



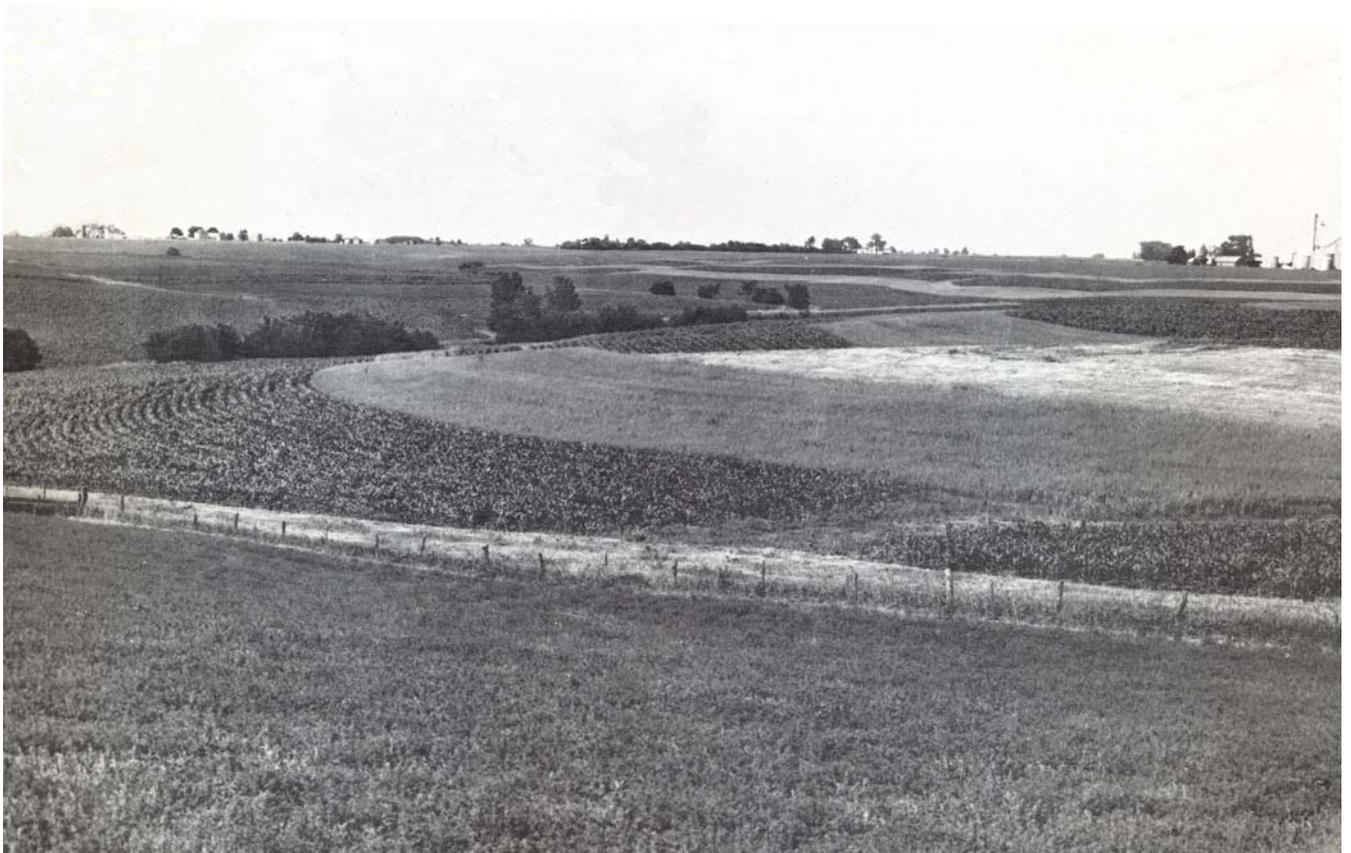
United States  
Department of  
Agriculture

In cooperation with Illinois  
Agricultural Experiment  
Station



Natural  
Resources  
Conservation  
Service

# Soil Survey of Mercer County, Illinois



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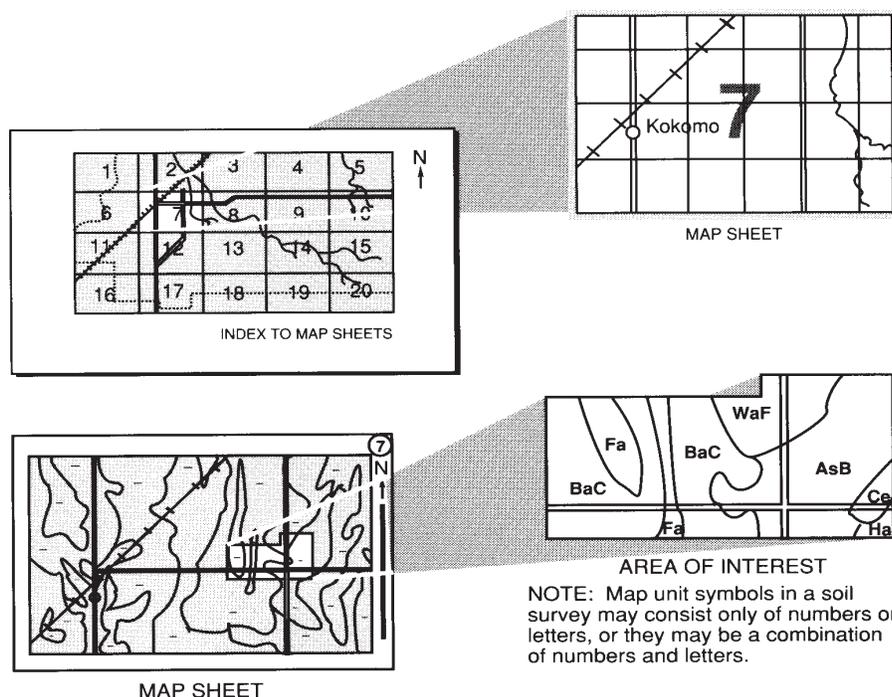
# How To Use This Soil Survey

This publication consists of a manuscript and a set of soil maps. The information provided 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**. 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 **Numerical Index to Map Units**, which lists the map units by symbol and name and shows the page where each map unit is described. The map unit symbols and names also appear as bookmarks, which link directly to the appropriate page in the publication.

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



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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 1998. Soil names and descriptions were approved in 2000. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1998. This survey was made cooperatively by the Natural Resources Conservation Service and the Illinois Agricultural Experiment Station. It is part of the technical assistance furnished to the Mercer County Soil and Water Conservation District. Financial assistance was provided by the Mercer County Board and the Illinois Department of Agriculture.

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.

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**Cover: Contour stripcropping in an area of Atlas, Elco, and Hickory soils.**

*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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# Foreword

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This soil survey contains information that affects land use planning in this survey area. It contains 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. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. 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.

William J. Gradle  
State Conservationist  
Natural Resources Conservation Service



# Soil Survey of Mercer County, Illinois

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By Steven L. Elmer, Natural Resources Conservation Service

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Updated fieldwork by Steven L. Elmer and David E. Preloger, Natural Resources Conservation Service

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United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with the Illinois Agricultural Experiment Station

MERCER COUNTY is in northwestern Illinois (fig. 1). It has a total area of about 363,600 acres, or 568 square miles. It is bounded by Rock Island County on the north, Henry and Knox Counties on the east, Warren and Henderson Counties on the south, and the Mississippi River on the west. The population of the county was 16,957 in 2000 (U.S. Department of Commerce, 2002). Aledo is the county seat.

This soil survey updates the survey of Mercer County published in 1991 (Elmer, 1991). It provides additional information and has larger maps, which show the soils in greater detail.

## General Nature of the Survey Area

This section provides some general information about the survey area. It describes relief, physiography, and drainage and includes data relating to the climate in the county.

### Relief, Physiography, and Drainage

Dr. Richard C. Anderson, Department of Geology, Augustana College, helped prepare this section.

The landscape of Mercer County consists largely of broad, gently rolling uplands dissected by a system of parallel, west-flowing streams that are tributaries of

the Mississippi River. The county is in the northern part of the region known as the Galesburg Plain. The flood plain along the Mississippi River, about 5 miles wide, is along the western margin of the county. Elevations range from about 820 feet above sea level in the uplands near New Windsor to 530 feet in the area along the Mississippi River at Keithsburg (fig. 2).

Deposits of glacial till indicate that the county has been covered by glacial ice several times in the recent geologic past. More recently, it has received a cover of wind-deposited silt and very fine sand, or loess, blown in from the flood plain along the Mississippi River (Willman and Frye, 1970). The present landscape is almost entirely the result of the erosion of these deposits by water.

The interstream areas in the uplands are remnants of a very extensive loess-mantled till plain that once continuously extended across western and central Illinois (Illinois State Geological Survey, 1979; Leighton and Brophy, 1961). Erosion has created valleys that interrupt the continuity of this till plain and progressively modify and eliminate the upland plains as they widen and lengthen. The upland areas are long and narrow between the west-flowing streams and range in width from less than 1 mile in the eastern part of the county to as much as about 5 miles adjacent to a bluff along the Mississippi River.

The degree of stream dissection is generally

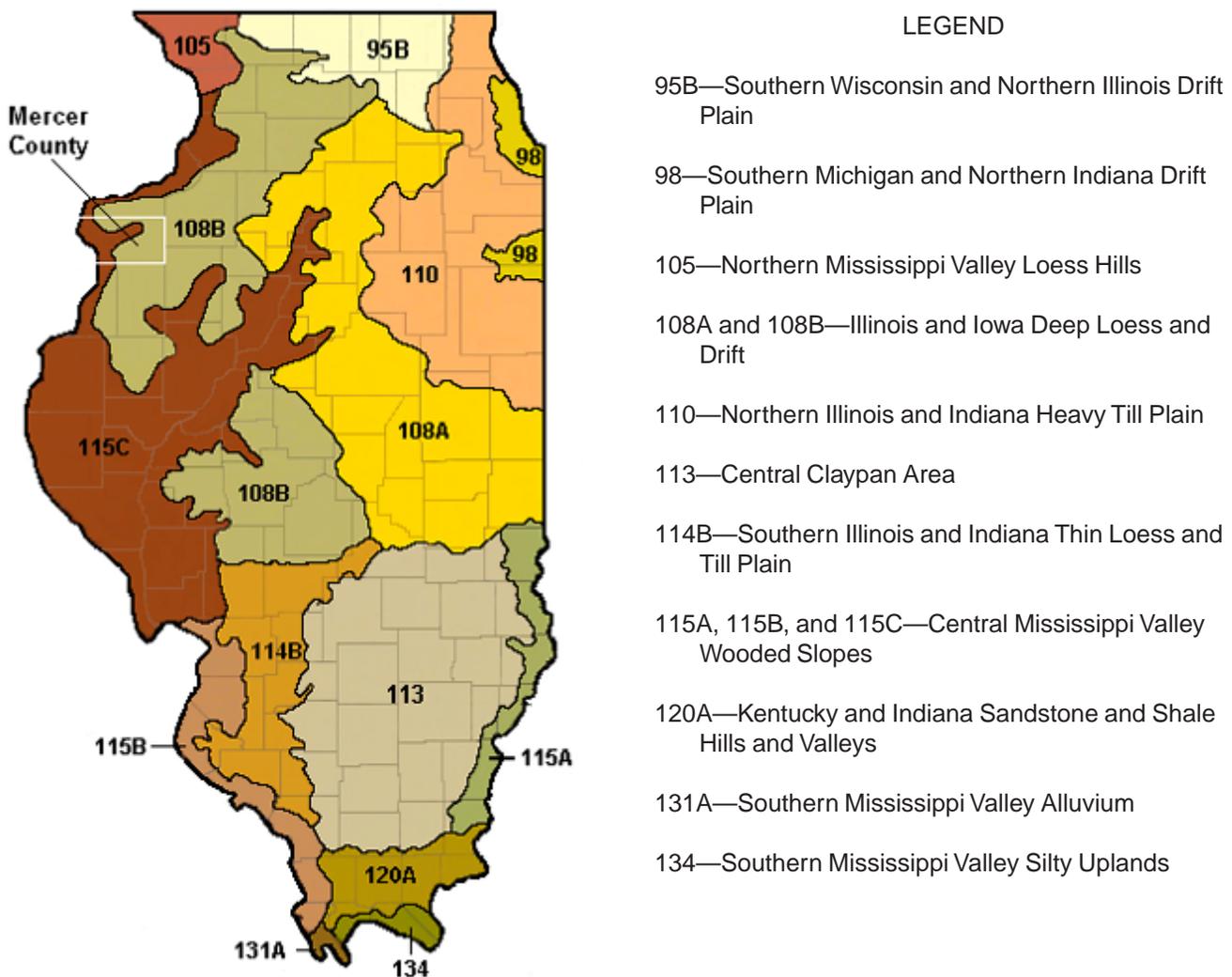


Figure 1.—Location of Mercer County and major land resource areas (MLRAs) in Illinois.

greater in the eastern part of the county, near the headwaters of streams, than it is to the west, in the lower reaches of the drainage basins near the Mississippi River. This unusual relationship is probably a result of a decrease in the thickness and grain size of the loess from west to east, away from the source. Because it is thinner in the east, the cover of loess is more easily removed and the underlying glacial till more easily exposed. Removal of the loess accentuates the degree of stream dissection, reducing the width of the interstream uplands.

The loess not only is thicker to the west but also is coarser grained and thus more porous and less conducive to surface runoff and stream dissection. Also, geological evidence suggests that the period of stream dissection began while the loess was still

accumulating. The accumulating loess may have inhibited stream dissection to a greater extent to the west, close to the source area, than it did to the east. The uplands slope generally southwestward from an elevation of about 800 feet in the northeast to 630 feet in the southwest.

