---	---	---			
Klinesville---------	0-8	20-40	45-65	10-25	1.20-1.40	2-6	0.08-0.12	0.0-2.9	0.5-2.0	.20	.28	2	6	48
	8-14	20-40	45-65	10-20	1.40-1.60	2-6	0.06-0.10	0.0-2.9	0.1-1.0	.20	.28			
	14-16	20-40	45-65	10-20	1.40-1.60	2-6	0.04-0.08	0.0-2.9	0.0-0.1	.20	.28			
	16-26	---	---	---	---	0.2-2	0.00-0.00	---	---	---	---			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
PoC:														
Penn----------------	0-9	20-40	45-65	10-20	1.20-1.40	0.6-6	0.14-0.18	0.0-2.9	1.0-3.0	.28	.32	3	6	48
	9-24	15-35	40-60	18-25	1.40-1.60	0.6-6	0.14-0.18	0.0-2.9	0.0-0.5	.24	.28			
	24-30	15-35	40-60	18-25	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.24	.28			
	30-38	15-35	40-60	18-25	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.24	.28			
	38-48	---	---	---	---	0.2-6	---	---	---	---	---			
Klinesville---------	0-8	20-40	45-65	10-25	1.20-1.40	2-6	0.08-0.12	0.0-2.9	0.5-2.0	.20	.28	2	6	48
	8-14	20-40	45-65	10-20	1.40-1.60	2-6	0.06-0.10	0.0-2.9	0.1-1.0	.20	.28			
	14-16	20-40	45-65	10-20	1.40-1.60	2-6	0.04-0.08	0.0-2.9	0.0-0.1	.20	.28			
	16-26	---	---	---	---	0.2-2	0.00-0.00	---	---	---	---			
PsD:														
Pequea--------------	0-8	20-40	45-65	10-20	1.10-1.40	0.6-6	0.12-0.18	0.0-2.9	1.6-3.6	.43	.43	3	5	56
	8-24	20-55	40-65	10-20	1.20-1.50	0.6-6	0.10-0.14	0.0-2.9	0.6-3.9	.28	.32			
	24-40	35-60	30-50	10-20	1.20-1.50	0.6-6	0.06-0.12	0.0-2.9	0.5-3.0	.28	.32			
	40-59	45-75	10-35	10-20	1.20-1.50	0.6-6	0.06-0.12	0.0-2.9	0.5-3.0	.28	.32			
	59-70	---	---	---	---	0.06-2	---	---	---	---	---			
Pt:														
Pits.														
RaA:														
Raritan-------------	0-9	20-40	45-65	10-20	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-4.0	.37	.37	3	5	56
	9-20	10-40	45-65	18-34	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	20-26	10-40	45-65	18-34	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	26-36	10-40	35-65	18-34	1.40-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.28	.28			
	36-48	10-40	35-65	18-34	1.40-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.28	.28			
	48-54	10-40	35-65	18-34	1.40-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.28	.28			
	54-60	5-75	20-60	5-35	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.28	.32			
RaB:														
Raritan-------------	0-9	20-40	45-65	10-20	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-4.0	.37	.37	3	5	56
	9-20	10-40	45-65	18-34	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	20-26	10-40	45-65	18-34	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.0-0.5	.28	.28			
	26-36	10-40	35-65	18-34	1.40-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.28	.28			
	36-48	10-40	35-65	18-34	1.40-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.28	.28			
	48-54	10-40	35-65	18-34	1.40-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.28	.28			
	54-60	5-75	20-60	5-35	1.40-1.60	0.6-6	0.06-0.10	0.0-2.9	0.0-0.5	.28	.32			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
RcC:														
Ravenrock-----------	0-4	30-50	30-50	15-25	1.00-1.30	2-6	0.10-0.20	0.0-2.9	2.0-6.0	.20	.37	5	8	0
	4-7	15-50	25-60	15-30	1.20-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-2.0	.15	.28			
	7-16	15-50	25-60	15-30	1.20-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-2.0	.15	.28			
	16-43	30-50	20-50	15-30	1.20-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-2.0	.15	.28			
	43-57	5-35	30-65	20-50	1.20-1.60	0.06-0.2	0.06-0.20	6.0-8.9	0.0-0.5	.15	.28			
	57-65	5-35	30-65	20-50	1.20-1.60	0.06-0.2	0.06-0.20	6.0-8.9	0.0-0.5	.15	.28			
	65-80	---	---	---	---	0.06-0.2	0.04-0.08	---	0.0-0.0	---	---			
Highfield-----------	0-3	20-40	45-65	10-20	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.28	.37	3	8	0
	3-21	15-35	45-65	15-27	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.32			
	21-64	15-35	45-65	15-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.37			
	64-70	---	---	---	---	0.06-2	---	---	---	---	---			
Rock outcrop--------	0-60	---	---	---	---	0.06-6	---	---	---	---	---	--	8	0
RcD:														
Ravenrock-----------	0-4	30-50	30-50	15-25	1.00-1.30	2-6	0.10-0.20	0.0-2.9	2.0-6.0	.20	.37	5	8	0
	4-7	15-50	25-60	15-30	1.20-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-2.0	.15	.28			
	7-16	15-50	25-60	15-30	1.20-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-2.0	.15	.28			
	16-43	30-50	20-50	15-30	1.20-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-2.0	.15	.28			
	43-57	5-35	30-65	20-50	1.20-1.60	0.06-0.2	0.06-0.20	6.0-8.9	0.0-0.5	.15	.28			
	57-65	5-35	30-65	20-50	1.20-1.60	0.06-0.2	0.06-0.20	6.0-8.9	0.0-0.5	.15	.28			
	65-80	---	---	---	---	0.06-0.2	0.04-0.08	---	0.0-0.0	---	---			
Highfield-----------	0-3	20-40	45-65	10-20	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.28	.37	3	8	0
	3-21	15-35	45-65	15-27	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.32			
	21-64	15-35	45-65	15-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.37			
	64-70	---	---	---	---	0.06-2	---	---	---	---	---			
Rock outcrop--------	0-60	---	---	---	---	0.06-6	---	---	---	---	---	--	8	0
RcF:														
Ravenrock-----------	0-4	30-50	30-50	15-25	1.00-1.30	2-6	0.10-0.20	0.0-2.9	2.0-6.0	.20	.37	5	8	0
	4-7	15-50	25-60	15-30	1.20-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-2.0	.15	.28			
	7-16	15-50	25-60	15-30	1.20-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-2.0	.15	.28			
	16-43	30-50	20-50	15-30	1.20-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-2.0	.15	.28			
	43-57	5-35	30-65	20-50	1.20-1.60	0.06-0.2	0.06-0.20	6.0-8.9	0.0-0.5	.15	.28			
	57-65	5-35	30-65	20-50	1.20-1.60	0.06-0.2	0.06-0.20	6.0-8.9	0.0-0.5	.15	.28			
	65-80	---	---	---	---	0.06-0.2	0.04-0.08	---	0.0-0.0	---	---			
Highfield-----------	0-3	20-40	45-65	10-20	1.20-1.40	0.6-2	0.12-0.18	0.0-2.9	1.0-3.0	.28	.37	3	8	0
	3-21	15-35	45-65	15-27	1.40-1.60	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.28	.32			
	21-64	15-35	45-65	15-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.0-0.5	.28	.37			
	64-70	---	---	---	---	0.06-2	---	---	---	---	---			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
RcF:														
Rock outcrop--------	0-60	---	---	---	---	0.06-6	---	---	---	---	---	--	8	0
RdC:														
Ravenrock-----------	0-4	30-50	30-50	15-25	1.00-1.30	2-6	0.10-0.20	0.0-2.9	2.0-6.0	.20	.37	5	8	0
	4-7	15-50	25-60	15-30	1.20-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-2.0	.15	.28			
	7-16	15-50	25-60	15-30	1.20-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-2.0	.15	.28			
	16-43	30-50	20-50	15-30	1.20-1.55	0.6-2	0.12-0.18	0.0-2.9	0.5-2.0	.15	.28			
	43-57	5-35	30-65	20-50	1.20-1.60	0.06-0.2	0.06-0.20	6.0-8.9	0.0-0.5	.15	.28			
	57-65	5-35	30-65	20-50	1.20-1.60	0.06-0.2	0.06-0.20	6.0-8.9	0.0-0.5	.15	.28			
	65-80	---	---	---	---	0.06-0.2	0.04-0.08	---	0.0-0.0	---	---			
Rohrersville--------	0-9	5-25	60-80	18-30	1.20-1.40	0.6-2	0.17-0.20	0.0-2.9	1.0-4.0	.24	.32	4	6	48
	9-25	5-30	40-75	18-25	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.0-0.5	.24	.32			
	25-31	5-25	55-75	20-42	1.30-1.60	0.6-2	0.14-0.18	3.0-5.9	0.0-0.5	.24	.32			
	31-43	5-25	55-75	20-42	1.35-1.60	0.06-0.2	0.07-0.16	0.0-2.9	0.0-0.5	.24	.32			
	43-62	5-25	38-75	20-42	1.40-1.60	0.2-0.6	0.14-0.17	0.0-2.9	0.0-0.5	.24	.32			
	62-70	---	---	---	---	0.06-0.6	---	---	---	---	---			
ReA:														
Readington----------	0-10	20-40	45-65	15-20	1.20-1.40	0.6-2	0.18-0.23	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	10-27	10-30	45-65	18-35	1.40-1.60	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.32	.32			
	27-35	10-30	45-65	20-30	1.60-1.80	0.2-0.6	0.06-0.10	0.0-2.9	0.0-0.5	.32	.37			
	35-40	10-30	45-65	20-30	1.60-1.80	0.2-0.6	0.06-0.10	0.0-2.9	0.0-0.5	.32	.37			
	40-46	10-30	45-65	20-30	1.60-1.80	0.2-0.6	0.06-0.10	0.0-2.9	0.0-0.5	.32	.37			
	46-56	---	---	---	---	0.2-2	---	---	---	---	---			
ReB:														
Readington----------	0-10	20-40	45-65	15-20	1.20-1.40	0.6-2	0.18-0.23	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	10-27	10-30	45-65	18-35	1.40-1.60	0.6-2	0.08-0.14	0.0-2.9	0.0-0.5	.32	.32			
	27-35	10-30	45-65	20-30	1.60-1.80	0.2-0.6	0.06-0.10	0.0-2.9	0.0-0.5	.32	.37			
	35-40	10-30	45-65	20-30	1.60-1.80	0.2-0.6	0.06-0.10	0.0-2.9	0.0-0.5	.32	.37			
	40-46	10-30	45-65	20-30	1.60-1.80	0.2-0.6	0.06-0.10	0.0-2.9	0.0-0.5	.32	.37			
	46-56	---	---	---	---	0.2-2	---	---	---	---	---			
RfA:														
Reaville------------	0-9	20-40	45-65	15-22	1.20-1.40	0.6-2	0.14-0.18	0.0-2.9	2.0-3.0	.32	.43	2	6	48
	9-15	10-30	45-65	18-32	1.30-1.60	0.06-0.2	0.08-0.14	0.0-2.9	0.0-0.5	.28	.32			
	15-25	10-30	45-65	15-32	1.30-1.70	0.06-0.2	0.06-0.12	0.0-2.9	0.0-0.5	.28	.37			
	25-35	---	---	---	---	0.06-2	---	---	---	---	---			
RfB:														
Reaville------------	0-9	20-40	45-65	15-22	1.20-1.40	0.6-2	0.14-0.18	0.0-2.9	2.0-3.0	.32	.43	2	6	48
	9-15	10-30	45-65	18-32	1.30-1.60	0.06-0.2	0.08-0.14	0.0-2.9	0.0-0.5	.28	.32			
	15-25	10-30	45-65	15-32	1.30-1.70	0.06-0.2	0.06-0.12	0.0-2.9	0.0-0.5	.28	.37			
	25-35	---	---	---	---	0.06-2	---	---	---	---	---			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
RfC:														
Reaville------------	0-9	20-40	45-65	15-22	1.20-1.40	0.6-2	0.14-0.18	0.0-2.9	2.0-3.0	.32	.43	2	6	48
	9-15	10-30	45-65	18-32	1.30-1.60	0.06-0.2	0.08-0.14	0.0-2.9	0.0-0.5	.28	.32			
	15-25	10-30	45-65	15-32	1.30-1.70	0.06-0.2	0.06-0.12	0.0-2.9	0.0-0.5	.28	.37			
	25-35	---	---	---	---	0.06-2	---	---	---	---	---			
RoB:														
Rohrersville--------	0-9	10-30	45-65	15-30	1.20-1.40	0.6-2	0.17-0.20	0.0-2.9	2.0-5.0	.43	.43	5	5	48
	9-25	10-30	45-65	15-30	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.5-1.0	.43	.43			
	25-31	10-30	45-65	15-30	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.5-1.0	.43	.43			
	31-43	10-30	45-65	15-30	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.5-1.0	.43	.43			
	43-62	10-30	45-65	15-30	1.30-1.60	0.6-2	0.14-0.17	0.0-2.9	0.0-0.5	.43	.43			
	62-70	---	---	---	---	0.06-0.6	---	---	---	---	---			
RsB:														
Rohrersville--------	0-9	10-30	45-65	18-30	1.20-1.40	0.6-2	0.17-0.20	0.0-2.9	1.0-4.0	.24	.32	4	6	48
	9-25	15-35	45-65	18-25	1.20-1.40	0.6-2	0.17-0.20	3.0-5.9	0.0-0.5	.24	.32			
	25-31	10-30	45-65	20-42	1.30-1.60	0.6-2	0.14-0.18	3.0-5.9	0.0-0.5	.24	.32			
	31-43	10-30	45-65	20-42	1.35-1.60	0.06-0.2	0.07-0.16	0.0-2.9	0.0-0.5	.24	.32			
	43-62	10-30	38-65	20-42	1.40-1.60	0.2-0.6	0.14-0.17	0.0-2.9	0.0-0.5	.24	.32			
	62-72	---	---	---	---	0.06-0.6	---	---	---	---	---			
Rw:														
Rowland-------------	0-10	20-40	45-65	10-20	1.10-1.30	0.2-2	0.14-0.18	0.0-2.9	2.0-4.0	.43	.43	4	5	56
	10-28	15-50	25-60	15-32	1.20-1.50	0.2-2	0.14-0.18	0.0-2.9	0.5-1.0	.28	.28			
	28-44	15-50	15-60	15-38	1.20-1.50	0.2-2	0.12-0.16	0.0-2.9	0.5-1.0	.28	.28			
	44-60	75-95	2-12	3-12	1.40-1.70	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.17	.17			
StB:														
Steinsburg----------	0-10	55-75	10-30	10-20	1.20-1.40	2-6	0.10-0.14	0.0-2.9	1.0-3.0	.20	.28	2	6	48
	10-20	45-75	10-35	10-20	1.20-1.40	2-6	0.10-0.16	0.0-2.9	0.0-0.5	.20	.24			
	20-26	55-75	10-30	5-18	1.10-1.40	2-6	0.04-0.08	0.0-2.9	0.0-0.5	.20	.28			
	26-36	---	---	---	---	0.6-6	---	---	---	---	---			
StC:														
Steinsburg----------	0-10	55-75	10-30	10-20	1.20-1.40	2-6	0.10-0.14	0.0-2.9	1.0-3.0	.20	.28	2	6	48
	10-20	45-75	10-35	10-20	1.20-1.40	2-6	0.10-0.16	0.0-2.9	0.0-0.5	.20	.24			
	20-26	55-75	10-30	5-18	1.10-1.40	2-6	0.04-0.08	0.0-2.9	0.0-0.5	.20	.28			
	26-36	---	---	---	---	0.6-6	---	---	---	---	---			
StD:														
Steinsburg----------	0-10	55-75	10-30	10-20	1.20-1.40	2-6	0.10-0.14	0.0-2.9	1.0-3.0	.20	.28	2	6	48
	10-20	45-75	10-35	10-20	1.20-1.40	2-6	0.10-0.16	0.0-2.9	0.0-0.5	.20	.24			
	20-26	55-75	10-30	5-18	1.10-1.40	2-6	0.04-0.08	0.0-2.9	0.0-0.5	.20	.28			
	26-36	---	---	---	---	0.6-6	---	---	---	---	---			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
Uc:														
Urban land----------	0-6	---	---	---	---	---	0.00-0.00	---	---	---	---	--	---	---
UeB:														
Urban land----------	0-6	---	---	---	---	---	0.00-0.00	---	---	---	---	--	---	---
Conestoga-----------	0-9	15-35	45-65	15-25	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	4	5	56
	9-17	10-30	45-65	22-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.2-0.8	.24	.24			
	17-40	10-30	45-65	22-35	1.40-1.60	0.6-2	0.12-0.16	0.0-2.9	0.1-0.5	.24	.24			
	40-46	20-60	30-60	13-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.1-0.5	.24	.28			
	46-60	20-60	30-60	13-27	1.40-1.60	0.6-2	0.06-0.10	0.0-2.9	0.1-0.2	.24	.28			
UgB:														
Urban land----------	0-6	---	---	---	---	---	0.00-0.00	---	---	---	---	--	---	---
Penn----------------	0-9	20-40	45-65	10-20	1.20-1.40	0.6-6	0.16-0.20	0.0-2.9	1.0-3.0	.32	.32	3	5	56
	9-24	15-35	40-60	18-25	1.40-1.60	0.6-6	0.14-0.18	0.0-2.9	0.0-0.5	.24	.28			
	24-30	15-35	40-60	18-25	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.24	.28			
	30-38	15-35	40-60	18-25	1.40-1.60	0.6-6	0.04-0.08	0.0-2.9	0.0-0.5	.24	.28			
	38-48	---	---	---	---	0.2-6	---	---	---	---	---			
W:														
Water.														
WaA:														
Watchung------------	0-9	10-32	45-57	10-40	1.20-1.40	0.2-2	0.14-0.21	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-18	10-30	20-50	27-65	1.20-1.50	0.0-0.2	0.10-0.24	3.0-5.9	0.5-1.0	.37	.37			
	18-25	10-30	20-50	27-65	1.20-1.50	0.0-0.2	0.10-0.24	3.0-5.9	0.1-0.5	.37	.37			
	25-30	10-30	20-50	27-65	1.20-1.50	0.0-0.2	0.10-0.24	3.0-5.9	0.1-0.5	.37	.37			
	30-40	10-30	20-50	27-65	1.20-1.50	0.0-0.2	0.10-0.24	3.0-5.9	0.1-0.5	.37	.37			
	40-60	10-30	40-65	15-40	1.20-1.50	0.2-2	0.12-0.24	3.0-5.9	0.1-0.5	.37	.37			
WaB:														
Watchung------------	0-9	10-35	45-57	10-40	1.20-1.40	0.2-2	0.14-0.21	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	9-18	10-30	20-50	27-65	1.20-1.50	0.0-0.2	0.10-0.24	3.0-5.9	0.5-1.0	.37	.37			
	18-25	10-30	20-50	27-65	1.20-1.50	0.0-0.2	0.10-0.24	3.0-5.9	0.1-0.5	.37	.37			
	25-30	10-30	20-50	27-65	1.20-1.50	0.0-0.2	0.10-0.24	3.0-5.9	0.1-0.5	.37	.37			
	30-40	10-30	20-50	27-65	1.20-1.50	0.0-0.2	0.10-0.24	3.0-5.9	0.1-0.5	.37	.37			
	40-60	10-30	40-65	15-40	1.20-1.50	0.2-2	0.12-0.24	3.0-5.9	0.1-0.5	.37	.37			

Table 20.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
WbB:														
Watchung------------	0-9	10-35	45-65	10-40	1.20-1.40	0.2-2	0.14-0.28	0.0-2.9	1.0-4.0	.43	.43	3	8	0
	9-18	10-30	20-50	27-65	1.20-1.50	0.0-0.2	0.10-0.24	3.0-5.9	0.5-1.0	.37	.37			
	18-25	10-30	20-50	27-65	1.20-1.50	0.0-0.2	0.10-0.24	3.0-5.9	0.1-0.5	.37	.37			
	25-30	10-30	20-50	27-65	1.20-1.50	0.0-0.2	0.10-0.24	3.0-5.9	0.1-0.5	.37	.37			
	30-40	10-30	20-50	27-65	1.20-1.50	0.0-0.2	0.10-0.24	3.0-5.9	0.1-0.5	.37	.37			
	40-60	10-30	40-65	15-40	1.20-1.50	0.2-2	0.12-0.24	3.0-5.9	0.1-0.5	.37	.37			

Table 21.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
AbA:								
Abbottstown----------	0-10	12-18	---	4.2-6.6	0	0	0	0
	10-20	12-18	---	4.5-6.5	0	0	0	0
	20-25	12-18	---	5.1-6.5	0	0	0	0
	25-32	12-18	---	5.1-6.5	0	0	0	0
	32-40	12-18	---	5.1-6.5	0	0	0	0
	40-45	12-18	---	5.1-6.5	0	0	0	0
	45-55	---	---	---	---	---	---	---
AbB:								
Abbottstown----------	0-10	12-18	---	4.2-6.6	0	0	0	0
	10-20	12-18	---	4.5-6.5	0	0	0	0
	20-25	12-18	---	5.1-6.5	0	0	0	0
	25-32	12-18	---	5.1-6.5	0	0	0	0
	32-40	12-18	---	5.1-6.5	0	0	0	0
	40-45	12-18	---	5.1-6.5	0	0	0	0
	45-55	---	---	---	---	---	---	---
ArB:								
Arendtsville---------	0-9	5.0-12	3.5-7.3	4.2-6.6	0	0	0	0
	9-16	5.0-10	3.4-6.8	3.5-5.5	0	0	0	0
	16-40	5.0-10	3.4-6.8	3.5-5.5	0	0	0	0
	40-53	5.0-10	3.4-6.8	3.5-5.5	0	0	0	0
	53-72	5.0-10	2.0-5.4	3.5-5.5	0	0	0	0
ArC:								
Arendtsville---------	0-9	5.0-12	3.5-7.3	4.2-6.6	0	0	0	0
	9-16	5.0-10	3.4-6.8	3.5-5.5	0	0	0	0
	16-40	5.0-10	3.4-6.8	3.5-5.5	0	0	0	0
	40-53	5.0-10	3.4-6.8	3.5-5.5	0	0	0	0
	53-72	5.0-10	2.0-5.4	3.5-5.5	0	0	0	0
ArD:								
Arendtsville---------	0-9	5.0-12	3.5-7.3	4.2-6.6	0	0	0	0
	9-16	5.0-10	3.4-6.8	3.5-5.5	0	0	0	0
	16-40	5.0-10	3.4-6.8	3.5-5.5	0	0	0	0
	40-53	5.0-10	3.4-6.8	3.5-5.5	0	0	0	0
	53-72	5.0-10	2.0-5.4	3.5-5.5	0	0	0	0
ArE:								
Arendtsville---------	0-9	5.0-12	3.5-7.3	4.2-6.6	0	0	0	0
	9-16	5.0-10	3.4-6.8	3.5-5.5	0	0	0	0
	16-40	5.0-10	3.4-6.8	3.5-5.5	0	0	0	0
	40-53	5.0-10	3.4-6.8	3.5-5.5	0	0	0	0
	53-72	5.0-10	2.0-5.4	3.5-5.5	0	0	0	0
AtA:								
Athol----------------	0-10	12-16	3.5-8.4	5.1-6.5	0	0	0	0
	10-24	8.0-13	---	4.5-6.0	0	0	0	0
	24-52	8.0-13	---	4.5-6.0	0	0	0	0
	52-60	10-12	---	5.1-6.5	0	0	0	0
AtB:								
Athol----------------	0-10	12-16	3.5-8.4	5.1-6.5	0	0	0	0
	10-24	8.0-13	---	5.1-6.0	0	0	0	0
	24-52	8.0-13	---	5.1-6.0	0	0	0	0
	52-60	10-12	---	5.1-6.5	0	0	0	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
AtC:								
Athol----------------	0-10	12-16	3.5-8.4	5.1-6.5	0	0	0	0
	10-24	8.0-13	---	5.1-6.0	0	0	0	0
	24-52	8.0-13	---	5.1-6.0	0	0	0	0
	52-60	10-12	---	5.1-6.5	0	0	0	0
Ba:								
Baile----------------	0-12	7.0-16	3.8-9.4	4.2-6.6	---	---	0	---
	12-40	3.1-13	2.0-7.4	3.5-5.5	---	---	0	---
	40-60	3.1-9.5	2.0-5.4	3.5-5.5	---	---	0	---
Be:								
Bermudian------------	0-8	6.3-13	3.5-7.3	4.5-6.0	---	---	0	---
	8-30	5.3-12	3.4-7.0	4.5-6.0	---	---	0	---
	30-50	5.3-9.7	3.4-7.0	4.5-6.0	---	---	0	---
	50-60	3.0-6.0	1.0-4.0	4.5-6.0	---	---	0	---
BgA:								
Birdsboro------------	0-10	5.0-15	2.8-7.7	4.2-6.6	0	0	0	0
	10-18	5.0-15	4.0-7.4	3.5-5.5	0	0	0	0
	18-30	5.0-15	4.0-7.4	3.5-5.5	0	0	0	0
	30-50	5.0-15	4.0-7.4	3.5-5.5	0	0	0	0
	50-60	5.0-15	4.0-7.4	3.5-5.5	0	0	0	0
BgB:								
Birdsboro------------	0-10	5.0-15	2.8-7.7	4.2-6.6	0	0	0	0
	10-18	5.0-15	4.0-7.4	3.5-5.5	0	0	0	0
	18-30	5.0-15	4.0-7.4	3.5-5.5	0	0	0	0
	30-50	5.0-15	4.0-7.4	3.5-5.5	0	0	0	0
	50-60	5.0-15	4.0-7.4	3.5-5.5	0	0	0	0
BgC:								
Birdsboro------------	0-10	5.0-15	2.8-7.7	4.2-6.6	0	0	0	0
	10-18	5.0-15	4.0-7.4	3.5-5.5	0	0	0	0
	18-30	5.0-15	4.0-7.4	3.5-5.5	0	0	0	0
	30-50	5.0-15	4.0-7.4	3.5-5.5	0	0	0	0
	50-60	5.0-15	4.0-7.4	3.5-5.5	0	0	0	0
Bo:								
Bowmansville---------	0-11	10-20	---	5.1-6.5	0	0	0	0
	11-34	10-20	---	5.1-6.5	0	0	0	0
	34-55	5.0-15	---	5.1-7.3	0	0	0	0
	55-72	5.0-15	---	5.1-7.3	0	0	0	0
BrB:								
Brecknock------------	0-7	10-20	---	4.5-6.5	0	0	0	0
	7-12	10-25	---	4.5-6.5	0	0	0	0
	12-30	10-25	---	4.5-6.5	0	0	0	0
	30-42	10-25	---	4.5-6.5	0	0	0	0
	42-52	---	---	---	---	---	---	---
BrC:								
Brecknock------------	0-7	10-20	---	4.5-6.5	0	0	0	0
	7-12	10-25	---	4.5-6.5	0	0	0	0
	12-30	10-25	---	4.5-6.5	0	0	0	0
	30-42	10-25	---	4.5-6.5	0	0	0	0
	42-52	---	---	---	---	---	---	---