The streams in Mercer County are noteworthy because they are strikingly parallel and because their valleys are oriented from east to west. The origin of this pattern is unknown. The pattern may be inherited from the configuration of the underlying bedrock surface, it may reflect the initial slopes on the till plain, or it may be related to initial variations in the thickness of the loess deposits. These are only a few of the more obvious possible explanations. The major streams, namely North Henderson Creek, Pope Creek, the

Edwards River, and Camp Creek, are parallel, as are their tributaries. Furthermore, there is marked asymmetry in the arrangement of the tributaries. They are longer and more numerous on the north sides of the major streams.

Incision of the streams into the upland plains has resulted in local relief that exceeds 150 feet in some areas along the Edwards River and its tributaries, particularly in the central and northeastern parts of the county. Relief is lower to the south and southwest. Except for those in the extreme northwest part of the county, even the bluffs along the Mississippi River have lower relief than the areas along the Edwards River. This pattern of relief results from the distinct westward slope of the upland divides, which exceeds the west-sloping gradients of the valley floors.

The valley sides are made up of glacial till, although the Pennsylvanian shale beneath the till is commonly exposed in the north-central part of the county, along North Pope Creek, the Edwards River, and Camp Creek. Terraces have formed along the sides of the major streams. They are most extensive along the Edwards River. They appear to be erosional in origin, even though they may have a cover of wind-deposited sand beneath a relatively thin mantle of loess. The terraces commonly are cut into the glacial till. In places, however, the till has been completely removed and the terraces have formed in the Pennsylvanian shale.

Nearly level bottom land is along all of the streams in the county. In general, the soils in these areas are poorly drained, are often flooded, and may be covered by standing water for several weeks during wet years.

In contrast, only the lowest of the terraces are flooded, and then only during the most severe floods.

The flood plain along the Mississippi River makes up the western extremity of the county. Only parts of this flood plain are subject to flooding. These are the areas on the bottom land upstream from New Boston and along the lower reaches of the Edwards River and Pope Creek. The parts subjected to flooding make up less than half of the flood plain area in the county. Elsewhere, the flood plain consists of a sandy terrace at an elevation of 570 to 580 feet above sea level and about 40 feet above normal river levels. Unlike the terraces along the other streams in the county, this terrace is depositional, a result of sand washing downriver from the melting terminus of the continental glacier far to the north. Remnants of this terrace also are along Pope Creek and the Edwards River for a few miles upstream from the point where these streams enter the flood plain along the Mississippi River. In a few places, most notably around Keithsburg, the surface of the terrace has been blown into dunes by the wind.

## Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Aledo during the period 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring as recorded at Moline. Table 3 provides data on length of the growing season as recorded at Moline.

In winter, the average temperature is 25 degrees F and the average daily minimum temperature is 17

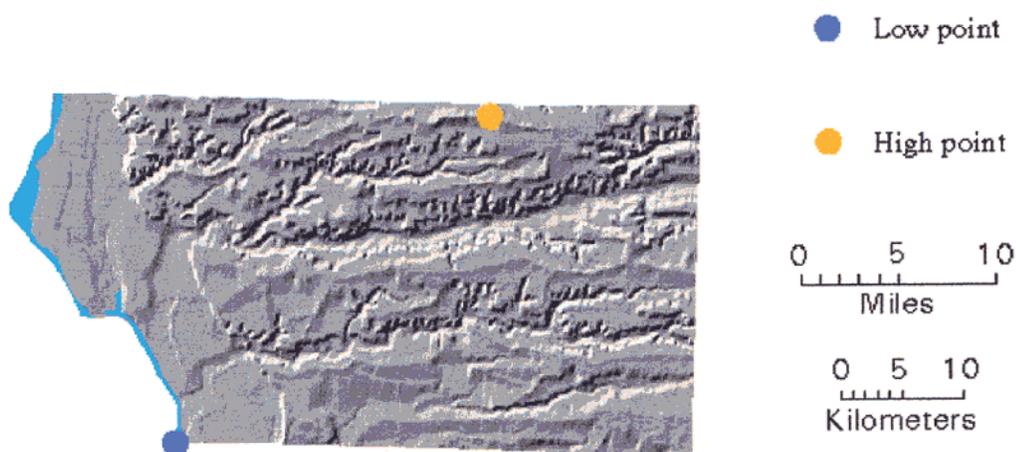


Figure 2.—A physiographic map of Mercer County. The highest elevation is about 820 feet above mean sea level, and the lowest elevation is about 530 feet above mean sea level.

degrees. The lowest temperature on record, which occurred at Aledo on February 3, 1996, is -28 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 Aledo on June 25, 1988, is 103 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 (50 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.

Total annual precipitation is 35.88 inches. Of this total, 23.69 inches, or about 66 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 11.75 inches. The heaviest 1-day rainfall during the period of record was 6.27 inches.

The average seasonal snowfall is 28.7 inches. The greatest snow depth at any one time during the period of record was 30 inches. On average, 15 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.

## How This Survey Was Made

This survey was made to provide updated information about the soils and miscellaneous areas in Mercer County, which is a subset of Major Land Resource Areas 108B and 115C (fig. 1). Major land resource areas (MLRAs) are geographically associated land resource units that share a common land use, elevation, topography, climate, water, soils, and vegetation (USDA, 1981). Map unit design and the soil descriptions are based on the occurrence of each soil throughout the MLRA. In some cases a soil may be referred to that was not mapped in the Mercer County subset but that is representative of the MLRA.

The information includes a description of the soils and miscellaneous areas and their location and a discussion of their properties and the subsequent effects on 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 or segment of the landscape. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landscape, soil scientists develop a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientists to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Individual soils on the landscape commonly merge into one another as their characteristics gradually change. To construct an accurate 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, soil 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. Interpretations are modified as necessary 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 seasonal high

water table within certain depths in most years, but they cannot predict that the 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.

The descriptions, names, and delineations of the soils in this survey area may not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.



# Formation and Classification of the Soils

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This section relates the soils in the survey area to the major factors of soil formation and describes the system of soil classification.

## Factors of Soil Formation

Soil forms through processes that act on deposited or accumulated geologic material. The characteristics of the soil at any given point are determined by the parent material, the plant and animal life on and in the soil, the climate, the relief, and the length of time that the forces of soil formation have acted on the soil material (Jenny, 1941). Human activities, such as clearing the forests, cultivating, and applying fertilizer, also are important.

Climate and plant and animal life are active factors of soil formation. They act on the parent material that has accumulated through the weathering of rocks, slowly changing it into a natural body that has genetically related horizons. The effects of climate and animal life are conditioned by relief. The parent material affects the kind of soil that forms. Finally, time is needed for the transformation of the parent material into a soil. Usually, a long time is required for the development of distinct horizons. The relative importance of each factor differs from place to place, and each modifies the effects of the other four. In some areas one factor dominates soil formation.

## Parent Material

Parent material is the unconsolidated mass in which a soil forms. It determines the limits of chemical and mineralogical composition of the soil. The properties of the parent material vary greatly, sometimes within small areas, depending on how the material was deposited. Some of the parent materials in Mercer County were deposited by wind, by glaciers, or by meltwater from the glaciers. In some areas they have subsequently been reworked and redeposited by water and wind. The parent materials in the county are loess, glacial till, outwash, eolian deposits, lacustrine deposits, alluvium, and residuum, or material weathered from bedrock.

Peoria loess is the major parent material in Mercer

County. The Mississippi River Valley was the main source of the loess. Wind picked up particles of silt from the valley floor and redeposited them in the uplands. The loess is about 30 feet thick on nearly level uplands near bluffs. Osco soils are examples of soils that formed in loess. These soils typically are medium textured or moderately fine textured and have well developed structure.

Glacial till is material that was laid down directly by glaciers with a minimum of water action. It consists of particles of different sizes. The small pebbles in glacial till have sharp corners, indicating that they have not been worn by water.

The glacial till in Mercer County is pre-Wisconsinan in age. A clayey paleosol that formed in till is near the head of many small drainageways leading from upland watershed divides. Glacial till also is common in broad areas south of the Edwards River in the eastern part of the county. Atlas soils formed in till that has a paleosol. Loamy till dominates the lower side slopes along small drainageways and the slopes along many of the larger drainageways. Hickory soils are examples of soils that formed in loamy till.

Outwash was deposited by running water from melting glaciers. The size of the particles that make up outwash material varies, depending on the speed of the water that carried them. When the water slowed, the coarser particles were deposited. The finer particles, such as very fine sand, silt, and clay, were carried by the more slowly moving water. Outwash deposits generally consist of layers of particles that are similar in size, such as silt loam, sandy loam, and sand. Dickinson soils are examples of soils that formed in loamy and sandy outwash that has been reworked by the wind.

Sandy eolian material is exposed in scattered areas on the south sides of valleys along the Edwards River and Pope Creek. Generally, this material is in small lateral drainageways and on narrow ridgetops 1 to 2 miles south of either stream. It was blown by the wind from water-deposited material originally located on the valley floors. Some of the windblown sandy material at the higher elevations has subsequently been washed downslope and deposited along some of the smaller tributary streams. The sandy material on the ridgetops

is more uniform in grain size than the material on the side slopes and is covered by a thicker mantle of loess. On the side slopes, the material is stratified with alternating layers of loamy and silty material.

Lacustrine material was deposited from still or ponded glacial meltwater. Because the coarser fragments dropped out of moving water as outwash, only the finer particles, such as very fine sand, silt, and clay, remained to settle out in the still water. In Mercer County the lacustrine deposits are clayey. Niota soils are examples of soils that formed partly in these deposits.

Alluvial material was deposited by the floodwater of present streams in recent time. This material varies in texture, depending on the speed of the water from which it was deposited. Sawmill and Radford soils are examples of alluvial soils.

The shale bedrock in Mercer County generally is buried by loess, glacial till, outwash, and alluvium. Along side slopes on deeply dissected uplands, however, shale residuum is a parent material. Marseilles soils formed partly in this material.

## Living Organisms

Plants have had a greater effect than animals on the soils in Mercer County. Bacteria, fungi, earthworms, and human activities, however, also have been important. The chief contribution of plant and animal life is the addition of organic material and nitrogen to the soil. The kind of organic material on and in the soil depends on the kind of native plants that grew on the soil. The remains of these plants accumulated in the surface layer, decayed, and eventually became organic matter in the soil. The roots of the plants provided channels for the downward movement of water through the soil and also added organic matter as they decayed. Bacteria in the soil helped to break down the organic matter into plant nutrients.

The native vegetation in the county was trees and prairie grasses. Most of the sloping to very steep soils formed under forests of oak, hickory, and similar trees. Nearly level soils formed under prairie grasses. They have a darker surface layer than that of the soils that formed under forest vegetation and have a higher content of organic matter. Fayette soils formed under forest vegetation. Osco soils formed under prairie vegetation.

## Climate

Climate is an important factor in the formation of soils. It influences the kind of plant and animal life on

and in the soil. Precipitation affects the weathering of minerals and the transporting of soil material. Temperature determines the rate of chemical reaction that occurs in the soil. Mercer County has a temperate, humid, continental climate, which has favored the generally rapid weathering of soil material, the formation of clay, and the downward movement of clay through the profile. As a result of the translocation of clay, the subsoil of most of the upland soils in the county contains more clay than the surface layer.

## Topography

Topography influences the formation of soils by affecting runoff and drainage. Drainage, in turn, through its effect on aeration of the soils, determines the color of the soil. Runoff is most rapid on the steeper slopes, but in low areas, water is temporarily ponded. Water and air move freely through well drained soils, such as Hickory soils, but slowly through poorly drained soils, such as Sable soils. In well aerated soils, the iron compounds that give most soils their color are brightly colored. In poorly aerated soils, the colors are dull gray and mottled.

## Time

The length of time needed for the formation of a soil depends on the other factors of soil formation. Soils form more rapidly and are more acid if the parent material has a low content of lime. The more rapidly permeable soils form more readily than slowly permeable soils because calcium and other soluble minerals are leached more quickly. Soils form more quickly under forest vegetation than under prairie vegetation because grasses are more efficient in recycling calcium and other bases from the subsoil to the surface layer. Soils generally form more quickly in a humid climate than in a dry climate.

Differences in the length of time that the parent material has been in place are commonly reflected in the degree of profile development in the soil. The soils in Mercer County range from young to mature. Most of the soils on uplands have a moderately developed profile and are mature. The soils on flood plains and terraces in the western part of the county have a weakly developed profile.

## Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 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 4 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 Mollisol.

**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 Aquoll (*Aqu*, meaning water, plus *oll*, from Mollisol).

**GREAT GROUP.** Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Endoaquolls (*Endo*, meaning within, plus *aquoll*, the suborder of the Mollisols that has an aquic moisture regime).

**SUBGROUP.** Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the

great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective Typic identifies the subgroup that typifies the great group. An example is Typic Endoaquolls.

**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 class, mineral content, cation-exchange capacity, temperature regime, thickness of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, superactive, mesic Typic Endoaquolls.

**SERIES.** The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series. The Sable series is an example of a soil series in this survey area.



## Soil Series and Detailed Soil Map Units

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In this section, arranged in alphabetical order, each soil series recognized in the survey area is described. Each series description is followed by detailed descriptions of the associated soil map units.

Characteristics of the soil and the material in which it formed are identified for each soil 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 "Keys to Soil Taxonomy" (Soil Survey Staff, 1998). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units on the soil maps in this survey represent the soils or miscellaneous areas in the survey area. These soils or miscellaneous areas are listed as individual components in the map unit description. 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. More information about each map unit is given under the headings "Use and Management of the Soils" and "Soil Properties."

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 some of the soil properties and qualities that may affect 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 soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Hickory silt loam, 10 to 18 percent slopes, eroded, is a phase of the Hickory series.

A map unit is named for the component or components that make up a dominant percentage of the map unit. Many map units consist of one dominant component. These map units are consociations. Sable silty clay loam, 0 to 2 percent slopes, is an example.

Some map units are made up of two or more dominant components. These map units are complexes. A *complex* consists of two or more components in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. Attempting to delineate the individual components of a complex would result in excessive clutter that could make the map illegible. The pattern and proportion of the components in a complex are somewhat similar in all areas. Timula-Hickory silt loams, 35 to 60 percent slopes, is an example.