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
BrD:								
Brecknock------------	0-7	10-20	---	4.5-6.5	0	0	0	0
	7-12	10-25	---	4.5-6.5	0	0	0	0
	12-30	10-25	---	4.5-6.5	0	0	0	0
	30-42	10-25	---	4.5-6.5	0	0	0	0
	42-52	---	---	---	---	---	---	---
BuB:								
Buchanan-------------	0-7	10-20	2.8-7.7	4.2-6.6	0	0	0	0
	7-25	5.0-15	3.6-6.4	3.5-5.5	0	0	0	0
	25-54	5.0-15	3.6-9.1	3.5-5.5	0	0	0	0
	54-60	5.0-15	3.6-6.4	3.5-5.5	0	0	0	0
BvB:								
Buchanan-------------	0-7	10-20	2.8-7.7	4.2-6.6	0	0	0	0
	7-25	5.0-15	3.6-6.4	3.5-5.5	0	0	0	0
	25-54	5.0-15	3.6-9.1	3.5-5.5	0	0	0	0
	54-60	5.0-15	3.6-6.4	3.5-5.5	0	0	0	0
CcB:								
Catoctin-------------	0-9	10-20	---	5.1-6.5	---	---	0	---
	9-16	6.0-12	---	5.1-6.5	---	---	0	---
	16-24	6.0-12	---	5.6-7.3	---	---	0	---
	24-34	---	---	---	---	---	---	---
CcC:								
Catoctin-------------	0-9	10-20	---	5.1-6.5	---	---	0	---
	9-16	6.0-12	---	5.1-6.5	---	---	0	---
	16-24	6.0-12	---	5.6-7.3	---	---	0	---
	24-34	---	---	---	---	---	---	---
CcE:								
Catoctin-------------	0-9	10-20	---	5.1-6.5	---	---	0	---
	9-16	6.0-12	---	5.1-6.5	---	---	0	---
	16-24	6.0-12	---	5.6-7.3	---	---	0	---
	24-34	---	---	---	---	---	---	---
CkA:								
Clarksburg-----------	0-8	12-20	---	5.1-6.5	0	0	0	0
	8-32	12-25	---	5.1-6.5	0	0	0	0
	32-40	12-25	---	5.1-6.5	0	0	0	0
	40-54	12-25	---	5.1-6.5	0	0	0	0
	54-64	15-28	---	5.1-6.5	0	0	0	0
CkB:								
Clarksburg-----------	0-8	12-20	---	5.1-6.5	0	0	0	0
	8-32	12-25	---	5.1-6.5	0	0	0	0
	32-40	12-25	---	5.1-6.5	0	0	0	0
	40-54	12-25	---	5.1-6.5	0	0	0	0
	54-64	15-28	---	5.1-6.5	0	0	0	0
Cm:								
Codorus--------------	0-12	15-25	4.5-8.0	4.5-6.0	---	---	0	---
	12-48	15-25	---	5.1-6.5	---	---	0	---
	48-60	15-25	---	5.1-6.5	---	---	0	---

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
CnA:								
Conestoga------------	0-9	9.0-24	---	4.5-7.3	---	---	0	---
	9-17	10-13	---	4.5-7.3	---	---	0	---
	17-40	10-13	---	4.5-7.3	---	---	0	---
	40-46	6.0-12	---	5.6-7.8	---	---	0	---
	46-60	5.0-14	---	5.6-7.8	---	---	0	---
CnB:								
Conestoga------------	0-9	9.0-24	---	4.5-7.3	---	---	0	---
	9-17	10-13	---	4.5-7.3	---	---	0	---
	17-40	10-13	---	4.5-7.3	---	---	0	---
	40-46	6.0-12	---	5.6-7.8	---	---	0	---
	46-60	5.0-14	---	5.6-7.8	---	---	0	---
CnC:								
Conestoga------------	0-9	9.0-24	---	4.5-7.3	---	---	0	---
	9-17	10-13	---	4.5-7.3	---	---	0	---
	17-40	10-13	---	4.5-7.3	---	---	0	---
	40-46	6.0-12	---	5.6-7.8	---	---	0	---
	46-60	5.0-14	---	5.6-7.8	---	---	0	---
CrA:								
Croton---------------	0-12	15-25	5.3-9.8	4.5-6.6	0	0	0	0
	12-20	9.0-16	4.4-7.8	4.5-6.0	0	0	0	0
	20-37	8.0-12	4.0-6.4	4.5-6.0	0	0	0	0
	37-42	8.0-12	4.0-6.4	4.5-6.0	0	0	0	0
	42-52	---	---	---	---	---	---	---
CrB:								
Croton---------------	0-12	15-25	5.3-9.8	4.5-6.6	0	0	0	0
	12-20	9.0-16	4.4-7.8	4.5-6.0	0	0	0	0
	20-37	8.0-12	4.0-6.4	4.5-6.0	0	0	0	0
	37-42	8.0-12	4.0-6.4	4.5-6.0	0	0	0	0
	42-52	---	---	---	---	---	---	---
DAM:								
Dams-----------------	0-6	---	---	---	---	---	0	---
Dx:								
Dumps.								
Dy:								
Dunning--------------	0-11	25-60	---	5.6-7.8	0	0	0	0
	11-36	10-40	---	5.6-7.8	0	0	0	0
	36-42	10-40	---	5.6-7.8	0	0	0	0
	42-60	9.0-13	---	5.6-7.8	0	0	0	0
EdB:								
Edgemont-------------	0-8	10-15	2.5-6.3	4.2-6.6	0	0	0	0
	8-24	8.0-16	3.6-6.4	3.5-5.5	0	0	0	0
	24-30	11-14	1.0-6.4	3.5-5.5	0	0	0	0
	30-60	11-14	1.0-6.4	3.5-5.5	0	0	0	0
EdC:								
Edgemont-------------	0-8	10-15	2.5-6.3	4.2-6.6	0	0	0	0
	8-24	8.0-16	3.6-6.4	3.5-5.5	0	0	0	0
	24-30	11-14	1.0-6.4	3.5-5.5	0	0	0	0
	30-60	11-14	1.0-6.4	3.5-5.5	0	0	0	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
EdD:								
Edgemont-------------	0-8	10-15	2.5-6.3	4.2-6.6	0	0	0	0
	8-24	8.0-16	3.6-6.4	3.5-5.5	0	0	0	0
	24-30	11-14	1.0-6.4	3.5-5.5	0	0	0	0
	30-60	11-14	1.0-6.4	3.5-5.5	0	0	0	0
EeB:								
Edgemont-------------	0-8	10-15	2.5-7.0	4.2-6.6	0	0	0	0
	8-24	8.0-16	3.6-6.4	3.5-5.5	0	0	0	0
	24-30	8.0-16	3.6-6.4	3.5-5.5	0	0	0	0
	30-60	11-14	1.0-6.4	3.5-5.5	0	0	0	0
EeD:								
Edgemont-------------	0-8	10-15	2.5-7.0	4.2-6.6	0	0	0	0
	8-24	8.0-16	3.6-6.4	3.5-5.5	0	0	0	0
	24-30	8.0-16	3.6-6.4	3.5-5.5	0	0	0	0
	30-60	11-14	1.0-6.4	3.5-5.5	0	0	0	0
EeF:								
Edgemont-------------	0-8	10-15	2.5-7.0	4.2-6.6	0	0	0	0
	8-24	8.0-16	3.6-6.4	3.5-5.5	0	0	0	0
	24-30	8.0-16	3.6-6.4	3.5-5.5	0	0	0	0
	30-60	11-14	1.0-6.4	3.5-5.5	0	0	0	0
GbB:								
Glenelg--------------	0-8	7.5-14	4.5-7.3	4.5-6.6	---	---	0	---
	8-16	8.0-13	4.2-6.8	4.5-6.5	---	---	0	---
	16-22	8.0-13	4.2-6.8	4.5-6.5	---	---	0	---
	22-25	8.0-13	4.2-6.8	4.5-6.5	---	---	0	---
	25-29	2.0-8.0	1.1-4.2	4.5-6.5	---	---	0	---
	29-50	2.0-8.0	1.1-4.2	4.5-6.5	---	---	0	---
	50-55	---	---	---	---	---	---	---
GbC:								
Glenelg--------------	0-8	7.5-14	4.5-7.3	4.5-6.6	---	---	0	---
	8-16	8.0-13	4.2-6.8	4.5-6.5	---	---	0	---
	16-22	8.0-13	4.2-6.8	4.5-6.5	---	---	0	---
	22-25	8.0-13	4.2-6.8	4.5-6.5	---	---	0	---
	25-29	2.0-8.0	1.1-4.2	4.5-6.5	---	---	0	---
	29-50	2.0-8.0	1.1-4.2	4.5-6.5	---	---	0	---
	50-55	---	---	---	---	---	---	---
GbD:								
Glenelg--------------	0-8	7.5-14	4.5-7.3	4.5-6.6	---	---	0	---
	8-16	8.0-13	4.2-6.8	4.5-6.5	---	---	0	---
	16-22	8.0-13	4.2-6.8	4.5-6.5	---	---	0	---
	22-25	8.0-13	4.2-6.8	4.5-6.5	---	---	0	---
	25-29	2.0-8.0	1.1-4.2	4.5-6.5	---	---	0	---
	29-50	2.0-8.0	1.1-4.2	4.5-6.5	---	---	0	---
	50-55	---	---	---	---	---	---	---
GdA:								
Glenville------------	0-10	10-20	---	4.5-7.3	0	0	0	0
	10-19	10-20	4.0-7.4	4.5-6.0	0	0	0	0
	19-36	10-20	4.0-7.4	4.5-6.0	0	0	0	0
	36-60	10-20	1.0-5.4	4.5-5.5	0	0	0	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
GdB:								
Glenville------------	0-10	10-20	---	4.5-7.3	0	0	0	0
	10-19	10-20	4.0-7.4	4.5-6.0	0	0	0	0
	19-36	10-20	4.0-7.4	4.5-6.0	0	0	0	0
	36-60	10-20	1.0-5.4	4.5-5.5	0	0	0	0
Hc:								
Hatboro--------------	0-12	15-25	---	4.5-7.3	---	---	0	---
	12-45	15-25	---	4.5-7.3	---	---	0	---
	45-60	15-25	---	5.6-6.5	---	---	0	---
HgB:								
Highfield------------	0-9	10-20	2.8-6.3	4.5-6.6	0	0	0	0
	9-24	10-20	3.0-5.8	4.5-5.5	0	0	0	0
	24-42	10-20	---	5.1-6.0	0	0	0	0
	42-52	---	---	---	0	0	0	0
HgC:								
Highfield------------	0-9	10-20	2.8-6.3	4.5-6.6	0	0	0	0
	9-24	10-20	3.0-5.8	4.5-5.5	0	0	0	0
	24-42	10-20	---	5.1-6.0	0	0	0	0
	42-52	---	---	---	0	0	0	0
HHD:								
Highfield------------	0-9	10-20	2.8-6.3	4.5-6.6	0	0	0	0
	9-24	10-20	3.0-5.8	4.5-5.5	0	0	0	0
	24-42	10-20	---	5.1-6.0	0	0	0	0
	42-52	---	---	---	0	0	0	0
Catoctin-------------	0-9	10-20	---	5.1-6.5	---	---	0	---
	9-16	6.0-12	---	5.1-6.5	---	---	0	---
	16-24	6.0-12	---	5.6-7.3	---	---	0	---
	24-34	---	---	---	---	---	---	---
HKB:								
Highfield------------	0-9	10-20	2.0-4.0	4.5-6.6	---	---	0	---
	9-24	10-20	3.0-5.4	4.5-5.5	---	---	0	---
	24-42	10-20	---	5.1-6.0	---	---	0	---
	42-52	---	---	---	---	---	---	---
Catoctin-------------	0-9	10-20	---	5.1-6.5	---	---	0	---
	9-16	6.0-12	---	5.1-6.5	---	---	0	---
	16-24	6.0-12	---	5.6-7.3	---	---	0	---
	24-34	---	---	---	---	---	---	---
Myersville-----------	0-9	3.0-9.0	1.4-5.5	4.5-6.0	0	0	0	0
	9-14	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	14-27	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	27-38	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	38-48	2.5-9.1	2.0-6.8	4.5-6.0	0	0	0	0
	48-60	---	---	---	---	---	---	---
	60-70	---	---	---	---	---	---	---
HKD:								
Highfield------------	0-9	10-20	2.0-4.0	4.5-6.6	---	---	0	---
	9-24	10-20	3.0-5.4	4.5-5.5	---	---	0	---
	24-42	10-20	---	5.1-6.0	---	---	0	---
	42-52	---	---	---	---	---	---	---

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
HKD:								
Catoctin-------------	0-9	10-20	---	5.1-6.5	---	---	0	---
	9-16	6.0-12	---	5.1-6.5	---	---	0	---
	16-24	6.0-12	---	5.6-7.3	---	---	0	---
	24-34	---	---	---	---	---	---	---
Myersville-----------	0-9	3.0-9.0	1.4-5.5	4.5-6.0	0	0	0	0
	9-14	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	14-27	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	27-38	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	38-48	2.5-9.1	2.0-6.8	4.5-6.0	0	0	0	0
	48-60	---	---	---	---	---	---	---
	60-70	---	---	---	---	---	---	---
HMF:								
Highfield------------	0-9	10-20	2.0-4.0	4.5-6.6	---	---	0	---
	9-24	10-20	3.0-5.4	4.5-5.5	---	---	0	---
	24-42	10-20	---	5.1-6.0	---	---	0	---
	42-52	---	---	---	---	---	---	---
Catoctin-------------	0-9	10-20	---	5.1-6.5	---	---	0	---
	9-16	6.0-12	---	5.1-6.5	---	---	0	---
	16-24	6.0-12	---	5.6-7.3	---	---	0	---
	24-34	---	---	---	---	---	---	---
KnB:								
Klinesville----------	0-8	10-22	2.4-6.5	4.5-6.0	0	0	0	0
	8-14	4.0-12	2.0-4.0	4.5-6.0	0	0	0	0
	14-16	4.0-12	2.0-4.0	4.5-6.0	0	0	0	0
	16-26	---	---	---	---	---	---	---
KnC:								
Klinesville----------	0-8	10-22	2.4-6.5	4.5-6.0	0	0	0	0
	8-14	4.0-12	2.0-4.0	4.5-6.0	0	0	0	0
	14-16	4.0-12	2.0-4.0	4.5-6.0	0	0	0	0
	16-26	---	---	---	---	---	---	---
KnD:								
Klinesville----------	0-8	10-22	2.4-6.5	4.5-6.0	0	0	0	0
	8-14	4.0-12	2.0-4.0	4.5-6.0	0	0	0	0
	14-16	4.0-12	2.0-4.0	4.5-6.0	0	0	0	0
	16-26	---	---	---	---	---	---	---
KnE:								
Klinesville----------	0-8	10-22	2.4-6.5	4.5-6.0	0	0	0	0
	8-14	4.0-12	2.0-4.0	4.5-6.0	0	0	0	0
	14-16	4.0-12	2.0-4.0	4.5-6.0	0	0	0	0
	16-26	---	---	---	---	---	---	---
Lc:								
Lamington------------	0-11	10-20	3.5-8.0	4.5-6.6	0	0	0	0
	11-17	10-20	3.6-7.4	4.5-5.5	0	0	0	0
	17-46	10-20	3.6-7.4	4.5-5.5	0	0	0	0
	46-60	10-20	1.0-6.4	4.5-5.5	0	0	0	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
LeB:								
Lansdale-------------	0-10	8.0-16	2.5-6.0	4.5-6.6	0	0	0	0
	10-17	5.0-12	2.4-5.8	4.5-5.0	0	0	0	0
	17-30	5.0-12	2.4-5.8	4.5-5.0	0	0	0	0
	30-42	4.0-8.0	2.0-4.0	4.5-5.0	0	0	0	0
	42-47	4.0-8.0	2.0-4.0	4.5-5.0	0	0	0	0
	47-57	---	---	---	---	---	---	---
LfC:								
Lansdale-------------	0-10	8.0-16	2.5-6.0	4.5-6.6	0	0	0	0
	10-17	5.0-12	2.4-5.8	4.5-5.0	0	0	0	0
	17-30	5.0-12	2.4-5.8	4.5-5.0	0	0	0	0
	30-42	4.0-8.0	2.0-4.0	4.5-5.0	0	0	0	0
	42-47	4.0-8.0	2.0-4.0	4.5-5.0	0	0	0	0
	47-57	---	---	---	---	---	---	---
LgB:								
Legore---------------	0-10	8.2-24	---	5.1-6.0	---	---	0	---
	10-30	14-18	---	5.6-6.5	---	---	0	---
	30-44	9.0-18	---	5.6-6.5	---	---	0	---
	44-60	9.0-18	---	5.6-6.5	---	---	0	---
LgC:								
Legore---------------	0-10	8.2-24	---	5.1-6.0	---	---	0	---
	10-30	14-18	---	5.6-6.5	---	---	0	---
	30-44	9.0-18	---	5.6-6.5	---	---	0	---
	44-60	9.0-18	---	5.6-6.5	---	---	0	---
LgD:								
Legore---------------	0-10	8.2-24	---	5.1-6.0	---	---	0	---
	10-30	14-18	---	5.6-6.5	---	---	0	---
	30-44	9.0-18	---	5.6-6.5	---	---	0	---
	44-60	9.0-18	---	5.6-6.5	---	---	0	---
LhA:								
Lehigh---------------	0-8	10-20	---	4.5-7.3	0	0	0	0
	8-14	10-25	---	4.5-7.3	0	0	0	0
	14-21	10-25	---	4.5-7.3	0	0	0	0
	21-30	10-25	---	4.5-7.3	0	0	0	0
	30-42	10-25	---	4.5-7.3	0	0	0	0
	42-52	---	---	---	---	---	---	---
LhB:								
Lehigh---------------	0-8	10-20	---	4.5-7.3	0	0	0	0
	8-14	10-25	---	4.5-7.3	0	0	0	0
	14-21	10-25	---	4.5-7.3	0	0	0	0
	21-30	10-25	---	4.5-7.3	0	0	0	0
	30-42	10-25	---	4.5-7.3	0	0	0	0
	42-52	---	---	---	---	---	---	---
LhC:								
Lehigh---------------	0-8	10-20	---	4.5-7.3	0	0	0	0
	8-14	10-25	---	4.5-7.3	0	0	0	0
	14-21	10-25	---	4.5-7.3	0	0	0	0
	21-30	10-25	---	4.5-7.3	0	0	0	0
	30-42	10-25	---	4.5-7.3	0	0	0	0
	42-52	---	---	---	---	---	---	---

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
LkB:								
Lehigh---------------	0-8	10-20	---	5.1-6.0	0	0	0	0
	8-14	10-25	---	5.1-6.0	0	0	0	0
	14-21	10-25	---	5.1-6.0	0	0	0	0
	21-30	10-25	---	5.1-6.0	0	0	0	0
	30-42	10-25	---	5.1-6.0	0	0	0	0
	42-52	---	---	---	---	---	---	---
Lw:								
Lindside-------------	0-8	15-30	---	5.1-7.8	0	0	0	0
	8-31	15-25	---	5.1-7.8	0	0	0	0
	31-60	8.0-25	---	5.6-7.8	0	0	0	0
MdA:								
Mount Lucas----------	0-8	10-20	---	5.1-6.5	0	0	0	0
	8-16	15-30	---	5.1-7.3	0	0	0	0
	16-37	15-30	---	5.1-7.3	0	0	0	0
	37-44	15-30	---	5.6-7.3	0	0	0	0
	44-60	15-30	---	5.6-7.3	0	0	0	0
MdB:								
Mount Lucas----------	0-8	10-20	---	5.1-6.5	0	0	0	0
	8-16	15-30	---	5.1-7.3	0	0	0	0
	16-37	15-30	---	5.1-7.3	0	0	0	0
	37-44	15-30	---	5.6-7.3	0	0	0	0
	44-60	15-30	---	5.6-7.3	0	0	0	0
MeB:								
Mount Lucas----------	0-8	10-20	---	5.1-6.5	0	0	0	0
	8-16	15-30	---	5.1-7.3	0	0	0	0
	16-37	15-30	---	5.1-7.3	0	0	0	0
	37-44	15-30	---	5.6-7.3	0	0	0	0
	44-60	15-30	---	5.6-7.3	0	0	0	0
MOB:								
Mt. Airy-------------	0-8	5.5-9.9	3.8-7.5	4.5-6.6	---	---	0	---
	8-15	4.4-7.6	3.0-6.0	4.5-5.5	---	---	0	---
	15-20	4.4-7.6	3.0-6.0	4.5-5.5	---	---	0	---
	20-32	4.4-7.6	3.0-6.0	4.5-5.5	---	---	0	---
	32-42	---	---	---	---	---	---	---
Manor----------------	0-8	---	2.8-7.3	3.5-6.0	---	---	0	---
	8-18	---	2.0-5.4	3.5-6.0	---	---	0	---
	18-60	---	1.0-4.4	3.5-6.0	---	---	0	---
MOC:								
Mt. Airy-------------	0-8	5.5-9.9	3.8-7.5	4.5-6.6	---	---	0	---
	8-15	4.4-7.6	3.0-6.0	4.5-5.5	---	---	0	---
	15-20	4.4-7.6	3.0-6.0	4.5-5.5	---	---	0	---
	20-32	4.4-7.6	3.0-6.0	4.5-5.5	---	---	0	---
	32-42	---	---	---	---	---	---	---
Manor----------------	0-8	---	2.8-7.3	3.5-6.0	---	---	0	---
	8-18	---	2.0-5.4	3.5-6.0	---	---	0	---
	18-60	---	1.0-4.4	3.5-6.0	---	---	0	---

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
MOD:								
Mt. Airy-------------	0-8	5.5-9.9	3.8-7.5	4.5-6.6	---	---	0	---
	8-15	4.4-7.6	3.0-6.0	4.5-5.5	---	---	0	---
	15-20	4.4-7.6	3.0-6.0	4.5-5.5	---	---	0	---
	20-32	4.4-7.6	3.0-6.0	4.5-5.5	---	---	0	---
	32-42	---	---	---	---	---	---	---
Manor----------------	0-8	---	2.8-7.3	3.5-6.0	---	---	0	---
	8-18	---	2.0-5.4	3.5-6.0	---	---	0	---
MtB:								
Mt. Zion-------------	0-6	10-20	---	5.1-6.0	0	0	0	0
	6-12	10-20	---	5.1-6.0	0	0	0	0
	12-19	10-20	---	5.1-6.0	0	0	0	0
	19-31	10-20	---	5.1-6.0	0	0	0	0
	31-48	15-30	---	5.1-6.0	0	0	0	0
	48-69	15-30	---	5.6-6.5	0	0	0	0
	69-72	---	---	---	---	---	---	---
MtC:								
Mt. Zion-------------	0-6	10-20	---	5.1-6.0	0	0	0	0
	6-12	10-20	---	5.1-6.0	0	0	0	0
	12-19	10-20	---	5.1-6.0	0	0	0	0
	19-31	10-20	---	5.1-6.0	0	0	0	0
	31-48	15-30	---	5.1-6.0	0	0	0	0
	48-69	15-30	---	5.6-6.5	0	0	0	0
	69-72	---	---	---	---	---	---	---
MtD:								
Mt. Zion-------------	0-6	10-20	---	5.1-6.0	0	0	0	0
	6-12	10-20	---	5.1-6.0	0	0	0	0
	12-19	10-20	---	5.1-6.0	0	0	0	0
	19-31	10-20	---	5.1-6.0	0	0	0	0
	31-48	15-30	---	5.1-6.0	0	0	0	0
	48-69	15-30	---	5.6-6.5	0	0	0	0
	69-72	---	---	---	---	---	---	---
MyB:								
Myersville-----------	0-9	3.0-9.0	1.8-6.3	4.5-6.0	0	0	0	0
	9-14	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	14-27	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	27-38	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	38-48	2.5-9.1	2.0-6.8	4.5-6.0	0	0	0	0
	48-60	---	---	---	---	---	---	---
	60-70	---	---	---	---	---	---	---
MyC:								
Myersville-----------	0-9	3.0-9.0	1.8-6.3	4.5-6.0	0	0	0	0
	9-14	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	14-27	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	27-38	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	38-48	2.5-9.1	2.0-6.8	4.5-6.0	0	0	0	0
	48-60	---	---	---	---	---	---	---
	60-70	---	---	---	---	---	---	---

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
MyD:								
Myersville-----------	0-9	3.0-9.0	1.8-6.3	4.5-6.0	0	0	0	0
	9-14	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	14-27	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	27-38	4.6-9.9	3.6-7.4	4.5-6.0	0	0	0	0
	38-48	2.5-9.1	2.0-6.8	4.5-6.0	0	0	0	0
	48-60	---	---	---	---	---	---	---
	60-70	---	---	---	---	---	---	---
NaB:								
Neshaminy------------	0-8	20-30	3.5-8.0	4.5-6.0	0	0	0	0
	8-15	10-25	---	5.1-6.5	0	0	0	0
	15-70	10-25	---	5.1-6.5	0	0	0	0
NaC:								
Neshaminy------------	0-8	20-30	3.5-8.0	4.5-6.0	0	0	0	0
	8-15	10-25	---	5.1-6.5	0	0	0	0
	15-70	10-25	---	5.1-6.5	0	0	0	0
NdB:								
Neshaminy------------	0-8	10-25	4.3-8.8	4.5-6.0	0	0	0	0
	8-15	10-25	---	5.1-6.5	0	0	0	0
	15-70	10-25	---	5.1-6.5	0	0	0	0
NdD:								
Neshaminy------------	0-8	10-25	4.3-8.8	4.5-6.0	0	0	0	0
	8-15	10-25	---	5.1-6.5	0	0	0	0
	15-70	10-25	---	5.1-6.5	0	0	0	0
NdE:								
Neshaminy------------	0-8	10-25	4.3-8.8	4.5-6.0	0	0	0	0
	8-15	10-25	---	5.1-6.5	0	0	0	0
	15-70	10-25	---	5.1-6.5	0	0	0	0
Pa:								
Penlaw---------------	0-10	12-20	---	5.6-7.3	0	0	0	0
	10-20	12-25	---	5.6-7.3	0	0	0	0
	20-26	12-25	---	5.6-7.3	0	0	0	0
	26-38	12-25	---	5.6-7.3	0	0	0	0
	38-47	12-25	---	5.6-7.3	0	0	0	0
	47-65	15-30	---	5.6-7.3	0	0	0	0
PbD:								
Penn-----------------	0-9	10-20	3.5-7.0	4.2-6.6	0	0	0	0
	9-24	8.0-16	3.6-5.4	3.5-6.0	0	0	0	0
	24-30	5.0-15	---	5.1-6.5	0	0	0	0
	30-38	5.0-15	---	5.1-6.5	0	0	0	0
	38-48	---	---	---	---	---	---	---
PcB:								
Penn-----------------	0-9	10-20	2.8-6.3	4.2-6.6	0	0	0	0
	9-24	8.0-16	3.6-5.4	3.5-6.0	0	0	0	0
	24-30	5.0-15	---	5.1-6.5	0	0	0	0
	30-38	5.0-15	---	5.1-6.5	0	0	0	0
	38-48	---	---	---	---	---	---	---