Table 5 gives the acreage and proportionate extent of each map unit. Other tables (see Contents) 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.

## Ade Series

*Taxonomic classification:* Coarse-loamy, mixed, superactive, mesic Lamellic Argiudolls

### Typical Pedon

Ade loamy fine sand, 2 to 7 percent slopes; 1,820 feet east and 105 feet north of the southwest corner of sec. 15, T. 20 N., R. 4 E.; in Whiteside County, Illinois; USGS Erie topographic quadrangle; lat. 41 degrees 42 minutes 52 seconds N. and long. 90 degrees 01 minute 43 seconds W., NAD 27:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) loamy fine sand, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; moderately acid; abrupt smooth boundary.

BA—10 to 16 inches; brown (10YR 4/3) loamy fine sand; weak medium subangular blocky structure; friable; many faint very dark grayish brown (10YR 3/2) organic films on faces of peds; slightly acid; clear smooth boundary.

Bw—16 to 27 inches; dark yellowish brown (10YR 4/4) loamy fine sand; weak medium subangular blocky

structure; friable; slightly acid; abrupt smooth boundary.

E&Bt1—27 to 41 inches; dark yellowish brown (10YR 4/4) fine sand (E); single grain; loose; lamellae of brown (7.5YR 4/4) loam (Bt) about 6 inches apart and 4 to 5 inches thick; moderate medium subangular blocky structure; friable; slightly acid; clear smooth boundary.

E&Bt2—41 to 60 inches; yellowish brown (10YR 5/4) fine sand (E); single grain; loose; lamellae of brown (7.5YR 4/4) sandy loam and loamy sand (Bt) about 5 inches apart and 1 to 3 inches thick; weak medium subangular blocky structure; friable; slightly acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches

*Depth to lamellae:* 30 to 45 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—loamy fine sand, loamy sand, or fine sand

*Bw horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—loamy fine sand or fine sand

*E part of E&Bt horizon:*

Hue—10YR

Value—4 to 6

Chroma—3 to 6

Texture—sand or fine sand

*Bt part of E&Bt horizon:*

Hue—7.5YR or 10YR

Value—3 or 4

Chroma—3 or 4

Texture—loamy sand, sandy loam, or loam

## 98B—Ade loamy fine sand, 2 to 7 percent slopes

### Setting

*Landform:* Stream terraces

*Position on the landform:* Shoulders

### Composition

Ade and similar soils: 96 percent

Dissimilar soils: 4 percent

### Minor Components

#### Similar soils:

- Soils that have either a thicker surface layer or a lighter colored surface layer
- Soils that have more sand in the subsoil

#### Dissimilar soils:

- The well drained Dickinson soils in positions similar to those of the Ade soil
- The somewhat poorly drained Hoopston soils on footslopes

### Properties and Qualities of the Ade Soil

*Parent material:* Eolian sands

*Drainage class:* Somewhat excessively drained

*Slowest permeability within a depth of 40 inches:*

Rapid

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 4.6 inches

*Content of organic matter in the surface layer:* 1 to 3 percent

*Shrink-swell potential:* Low

*Flooding:* None

*Potential for frost action:* Low

*Hazard of corrosion:* Low for steel and high for concrete

*Surface runoff class:* Very low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* High

### Interpretive Groups

*Land capability classification:* 3s

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

### Ambraw Series

*Taxonomic classification:* Fine-loamy, mixed, superactive, mesic Fluvaquentic Endoaquolls

#### Typical Pedon

Ambraw clay loam, 0 to 2 percent slopes, rarely flooded; 2,400 feet north and 160 feet east of the southwest corner of sec. 11, T. 19 N., R. 3 E.; in Whiteside County, Illinois; USGS Erie Northwest topographic quadrangle; lat. 41 degrees 38 minutes 57 seconds N. and long. 90 degrees 07 minutes 54 seconds W., NAD 27:

Ap—0 to 10 inches; black (10YR 2/1) clay loam, very dark grayish brown (10YR 3/2) dry; weak fine

subangular blocky structure parting to weak fine granular; friable; slightly acid; abrupt smooth boundary.

A—10 to 20 inches; very dark gray (10YR 3/1) clay loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to weak fine granular; friable; many distinct black (10YR 2/1) organic coatings on faces of peds; few fine prominent yellowish brown (10YR 5/6) iron oxide masses in the matrix; neutral; clear smooth boundary.

Bg1—20 to 27 inches; dark gray (10YR 4/1) clay loam; moderate medium and fine subangular blocky structure; friable; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine concretions of iron oxide throughout the matrix; common fine prominent strong brown (7.5YR 4/6) iron oxide masses in the matrix; neutral; clear smooth boundary.

Bg2—27 to 32 inches; dark gray (10YR 4/1) clay loam; weak medium prismatic structure; friable; few faint concretions of iron oxide throughout the matrix; many medium prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 4/6) iron oxide masses in the matrix; slightly acid; clear smooth boundary.

Bg3—32 to 36 inches; gray (5Y 5/1) clay loam; weak medium subangular blocky structure; friable; very dark gray (10YR 3/1) krotovina 1 inch wide at a depth of 34 to 35 inches; few fine concretions of iron oxide throughout the matrix; many medium prominent yellowish brown (10YR 5/6) and few fine prominent strong brown (7.5YR 4/6) iron oxide masses in the matrix; neutral; abrupt smooth boundary.

Bg4—36 to 45 inches; gray (5Y 5/1) clay loam; thin strata of gray (10YR 5/1) sandy clay loam; weak medium subangular blocky structure; friable; few fine soft masses of iron oxide throughout the matrix; few fine prominent brown (7.5YR 5/4) and common fine prominent yellowish brown (10YR 5/6) iron oxide masses in the matrix; slightly acid; gradual smooth boundary.

Cg—45 to 60 inches; stratified grayish brown (2.5Y 5/2) clay loam, very dark grayish brown (2.5Y 3/2) sandy clay loam, and brown (10YR 5/3) loamy sand; massive; friable; few fine prominent yellowish brown (10YR 5/6) iron oxide masses in the matrix; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches

*Depth to free carbonates:* More than 50 inches

*Thickness of the solum:* 40 to 60 inches

*Ap or A horizon:*

Hue—10YR, 2.5Y, or N

Value—2 or 3

Chroma—0 to 2

Texture—clay loam, loam, sandy loam, sandy clay loam, or silty clay loam

*Bg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—loam, clay loam, sandy clay loam, sandy loam, or silt loam

*Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

Texture—stratified sand, loamy sand, sandy loam, loam, silt loam, and clay loam

**7302A—Ambraw clay loam, 0 to 2 percent slopes, rarely flooded*****Setting****Landform:* Flood plains***Composition***

Ambraw and similar soils: 95 percent

Dissimilar soils: 5 percent

***Minor Components****Similar soils:*

- Soils that have more clay in the lower part
- Soils that have a thicker surface layer

*Dissimilar soils:*

- The somewhat poorly drained Coffeen soils on summits

***Properties and Qualities of the Ambraw Soil****Parent material:* Alluvium*Drainage class:* Poorly drained*Slowest permeability within a depth of 40 inches:*

Moderately slow

*Permeability below a depth of 60 inches:* Moderately

slow or moderate

*Depth to restrictive feature:* More than 80 inches*Available water capacity to a depth of 60 inches:* About 9.7 inches*Content of organic matter in the surface layer:* 2 to 3 percent*Shrink-swell potential:* Moderate*Depth and months of the highest apparent seasonal high water table:* At the surface, January to May*Ponding depth:* As much as 0.5 foot during wet periods*Frequency and most likely period of flooding:* Rare, November to June*Potential for frost action:* High*Hazard of corrosion:* High for steel and moderate for concrete*Surface runoff class:* Negligible*Susceptibility to water erosion:* Slight*Susceptibility to wind erosion:* Slight***Interpretive Groups****Land capability classification:* 2w*Prime farmland status:* Prime farmland where drained*Hydric soil status:* Hydric***Assumption Series****Taxonomic classification:* Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls*Taxadjunct features:* The Assumption soils in this survey area have a thinner dark surface layer than is defined as the range for the series.***Typical Pedon (Official Series Description)***

Assumption silt loam, 2 to 5 percent slopes, at an elevation of 720 feet; 100 feet north and 300 feet east of the southwest corner of sec. 29, T. 15 N., R. 2 E.; in Henry County, Illinois; USGS Andover topographic quadrangle; lat. 41 degrees 15 minutes 00 seconds N. and long. 90 degrees 17 minutes 57 seconds W., NAD 27:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak medium granular structure; friable; many fine roots throughout; neutral; abrupt smooth boundary.

A—6 to 13 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many fine roots throughout; slightly acid; clear smooth boundary.

AB—13 to 16 inches; very dark grayish brown (10YR 3/2) silt loam mixed with some brown (10YR 4/3) in the lower 2 inches, grayish brown (10YR 5/2) and brown (10YR 5/3) dry; weak medium subangular blocky structure; friable; many fine roots throughout; neutral; clear wavy boundary.

Bt1—16 to 26 inches; brown (10YR 4/3) silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; firm; common fine roots between peds; many moderately thick brown (10YR 5/3) clay films on faces of peds; slightly acid; clear wavy boundary.

Bt2—26 to 35 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to

moderate medium subangular blocky; firm; common fine roots between pedes; many distinct brown (10YR 4/3) clay films on faces of pedes; many medium distinct brownish yellow (10YR 6/6) masses that have accumulated iron and are in the matrix; common distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; slightly acid; abrupt wavy boundary.

2Bt3—35 to 51 inches; yellowish brown (10YR 5/4) clay loam; weak medium subangular blocky structure; firm; common fine roots between pedes; common distinct moderately thick dark yellowish brown (10YR 4/3) clay films on faces of pedes; many coarse faint yellowish brown (10YR 5/8) masses in which iron has accumulated; common medium prominent light olive gray (5Y 6/2) iron depletions; slightly acid; clear wavy boundary.

2Bt4—51 to 60 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; common fine roots between pedes; many moderately thick light brown (10YR 4/3) clay films on faces of pedes; many medium distinct brownish yellow (10YR 6/6) masses in which iron has accumulated; slightly acid; clear wavy boundary.

2C—60 to 80 inches; brown (10YR 5/3) clay loam; massive; firm; common coarse prominent grayish brown (2.5Y 5/2) iron depletions and common coarse distinct brown (7.5YR 4/4) masses that have accumulated iron and are in the matrix; slightly effervescent; slightly alkaline.

### Range in Characteristics

*Thickness of the loess:* 20 to 40 inches

*Thickness of the solum:* 48 to more than 70 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam or silty clay loam

Reaction—moderately acid to neutral

*Bt horizon:*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 to 6

Texture—silty clay loam or silt loam

Reaction—strongly acid to neutral

*2Btg or 2Bt horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 to 6

Texture—clay loam, silty clay loam, loam, clay, or silty clay

Reaction—strongly acid to neutral

*2C or 2Cg horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 to 6

Texture—clay loam, silty clay loam, loam, clay, or silty clay

Reaction—slightly acid to moderately alkaline

## 259C2—Assumption silt loam, 5 to 10 percent slopes, eroded

### Setting

*Landform:* Ground moraines

*Position on the landform:* Shoulders and backslopes

### Composition

Assumption and similar soils: 90 percent

Dissimilar soils: 10 percent

### Minor Components

*Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that have less clay in the subsoil
- Soils that have a lens of sandy material above the lower part of the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Radford soils in drainageways

### Properties and Qualities of the Assumption Soil

*Parent material:* Loess over a paleosol that formed in till

*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:*

Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow or slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.6 inches

*Content of organic matter in the surface layer:* 3 to 4 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2 feet, February to April

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 3e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

## **259D2—Assumption silt loam, 10 to 18 percent slopes, eroded**

### **Setting**

*Landform:* Ground moraines  
*Position on the landform:* Shoulders and backslopes

### **Composition**

Assumption and similar soils: 97 percent  
 Dissimilar soils: 3 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that have less clay in the subsoil
- Soils that have a lens of sandy material above the lower part of the subsoil

#### *Dissimilar soils:*

- The somewhat poorly drained Radford soils in drainageways

### **Properties and Qualities of the Assumption Soil**

*Parent material:* Loess over a paleosol that formed in till  
*Drainage class:* Moderately well drained  
*Slowest permeability within a depth of 40 inches:* Slow  
*Permeability below a depth of 60 inches:* Moderately slow or slow  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 11.3 inches  
*Content of organic matter in the surface layer:* 2 to 3 percent  
*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 2 feet, February to April  
*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 4e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

## **Atlas Series**

*Taxonomic classification:* Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs  
*Map units in which this series occurs:* 946D3, 957D3

### **Typical Pedon**

Atlas silt loam, 5 to 10 percent slopes, eroded, at an elevation of 665 feet; 1,200 feet west and 50 feet south of the northeast corner of sec. 7, T. 1 N., R. 6 W.; in Warren County, Illinois; USGS Coatsburg topographic quadrangle; lat. 40 degrees 05 minutes 40 seconds N. and long. 91 degrees 07 minutes 52 seconds W., NAD 27:

- Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; common very fine and fine roots; common medium prominent strong brown (7.5YR 5/8) and few fine distinct yellowish brown (10YR 5/6) masses of iron throughout; few fine prominent black (2.5Y 2.5/1) masses of iron and manganese throughout; slightly acid; clear smooth boundary.
- BE—7 to 13 inches; brown (10YR 5/3) silty clay loam, light brownish gray (10YR 6/2) dry; weak medium subangular blocky structure; friable; common fine roots; few fine distinct light brownish gray (10YR 6/2) clay depletions throughout; few fine distinct yellowish brown (10YR 5/6) masses of iron throughout; slightly acid; clear wavy boundary.
- 2Btg1—13 to 26 inches; dark gray (10YR 4/1) silty clay loam; moderate thick platy structure parting to weak fine subangular blocky; firm; common fine and few medium roots; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine prominent yellowish brown (10YR 5/6) masses of iron and few fine distinct white (10YR 8/1) masses of barite

throughout; moderately acid; clear wavy boundary.