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
PcC:								
Penn	0-9	10-20	2.8-6.3	4.2-6.6	0	0	0	0
	9-24	8.0-16	3.6-5.4	3.5-6.0	0	0	0	0
	24-30	5.0-15	---	5.1-6.5	0	0	0	0
	30-38	5.0-15	---	5.1-6.5	0	0	0	0
	38-48	---	---	---	---	---	---	---
PoB:								
Penn	0-9	10-20	2.8-6.3	4.2-6.6	0	0	0	0
	9-24	8.0-16	3.6-5.4	3.5-6.0	0	0	0	0
	24-30	5.0-15	---	5.1-6.5	0	0	0	0
	30-38	5.0-15	---	5.1-6.5	0	0	0	0
	38-48	---	---	---	---	---	---	---
Klinesville	0-8	10-22	2.4-6.5	4.5-6.0	0	0	0	0
	8-14	4.0-12	2.0-4.0	4.5-6.0	0	0	0	0
	14-16	4.0-12	2.0-4.0	4.5-6.0	0	0	0	0
	16-26	---	---	---	---	---	---	---
PoC:								
Penn	0-9	10-20	2.8-6.3	4.2-6.6	0	0	0	0
	9-24	8.0-16	3.6-5.4	3.5-6.0	0	0	0	0
	24-30	5.0-15	---	5.1-6.5	0	0	0	0
	30-38	5.0-15	---	5.1-6.5	0	0	0	0
	38-48	---	---	---	---	---	---	---
Klinesville	0-8	10-22	2.4-6.5	4.5-6.0	0	0	0	0
	8-14	4.0-12	2.0-4.0	4.5-6.0	0	0	0	0
	14-16	4.0-12	2.0-4.0	4.5-6.0	0	0	0	0
	16-26	---	---	---	---	---	---	---
PsD:								
Pequea	0-8	8.0-16	---	6.1-7.3	---	---	0	---
	8-24	5.3-11	---	6.1-7.3	---	---	0	---
	24-40	5.0-12	---	6.6-8.4	---	---	0	---
	40-59	5.0-12	---	6.6-8.4	---	---	0	---
	59-70	---	---	---	---	---	---	---
Pt:								
Pits.								
RaA:								
Raritan	0-9	10-20	3.5-7.0	4.5-6.0	0	0	0	0
	9-20	10-18	3.6-7.2	4.5-6.0	0	0	0	0
	20-26	10-18	3.6-7.2	4.5-6.0	0	0	0	0
	26-36	10-18	3.6-7.2	4.5-6.0	0	0	0	0
	36-48	10-18	3.6-7.2	4.5-6.0	0	0	0	0
	48-54	10-18	3.6-7.2	4.5-6.0	0	0	0	0
	54-60	10-18	1.0-3.4	4.5-6.0	0	0	0	0
RaB:								
Raritan	0-9	10-20	3.5-7.0	4.5-6.0	0	0	0	0
	9-20	10-18	3.6-7.2	4.5-6.0	0	0	0	0
	20-26	10-18	3.6-7.2	4.5-6.0	0	0	0	0
	26-36	10-18	3.6-7.2	4.5-6.0	0	0	0	0
	36-48	10-18	3.6-7.2	4.5-6.0	0	0	0	0
	48-54	10-18	3.6-7.2	4.5-6.0	0	0	0	0
	54-60	10-18	1.0-3.4	4.5-6.0	0	0	0	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
RcC:								
Ravenrock------------	0-4	15-40	3.8-7.0	4.5-6.0	0	0	0	0
	4-7	10-20	---	5.1-6.0	0	0	0	0
	7-16	10-20	---	5.1-6.0	0	0	0	0
	16-43	10-20	---	5.1-6.0	0	0	0	0
	43-57	10-20	---	5.1-6.0	0	0	0	0
	57-65	10-20	---	5.1-6.0	0	0	0	0
	65-80	---	---	5.1-6.0	0	0	0	0
Highfield------------	0-3	10-20	3.0-5.0	4.5-5.5	0	0	0	0
	3-21	10-20	2.0-4.0	4.5-5.5	0	0	0	0
	21-64	10-20	---	5.1-6.0	0	0	0	0
	64-70	---	---	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---	---	---
RcD:								
Ravenrock------------	0-4	15-40	3.8-7.0	4.5-6.0	0	0	0	0
	4-7	10-20	---	5.1-6.0	0	0	0	0
	7-16	10-20	---	5.1-6.0	0	0	0	0
	16-43	10-20	---	5.1-6.0	0	0	0	0
	43-57	10-20	---	5.1-6.0	0	0	0	0
	57-65	10-20	---	5.1-6.0	0	0	0	0
	65-80	---	---	5.1-6.0	0	0	0	0
Highfield------------	0-3	10-20	3.0-5.0	4.5-5.5	0	0	0	0
	3-21	10-20	2.0-4.0	4.5-5.5	0	0	0	0
	21-64	10-20	---	5.1-6.0	0	0	0	0
	64-70	---	---	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---	---	---
RcF:								
Ravenrock------------	0-4	15-40	3.8-7.0	4.5-6.0	0	0	0	0
	4-7	10-20	---	5.1-6.0	0	0	0	0
	7-16	10-20	---	5.1-6.0	0	0	0	0
	16-43	10-20	---	5.1-6.0	0	0	0	0
	43-57	10-20	---	5.1-6.0	0	0	0	0
	57-65	10-20	---	5.1-6.0	0	0	0	0
	65-80	---	---	5.1-6.0	0	0	0	0
Highfield------------	0-3	10-20	3.0-5.0	4.5-5.5	0	0	0	0
	3-21	10-20	2.0-4.0	4.5-5.5	0	0	0	0
	21-64	10-20	---	5.1-6.0	0	0	0	0
	64-70	---	---	---	---	---	---	---
Rock outcrop---------	0-60	---	---	---	---	---	---	---
RdC:								
Ravenrock------------	0-4	15-40	3.8-7.0	4.5-6.0	0	0	0	0
	4-7	10-20	---	5.1-6.0	0	0	0	0
	7-16	10-20	---	5.1-6.0	0	0	0	0
	16-43	10-20	---	5.1-6.0	0	0	0	0
	43-57	10-20	---	5.1-6.0	0	0	0	0
	57-65	10-20	---	5.1-6.0	0	0	0	0
	65-80	---	---	5.1-6.0	0	0	0	0

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
RdC:								
Rohrersville---------	0-9	10-15	---	5.1-6.0	0	0	0	0
	9-25	10-15	---	5.1-6.0	0	0	0	0
	25-31	15-30	---	5.6-6.5	0	0	0	0
	31-43	15-30	---	5.6-6.5	0	0	0	0
	43-62	20-40	---	5.6-6.5	0	0	0	0
	62-70	---	---	---	---	---	---	---
ReA:								
Readington-----------	0-10	10-15	3.8-6.3	3.5-6.5	0	0	0	0
	10-27	12-20	3.6-7.4	3.5-6.5	0	0	0	0
	27-35	12-25	---	5.1-6.5	0	0	0	0
	35-40	12-25	---	5.1-6.5	0	0	0	0
	40-46	12-25	---	5.1-6.5	0	0	0	0
	46-56	---	---	---	---	---	---	---
ReB:								
Readington-----------	0-10	10-15	3.8-6.3	3.5-6.5	0	0	0	0
	10-27	12-20	3.6-7.4	3.5-6.5	0	0	0	0
	27-35	12-25	---	5.1-6.5	0	0	0	0
	35-40	12-25	---	5.1-6.5	0	0	0	0
	40-46	12-25	---	5.1-6.5	0	0	0	0
	46-56	---	---	---	---	---	---	---
RfA:								
Reaville-------------	0-9	10-20	---	5.1-6.5	0	0	0	0
	9-15	10-20	---	5.1-6.5	0	0	0	0
	15-25	10-20	---	5.1-6.5	0	0	0	0
	25-35	---	---	---	---	---	---	---
RfB:								
Reaville-------------	0-9	10-20	---	5.1-6.5	0	0	0	0
	9-15	10-20	---	5.1-6.5	0	0	0	0
	15-25	10-20	---	5.1-6.5	0	0	0	0
	25-35	---	---	---	---	---	---	---
RfC:								
Reaville-------------	0-9	10-20	---	5.1-6.5	0	0	0	0
	9-15	10-20	---	5.1-6.5	0	0	0	0
	15-25	10-20	---	5.1-6.5	0	0	0	0
	25-35	---	---	---	---	---	---	---
RoB:								
Rohrersville---------	0-9	10-15	4.0-7.0	4.5-6.6	0	0	0	0
	9-25	10-15	---	5.1-6.0	0	0	0	0
	25-31	10-15	---	5.1-6.0	0	0	0	0
	31-43	10-15	---	5.1-6.0	0	0	0	0
	43-62	15-30	---	5.1-6.5	0	0	0	0
	62-70	---	---	---	---	---	---	---
RsB:								
Rohrersville---------	0-9	10-15	---	5.1-6.0	0	0	0	0
	9-25	10-15	---	5.1-6.0	0	0	0	0
	25-31	15-30	---	5.6-6.5	0	0	0	0
	31-43	15-30	---	5.6-6.5	0	0	0	0
	43-62	20-40	---	5.6-6.5	0	0	0	0
	62-72	---	---	---	---	---	---	---

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
Rw:								
Rowland--------------	0-10	10-20	3.5-7.0	4.5-6.0	0	0	0	0
	10-28	5.0-15	3.4-7.2	4.5-6.0	0	0	0	0
	28-44	5.0-15	3.4-7.2	4.5-6.0	0	0	0	0
	44-60	5.0-10	1.0-3.2	4.5-6.0	0	0	0	0
StB:								
Steinsburg-----------	0-10	8.0-12	2.8-6.3	4.2-6.6	0	0	0	0
	10-20	5.0-10	2.0-4.4	3.5-5.5	0	0	0	0
	20-26	5.0-10	1.0-4.0	3.5-5.5	0	0	0	0
	26-36	---	---	---	---	---	---	---
StC:								
Steinsburg-----------	0-10	8.0-12	2.8-6.3	4.2-6.6	0	0	0	0
	10-20	5.0-10	2.0-4.4	3.5-5.5	0	0	0	0
	20-26	5.0-10	1.0-4.0	3.5-5.5	0	0	0	0
	26-36	---	---	---	---	---	---	---
StD:								
Steinsburg-----------	0-10	8.0-12	2.8-6.3	4.2-6.6	0	0	0	0
	10-20	5.0-10	2.0-4.4	3.5-5.5	0	0	0	0
	20-26	5.0-10	1.0-4.0	3.5-5.5	0	0	0	0
	26-36	---	---	---	---	---	---	---
Uc:								
Urban land-----------	0-6	---	---	---	---	---	0	---
UeB:								
Urban land-----------	0-6	---	---	---	---	---	0	---
Conestoga------------	0-9	9.0-24	---	4.5-7.3	---	---	0	---
	9-17	10-13	---	4.5-7.3	---	---	0	---
	17-40	10-13	---	4.5-7.3	---	---	0	---
	40-46	6.0-12	---	5.6-7.8	---	---	0	---
	46-60	5.0-14	---	5.6-7.8	---	---	0	---
UgB:								
Urban land-----------	0-6	---	---	---	---	---	0	---
Penn-----------------	0-9	10-20	2.8-6.3	4.2-6.6	0	0	0	0
	9-24	8.0-16	3.6-5.4	3.5-6.0	0	0	0	0
	24-30	5.0-15	---	5.1-6.5	0	0	0	0
	30-38	5.0-15	---	5.1-6.5	0	0	0	0
	38-48	---	---	---	---	---	---	---
W:								
Water.								
WaA:								
Watchung-------------	0-9	9.8-27	7.3-20	4.5-6.5	---	---	0	---
	9-18	21-35	---	5.1-7.3	---	---	0	---
	18-25	20-34	---	5.1-7.3	---	---	0	---
	25-30	20-34	---	5.1-7.3	---	---	0	---
	30-40	20-34	---	5.1-7.3	---	---	0	---
	40-60	7.7-21	---	5.6-7.3	---	---	0	---

Table 21.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
WaB:								
Watchung-------------	0-9	9.8-27	7.3-20	4.5-6.5	---	---	0	---
	9-18	21-35	---	5.1-7.3	---	---	0	---
	18-25	20-34	---	5.1-7.3	---	---	0	---
	25-30	20-34	---	5.1-7.3	---	---	0	---
	30-40	20-34	---	5.1-7.3	---	---	0	---
	40-60	7.7-21	---	5.6-7.3	---	---	0	---
WbB:								
Watchung-------------	0-9	9.8-29	7.3-22	4.5-6.5	---	---	0	---
	9-18	21-35	---	5.1-7.3	---	---	0	---
	18-25	20-34	---	5.1-7.3	---	---	0	---
	25-30	20-34	---	5.1-7.3	---	---	0	---
	30-40	20-34	---	5.1-7.3	---	---	0	---
	40-60	7.7-21	---	5.6-7.3	---	---	0	---

Table 22.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
AbA:						
Abbottstown------------	Fragipan	15-30	Noncemented	High	High	Moderate
	Bedrock (lithic)	40-60	Very strongly cemented			
AbB:						
Abbottstown------------	Fragipan	15-30	Noncemented	High	High	Moderate
	Bedrock (lithic)	40-60	Very strongly cemented			
ArB:						
Arendtsville-----------	---	---	---	Moderate	Low	High
ArC:						
Arendtsville-----------	---	---	---	Moderate	Low	High
ArD:						
Arendtsville-----------	---	---	---	Moderate	Low	High
ArE:						
Arendtsville-----------	---	---	---	Moderate	Low	High
AtA:						
Athol------------------	---	---	---	Moderate	Low	High
AtB:						
Athol------------------	---	---	---	Moderate	Low	High
AtC:						
Athol------------------	---	---	---	Moderate	Low	High
Ba:						
Baile------------------	---	---	---	High	High	High
Be:						
Bermudian--------------	---	---	---	Moderate	Low	Moderate
BgA:						
Birdsboro--------------	---	---	---	Moderate	Moderate	High
BgB:						
Birdsboro--------------	---	---	---	Moderate	Moderate	High
BgC:						
Birdsboro--------------	---	---	---	Moderate	Moderate	High
Bo:						
Bowmansville-----------	---	72-99	---	High	High	Moderate
BrB:						
Brecknock--------------	Bedrock (lithic)	40-60	Strongly cemented	Moderate	Low	Moderate
BrC:						
Brecknock--------------	Bedrock (lithic)	40-60	Strongly cemented	Moderate	Low	Moderate
BrD:						
Brecknock--------------	Bedrock (lithic)	40-60	Strongly cemented	Moderate	Low	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
BuB:						
Buchanan	Fragipan	20-36	Noncemented	Moderate	High	High
BvB:						
Buchanan	Fragipan	20-36	Noncemented	Moderate	High	High
CcB:						
Catoctin	Bedrock (lithic)	20-40	Very strongly cemented	Low	High	Moderate
CcC:						
Catoctin	Bedrock (lithic)	20-40	Very strongly cemented	Low	High	Moderate
CcE:						
Catoctin	Bedrock (lithic)	20-40	Very strongly cemented	Low	High	Moderate
CkA:						
Clarksburg	Fragipan	20-36	Noncemented	Moderate	Moderate	Moderate
CkB:						
Clarksburg	Fragipan	20-36	Noncemented	Moderate	Moderate	Moderate
Cm:						
Codorus	---	---	---	High	High	Moderate
CnA:						
Conestoga	---	---	---	Moderate	Moderate	High
CnB:						
Conestoga	---	---	---	Moderate	Moderate	High
CnC:						
Conestoga	---	---	---	Moderate	Moderate	High
CrA:						
Croton	Fragipan	15-25	Noncemented	High	High	High
	Bedrock (lithic)	40-60	Very strongly cemented			
CrB:						
Croton	Fragipan	15-25	Noncemented	High	High	High
	Bedrock (lithic)	40-60	Very strongly cemented			
DAM:						
Dams	---	---	---	None	---	---
Dx:						
Dumps.						
Dy:						
Dunning	---	---	---	None	High	Moderate
EdB:						
Edgemont	---	---	---	Moderate	Low	High
EdC:						
Edgemont	---	---	---	Moderate	Low	High

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
EdD:						
Edgemont---------------	---	---	---	Moderate	Low	High
EeB:						
Edgemont---------------	---	---	---	Moderate	Low	High
EeD:						
Edgemont---------------	---	---	---	Moderate	Low	High
EeF:						
Edgemont---------------	---	---	---	Moderate	Low	High
GbB:						
Glenelg----------------	Bedrock (paralithic)	40-60	Moderately cemented	Moderate	Low	High
GbC:						
Glenelg----------------	Bedrock (paralithic)	40-60	Moderately cemented	Moderate	Low	High
GbD:						
Glenelg----------------	Bedrock (paralithic)	40-60	Moderately cemented	Moderate	Low	High
GdA:						
Glenville--------------	Fragipan	15-30	Noncemented	High	High	Moderate
GdB:						
Glenville--------------	Fragipan	15-30	Noncemented	High	High	Moderate
Hc:						
Hatboro----------------	---	---	---	High	High	Moderate
HgB:						
Highfield--------------	Bedrock (lithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
HgC:						
Highfield--------------	Bedrock (lithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
HHD:						
Highfield--------------	Bedrock (lithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
Catoctin---------------	Bedrock (lithic)	20-40	Very strongly cemented	Low	High	Moderate
HKB:						
Highfield--------------	Bedrock (lithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
Catoctin---------------	Bedrock (lithic)	20-40	---	Low	High	Moderate
Myersville-------------	Bedrock (paralithic)	40-60	Moderately cemented	Moderate	Moderate	Moderate
HKD:						
Highfield--------------	Bedrock (lithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
Catoctin---------------	Bedrock (lithic)	20-40	---	Low	High	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
HKD:						
Myersville-------------	Bedrock (paralithic)	40-60	Moderately cemented	Moderate	Moderate	Moderate
HMF:						
Highfield--------------	Bedrock (lithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
Catoctin---------------	Bedrock (lithic)	20-40	---	Low	High	Moderate
KnB:						
Klinesville------------	Bedrock (lithic)	10-20	Very strongly cemented	Moderate	Moderate	High
KnC:						
Klinesville------------	Bedrock (lithic)	10-20	Very strongly cemented	Moderate	Moderate	High
KnD:						
Klinesville------------	Bedrock (lithic)	10-20	Very strongly cemented	Moderate	Moderate	High
KnE:						
Klinesville------------	Bedrock (lithic)	10-20	Very strongly cemented	Moderate	Moderate	High
Lc:						
Lamington--------------	Fragipan	15-30	Noncemented	High	High	Moderate
LeB:						
Lansdale---------------	Bedrock (lithic)	40-60	Very strongly cemented	Moderate	Low	High
LfC:						
Lansdale---------------	Bedrock (lithic)	40-60	Very strongly cemented	Moderate	Low	High
LgB:						
Legore-----------------	---	---	---	Moderate	Moderate	Moderate
LgC:						
Legore-----------------	---	---	---	Moderate	Moderate	Moderate
LgD:						
Legore-----------------	---	---	---	Moderate	Moderate	Moderate
LhA:						
Lehigh-----------------	Bedrock (lithic)	40-60	Indurated	High	Moderate	Moderate
LhB:						
Lehigh-----------------	Bedrock (lithic)	40-60	Indurated	High	Moderate	Moderate
LhC:						
Lehigh-----------------	Bedrock (lithic)	40-60	Indurated	High	Moderate	Moderate
LkB:						
Lehigh-----------------	Bedrock (lithic)	40-60	Indurated	High	Moderate	Moderate
Lw:						
Lindside---------------	---	---	---	High	Moderate	Low

Table 22.--Soil Features—Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In				
MdA:						
Mount Lucas	Bedrock (lithic)	48-99	Indurated	High	High	Moderate
MdB:						
Mount Lucas	Bedrock (lithic)	48-99	Indurated	High	High	Moderate
MeB:						
Mount Lucas	Bedrock (lithic)	48-99	Indurated	High	High	Moderate
MOB:						
Mt. Airy	Bedrock (paralithic)	20-40	Very strongly cemented	Moderate	Low	High
Manor	---	---	---	Moderate	Low	Moderate
MOC:						
Mt. Airy	Bedrock (paralithic)	20-40	Very strongly cemented	Moderate	Low	High
Manor	---	---	---	Moderate	Low	Moderate
MOD:						
Mt. Airy	Bedrock (paralithic)	20-40	Very strongly cemented	Moderate	Low	High
Manor	---	---	---	Moderate	Low	Moderate
MtB:						
Mt. Zion	---	---	---	Moderate	Moderate	Moderate
MtC:						
Mt. Zion	---	---	---	Moderate	Moderate	Moderate
MtD:						
Mt. Zion	---	---	---	Moderate	Moderate	Moderate
MyB:						
Myersville	Bedrock (paralithic)	40-60	Moderately cemented	Moderate	Moderate	Moderate
MyC:						
Myersville	Bedrock (paralithic)	40-60	Moderately cemented	Moderate	Moderate	Moderate
MyD:						
Myersville	Bedrock (paralithic)	40-60	Moderately cemented	Moderate	Moderate	Moderate
NaB:						
Neshaminy	---	---	---	Moderate	Moderate	Moderate
NaC:						
Neshaminy	---	---	---	Moderate	Moderate	Moderate
NdB:						
Neshaminy	---	---	---	Moderate	Moderate	Moderate
NdD:						
Neshaminy	---	---	---	Moderate	Moderate	Moderate
NdE:						
Neshaminy	---	---	---	Moderate	Moderate	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
Pa:						
Penlaw	Fragipan	15-30	Noncemented	High	High	Moderate
PbD:						
Penn	Bedrock (lithic)	20-40	Very strongly cemented	Moderate	Low	Moderate
PcB:						
Penn	Bedrock (lithic)	20-40	Very strongly cemented	Moderate	Low	Moderate
PcC:						
Penn	Bedrock (lithic)	20-40	Very strongly cemented	Moderate	Low	Moderate
PoB:						
Penn	Bedrock (lithic)	20-40	Very strongly cemented	Moderate	Low	Moderate
Klinesville	Bedrock (lithic)	10-20	Very strongly cemented	Moderate	Moderate	High
PoC:						
Penn	Bedrock (lithic)	20-40	Very strongly cemented	Moderate	Low	Moderate
Klinesville	Bedrock (lithic)	10-20	Very strongly cemented	Moderate	Moderate	High
PsD:						
Pequea	Bedrock (lithic)	40-60	Very strongly cemented	Moderate	Low	Low
Pt:						
Pits.						
RaA:						
Raritan	Fragipan	20-30	Noncemented	High	High	Moderate
RaB:						
Raritan	Fragipan	20-30	Noncemented	High	High	Moderate
RcC:						
Ravenrock	---	---	---	Moderate	High	Moderate
Highfield	Bedrock (lithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
Rock outcrop	Bedrock (lithic)	0-0	Indurated	None	---	---
RcD:						
Ravenrock	---	---	---	Moderate	High	Moderate
Highfield	Bedrock (lithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
Rock outcrop	Bedrock (lithic)	0-0	Indurated	None	---	---
RcF:						
Ravenrock	---	---	---	Moderate	High	Moderate

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In				
RcF:						
Highfield	Bedrock (lithic)	40-60	Very strongly cemented	Moderate	Low	Moderate
Rock outcrop	Bedrock (lithic)	0-0	Indurated	None	---	---
RdC:						
Ravenrock	---	---	---	Moderate	High	Moderate
Rohrersville	---	---	---	High	High	Moderate
ReA:						
Readington	Fragipan	20-36	Noncemented	Moderate	Moderate	Moderate
	Bedrock (lithic)	40-60	Very strongly cemented			
ReB:						
Readington	Fragipan	20-36	Noncemented	Moderate	Moderate	Moderate
	Bedrock (lithic)	40-60	Very strongly cemented			
RfA:						
Reaville	Bedrock (lithic)	20-40	Very strongly cemented	High	High	Moderate
RfB:						
Reaville	Bedrock (lithic)	20-40	Very strongly cemented	High	High	Moderate
RfC:						
Reaville	Bedrock (lithic)	20-40	Very strongly cemented	High	High	Moderate
RoB:						
Rohrersville	---	---	---	High	High	Moderate
RsB:						
Rohrersville	---	---	---	High	High	Moderate
Rw:						
Rowland	---	---	---	High	High	Moderate
StB:						
Steinsburg	Bedrock (lithic)	20-40	Very strongly cemented	None	Low	High
StC:						
Steinsburg	Bedrock (lithic)	20-40	Very strongly cemented	None	Low	High
StD:						
Steinsburg	Bedrock (lithic)	20-40	Very strongly cemented	None	Low	High
Uc:						
Urban land	Cemented horizon	0-0	Indurated	None	---	---
UeB:						
Urban land	Cemented horizon	0-0	Indurated	None	---	---
Conestoga	---	---	---	Moderate	Moderate	High

Table 22.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness		Uncoated steel	Concrete
		In				
UgB:						
Urban land	Cemented horizon	0-0	Indurated	None	---	---
Penn	Bedrock (paralithic)	20-40	Very strongly cemented	Moderate	Low	Moderate
W:						
Water.						
WaA:						
Watchung	---	---	---	High	High	Moderate
WaB:						
Watchung	---	---	---	High	High	Moderate
WbB:						
Watchung	---	---	---	High	High	Moderate