2Btg2—26 to 37 inches; 87 percent dark gray (10YR 4/1) and 10 percent gray (10YR 5/1) silty clay; weak medium prismatic structure; firm; common fine and medium roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; common fine prominent yellowish brown (10YR 5/6) masses of iron and few fine distinct white (10YR 8/1) masses of barite throughout; 1 percent rounded gravel and 1 percent subangular limestone-cherty gravel; neutral; clear wavy boundary.

2Btg3—37 to 47 inches; gray (2.5Y 5/1) silty clay; weak coarse prismatic structure; firm; common fine roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine prominent yellowish brown (10YR 5/6) masses of iron throughout and few fine faint gray (10YR 6/1) iron depletions and few fine distinct white (10YR 8/1) masses of barite throughout; 1 percent angular gravel; neutral; clear wavy boundary.

2Btg4—47 to 61 inches; gray (2.5Y 5/1) clay loam; weak coarse prismatic structure; firm; common very fine roots; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine distinct black (2.5Y 2.5/1) masses of iron and manganese and few fine distinct white (10YR 8/1) barite crystals throughout; 1 percent limestone-cherty gravel and 1 percent rounded igneous-granite gravel; neutral; clear wavy boundary.

2BCg—61 to 80 inches; light brownish gray (2.5Y 6/2) clay loam; weak coarse prismatic structure; firm; few fine distinct yellowish brown (10YR 5/6) and common medium prominent brownish yellow (10YR 6/8) masses of iron throughout; 2 percent limestone-cherty gravel; neutral.

### Range in Characteristics

*Depth to the base of the argillic horizon:* More than 42 inches

*Ap or A horizon:*

Hue—10YR

Value—2 to 5

Chroma—1 to 4

Texture—silt loam, loam, silty clay loam, or clay loam

*E or BE horizon:*

Hue—10YR

Value—4 or 5

Chroma—1 to 4

Texture—silt loam or silty clay loam

*Bt, Btg, or 2Btg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—clay loam, clay, silty clay loam, or silty clay

Content of rock fragments—0 to 5 percent

*2Cg horizon (if it occurs):*

Hue—10YR, 7.5YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 6

Texture—silty clay loam, clay loam, or loam

Content of rock fragments—2 to 15 percent

### Atterberry Series

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs

#### Typical Pedon (Official Series Description)

Atterberry silt loam, 0 to 2 percent slopes; 1,650 feet north and 1,120 feet east of the southwest corner of sec. 34, T. 16 N., R. 9 E.; in Bureau County, Illinois; USGS Princeton South topographic quadrangle; lat. 41 degrees 19 minutes 30 seconds N. and long. 89 degrees 26 minutes 47 seconds W., NAD 27:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; few fine roots; neutral; abrupt smooth boundary.

E—9 to 13 inches; light brownish gray (10YR 6/2) silt loam; moderate thin platy structure; friable; few fine roots; common fine faint grayish brown (10YR 5/2) redoximorphic depletions; slightly acid; clear smooth boundary.

BE—13 to 17 inches; brown (10YR 5/3) silt loam; moderate medium platy structure parting to moderate very fine subangular blocky; friable; few fine roots; common faint brown (10YR 4/3) clay films on faces of peds and common distinct light gray (10YR 7/2) (dry) redoximorphic clay depletions on faces of peds; few fine dark brown (7.5YR 3/2) concretions of iron and manganese oxide; few fine faint grayish brown (10YR 5/2) iron depletions; slightly acid; clear smooth boundary.

Bt—17 to 24 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; few fine roots; many faint dark grayish brown (10YR 4/2) clay films and common faint light gray

(10YR 7/2) (dry) redoximorphic clay depletions on faces of peds; common fine rounded dark brown (7.5YR 3/2) concretions of iron and manganese oxide; common fine faint grayish brown (10YR 5/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) iron concentrations; strongly acid; clear smooth boundary.

Btg1—24 to 33 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; many distinct grayish brown (10YR 5/2) clay films and few distinct light gray (10YR 7/2) (dry) redoximorphic clay depletions on faces of peds; common fine rounded dark brown (7.5YR 3/2) concretions of iron and manganese oxide; common fine faint light brownish gray (2.5Y 6/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) iron concentrations; strongly acid; clear smooth boundary.

Btg2—33 to 40 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; common distinct grayish brown (10YR 5/2) clay films and few distinct light gray (10YR 7/2) (dry) redoximorphic clay depletions on faces of peds; many prominent very dark grayish brown (10YR 3/2) clay films lining pores; common fine prominent rounded dark brown (7.5YR 3/2) concretions of iron and manganese oxide; many fine prominent yellowish brown (10YR 5/6) iron concentrations; strongly acid; clear smooth boundary.

Btg3—40 to 48 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse prismatic structure; friable; few fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; many prominent very dark grayish brown (10YR 3/2) clay films lining pores; many fine prominent yellowish brown (10YR 5/6) iron concentrations; strongly acid; clear smooth boundary.

BCg—48 to 55 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse prismatic structure; friable; common distinct grayish brown (10YR 5/2) clay films on faces of peds; many prominent very dark grayish brown (10YR 3/2) clay films lining pores; many medium prominent yellowish brown (10YR 5/6) iron concentrations; moderately acid; clear smooth boundary.

Cg—55 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) iron concentrations; slightly acid.

### Range in Characteristics

*Thickness of the solum:* 42 to 72 inches

*Ap or A horizon:*

Value—2 or 3

Chroma—1 or 2

Reaction—moderately acid to neutral

*E horizon:*

Value—4 to 6

Chroma—1 or 2

Reaction—strongly acid to neutral

*Bt or Btg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay loam or silt loam

Reaction—strongly acid to neutral

*C or Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

Reaction—moderately acid to slightly alkaline

## 61A—Atterberry silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### Composition

Atterberry and similar soils: 98 percent

Dissimilar soils: 2 percent

### Minor Components

*Similar soils:*

- Soils that have more clay in the subsoil

*Dissimilar soils:*

- The well drained Fayette soils on shoulders
- The well drained Rozetta soils on summits

### Properties and Qualities of the Atterberry Soil

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 12.1 inches

*Content of organic matter in the surface layer:* 2 to 4 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot, January to May

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 1

*Prime farmland status:* Prime farmland where drained

*Hydric soil status:* Not hydric

## **9061A—Atterberry silt loam, terrace, 0 to 2 percent slopes**

### **Setting**

*Landform:* Outwash plains or terraces

*Position on the landform:* Summits

### **Composition**

Atterberry and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Minor Components**

*Similar soils:*

- Soils that have a thicker or lighter colored surface layer
- Soils that are underlain by sandy outwash within a depth of 80 inches

*Dissimilar soils:*

- The poorly drained Beaucoup and Sawmill soils on flood plains

### **Properties and Qualities of the Atterberry Soil**

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 12.1 inches

*Content of organic matter in the surface layer:* 2 to 4 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1 foot, January to May

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 1

*Prime farmland status:* Prime farmland where drained

*Hydric soil status:* Not hydric

## **Beaucoup Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Fluvaquentic Endoaquolls

### **Typical Pedon**

Beaucoup silty clay loam, 0 to 2 percent slopes, rarely flooded; 1,540 feet north and 1,860 feet east of the southwest corner of sec. 26, T. 20 N., R. 4 E.; in Whiteside County, Illinois; USGS Erie topographic quadrangle; lat. 41 degrees 41 minutes 21 seconds N. and long. 90 degrees 00 minutes 34 seconds W., NAD 27:

Ap—0 to 10 inches; black (N 2/0) silty clay loam, very dark gray (10YR 3/1) dry; weak medium and fine subangular blocky structure parting to moderate fine granular; friable; neutral; abrupt smooth boundary.

AB—10 to 16 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium subangular blocky structure parting to moderate fine granular; friable; few fine distinct dark yellowish brown (10YR 4/4) iron masses in the matrix; neutral; clear smooth boundary.

Bg1—16 to 24 inches; dark gray (10YR 4/1) silty clay loam; moderate medium and fine subangular blocky structure; friable; few fine distinct dark yellowish brown (10YR 4/4) iron masses in the matrix; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.

Bg2—24 to 33 inches; dark gray (10YR 4/1) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few fine distinct brown (10YR 5/3) iron masses in the matrix; few fine iron-manganese concretions; neutral; clear smooth boundary.

Bg3—33 to 43 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky;

friable; few fine prominent dark yellowish brown (10YR 4/4) iron masses in the matrix; neutral; clear smooth boundary.

BCg—43 to 50 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak medium prismatic structure; friable; very dark gray (10YR 3/1) krotovinas 2 inches wide at a depth of 46 inches; few fine prominent dark yellowish brown (10YR 4/6) iron masses in the matrix; slightly alkaline; gradual smooth boundary.

Cg—50 to 60 inches; grayish brown (2.5Y 5/2) and light brownish gray (2.5Y 6/2) silt loam; massive; friable; common medium and fine prominent strong brown (7.5YR 4/6) iron masses in the matrix; slightly alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches

*Thickness of the solum:* 35 to 65 inches

*Ap or A horizon:*

Hue—N or 10YR

Value—2 or 3

Chroma—0 to 2

Texture—silty clay loam or silt loam

*Bg or Btg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silty clay loam

*BCg and/or Cg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay loam or silt loam; thin strata of loam, sandy loam, fine sandy loam, or very fine sandy loam in some pedons

### 1070A—Beaucoup silty clay loam, undrained, 0 to 2 percent slopes, rarely flooded

#### Setting

*Landform:* Flood plains

#### Composition

Beaucoup and similar soils: 100 percent

#### Minor Components

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that are calcareous
- Soils that contain more clay

### Properties and Qualities of the Beaucoup Soil

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:*

Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.5 inches

*Content of organic matter in the surface layer:* 5 to 6 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface, January to June

*Frequency and most likely period of flooding:* Rare, November to June

*Ponding depth:* As much as 1 foot during wet periods

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Very slight

### Interpretive Groups

*Land capability classification:* 5w

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Hydric

### 7070A—Beaucoup silty clay loam, 0 to 2 percent slopes, rarely flooded

#### Setting

*Landform:* Flood plains

#### Composition

Beaucoup and similar soils: 85 percent

Dissimilar soils: 15 percent

#### Minor Components

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that have more clay
- Soils that have slopes of more than 2 percent

*Dissimilar soils:*

- The somewhat poorly drained Coffeen and Orion soils on summits

### Properties and Qualities of the Beaucoup Soil

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:*  
Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 11.4 inches  
*Content of organic matter in the surface layer:* 5 to 6 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest apparent seasonal high water table:* At the surface, January to May  
*Ponding depth:* As much as 0.5 foot during wet periods  
*Frequency and most likely period of flooding:* Rare, January to June  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Negligible  
*Susceptibility to water erosion:* Slight  
*Susceptibility to wind erosion:* Very slight

### **Interpretive Groups**

*Land capability classification:* 2w  
*Prime farmland status:* Prime farmland where drained  
*Hydric soil status:* Hydric

### **Biggsville Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludolls  
*Taxadjunct features:* The Biggsville soil in map unit 671C2 has a thinner dark surface layer than is defined as the range for the series.

#### **Typical Pedon (Official Series Description)**

Biggsville silt loam, 0 to 2 percent slopes, at an elevation of 630 feet; 1,520 feet west and 200 feet south of the northeast corner of sec. 30, T. 19 N., R. 3 E.; in Rock Island County, Illinois; USGS Hillsdale topographic quadrangle; lat. 41 degrees 36 minutes 40 seconds N. and long. 90 degrees 12 minutes 00 seconds W., NAD 27:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, grayish brown (10YR 5/2) dry; moderate very fine and fine granular structure; friable; common fine roots; neutral; abrupt smooth boundary.  
AB—8 to 16 inches; very dark grayish brown (10YR 3/2) and brown (10YR 4/3) silt loam, grayish brown (10YR 5/2) dry; moderate medium subangular blocky structure parting to moderate fine granular; friable; few fine roots; neutral; gradual smooth boundary.

Bw1—16 to 32 inches; brown (10YR 4/3) and dark yellowish brown (10YR 4/4) silt loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly acid; abrupt smooth boundary.

Bw2—32 to 47 inches; brown (10YR 4/3) silt loam; moderate medium prismatic structure; friable; common medium distinct brown (7.5YR 4/4) and yellowish brown (10YR 5/6) masses of iron within peds; common medium distinct grayish brown (10YR 5/2) iron depletions within peds; few fine black (7.5YR 2.5/1) iron and manganese oxide stains; slightly acid; gradual smooth boundary.