Table 23.--Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
AbA:									
Abbottstown----------	C	January	0.5-1.5	1.4-2.6	---	---	None	---	None
		February	0.5-1.5	1.4-2.6	---	---	None	---	None
		March	0.5-1.5	1.4-2.6	---	---	None	---	None
		November	0.5-1.5	1.4-2.6	---	---	None	---	None
		December	0.5-1.5	1.4-2.6	---	---	None	---	None
AbB:									
Abbottstown----------	C	January	0.5-1.5	3.4-5.0	---	---	None	---	None
		February	0.5-1.5	3.4-5.0	---	---	None	---	None
		March	0.5-1.5	3.4-5.0	---	---	None	---	None
		November	0.5-1.5	3.4-5.0	---	---	None	---	None
		December	0.5-1.5	3.4-5.0	---	---	None	---	None
ArB:									
Arendtsville---------	B	Jan-Dec	---	---	---	---	None	---	None
ArC:									
Arendtsville	B	Jan-Dec	---	---	---	---	None	---	None
ArD:									
Arendtsville---------	B	Jan-Dec	---	---	---	---	None	---	None
ArE:									
Arendtsville---------	B	Jan-Dec	---	---	---	---	None	---	None
AtA:									
Athol----------------	B	Jan-Dec	---	---	---	---	None	---	None
AtB:									
Athol----------------	B	Jan-Dec	---	---	---	---	None	---	None
AtC:									
Athol----------------	B	Jan-Dec	---	---	---	---	None	---	None
Ba:									
Baile----------------	D	January	0.0-0.5	>6.0	0.0-0.7	Brief	Occasional	---	None
		February	0.0-0.5	>6.0	0.0-0.7	Brief	Occasional	---	None
		March	0.0-0.5	>6.0	0.0-0.7	Brief	Occasional	---	None
		April	0.0-0.5	>6.0	---	---	None	---	None
		November	0.0-0.5	>6.0	---	---	None	---	None
		December	0.0-0.5	>6.0	0.0-0.7	Brief	Occasional	---	None
Be:									
Bermudian------------	B	January	3.0-6.0	>6.0	---	---	None	Brief	Occasional
		February	3.0-6.0	>6.0	---	---	None	Brief	Occasional
		March	3.0-6.0	>6.0	---	---	None	Brief	Occasional
		April	---	---	---	---	None	Brief	Occasional
		November	3.0-6.0	>6.0	---	---	None	Brief	Occasional
		December	3.0-6.0	>6.0	---	---	None	Brief	Occasional
BgA:									
Birdsboro------------	B	January	4.0-6.0	>6.0	---	---	None	---	None
		February	4.0-6.0	>6.0	---	---	None	---	None
		March	4.0-6.0	>6.0	---	---	None	---	None
		November	4.0-6.0	>6.0	---	---	None	---	None
		December	4.0-6.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
BgB:									
Birdsboro------------	B	January	4.0-6.0	>6.0	---	---	None	---	None
		February	4.0-6.0	>6.0	---	---	None	---	None
		March	4.0-6.0	>6.0	---	---	None	---	None
		November	4.0-6.0	>6.0	---	---	None	---	None
		December	4.0-6.0	>6.0	---	---	None	---	None
BgC:									
Birdsboro------------	B	January	4.0-6.0	>6.0	---	---	None	---	None
		February	4.0-6.0	>6.0	---	---	None	---	None
		March	4.0-6.0	>6.0	---	---	None	---	None
		November	4.0-6.0	>6.0	---	---	None	---	None
		December	4.0-6.0	>6.0	---	---	None	---	None
Bo:									
Bowmansville---------	B/D	January	0.0-1.5	>6.0	---	---	None	Brief	Frequent
		February	0.0-1.5	>6.0	---	---	None	Brief	Frequent
		March	0.0-1.5	>6.0	---	---	None	Brief	Frequent
		April	0.0-1.5	>6.0	---	---	None	Brief	Frequent
		May	0.0-1.5	>6.0	---	---	None	Brief	Frequent
		June	---	---	---	---	None	Brief	Frequent
		September	0.0-1.5	>6.0	---	---	None	---	None
		October	0.0-1.5	>6.0	---	---	None	---	None
		November	0.0-1.5	>6.0	---	---	None	Brief	Frequent
		December	0.0-1.5	>6.0	---	---	None	Brief	Frequent
BrB:									
Brecknock------------	B	Jan-Dec	---	---	---	---	None	---	None
BrC:									
Brecknock------------	B	Jan-Dec	---	---	---	---	None	---	None
BrD:									
Brecknock------------	B	Jan-Dec	---	---	---	---	None	---	None
BuB:									
Buchanan-------------	C	January	0.5-3.0	3.6-6.7	---	---	None	---	None
		February	0.5-3.0	3.6-6.7	---	---	None	---	None
		March	0.5-3.0	3.6-6.7	---	---	None	---	None
		November	0.5-3.0	3.6-6.7	---	---	None	---	None
		December	0.5-3.0	3.6-6.7	---	---	None	---	None
BvB:									
Buchanan-------------	C	January	0.5-3.0	3.6-6.7	---	---	None	---	None
		February	0.5-3.0	3.6-6.7	---	---	None	---	None
		March	0.5-3.0	3.6-6.7	---	---	None	---	None
		November	0.5-3.0	3.6-6.7	---	---	None	---	None
		December	0.5-3.0	3.6-6.7	---	---	None	---	None
CcB:									
Catoctin-------------	C	Jan-Dec	---	---	---	---	None	---	None
CcC:									
Catoctin-------------	C	Jan-Dec	---	---	---	---	None	---	None
CcE:									
Catoctin-------------	C	Jan-Dec	---	---	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
CkA:									
Clarksburg-----------	C	January	1.5-3.0	3.4-5.0	---	---	None	---	None
		February	1.5-3.0	3.4-5.0	---	---	None	---	None
		March	1.5-3.0	3.4-5.0	---	---	None	---	None
		November	1.5-3.0	3.4-5.0	---	---	None	---	None
		December	1.5-3.0	3.4-5.0	---	---	None	---	None
CkB:									
Clarksburg-----------	C	January	1.5-3.0	3.4-5.0	---	---	None	---	None
		February	1.5-3.0	3.4-5.0	---	---	None	---	None
		March	1.5-3.0	3.4-5.0	---	---	None	---	None
		November	1.5-3.0	3.4-5.0	---	---	None	---	None
		December	1.5-3.0	3.4-5.0	---	---	None	---	None
Cm:									
Codorus--------------	C	January	1.5-3.0	>6.0	---	---	None	Very brief	Frequent
		February	1.5-3.0	>6.0	---	---	None	Very brief	Frequent
		March	1.5-3.0	>6.0	---	---	None	Very brief	Frequent
		April	1.5-3.0	>6.0	---	---	None	Very brief	Frequent
		November	1.5-3.0	>6.0	---	---	None	---	None
		December	1.5-3.0	>6.0	---	---	None	Very brief	Frequent
CnA:									
Conestoga------------	B	Jan-Dec	---	---	---	---	None	---	None
CnB:									
Conestoga------------	B	Jan-Dec	---	---	---	---	None	---	None
CnC:									
Conestoga------------	B	Jan-Dec	---	---	---	---	None	---	None
CrA:									
Croton---------------	D	January	0.0-0.5	1.5-2.1	0.0-0.3	Brief	Occasional	---	None
		February	0.0-0.5	1.5-2.1	0.0-0.3	Brief	Occasional	---	None
		March	0.0-0.5	1.5-2.1	0.0-0.3	Brief	Occasional	---	None
		April	0.0-0.5	1.5-2.1	0.0-0.3	Brief	Occasional	---	None
		May	0.0-0.5	1.5-2.1	---	---	None	---	None
		November	0.0-0.5	1.5-2.1	0.0-0.3	Brief	Occasional	---	None
		December	0.0-0.5	1.5-2.1	0.0-0.3	Brief	Occasional	---	None
CrB:									
Croton---------------	D	January	0.0-0.5	1.5-2.1	---	---	None	---	None
		February	0.0-0.5	1.5-2.1	---	---	None	---	None
		March	0.0-0.5	1.5-2.1	---	---	None	---	None
		April	0.0-0.5	1.5-2.1	---	---	None	---	None
		May	0.0-0.5	1.5-2.1	---	---	None	---	None
		November	0.0-0.5	1.5-2.1	---	---	None	---	None
		December	0.0-0.5	1.5-2.1	---	---	None	---	None
DAM:									
Dams.									
Dx:									
Dumps.									

Table 23.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
Dy:									
Dunning	D	January	0.0-0.5	>6.0	---	---	None	Brief	Frequent
		February	0.0-0.5	>6.0	---	---	None	Brief	Frequent
		March	0.0-0.5	>6.0	---	---	None	Brief	Frequent
		April	0.0-0.5	>6.0	---	---	None	Brief	Frequent
		May	---	---	---	---	None	Brief	Frequent
		December	---	---	---	---	None	Brief	Frequent
EdB:									
Edgemont	B	Jan-Dec	---	---	---	---	None	---	None
EdC:									
Edgemont	B	Jan-Dec	---	---	---	---	None	---	None
EdD:									
Edgemont	B	Jan-Dec	---	---	---	---	None	---	None
EeB:									
Edgemont	B	Jan-Dec	---	---	---	---	None	---	None
EeD:									
Edgemont	B	Jan-Dec	---	---	---	---	None	---	None
EeF:									
Edgemont	B	Jan-Dec	---	---	---	---	None	---	None
GbB:									
Glenelg	B	Jan-Dec	---	---	---	---	None	---	None
GbC:									
Glenelg	B	Jan-Dec	---	---	---	---	None	---	None
GbD:									
Glenelg	B	Jan-Dec	---	---	---	---	None	---	None
GdA:									
Glenville	C	January	0.5-3.0	3.4-6.0	---	---	None	---	None
		February	0.5-3.0	3.4-6.0	---	---	None	---	None
		March	0.5-3.0	3.4-6.0	---	---	None	---	None
		April	0.5-3.0	3.4-6.0	---	---	None	---	None
		November	0.5-3.0	3.4-6.0	---	---	None	---	None
		December	0.5-3.0	3.4-6.0	---	---	None	---	None
GdB:									
Glenville	C	January	0.5-3.0	3.4-6.0	---	---	None	---	None
		February	0.5-3.0	3.4-6.0	---	---	None	---	None
		March	0.5-3.0	3.4-6.0	---	---	None	---	None
		April	0.5-3.0	3.4-6.0	---	---	None	---	None
		November	0.5-3.0	3.4-6.0	---	---	None	---	None
		December	0.5-3.0	3.4-6.0	---	---	None	---	None
Hc:									
Hatboro	D	January	0.0-0.5	>6.0	---	---	None	Very brief	Frequent
		February	0.0-0.5	>6.0	---	---	None	Very brief	Frequent
		March	0.0-0.5	>6.0	---	---	None	Very brief	Frequent
		April	0.0-0.5	>6.0	---	---	None	Very brief	Frequent
		May	0.0-0.5	>6.0	---	---	None	Very brief	Frequent
		October	0.0-0.5	>6.0	---	---	None	---	None
		November	0.0-0.5	>6.0	---	---	None	Very brief	Frequent
		December	0.0-0.5	>6.0	---	---	None	Very brief	Frequent

Table 23.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
HgB:									
Highfield	B	Jan-Dec	---	---	---	---	None	---	None
HgC:									
Highfield	B	Jan-Dec	---	---	---	---	None	---	None
HHD:									
Highfield	B	Jan-Dec	---	---	---	---	None	---	None
Catoctin	C	Jan-Dec	---	---	---	---	None	---	None
HKB:									
Highfield	B	Jan-Dec	---	---	---	---	None	---	None
HKB:									
Catoctin	C	Jan-Dec	---	---	---	---	None	---	None
Myersville	B	Jan-Dec	---	---	---	---	None	---	None
HKD:									
Highfield	B	Jan-Dec	---	---	---	---	None	---	None
Catoctin	C	Jan-Dec	---	---	---	---	None	---	None
Myersville	B	Jan-Dec	---	---	---	---	None	---	None
HMF:									
Highfield	B	Jan-Dec	---	---	---	---	None	---	None
Catoctin	C	Jan-Dec	---	---	---	---	None	---	None
KnB:									
Klinesville	C	Jan-Dec	---	---	---	---	None	---	None
KnC:									
Klinesville	C	Jan-Dec	---	---	---	---	None	---	None
KnD:									
Klinesville	C	Jan-Dec	---	---	---	---	None	---	None
KnE:									
Klinesville	C	Jan-Dec	---	---	---	---	None	---	None
Lc:									
Lamington	D	January	0.0-0.5	>6.0	0.0-0.7	Very brief	Occasional	---	None
		February	0.0-0.5	>6.0	0.0-0.7	Very brief	Occasional	---	None
		March	0.0-0.5	>6.0	0.0-0.7	Very brief	Occasional	---	None
		April	---	---	0.0-0.7	Very brief	Occasional	---	None
		November	0.0-0.5	>6.0	0.0-0.7	Very brief	Occasional	---	None
		December	0.0-0.5	>6.0	0.0-0.7	Very brief	Occasional	---	None
LeB:									
Lansdale	B	Jan-Dec	---	---	---	---	None	---	None
LfC:									
Lansdale	B	Jan-Dec	---	---	---	---	None	---	None
LgB:									
Legore	B	Jan-Dec	---	---	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
LgC:									
Legore----------------	B	Jan-Dec	---	---	---	---	None	---	None
LgD:									
Legore----------------	B	Jan-Dec	---	---	---	---	None	---	None
LhA:									
Lehigh----------------	C	January	0.5-3.0	3.4-5.0	---	---	None	---	None
		February	0.5-3.0	3.4-5.0	---	---	None	---	None
		March	0.5-3.0	3.4-5.0	---	---	None	---	None
		November	0.5-3.0	3.4-5.0	---	---	None	---	None
		December	0.5-3.0	3.4-5.0	---	---	None	---	None
LhB:									
Lehigh----------------	C	January	0.5-3.0	3.4-5.0	---	---	None	---	None
		February	0.5-3.0	3.4-5.0	---	---	None	---	None
		March	0.5-3.0	3.4-5.0	---	---	None	---	None
		November	0.5-3.0	3.4-5.0	---	---	None	---	None
		December	0.5-3.0	3.4-5.0	---	---	None	---	None
LhC:									
Lehigh----------------	C	January	0.5-3.0	3.4-5.0	---	---	None	---	None
		February	0.5-3.0	3.4-5.0	---	---	None	---	None
		March	0.5-3.0	3.4-5.0	---	---	None	---	None
		November	0.5-3.0	3.4-5.0	---	---	None	---	None
		December	0.5-3.0	3.4-5.0	---	---	None	---	None
LkB:									
Lehigh----------------	C	January	0.5-3.0	3.4-5.0	---	---	None	---	None
		February	0.5-3.0	3.4-5.0	---	---	None	---	None
		March	0.5-3.0	3.4-5.0	---	---	None	---	None
		November	0.5-3.0	3.4-5.0	---	---	None	---	None
		December	0.5-3.0	3.4-5.0	---	---	None	---	None
Lw:									
Lindside--------------	C	January	1.5-3.0	>6.0	---	---	None	Brief	Frequent
		February	1.5-3.0	>6.0	---	---	None	Brief	Frequent
		March	1.5-3.0	>6.0	---	---	None	Brief	Frequent
		April	1.5-3.0	>6.0	---	---	None	Brief	Frequent
		December	1.5-3.0	>6.0	---	---	None	Brief	Frequent
MdA:									
Mount Lucas-----------	C	January	0.3-1.3	2.1-5.0	---	---	None	---	None
		February	0.3-1.3	2.1-5.0	---	---	None	---	None
		March	0.3-1.3	2.1-5.0	---	---	None	---	None
		November	0.3-1.3	2.1-5.0	---	---	None	---	None
		December	0.3-1.3	2.1-5.0	---	---	None	---	None
MdB:									
Mount Lucas-----------	C	January	0.3-1.3	2.1-5.0	---	---	None	---	None
		February	0.3-1.3	2.1-5.0	---	---	None	---	None
		March	0.3-1.3	2.1-5.0	---	---	None	---	None
		November	0.3-1.3	2.1-5.0	---	---	None	---	None
		December	0.3-1.3	2.1-5.0	---	---	None	---	None
MeB:									
Mount Lucas-----------	C	January	0.3-1.3	2.1-5.0	---	---	None	---	None
		February	0.3-1.3	2.1-5.0	---	---	None	---	None
		March	0.3-1.3	2.1-5.0	---	---	None	---	None
		November	0.3-1.3	2.1-5.0	---	---	None	---	None
		December	0.3-1.3	2.1-5.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
MOB:									
Mt. Airy-------------	A	Jan-Dec	---	---	---	---	None	---	None
Manor----------------	B	Jan-Dec	---	---	---	---	None	---	None
MOC:									
Mt. Airy-------------	A	Jan-Dec	---	---	---	---	None	---	None
Manor----------------	B	Jan-Dec	---	---	---	---	None	---	None
MOD:									
Mt. Airy-------------	A	Jan-Dec	---	---	---	---	None	---	None
Manor----------------	B	Jan-Dec	---	---	---	---	None	---	None
MtB:									
Mt. Zion-------------	C	January	3.0-4.0	>6.0	---	---	None	---	None
		February	3.0-4.0	>6.0	---	---	None	---	None
		March	3.0-4.0	>6.0	---	---	None	---	None
		November	3.0-4.0	>6.0	---	---	None	---	None
		December	3.0-4.0	>6.0	---	---	None	---	None
MtC:									
Mt. Zion-------------	C	January	3.0-4.0	>6.0	---	---	None	---	None
		February	3.0-4.0	>6.0	---	---	None	---	None
		March	3.0-4.0	>6.0	---	---	None	---	None
		November	3.0-4.0	>6.0	---	---	None	---	None
		December	3.0-4.0	>6.0	---	---	None	---	None
MtD:									
Mt. Zion-------------	C	January	3.0-4.0	>6.0	---	---	None	---	None
		February	3.0-4.0	>6.0	---	---	None	---	None
		March	3.0-4.0	>6.0	---	---	None	---	None
		November	3.0-4.0	>6.0	---	---	None	---	None
		December	3.0-4.0	>6.0	---	---	None	---	None
MyB:									
Myersville-----------	B	Jan-Dec	---	---	---	---	None	---	None
MyC:									
Myersville-----------	B	Jan-Dec	---	---	---	---	None	---	None
MyD:									
Myersville-----------	B	Jan-Dec	---	---	---	---	None	---	None
NaB:									
Neshaminy------------	B	Jan-Dec	---	---	---	---	None	---	None
NaC:									
Neshaminy------------	B	Jan-Dec	---	---	---	---	None	---	None
NdB:									
Neshaminy------------	B	Jan-Dec	---	---	---	---	None	---	None
NdD:									
Neshaminy------------	B	Jan-Dec	---	---	---	---	None	---	None
NdE:									
Neshaminy------------	B	Jan-Dec	---	---	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
Pa:									
Penlaw---------------	C	January	0.5-1.5	2.6-5.0	---	---	None	---	None
		February	0.5-1.5	2.6-5.0	---	---	None	---	None
		March	0.5-1.5	2.6-5.0	---	---	None	---	None
		November	0.5-1.5	2.6-5.0	---	---	None	---	None
		December	0.5-1.5	2.6-5.0	---	---	None	---	None
PbD:									
Penn-----------------	C	Jan-Dec	---	---	---	---	None	---	None
PcB:									
Penn-----------------	C	Jan-Dec	---	---	---	---	None	---	None
PcC:									
Penn-----------------	C	Jan-Dec	---	---	---	---	None	---	None
PoB:									
Penn-----------------	C	Jan-Dec	---	---	---	---	None	---	None
Klinesville----------	C	Jan-Dec	---	---	---	---	None	---	None
PoC:									
Penn-----------------	C	Jan-Dec	---	---	---	---	None	---	None
Klinesville----------	C	Jan-Dec	---	---	---	---	None	---	None
PsD:									
Pequea---------------	B	Jan-Dec	---	---	---	---	None	---	None
Pt:									
Pits.									
RaA:									
Raritan--------------	C	January	0.5-3.0	2.6-5.0	---	---	None	---	None
		February	0.5-3.0	2.6-5.0	---	---	None	---	None
		March	0.5-3.0	2.6-5.0	---	---	None	---	None
		November	0.5-3.0	2.6-5.0	---	---	None	---	None
		December	0.5-3.0	2.6-5.0	---	---	None	---	None
RaB:									
Raritan--------------	C	January	0.5-3.0	2.6-5.0	---	---	None	---	None
		February	0.5-3.0	2.6-5.0	---	---	None	---	None
		March	0.5-3.0	2.6-5.0	---	---	None	---	None
		November	0.5-3.0	2.6-5.0	---	---	None	---	None
		December	0.5-3.0	2.6-5.0	---	---	None	---	None
RcC:									
Ravenrock------------	C	January	3.5-6.0	5.3-6.7	---	---	None	---	None
		February	3.5-6.0	5.3-6.7	---	---	None	---	None
		March	3.5-6.0	5.3-6.7	---	---	None	---	None
		April	3.5-6.0	5.3-6.7	---	---	None	---	None
		December	3.5-6.0	5.3-6.7	---	---	None	---	None
RcC:									
Highfield------------	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop---------	D	Jan-Dec	---	---	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
RcD:									
Ravenrock------------	C	January	3.5-6.0	5.3-6.7	---	---	None	---	None
		February	3.5-6.0	5.3-6.7	---	---	None	---	None
		March	3.5-6.0	5.3-6.7	---	---	None	---	None
		April	3.5-6.0	5.3-6.7	---	---	None	---	None
		December	3.5-6.0	5.3-6.7	---	---	None	---	None
Highfield------------	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop---------	D	Jan-Dec	---	---	---	---	None	---	None
RcF:									
Ravenrock------------	C	January	3.5-6.0	5.3-6.7	---	---	None	---	None
		February	3.5-6.0	5.3-6.7	---	---	None	---	None
		March	3.5-6.0	5.3-6.7	---	---	None	---	None
		April	3.5-6.0	5.3-6.7	---	---	None	---	None
		December	3.5-6.0	5.3-6.7	---	---	None	---	None
Highfield------------	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop---------	D	Jan-Dec	---	---	---	---	None	---	None
RdC:									
Ravenrock------------	C	January	3.5-6.0	5.3-6.7	---	---	None	---	None
		February	3.5-6.0	5.3-6.7	---	---	None	---	None
		March	3.5-6.0	5.3-6.7	---	---	None	---	None
		April	3.5-6.0	5.3-6.7	---	---	None	---	None
		December	3.5-6.0	5.3-6.7	---	---	None	---	None
Rohrersville---------	D	January	1.0-1.5	3.4-6.0	---	---	None	---	None
		February	1.0-1.5	3.4-6.0	---	---	None	---	None
		March	1.0-1.5	3.4-6.0	---	---	None	---	None
		November	1.0-1.5	3.4-6.0	---	---	None	---	None
		December	1.0-1.5	3.4-6.0	---	---	None	---	None
ReA:									
Readington-----------	C	January	1.5-3.0	3.0-5.0	---	---	None	---	None
		February	1.5-3.0	3.0-5.0	---	---	None	---	None
		March	1.5-3.0	3.0-5.0	---	---	None	---	None
		November	1.5-3.0	3.0-5.0	---	---	None	---	None
		December	1.5-3.0	3.0-5.0	---	---	None	---	None
ReB:									
Readington-----------	C	January	1.5-3.0	3.0-5.0	---	---	None	---	None
		February	1.5-3.0	3.0-5.0	---	---	None	---	None
		March	1.5-3.0	3.0-5.0	---	---	None	---	None
		November	1.5-3.0	3.0-5.0	---	---	None	---	None
		December	1.5-3.0	3.0-5.0	---	---	None	---	None
RfA:									
Reaville-------------	C	January	0.5-3.0	>6.0	---	---	None	---	None
		February	0.5-3.0	>6.0	---	---	None	---	None
		March	0.5-3.0	>6.0	---	---	None	---	None
		November	0.5-3.0	>6.0	---	---	None	---	None
		December	0.5-3.0	>6.0	---	---	None	---	None

Table 23.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
RfB:									
Reaville-------------	C	January	0.5-3.0	>6.0	---	---	None	---	None
		February	0.5-3.0	>6.0	---	---	None	---	None
		March	0.5-3.0	>6.0	---	---	None	---	None
		November	0.5-3.0	>6.0	---	---	None	---	None
		December	0.5-3.0	>6.0	---	---	None	---	None
RfC:									
Reaville-------------	C	January	0.5-3.0	>6.0	---	---	None	---	None
		February	0.5-3.0	>6.0	---	---	None	---	None
		March	0.5-3.0	>6.0	---	---	None	---	None
		November	0.5-3.0	>6.0	---	---	None	---	None
		December	0.5-3.0	>6.0	---	---	None	---	None
RoB:									
Rohrersville---------	D	January	1.0-1.5	1.8-2.9	---	---	None	---	None
		February	1.0-1.5	1.8-2.9	---	---	None	---	None
		March	1.0-1.5	1.8-2.9	---	---	None	---	None
		November	1.0-1.5	1.8-2.9	---	---	None	---	None
		December	1.0-1.5	1.8-2.9	---	---	None	---	None
RsB:									
Rohrersville---------	D	January	1.0-1.5	1.8-2.9	---	---	None	---	None
		February	1.0-1.5	1.8-2.9	---	---	None	---	None
		March	1.0-1.5	1.8-2.9	---	---	None	---	None
		November	1.0-1.5	1.8-2.9	---	---	None	---	None
		December	1.0-1.5	1.8-2.9	---	---	None	---	None
Rw:									
Rowland--------------	C	January	1.0-3.0	>6.0	---	---	None	Brief	Frequent
		February	1.0-3.0	>6.0	---	---	None	Brief	Frequent
		March	1.0-3.0	>6.0	---	---	None	Brief	Frequent
		April	1.0-3.0	>6.0	---	---	None	---	None
		May	1.0-3.0	>6.0	---	---	None	---	None
		November	1.0-3.0	>6.0	---	---	None	Brief	Frequent
		December	1.0-3.0	>6.0	---	---	None	Brief	Frequent
StB:									
Steinsburg-----------	B	Jan-Dec	---	---	---	---	None	---	None
StC:									
Steinsburg-----------	B	Jan-Dec	---	---	---	---	None	---	None
StD:									
Steinsburg-----------	B	Jan-Dec	---	---	---	---	None	---	None
Uc:									
Urban land.									
UeB:									
Urban land.									
Conestoga------------	B	Jan-Dec	---	---	---	---	None	---	None
UgB:									
Urban land.									
Penn-----------------	C	Jan-Dec	---	---	---	---	None	---	None
W:									
Water.									

Table 23.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft	Ft	Ft				
WaA:									
Watchung-------------	D	January	0.0-1.0	>6.0	---	---	None	---	None
		February	0.0-1.0	>6.0	---	---	None	---	None
		March	0.0-1.0	>6.0	---	---	None	---	None
		April	0.0-1.0	>6.0	---	---	None	---	None
		May	0.0-1.0	>6.0	---	---	None	---	None
		June	0.0-1.0	>6.0	---	---	None	---	None
		December	0.0-1.0	>6.0	---	---	None	---	None
WaB:									
Watchung-------------	D	February	0.0-1.0	>6.0	---	---	None	---	None
		March	0.0-1.0	>6.0	---	---	None	---	None
		April	0.0-1.0	>6.0	---	---	None	---	None
		May	0.0-1.0	>6.0	---	---	None	---	None
		June	0.0-1.0	>6.0	---	---	None	---	None
		December	0.0-1.0	>6.0	---	---	None	---	None
WbB:									
Watchung-------------	D	January	0.0-1.0	>6.0	---	---	None	---	None
		February	0.0-1.0	>6.0	---	---	None	---	None
		March	0.0-1.0	>6.0	---	---	None	---	None
		April	0.0-1.0	>6.0	---	---	None	---	None
		May	0.0-1.0	>6.0	---	---	None	---	None
		June	0.0-1.0	>6.0	---	---	None	---	None
		December	0.0-1.0	>6.0	---	---	None	---	None

Table 24.--Classification of the Soils

(The Fourth Edition of Keys to Soil Taxonomy was used in classifying the soils. An asterisk or asterisks in the first column indicate a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Abbottstown	Fine-loamy, mixed, mesic Aeric Fragiaqualfs
Arendtsville	Fine-loamy, mixed, mesic Typic Hapludults
Athol	Fine-loamy, mixed, mesic Ultic Hapludalfs
Baile	Fine-loamy, mixed, mesic Typic Ochraquults
Bermudian	Fine-loamy, mixed, mesic Fluventic Dystrochrepts
Birdsboro	Fine-loamy, mixed, mesic Typic Hapludults
Bowmansville	Fine-loamy, mixed, nonacid, mesic Aeric Fluvaquents
Brecknock	Fine-loamy, mixed, mesic Ultic Hapludalfs
Buchanan	Fine-loamy, mixed, mesic Aquic Fragiudults
Catoctin	Loamy-skeletal, mixed, mesic Ruptic-Alfic Eutrochrepts
Clarksburg	Fine-loamy, mixed, mesic Typic Fragiudalfs
Codorus	Fine-loamy, mixed, mesic Fluvaquentic Dystrochrepts
Conestoga	Fine-loamy, mixed, mesic Typic Hapludalfs
Croton	Fine-silty, mixed, mesic Typic Fragiaqualfs
Dunning	Fine, mixed, mesic Fluvaquentic Haplaquolls
Edgemont	Fine-loamy, mixed, mesic Typic Hapludults
Glenelg	Fine-loamy, mixed, mesic Typic Hapludults
Glenville	Fine-loamy, mixed, mesic Aquic Fragiudults
Hatboro	Fine-loamy, mixed, nonacid, mesic Typic Fluvaquents
*Highfield	Coarse-loamy, mixed, mesic Ultic Hapludalfs
Klinesville	Loamy-skeletal, mixed, mesic Lithic Dystrochrepts
Lamington	Fine-loamy, mixed, mesic Typic Fragiaquults
Lansdale	Coarse-loamy, mixed, mesic Typic Hapludults
Legore	Fine-loamy, mixed, mesic Ultic Hapludalfs
Lehigh	Fine-loamy, mixed, mesic Aquic Hapludalfs
Lindside	Fine-silty, mixed, mesic Fluvaquentic Eutrochrepts
Manor	Coarse-loamy, micaceous, mesic Typic Dystrochrepts
Mount Lucas	Fine-loamy, mixed, mesic Aquic Hapludalfs
Mt. Airy	Loamy-skeletal, micaceous, mesic Typic Dystrochrepts
Mt. Zion	Fine-loamy, mixed, mesic Oxyaquic Hapludalfs
Myersville	Fine-loamy, mixed, mesic Ultic Hapludalfs
Neshaminy	Fine-loamy, mixed, mesic Ultic Hapludalfs
Penlaw	Fine-silty, mixed, mesic Aquic Fragiudalfs
Penn	Fine-loamy, mixed, mesic Ultic Hapludalfs
Pequea	Coarse-loamy, mixed, mesic Typic Eutrochrepts
Raritan	Fine-loamy, mixed, mesic Aquic Fragiudults
Ravenrock	Loamy-skeletal, mixed, mesic Ultic Hapludalfs
Readington	Fine-loamy, mixed, mesic Typic Fragiudalfs
Reaville	Fine-loamy, mixed, mesic Aquic Hapludalfs
Rohrersville	Fine-silty, mixed, mesic Aeric Fragiaqualfs
Rowland	Fine-loamy, mixed, mesic Fluvaquentic Dystrochrepts
**Steinsburg	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Watchung	Fine, mixed, mesic Typic Ochraqualfs

* Highfield soils in this soil survey area are taxadjuncts to the Highfield Series because of high base saturation. They are classified as coarse-loamy, mixed, mesic Typic Hapludalfs.

** Steinsburg soils in this soil survey area are taxadjuncts to the Steinsburg Series because of high base saturation. They are classified as coarse-loamy, mixed, mesic Typic Eutrochrepts.

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