Cg—47 to 80 inches; grayish brown (10YR 5/2), brown (7.5YR 4/4), and yellowish brown (10YR 5/6) silt loam; massive; friable; few fine black (7.5Y 2.5/1) iron and manganese oxide stains; slightly acid.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 10 to 20 inches  
*Depth to the base of the cambic horizon:* More than 42 inches

*Ap or A horizon:*  
Value—2 or 3  
Chroma—1 to 3  
Reaction—moderately acid to moderately alkaline

*Bw or BC horizon:*  
Hue—7.5YR or 10YR  
Value—3 to 5  
Chroma—3 to 6  
Reaction—moderately acid to neutral

*C or Cg horizon:*  
Hue—7.5YR, 10YR, or 2.5Y  
Value—4 to 6  
Chroma—2 to 6  
Reaction—slightly acid to moderately alkaline

### **671B—Biggsville silt loam, 2 to 5 percent slopes**

#### **Setting**

*Landform:* Ground moraines  
*Position on the landform:* Shoulders

#### **Composition**

Biggsville and similar soils: 96 percent  
Dissimilar soils: 4 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have a thinner or lighter colored surface layer

#### *Dissimilar soils:*

- The somewhat poorly drained Joy soils on summits
- The poorly drained Denny soils in depressions

### **Properties and Qualities of the Biggsville Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
12.8 inches

*Content of organic matter in the surface layer:* 3 to 5  
percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal  
high water table:* 4 feet, February to April

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for  
concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

## **671C2—Biggsville silt loam, 5 to 10 percent slopes, eroded**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### **Composition**

Biggsville and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have a thinner or lighter colored surface layer
- Soils that have slopes of less than 5 percent

#### *Dissimilar soils:*

- The somewhat poorly drained Radford soils in drainageways

### **Properties and Qualities of the Biggsville Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
12.7 inches

*Content of organic matter in the surface layer:* 2 to 3  
percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal  
high water table:* 4 feet, February to April

*Flooding:* None

*Accelerated erosion:* The surface layer has been  
thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for  
concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

### **Blake Series**

*Taxonomic classification:* Fine-silty, mixed,  
superactive, calcareous, mesic Aquic  
Udifluvents

### **Typical Pedon**

Blake silt loam, in an area of Blake-Beaucoup complex, 0 to 2 percent slopes, frequently flooded, long duration; 840 feet north and 1,200 feet east of the southwest corner of sec. 10, T. 15 N., R. 6 W.; in Mercer County, Illinois; USGS Toolesboro topographic quadrangle; lat. 41 degrees 13 minutes 10 seconds N. and long. 91 degrees 04 minutes 02 seconds W., NAD 27:

A—0 to 7 inches; very dark grayish brown (2.5Y 3/2) silt loam, grayish brown (2.5Y 5/2) dry; weak fine and medium subangular blocky structure parting to moderate fine and medium granular; friable;

slightly effervescent; moderately alkaline; gradual smooth boundary.

Cg1—7 to 31 inches; very dark grayish brown (2.5Y 3/2) silt loam; many thin strata of loamy very fine sand; weak medium subangular blocky structure; friable; common medium faint grayish brown (10YR 5/2) iron depletions; slightly effervescent; moderately alkaline; gradual smooth boundary.

Cg2—31 to 60 inches; dark grayish brown (2.5Y 4/2) silt loam; many thin strata of loamy very fine sand; massive; friable; common fine and medium dark reddish brown (5YR 3/3) iron concentrations; slightly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the solum:* Less than 10 inches

*Ap or A horizon:*

Hue—10YR or 2.5Y

Value—3 or 4

Chroma—1 or 2

Texture—silt loam or silty clay loam

*Cg1 horizon:*

Hue—10YR or 2.5Y

Value—3 or 4

Chroma—1 to 4

Texture—silt loam or silty clay loam

*Cg2 horizon:*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 or 3

Texture—silt loam, loam, or very fine sandy loam

## 3870L—Blake-Beaucoup complex, 0 to 2 percent slopes, frequently flooded, long duration

### Setting

*Landform:* Flood plains

### Composition

Blake soil: 50 percent

Beaucoup soil: 40 percent

Dissimilar soils: 10 percent

### Minor Components

*Dissimilar soils:*

- The somewhat poorly drained Psammets on summits

### Properties and Qualities of the Blake Soil

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 12.6 inches

*Content of organic matter in the surface layer:* 1 to 3 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 2 feet, February to July

*Frequency and most likely period of flooding:*  
Frequent, March to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### Properties and Qualities of the Beaucoup Soil

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:*  
Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.4 inches

*Content of organic matter in the surface layer:* 5 to 6 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface, February to July

*Frequency and most likely period of flooding:*  
Frequent, March to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Very slight

### Interpretive Groups

*Land capability classification:* Blake—5w; Beaucoup—5w

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Blake—hydric; Beaucoup—hydric

### Bold Series

*Taxonomic classification:* Coarse-silty, mixed, superactive, calcareous, mesic Typic Udorthents

*Map units in which this series occurs:* 962D3

### Typical Pedon (Official Series Description)

Bold silt loam, in an area of Sylvan-Bold complex, 10 to 18 percent slopes, severely eroded; 600 feet north and 900 feet east of the southwest corner of sec. 7, T. 16 N., R. 3 E.; in Henry County, Illinois; USGS Geneseo topographic quadrangle; lat. 41 degrees 23 minutes 04 seconds N. and long. 90 degrees 11 minutes 57 seconds W., NAD 27:

- Ap—0 to 8 inches; mixed brown (10YR 4/3), dark grayish brown (10YR 4/2), and yellowish brown (10YR 5/4) silt loam, pale brown (10YR 6/3) and light yellowish brown (10YR 6/4) dry; weak very fine and fine granular structure; friable; slightly effervescent; moderately alkaline; abrupt smooth boundary.
- C1—8 to 16 inches; yellowish brown (10YR 5/6) silt loam; massive; friable; strongly effervescent; moderately alkaline; abrupt smooth boundary.
- C2—16 to 37 inches; light brownish gray (10YR 6/2) and yellowish brown (10YR 5/6) silt loam; massive; friable; strongly effervescent; moderately alkaline; clear smooth boundary.
- C3—37 to 60 inches; yellowish brown (10YR 5/6) and light brownish gray (10YR 6/2) silt loam; massive; friable; strongly effervescent; moderately alkaline; clear wavy boundary.
- C4—60 to 80 inches; light brownish gray (10YR 6/2) and yellowish brown (10YR 5/6) silt loam; massive; few coarse prominent strong brown (7.5YR 5/8) iron concentrations; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess:* 6 to more than 30 feet

*Thickness of the solum:* 3 to 12 inches

*Ap horizon:*

Hue—10YR

Value—4 to 6

Chroma—2 to 6

*C horizon:*

Hue—10YR

Value—4 to 7

Chroma—2 to 8

### Booker Series

*Taxonomic classification:* Very fine, smectitic, mesic  
Cumulic Vertic Endoaquolls

### Typical Pedon

Booker silty clay, 0 to 2 percent slopes; 100 feet south

and 1,270 feet east of the northwest corner of sec. 3, T. 17 N., R. 4 E.; in Henry County, Illinois; USGS Atkinson topographic quadrangle; lat. 41 degrees 29 minutes 46 seconds N. and long. 90 degrees 01 minute 30 seconds W., NAD 27:

- Ap—0 to 8 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; weak medium subangular blocky structure; very firm; common roots; neutral; abrupt smooth boundary.
- A1—8 to 12 inches; very dark gray (10YR 3/1) silty clay, dark gray (10YR 4/1) dry; moderate medium subangular blocky structure; very firm; common roots; neutral; gradual wavy boundary.
- A2—12 to 18 inches; very dark gray (10YR 3/1) clay, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure; very firm; common dark gray (10YR 4/1) pressure faces on peds; few fine prominent yellowish brown (10YR 5/6) iron concentrations; neutral; clear wavy boundary.
- Bg1—18 to 22 inches; olive gray (5Y 4/2) clay; moderate fine and medium subangular blocky structure; very firm; many dark gray (10YR 4/1) pressure faces on peds; common medium distinct brown (10YR 5/3) iron depletions; neutral; clear wavy boundary.
- Bg2—22 to 33 inches; olive gray (5Y 5/2) clay; moderate medium subangular blocky structure; very firm; many dark gray (10YR 4/1) pressure faces on peds; many medium faint olive (5Y 5/3) iron depletions; neutral; clear wavy boundary.
- Bg3—33 to 44 inches; olive gray (5Y 5/2) clay; moderate fine subangular blocky structure; very firm; many dark gray (10YR 4/1) pressure faces on peds; few lime concretions in the lower part; neutral; gradual wavy boundary.
- Cg—44 to 60 inches; mottled olive gray (5Y 5/2), reddish brown (5YR 5/3), and yellowish brown (10YR 5/6) silty clay; massive; firm; few dark gray (10YR 4/1) pressure faces on weak cleavage planes; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches

*Ap horizon:*

Hue—10YR to 5Y or N

Value—2 or 3

Chroma—0 to 2

Texture—silty clay or clay

*Bg horizon:*

Hue—10YR to 5Y or N

Value—2 to 5

Chroma—0 to 2

*Cg horizon:*

Hue—10YR to 5Y or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay or clay

**457A—Booker silty clay, 0 to 2 percent slopes****Setting***Landform:* Lake plains*Position on the landform:* Summits**Composition**

Booker and similar soils: 97 percent

Dissimilar soils: 3 percent

**Minor Components***Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that have less clay in the surface layer

*Dissimilar soils:*

- The poorly drained Niota soils on toeslopes

**Properties and Qualities of the Booker Soil***Parent material:* Lacustrine deposits*Drainage class:* Very poorly drained*Slowest permeability within a depth of 40 inches:* Very slow*Permeability below a depth of 60 inches:* Very slow*Depth to restrictive feature:* More than 80 inches*Available water capacity to a depth of 60 inches:* About 7 inches*Content of organic matter in the surface layer:* 1 to 5 percent*Shrink-swell potential:* Very high*Depth and months of the highest apparent seasonal high water table:* At the surface, January to May*Ponding depth:* As much as 0.5 foot during wet periods*Flooding:* None*Potential for frost action:* Moderate*Hazard of corrosion:* High for steel and moderate for concrete*Surface runoff class:* Negligible*Susceptibility to water erosion:* Slight*Susceptibility to wind erosion:* Moderate**Interpretive Groups***Land capability classification:* 3w*Prime farmland status:* Prime farmland where drained*Hydric soil status:* Hydric**Broadwell Series***Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Argiudolls**Typical Pedon (Official Series Description)**

Broadwell silt loam, 2 to 5 percent slopes; 136 feet south and 254 feet west of the northeast corner of sec. 20, T. 15 N., R. 3 W.; in Christian County, Illinois; USGS Mount Auburn topographic quadrangle; lat. 39 degrees 46 minutes 17 seconds N. and long. 89 degrees 16 minutes 51 seconds W., NAD 27:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, grayish brown (10YR 5/2) dry; moderate very fine granular structure; friable; few fine roots; slightly acid; abrupt smooth boundary.

A—8 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; neutral; clear smooth boundary.

BA—14 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine subangular blocky structure; friable; many distinct dark brown (10YR 3/3) organic coatings on faces of peds; neutral; clear smooth boundary.

Bt1—21 to 26 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; many distinct dark brown (10YR 3/3) clay films on faces of peds; moderately acid; gradual smooth boundary.

Bt2—26 to 38 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common distinct dark brown (10YR 3/3) clay films on faces of peds; few fine faint yellowish brown (10YR 5/4) redoximorphic features; moderately acid; gradual smooth boundary.

Bt3—38 to 55 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium subangular blocky structure; friable; common distinct dark brown (10YR 3/3) clay films on faces of peds; few fine dark iron and manganese concretions; few fine distinct yellowish brown (10YR 5/6) and light gray (10YR 7/2) redoximorphic features; moderately acid; clear smooth boundary.

2Bt4—55 to 60 inches; dark yellowish brown (10YR 4/4) loamy sand; weak coarse subangular blocky structure; friable; common distinct dark brown (10YR 3/3) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) and light brownish gray (10YR 6/2) redoximorphic features; moderately acid.

### Range in Characteristics

*Thickness of the loess:* 40 to 60 inches

*Thickness of the mollic epipedon:* 10 to 24 inches

*Thickness of the solum:* 45 to 65 inches

*Ap or A horizon:*

Value—2 or 3

Chroma—1 to 3

Reaction—moderately acid to neutral

*BA or AB horizon (if it occurs) and Bt horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—3 to 6

Reaction—moderately acid to neutral

*2Bt or 2BC horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—4 to 6

Texture—loamy sand, loamy fine sand, fine sand,  
or sand

Reaction—moderately acid to neutral

*2C horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—4 to 6

Texture—fine sand, sand, loamy fine sand, or  
loamy sand

Reaction—moderately acid to neutral

### 684B—Broadwell silt loam, 2 to 5 percent slopes

#### Setting

*Landform:* Ground moraines, knolls, and outwash plains

*Position on the landform:* Shoulders

#### Composition

Broadwell and similar soils: 90 percent

Dissimilar soils: 10 percent

#### Minor Components

*Similar soils:*

- Soils that have a thinner surface layer
- Soils that have loamy or sandy drift within a depth of 40 inches
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that are underlain by loamy glacial till within a depth of 80 inches

*Dissimilar soils:*

- The moderately well drained Assumption soils on shoulders

### Properties and Qualities of the Broadwell Soil

*Parent material:* Loess over eolian sands

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
11.6 inches

*Content of organic matter in the surface layer:* 3 to 4  
percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Slight

#### Interpretive Groups

*Land capability classification:* 2e

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

### 684C2—Broadwell silt loam, 5 to 10 percent slopes, eroded

#### Setting

*Landform:* Ground moraines

*Position on the landform:* Shoulders

#### Composition

Broadwell and similar soils: 90 percent

Dissimilar soils: 10 percent

#### Minor Components

*Similar soils:*

- Soils that have a thinner surface layer
- Soils that have loamy or sandy drift within a depth of 40 inches
- Soils that have a seasonal high water table at a depth of 4 to 6 feet
- Soils that are underlain by loamy glacial till within a depth of 80 inches

*Dissimilar soils:*

- The poorly drained Sable soils on toeslopes

### Properties and Qualities of the Broadwell Soil

*Parent material:* Loess over eolian sands

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderately rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 11.9 inches  
*Content of organic matter in the surface layer:* 2 to 4 percent  
*Shrink-swell potential:* Moderate  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 3e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

### **Brooklyn Series**

*Taxonomic classification:* Fine, smectitic, mesic Vertic Albaqualfs

#### **Typical Pedon (Official Series Description)**

Brooklyn silt loam, 0 to 2 percent slopes; 200 feet east and 1,430 feet south of the northwest corner of sec. 8, T. 16 N., R. 14 W.; in Douglas County, Illinois; USGS Newman topographic quadrangle; lat. 39 degrees 51 minutes 39 seconds N. and long. 87 degrees 58 minutes 10 seconds W., NAD 83:

Ap—0 to 9 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; friable; common medium rounded black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide nodules throughout; neutral; abrupt smooth boundary.  
 Eg—9 to 14 inches; gray (2.5Y 6/1) silt loam; weak medium platy structure parting to moderate fine granular; friable; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron in the matrix; common medium rounded black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide nodules throughout; neutral; abrupt smooth boundary.  
 Btg1—14 to 20 inches; light brownish gray (2.5Y 6/2) silty clay; moderate fine prismatic structure parting to moderate fine angular blocky; firm; many distinct dark gray (10YR 4/1) clay films on faces of

peds; common medium prominent yellowish brown (10YR 5/6) masses of iron in the matrix; few medium rounded black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide nodules throughout; neutral; clear smooth boundary.

Btg2—20 to 31 inches; gray (2.5Y 6/1) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; common distinct dark gray (2.5Y 4/1) clay films on faces of peds; many prominent black (N 2.5/0) organo-clay films on faces of peds; many medium prominent yellowish brown (10YR 5/6) masses of iron in the matrix; few medium rounded black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide nodules throughout; moderately acid; gradual smooth boundary.

Btg3—31 to 40 inches; gray (2.5Y 6/1) silty clay loam; moderate coarse prismatic structure parting to moderate coarse angular blocky; firm; common distinct dark gray (2.5Y 4/1) clay films on faces of peds; few prominent black (N 2.5/0) organo-clay films lining pores and root channels; many medium prominent yellowish brown (10YR 5/6) masses of iron in the matrix; common medium rounded black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide nodules throughout; neutral; abrupt smooth boundary.

2Btg4—40 to 46 inches; gray (2.5Y 5/1) clay loam; weak coarse prismatic structure; firm; few distinct dark gray (2.5Y 4/1) clay films on faces of peds; few distinct black (2.5Y 2.5/1) organo-clay films lining pores and root channels; many medium prominent strong brown (7.5YR 4/6) masses of iron in the matrix; common medium rounded black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide nodules throughout; 5 percent gravel; neutral; abrupt smooth boundary.

2Btg5—46 to 52 inches; 40 percent strong brown (7.5YR 4/6), 40 percent dark brown (10YR 3/3), and 20 percent gray (2.5Y 5/1) gravelly clay loam; weak coarse subangular blocky structure; firm; few distinct dark gray (2.5Y 4/1) clay films on faces of peds; few distinct black (2.5Y 2.5/1) organo-clay films lining pores and root channels; common medium rounded black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide nodules throughout; 20 percent gravel; neutral; abrupt smooth boundary.

2BCtg—52 to 62 inches; 50 percent yellowish brown (10YR 5/6), 30 percent light yellowish brown (2.5Y 6/3), and 20 percent gray (2.5Y 6/1), stratified clay loam and silt loam; massive; firm; very few distinct black (2.5Y 2.5/1) and very few distinct dark brown (7.5YR 3/2) organo-clay films lining pores and root

channels; many medium rounded black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide nodules throughout; 5 percent gravel; neutral; gradual smooth boundary.

2Cg—62 to 73 inches; 60 percent yellowish brown (10YR 5/6) and 40 percent gray (2.5Y 5/1), stratified clay loam, loam, and sandy loam; massive; firm; many medium rounded black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide nodules throughout; 7 percent gravel; neutral.

### Range in Characteristics

*Depth to the base of the argillic horizon:* 40 to 80 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

Reaction—moderately acid to neutral

*Eg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 or 2

Texture—silt loam

Reaction—very strongly acid to neutral

*Btg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay or silty clay loam

Reaction—very strongly acid to slightly alkaline

*2Btg and/or 2BCtg horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—3 to 6

Chroma—1 to 8

Texture—clay loam, loam, silt loam, silty clay loam, sandy clay loam, or sandy loam or the gravelly analogs of these textures

Reaction—very strongly acid to slightly alkaline

*2Cg horizon:*

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—1 to 8

Texture—clay loam, loam, silt loam, silty clay loam, sandy clay loam, or sandy loam or the gravelly analogs of these textures

## 136A—Brooklyn silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Stream terraces

*Position on the landform:* Footslopes

### Composition

Brooklyn and similar soils: 93 percent

Dissimilar soils: 7 percent

### Minor Components

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that have less clay in the subsoil
- Soils that are somewhat poorly drained

*Dissimilar soils:*

- The somewhat poorly drained Orion soils on toeslopes
- The poorly drained Sawmill soils on flood plains
- The moderately well drained Greenbush soils on summits

### Properties and Qualities of the Brooklyn Soil

*Parent material:* Loess over outwash

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 10.4 inches

*Content of organic matter in the surface layer:* 3 to 4 percent

*Shrink-swell potential:* High

*Depth and months of the highest apparent seasonal high water table:* At the surface, January to May

*Ponding depth:* As much as 0.5 foot during wet periods

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 2w

*Prime farmland status:* Prime farmland where drained

*Hydric soil status:* Hydric

## Camden Series

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludalfs

### Typical Pedon

Camden silt loam, 0 to 2 percent slopes; 1,280 feet west and 1,740 feet south of the northeast corner of sec. 12, T. 15 N., R. 8 E.; in Bureau County, Illinois; USGS Wyanet topographic quadrangle; lat. 41 degrees 18 minutes 05 seconds N. and long. 89 degrees 30 minutes 52 seconds W., NAD 27:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; few fine roots; slightly acid; abrupt smooth boundary.

E—7 to 12 inches; yellowish brown (10YR 5/4) silt loam; weak medium platy structure parting to weak very fine subangular blocky; friable; few fine roots; neutral; clear smooth boundary.

Bt1—12 to 18 inches; yellowish brown (10YR 5/6) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; common distinct yellowish brown (10YR 5/4) clay films on faces of peds; neutral; clear smooth boundary.

Bt2—18 to 26 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

2Bt3—26 to 34 inches; yellowish brown (10YR 5/6) clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; many distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

2Bt4—34 to 37 inches; strong brown (7.5YR 5/6) clay loam; weak medium subangular blocky structure; friable; few fine roots; many distinct brown (7.5YR 4/4) clay films on faces of peds; about 7 percent gravel; slightly acid; clear smooth boundary.

2Bt5—37 to 48 inches; strong brown (7.5YR 5/6) sandy clay loam; 1-inch strata of yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; common distinct brown (7.5YR 4/4) clay films on faces of peds; about 5 percent gravel; slightly acid; clear smooth boundary.

2Bt6—48 to 53 inches; strong brown (7.5YR 5/6) sandy loam; weak medium subangular blocky structure; friable; common distinct brown (7.5YR

4/4) clay films bridging sand grains; about 2 percent gravel; neutral; clear wavy boundary.

2C—53 to 60 inches; brown (7.5YR 4/4) sandy loam that has thin strata of loamy sand; single grain; loose; about 5 percent gravel; neutral.

### Range in Characteristics

*Depth to the base of the argillic horizon:* 35 to 60 inches

*Ap horizon:*

Hue—10YR

Value—3 to 5

Chroma—2 or 3

Texture—silt loam

*E horizon:*

Hue—10YR

Value—4 to 6

Chroma—2 to 4

Texture—silt loam

*Bt horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—silty clay loam or silt loam

*2Bt horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Value—3 to 6

Texture—silty clay loam, loam, clay loam, sandy loam, sandy clay loam, or silt loam

*2C horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—stratified sandy loam, loam, or silt loam; thin strata of other textures

## 134C—Camden silt loam, 5 to 10 percent slopes

### Setting

*Landform:* Outwash plains

*Position on the landform:* Shoulders

### Composition

Camden and similar soils: 100 percent

### Minor Components

*Similar soils:*

- Soils that are more than 40 inches to the underlying outwash
- Soils that are underlain by loamy glacial till

### **Properties and Qualities of the Camden Soil**

*Parent material:* Loess over outwash  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:*  
 Moderate  
*Permeability below a depth of 60 inches:* Rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 8.9 inches  
*Content of organic matter in the surface layer:* 2 to 3 percent  
*Shrink-swell potential:* Moderate  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Slight

#### **Interpretive Groups**

*Land capability classification:* 3e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

### **134D3—Camden silty clay loam, 10 to 18 percent slopes, severely eroded**

#### **Setting**

*Landform:* Outwash plains  
*Position on the landform:* Backslopes

#### **Composition**

Camden and similar soils: 100 percent

#### **Minor Components**

##### *Similar soils:*

- Soils that are underlain by outwash within a depth of 20 inches
- Soils that have less sand

### **Properties and Qualities of the Camden Soil**

*Parent material:* Loess over outwash  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:*  
 Moderate  
*Permeability below a depth of 60 inches:* Rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 9.8 inches  
*Content of organic matter in the surface layer:* 0.5 to 1.0 percent  
*Shrink-swell potential:* Moderate  
*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very slight

#### **Interpretive Groups**

*Land capability classification:* 6e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

### **Clarksdale Series**

*Taxonomic classification:* Fine, smectitic, mesic Udollic Endoaqualfs

#### **Typical Pedon (Official Series Description)**

Clarksdale silt loam, 0 to 2 percent slopes, at an elevation of 650 feet; 800 feet south and 550 feet east of the northwest corner of sec. 16, T. 2 N., R. 7 W.; in Adams County, Illinois; USGS Lorraine topographic quadrangle; lat. 40 degrees 09 minutes 55 seconds N. and long. 91 degrees 13 minutes 18 seconds W., NAD 27:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak thin platy structure parting to weak very fine subangular blocky; friable; common fine roots throughout; neutral; abrupt smooth boundary.

E—8 to 12 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium platy structure parting to weak very fine subangular blocky; friable; common very fine and fine roots throughout; many faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds and in pores; few fine distinct yellowish brown (10YR 5/6) iron concentrations lining root channels and/or pores; few fine distinct black (2.5Y 2.5/1) masses of iron and manganese throughout; many fine distinct light gray (10YR 7/1 and 7/2) clay depletions between peds; neutral; clear smooth boundary.

BE—12 to 16 inches; grayish brown (10YR 5/2) silt loam; moderate fine subangular blocky structure; friable; few fine roots throughout; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; few fine distinct black (2.5Y 2.5/1) masses of iron and manganese throughout; common fine distinct yellowish brown (10YR 5/6) masses of iron throughout; common fine faint light gray (10YR

7/1) clay depletions between peds; moderately acid; clear smooth boundary.

Bt1—16 to 23 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine and fine roots throughout; many prominent dark grayish brown (10YR 4/2) clay films on faces of peds and many prominent very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; common fine distinct black (2.5Y 2.5/1) masses of iron and manganese and common fine distinct yellowish brown (10YR 5/6) masses of iron throughout; moderately acid; clear smooth boundary.

Bt2—23 to 31 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots throughout; many faint grayish brown (10YR 5/2) clay films on faces of peds and many prominent very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; many fine distinct yellowish brown (10YR 5/6) and few fine distinct strong brown (7.5YR 5/6) masses of iron throughout; common fine distinct black (2.5Y 2.5/1) masses of iron and manganese throughout; common fine faint light brownish gray (10YR 6/2) iron depletions throughout; moderately acid; gradual wavy boundary.

Btg1—31 to 47 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse prismatic structure parting to moderate coarse subangular blocky; firm; few fine roots throughout; common prominent grayish brown (10YR 5/2) clay films on faces of peds and many prominent very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; many fine and medium prominent strong brown (7.5YR 5/6) masses of iron throughout; few fine distinct black (2.5Y 2.5/1) masses of iron and manganese throughout; few fine faint light brownish gray (10YR 6/2) iron depletions lining root channels and/or pores; neutral; gradual wavy boundary.

Btg2—47 to 57 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse prismatic structure; firm; few fine roots throughout; common prominent dark grayish brown (10YR 4/2) clay films in root channels and/or pores; many medium prominent strong brown (7.5YR 5/6) masses of iron; few fine distinct black (2.5Y 2.5/1) masses of iron and manganese throughout; neutral; clear wavy boundary.

BCg—57 to 67 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse subangular blocky structure; firm; common prominent dark grayish

brown (10YR 4/2) clay films in root channels and/or pores; common medium prominent strong brown (7.5YR 5/6) and common medium prominent yellowish red (5YR 5/6) masses of iron throughout; neutral; clear wavy boundary.

Cg—67 to 80 inches; light brownish gray (10YR 6/2) silt loam; massive; friable; few distinct dark grayish brown (10YR 4/2) clay films in root channels and/or pores; many medium prominent yellowish red (5YR 4/6) and common medium distinct strong brown (7.5YR 5/6) masses of iron throughout; neutral.

### Range in Characteristics

*Depth to carbonates:* 40 to 72 inches

*Depth to the base of the argillic horizon:* 40 to 60 inches

*Ap or A horizon:*

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*E or BE horizon:*

Value—4 to 6

Chroma—1 or 2

Texture—silt loam

*Bt horizon:*

Hue—10YR

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam or silty clay

*Btg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay loam, silty clay, or silt loam

*Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

## 257A—Clarksdale silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### Composition

Clarksdale and similar soils: 93 percent

Dissimilar soils: 7 percent

### Minor Components

#### Similar soils:

- Soils that have a thicker surface layer
- Soils that have a lighter colored surface layer

#### Dissimilar soils:

- The well drained Fayette, Greenbush, and Rozetta soils on shoulders
- The poorly drained Denny soils in depressions

### Properties and Qualities of the Clarksdale Soil

Parent material: Loess

Drainage class: Somewhat poorly drained

Slowest permeability within a depth of 40 inches:

Moderately slow

Permeability below a depth of 60 inches: Moderate

Depth to restrictive feature: More than 80 inches

Available water capacity to a depth of 60 inches: About  
11.3 inches

Content of organic matter in the surface layer: 2 to 3  
percent

Shrink-swell potential: High

Depth and months of the highest apparent seasonal  
high water table: 0.5 foot, January to May

Flooding: None

Potential for frost action: High

Hazard of corrosion: High for steel and moderate for  
concrete

Surface runoff class: Medium

Susceptibility to water erosion: Slight

Susceptibility to wind erosion: Slight

### Interpretive Groups

Land capability classification: 1

Prime farmland status: Prime farmland where drained

Hydric soil status: Not hydric

### Coffeen Series

Taxonomic classification: Coarse-silty, mixed,  
superactive, mesic Fluvaqueptic Hapludolls

#### Typical Pedon

Coffeen silt loam, 0 to 2 percent slopes, frequently  
flooded; 860 feet north and 1,740 feet west of the  
southeast corner of sec. 24, T. 20 N., R. 3 E.; in  
Whiteside County, Illinois; USGS Erie topographic  
quadrangle; lat. 41 degrees 42 minutes 09 seconds N.  
and long. 90 degrees 05 minutes 56 seconds W., NAD  
27:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2)  
silt loam, grayish brown (10YR 5/2) dry; weak fine

granular structure; friable; neutral; abrupt smooth  
boundary.

A—9 to 17 inches; very dark grayish brown (10YR 3/2)  
silt loam, grayish brown (10YR 5/2) dry; weak  
medium and fine subangular blocky structure  
parting to moderate fine granular; friable; neutral;  
clear smooth boundary.

Bw1—17 to 24 inches; brown (10YR 4/3) silt loam;  
moderate medium subangular blocky structure;  
friable; few faint very dark grayish brown (10YR  
3/2) organic coatings on faces of peds; common  
fine faint dark grayish brown (10YR 4/2) iron  
depletions and common fine faint dark yellowish  
brown (10YR 4/4) iron masses in the matrix;  
neutral; clear smooth boundary.

Bw2—24 to 33 inches; brown (10YR 4/3) silt loam;  
moderate medium subangular blocky structure;  
friable; common fine faint grayish brown (10YR  
5/2) iron depletions and common fine faint brown  
(10YR 5/3) iron masses in the matrix; slightly  
alkaline; clear smooth boundary.

BCg—33 to 46 inches; grayish brown (2.5Y 5/2) silt  
loam; weak medium subangular blocky structure;  
friable; common fine prominent brown (7.5YR 4/4)  
and dark yellowish brown (10YR 4/4) iron masses  
in the matrix; common fine rounded iron-  
manganese concretions; slightly alkaline; gradual  
smooth boundary.

Cg—46 to 60 inches; grayish brown (2.5Y 5/2) and  
brown (10YR 5/3) silt loam; massive; friable; few  
fine rounded iron-manganese concretions; slightly  
alkaline.

### Range in Characteristics

Thickness of the mollic epipedon: 10 to 18 inches

Thickness of the solum: 30 to 64 inches

Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Bw or Bg horizon:

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 or 3

Texture—silt loam; thin lenses of loam or sandy  
loam in some pedons

C or Cg horizon:

Hue—10YR, 2.5Y, or 5Y

Value—4 to 8

Chroma—1 to 3

Texture—silt loam; strata of loam or sandy loam in  
some pedons

## 7428A—Coffeen silt loam, 0 to 2 percent slopes, rarely flooded

### Setting

*Landform:* Flood plains

### Composition

Coffeen and similar soils: 85 percent

Dissimilar soils: 15 percent

### Minor Components

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that are covered with a layer of light-colored overwash material

*Dissimilar soils:*

- The poorly drained Sawmill soils

### Properties and Qualities of the Coffeen Soil

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderately

rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About

11.5 inches

*Content of organic matter in the surface layer:* 2 to 3

percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal*

*high water table:* 1 foot, January to May

*Frequency and most likely period of flooding:* Rare,

November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for

concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 1

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

### Coloma Series

*Taxonomic classification:* Mixed, mesic Lamellic

Udipsamments

### Typical Pedon

Coloma sand, 1 to 7 percent slopes; 1,500 feet east and 1,800 feet south of the northwest corner of sec. 20, T. 14 N., R. 5 W.; in Mercer County, Illinois; USGS Joy topographic quadrangle; lat. 41 degrees 11 minutes 49 seconds N. and long. 90 degrees 59 minutes 23 seconds W., NAD 27:

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) sand, light grayish brown (10YR 6/2) dry; weak medium granular structure; very friable; neutral; clear wavy boundary.

Bw1—9 to 16 inches; brown (10YR 4/3) sand; single grain; loose; neutral; gradual wavy boundary.

Bw2—16 to 29 inches; dark yellowish brown (10YR 4/4) sand; single grain; loose; slightly acid; gradual wavy boundary.

Bw3—29 to 50 inches; yellowish brown (10YR 5/4) sand; single grain; loose; slightly acid; abrupt smooth boundary.

E&Bt1—50 to 65 inches; about 95 percent yellowish brown (10YR 5/4) sand (E); single grain; loose; about 5 percent brown (7.5YR 4/4) loamy sand (Bt) consisting of several thin lamellae (less than 1 inch in total thickness); weak fine and medium subangular blocky structure; very friable; neutral; clear smooth boundary.

E&Bt2—65 to 80 inches; about 90 percent yellowish brown (10YR 5/4) sand (E); single grain; loose; about 10 percent brown (7.5YR 4/4) loamy sand (Bt) consisting of several thin lamellae (less than 2 inches in total thickness); weak fine and medium subangular blocky structure; very friable; neutral.

### Range in Characteristics

*Depth to first lamellae:* 40 to 60 inches

*Ap or A horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—1 to 3

Texture—sand or loamy sand

*Bw horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—4 to 6

Texture—sand or loamy sand

*E part of E&Bt horizon:*

Hue—5YR, 7.5YR, or 10YR

Value—4 to 7

Chroma—3 to 6

Texture—sand, loamy sand, or sandy loam

*Bt part of E&Bt horizon:*

Hue—5YR, 7.5YR, or 10YR

Value—3 to 5

Chroma—3 to 6

Texture—sandy loam, loamy sand, or sand

*C horizon (if it occurs):*

Hue—5YR, 7.5YR, or 10YR

Value—4 to 7

Chroma—3 to 6

Texture—sand

**689B—Coloma sand, 1 to 7 percent slopes****Setting***Landform:* Stream terraces; dunes on terraces*Position on the landform:* Shoulders**Composition**

Coloma and similar soils: 100 percent

**Minor Components***Similar soils:*

- Soils that have a darker surface layer
- Soils that have less textural banding in the lower part

**Properties and Qualities of the Coloma Soil***Parent material:* Sandy alluvium and/or eolian sands*Drainage class:* Excessively drained*Slowest permeability within a depth of 40 inches:*

Moderately rapid

*Permeability below a depth of 60 inches:* Moderately rapid or rapid*Depth to restrictive feature:* More than 80 inches*Available water capacity to a depth of 60 inches:* About 4.2 inches*Content of organic matter in the surface layer:* 0.5 to 2.0 percent*Shrink-swell potential:* Low*Flooding:* None*Potential for frost action:* Low*Hazard of corrosion:* Low for steel and moderate for concrete*Surface runoff class:* Very low*Susceptibility to water erosion:* Slight*Susceptibility to wind erosion:* Very high**Interpretive Groups***Land capability classification:* 4s*Prime farmland status:* Not prime farmland*Hydric soil status:* Not hydric**689D—Coloma sand, 7 to 15 percent slopes****Setting***Landform:* Stream terraces; dunes on terraces*Position on the landform:* Shoulders or backslopes**Composition**

Coloma and similar soils: 100 percent

**Minor Components***Similar soils:*

- Soils that have a darker surface layer
- Soils that have less textural banding in the lower part

**Properties and Qualities of the Coloma Soil***Parent material:* Sandy alluvium and/or eolian sands*Drainage class:* Excessively drained*Slowest permeability within a depth of 40 inches:*

Moderately rapid

*Permeability below a depth of 60 inches:* Moderately rapid or rapid*Depth to restrictive feature:* More than 80 inches*Available water capacity to a depth of 60 inches:* About 4.1 inches*Content of organic matter in the surface layer:* 0.5 to 2.0 percent*Shrink-swell potential:* Low*Flooding:* None*Potential for frost action:* Low*Hazard of corrosion:* Low for steel and moderate for concrete*Surface runoff class:* Low*Susceptibility to water erosion:* Moderate*Susceptibility to wind erosion:* Very high**Interpretive Groups***Land capability classification:* 6s*Prime farmland status:* Not prime farmland*Hydric soil status:* Not hydric**689G—Coloma sand, 20 to 60 percent slopes****Setting***Landform:* Stream terraces; dunes on terraces*Position on the landform:* Backslopes**Composition**

Coloma and similar soils: 100 percent

### Minor Components

#### Similar soils:

- Soils that have a darker surface layer
- Soils that have less textural banding in the lower part

#### Properties and Qualities of the Coloma Soil

*Parent material:* Sandy alluvium and/or eolian sands

*Drainage class:* Excessively drained

*Slowest permeability within a depth of 40 inches:*

Moderately rapid

*Permeability below a depth of 60 inches:* Moderately

rapid or rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 4.8 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Low

*Flooding:* None

*Potential for frost action:* Low

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Very high

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very high

#### Interpretive Groups

*Land capability classification:* 7s

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

### Crescent Series

*Taxonomic classification:* Fine-loamy, mixed, superactive, mesic Typic Argiudolls

#### Typical Pedon (Official Series Description)

Crescent loam, 0 to 2 percent slopes, at an elevation of 510 feet; 255 feet south and 2,346 feet west of the northeast corner of sec. 28, T. 24 N., R. 5 W.; in Tazewell County, Illinois; USGS Pekin topographic quadrangle; lat. 40 degrees 30 minutes 40 seconds N. and long. 89 degrees 40 minutes 15 seconds W., NAD 27:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak medium granular structure; friable; few very fine roots; moderately acid; abrupt smooth boundary.

A—8 to 15 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak fine

subangular blocky structure; friable; few very fine roots; moderately acid; clear smooth boundary.

AB—15 to 18 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure; friable; few very fine roots; common faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—18 to 27 inches; brown (10YR 4/3) clay loam; moderate medium subangular blocky structure; friable; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; moderately acid; clear smooth boundary.

Bt2—27 to 34 inches; dark yellowish brown (10YR 4/4) loam; moderate medium subangular blocky structure; friable; few very fine roots; common faint brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt3—34 to 46 inches; brown (7.5YR 4/4) loam; moderate medium subangular blocky structure; friable; few very fine roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; slightly acid; abrupt smooth boundary.

C1—46 to 60 inches; brown (7.5YR 4/4) loamy sand and sand; massive; very friable; neutral; abrupt smooth boundary.

C2—60 to 80 inches; brown (7.5YR 4/4) sand; massive; loose; neutral.

#### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches

*Thickness of the solum:* 40 to 60 inches

#### Ap or A horizon:

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—loam, silt loam, or fine sandy loam

#### AB horizon (if it occurs):

Hue—10YR

Value—3 or 4

Chroma—3 or 4

#### Bt horizon:

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—clay loam, sandy clay loam, or loam

#### C horizon:

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6  
Texture—sand or loamy sand

## 672B—Crescent loam, 2 to 5 percent slopes

### Setting

*Landform:* Outwash plains or terraces  
*Position on the landform:* Shoulders

### Composition

Crescent and similar soils: 87 percent  
Dissimilar soils: 13 percent

### Minor Components

#### Similar soils:

- Soils that have a thicker surface layer
- Soils that have a seasonal high water table within a depth of 6 feet

#### Dissimilar soils:

- The somewhat poorly drained Hoopston soils on footslopes

### Properties and Qualities of the Crescent Soil

*Parent material:* Outwash

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 8.7 inches

*Content of organic matter in the surface layer:* 2 to 4 percent

*Shrink-swell potential:* Low

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 2e

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

### Denny Series

*Taxonomic classification:* Fine, smectitic, mesic Mollic Albaqualfs

### Typical Pedon

Denny silt loam, 0 to 2 percent slopes; 225 feet north and 1,680 feet east of the southwest corner of sec. 25, T. 7 N., R. 3 W.; in McDonough County, Illinois; USGS Good Hope topographic quadrangle; lat. 40 degrees 33 minutes 31 seconds N. and long. 90 degrees 41 minutes 14 seconds W., NAD 27:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak fine granular structure; very friable; few very fine roots throughout; moderately acid; abrupt smooth boundary.

Eg1—8 to 14 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak thin platy; very friable; few very fine roots throughout; few distinct very dark gray (10YR 3/1) organic coatings in root channels; common faint grayish brown (10YR 5/2) silt coatings on faces of peds; common fine distinct dark yellowish brown (10YR 3/6) redoximorphic features; few fine concretions of iron and manganese; moderately acid; abrupt smooth boundary.

Eg2—14 to 21 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak thin platy structure parting to weak fine granular; very friable; few very fine roots; few distinct very dark gray (10YR 3/1) organic coatings in root channels; common fine faint dark brown (10YR 3/3) redoximorphic features; common fine concretions of iron and manganese; moderately acid; abrupt smooth boundary.

Btg1—21 to 29 inches; grayish brown (10YR 5/2) silty clay; moderate fine subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine distinct dark yellowish brown (10YR 4/6) and common fine distinct yellowish brown (10YR 5/4) redoximorphic features; common fine concretions of iron and manganese; moderately acid; gradual smooth boundary.

Btg2—29 to 38 inches; grayish brown (10YR 5/2) silty clay; moderate medium subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine and medium distinct dark yellowish brown (10YR 4/6) and common fine distinct yellowish brown (10YR 5/4) redoximorphic features; common fine concretions of iron and

manganese; moderately acid; gradual smooth boundary.

**Btg3**—38 to 46 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate coarse subangular blocky structure; firm; very few fine roots; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine prominent dark yellowish brown (10YR 4/6) and common fine distinct yellowish brown (10YR 5/4) redoximorphic features; common fine concretions of iron and manganese; moderately acid; gradual smooth boundary.

**Cg**—46 to 60 inches; light brownish gray (2.5Y 6/2) silty clay loam; massive; firm; very few distinct very dark gray (10YR 3/1) organic coatings in root channels; many fine prominent dark yellowish brown (10YR 4/6) and common fine prominent yellowish brown (10YR 5/4) redoximorphic features; common fine concretions of iron and manganese; slightly acid.

### Range in Characteristics

*Depth to the base of the argillic horizon:* 40 to 65 inches

*Ap or A horizon:*

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Eg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 or 2

Texture—silt loam

*Btg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam or silty clay

*Cg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 or 2

Texture—silt loam or silty clay loam

## 45A—Denny silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Depressions

### Composition

Denny and similar soils: 98 percent

Dissimilar soils: 2 percent

### Minor Components

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that contain less clay in the subsoil

*Dissimilar soils:*

- The well drained Osco soils on summits

### Properties and Qualities of the Denny Soil

*Parent material:* Loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.6 inches

*Content of organic matter in the surface layer:* 3 to 4 percent

*Shrink-swell potential:* High

*Depth and months of the highest apparent seasonal high water table:* At the surface, January to May

*Ponding depth:* As much as 1 foot during wet periods

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 3w

*Prime farmland status:* Prime farmland where drained

*Hydric soil status:* Hydric

### Dickinson Series

*Taxonomic classification:* Coarse-loamy, mixed, superactive, mesic Typic Hapludolls

### Typical Pedon

Dickinson sandy loam, 0 to 2 percent slopes; 360 feet north and 1,720 feet west of the center of sec. 17, T. 17 N., R. 6 E.; in Bureau County, Illinois; USGS Mineral topographic quadrangle; lat. 41 degrees 27 minutes 37 seconds N. and long. 89 degrees 50 minutes 09 seconds W., NAD 27:

Ap—0 to 8 inches; very dark brown (10YR 2/2) sandy

loam, dark grayish brown (10YR 4/2) dry; weak fine granular structure; very friable; few fine roots; moderately acid; abrupt smooth boundary.

A1—8 to 15 inches; very dark brown (10YR 2/2) sandy loam, dark grayish brown (10YR 4/2) dry; weak medium subangular blocky structure; very friable; few fine roots; moderately acid; clear smooth boundary.

A2—15 to 20 inches; very dark grayish brown (10YR 3/2) sandy loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure; very friable; few fine roots; common very dark brown (10YR 2/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bw—20 to 31 inches; brown (10YR 4/3) sandy loam; weak medium prismatic structure parting to weak medium subangular blocky; very friable; few fine roots; many distinct dark brown (10YR 3/3) organic coatings on faces of peds; slightly acid; clear smooth boundary.

Bt—31 to 36 inches; yellowish brown (10YR 5/6) loamy sand; weak medium prismatic structure parting to weak medium subangular blocky; very friable; common distinct brown (10YR 4/3) clay films bridging sand grains; slightly acid; clear smooth boundary.

BC—36 to 47 inches; yellowish brown (10YR 5/6) sand; weak coarse prismatic structure; very friable; moderately acid; clear smooth boundary.

C—47 to 60 inches; yellowish brown (10YR 5/6) sand; single grain; loose; strong brown (7.5YR 5/6) bands  $\frac{1}{2}$  inch to 2 inches thick at depths of 52, 56, and 58 inches; moderately acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 12 to 24 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—fine sandy loam, sandy loam, or loam

*Bw horizon:*

Hue—10YR

Value—3 to 5

Chroma—2 to 4

Texture—sandy loam or fine sandy loam

*BC and/or C horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—loamy sand, sand, loamy fine sand, or fine sand

## 87B—Dickinson sandy loam, 2 to 5 percent slopes

### Setting

*Landform:* Stream terraces

*Position on the landform:* Shoulders

### Composition

Dickinson and similar soils: 95 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that contain more sand
- Soils that contain more clay

*Dissimilar soils:*

- The somewhat poorly drained Hoopston soils on footslopes

### Properties and Qualities of the Dickinson Soil

*Parent material:* Sandy alluvium and/or eolian sands

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*

Moderately rapid

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 5.9 inches

*Content of organic matter in the surface layer:* 1 to 2 percent

*Shrink-swell potential:* Low

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Very low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Moderately high

### Interpretive Groups

*Land capability classification:* 2e

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

### Elco Series

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs

### Typical Pedon

Elco silt loam, 10 to 18 percent slopes, eroded; 1,900 feet west and 2,000 feet south of the northeast corner

of sec. 20, T. 8 N., R. 2 W.; in Warren County, Illinois; USGS Roseville topographic quadrangle; lat. 40 degrees 40 minutes 11 seconds N. and long. 90 degrees 38 minutes 38 seconds W., NAD 27:

A—0 to 2 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; many roots; neutral; clear smooth boundary.

E—2 to 9 inches; brown (10YR 5/3) and dark grayish brown (10YR 4/2) silt loam; moderate thin platy structure; very friable; many roots; common distinct very pale brown (10YR 7/3) silt coatings on faces of pedis; neutral; abrupt smooth boundary.

Bt1—9 to 18 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; many roots; common distinct dark yellowish brown (10YR 4/4) clay films; common distinct very pale brown (10YR 8/3) silt coatings; dark grayish brown (10YR 4/2) krotovinas; moderately acid; clear smooth boundary.

Bt2—18 to 26 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; friable; many roots; common distinct dark yellowish brown (10YR 4/4) clay films; common distinct very pale brown (10YR 8/3) silt coatings; common distinct black (5YR 2/1) stains and concretions of manganese; strongly acid; clear smooth boundary.

2Bt3—26 to 32 inches; light yellowish brown (10YR 6/4) silty clay loam; common medium distinct strong brown (7.5YR 5/6) mottles; weak medium prismatic structure parting to moderate fine and medium subangular blocky; friable; few roots; common faint brown (10YR 5/3) clay films; common distinct very pale brown (10YR 8/3) silt coatings; common distinct black (5YR 2/1) stains and concretions of manganese; strongly acid; clear smooth boundary.

2Bt4—32 to 45 inches; brown (10YR 5/3) clay; many medium distinct yellowish brown (10YR 5/6) mottles; strong medium and coarse prismatic and subangular blocky structure; firm; few roots; many distinct grayish brown (10YR 5/2) clay films; many distinct black (5YR 2/1) stains and concretions of manganese; strongly acid; clear smooth boundary.

2Btg—45 to 60 inches; grayish brown (2.5Y 5/2) clay; many medium and coarse distinct yellowish brown (10YR 5/6) mottles; moderate medium prismatic structure; firm; few roots; many distinct dark grayish brown (2.5Y 4/2) clay films; many distinct black (5YR 2/1) stains and concretions of manganese; moderately acid.

### Range in Characteristics

*Thickness of the loess:* 20 to 40 inches

*Thickness of the solum:* More than 48 inches

*Depth to paleosol till:* Less than 60 inches

*Ap or A horizon:*

Hue—10YR

Value—3 to 5

Chroma—1 to 4

Texture—silt loam

Reaction—moderately acid to neutral

*E horizon:*

Hue—10YR

Value—4 or 5

Chroma—3 or 4

Texture—silt loam

Reaction—moderately acid to neutral

*Bt horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—2 to 6

Texture—silty clay loam or silt loam

Reaction—strongly acid to slightly alkaline

*2Bt or 2Btg horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 to 6

Texture—loam, clay loam, silty clay loam, silty clay, or clay

Reaction—strongly acid to slightly alkaline

### 119D—Elco silt loam, 10 to 18 percent slopes

#### Setting

*Landform:* Ground moraines

*Position on the landform:* Backslopes

#### Composition

Elco and similar soils: 97 percent

Dissimilar soils: 3 percent

#### Minor Components

*Similar soils:*

- Soils that contain less clay in the subsoil
- Soils that have a lens of loamy or sandy drift above the underlying glacial till

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on backslopes

### **Properties and Qualities of the Elco Soil**

*Parent material:* Loess over a paleosol that formed in till  
*Drainage class:* Moderately well drained  
*Slowest permeability within a depth of 40 inches:* Slow  
*Permeability below a depth of 60 inches:* Slow or moderately slow  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 11.3 inches  
*Content of organic matter in the surface layer:* 1 to 3 percent  
*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 2 feet, February to April  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 3e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

### **119D2—Elco silt loam, 10 to 18 percent slopes, eroded**

#### **Setting**

*Landform:* Ground moraines  
*Position on the landform:* Backslopes and shoulders

#### **Composition**

Elco and similar soils: 94 percent  
 Dissimilar soils: 6 percent

#### **Minor Components**

##### *Similar soils:*

- Soils that contain less clay in the subsoil
- Soils that have a lens of loamy or sandy drift above the underlying glacial till

##### *Dissimilar soils:*

- The somewhat poorly drained Atlas soils on backslopes
- The well drained Thebes soils on backslopes

### **Properties and Qualities of the Elco Soil**

*Parent material:* Loess over a paleosol that formed in till

*Drainage class:* Moderately well drained  
*Slowest permeability within a depth of 40 inches:* Slow  
*Permeability below a depth of 60 inches:* Slow or moderately slow  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 11.2 inches  
*Content of organic matter in the surface layer:* 1 to 2 percent  
*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 2 feet, February to April  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 3e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

### **957D3—Elco-Atlas silty clay loams, 10 to 18 percent slopes, severely eroded**

#### **Setting**

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

#### **Composition**

Elco and similar soils: 45 percent  
 Atlas and similar soils: 40 percent  
 Dissimilar soils: 15 percent

#### **Minor Components**

##### *Similar soils:*

- Soils that are only moderately eroded
- Soils that are silt loam and have a darker surface layer

##### *Dissimilar soils:*

- The somewhat poorly drained Orion soils in drainageways
- The well drained Thebes soils on backslopes

### **Properties and Qualities of the Elco Soil**

*Parent material:* Loess over a paleosol that formed in till

*Drainage class:* Moderately well drained  
*Slowest permeability within a depth of 40 inches:*  
 Slow  
*Permeability below a depth of 60 inches:* Slow or moderately slow  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 11.1 inches  
*Content of organic matter in the surface layer:* 0.5 to 1.0 percent  
*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 2 feet, February to April  
*Flooding:* None  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Very slight

### **Properties and Qualities of the Atlas Soil**

*Parent material:* Paleosol that formed in till  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability within a depth of 40 inches:* Very slow  
*Permeability below a depth of 60 inches:* Very slow  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 7.8 inches  
*Content of organic matter in the surface layer:* 0.5 to 1.0 percent  
*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 0.5 foot, January to May  
*Flooding:* None  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* Elco—6e; Atlas—6e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Elco—not hydric; Atlas—not hydric

### **Elkhart Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Argiudolls

#### **Typical Pedon (Official Series Description)**

Elkhart silt loam, 5 to 10 percent slopes, at an elevation of 570 feet; 2,060 feet south and 1,248 feet west of the northeast corner of sec. 32, T. 19 N., R. 3 W.; in Logan County, Illinois; USGS Broadwell topographic quadrangle; lat. 40 degrees 03 minutes 26 seconds N. and long. 89 degrees 26 minutes 58 seconds W., NAD 27:

- Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; weak fine and medium granular structure; friable; common very fine roots; slightly acid; abrupt smooth boundary.
- A—8 to 10 inches; very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; friable; common very fine roots; slightly acid; clear smooth boundary.
- BA—10 to 15 inches; dark brown (10YR 3/3) silty clay loam, brown (10YR 4/3) dry; moderate very fine and fine subangular blocky structure; friable; common very fine roots; common faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.
- Bt1—15 to 22 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; firm; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt2—22 to 28 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots; few distinct dark brown (10YR 3/3) organo-clay films on faces of peds; slightly acid; clear smooth boundary.
- BCt—28 to 31 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium and coarse subangular blocky structure; friable; few very fine roots; few faint brown (10YR 4/3) clay films on faces of peds; few fine black (5YR 2.5/1) very weakly cemented concretions of manganese with diffuse boundaries in ped interiors; neutral; clear smooth boundary.
- C—31 to 60 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; few very fine roots in the upper 10 inches; common fine prominent strong

brown (7.5YR 5/8) masses of iron in ped interiors; common medium distinct gray (10YR 6/1) iron depletions along root channels and pores; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 20 inches

*Depth to the base of the argillic horizon:* 20 to 40 inches

*Depth to carbonates:* 20 to 40 inches

*Ap, A, or AB horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

Reaction—moderately acid to slightly alkaline

*BA or Bt horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—3 to 6

Texture—silty clay loam or silt loam

Reaction—moderately acid to neutral

*BC horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

Texture—silt loam or silty clay loam

Reaction—slightly acid to moderately alkaline

*C horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silt or silt loam

Reaction—slightly alkaline or moderately alkaline

## 567D—Elkhart silt loam, 10 to 18 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### Composition

Elkhart and similar soils: 97 percent

Dissimilar soils: 3 percent

### Minor Components

*Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that are not calcareous within a depth of 40 inches

- Soils that are underlain by clayey glacial till below a depth of 40 inches

*Dissimilar soils:*

- The somewhat poorly drained Radford soils on toeslopes

## Properties and Qualities of the Elkhart Soil

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About

12.4 inches

*Content of organic matter in the surface layer:* 2 to 4

percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal*

*high water table:* 4 feet, February to April

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate

for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 3e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

## 567D2—Elkhart silt loam, 10 to 18 percent slopes, eroded

### Setting

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### Composition

Elkhart and similar soils: 97 percent

Dissimilar soils: 3 percent

### Minor Components

*Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that are not calcareous within a depth of 40 inches
- Soils that are underlain by clayey glacial till below a depth of 40 inches

*Dissimilar soils:*

- The somewhat poorly drained Radford soils on toeslopes

**Properties and Qualities of the Elkhart Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
12.4 inches

*Content of organic matter in the surface layer:* 2 to 3  
percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal  
high water table:* 4 feet, February to April

*Flooding:* None

*Accelerated erosion:* The surface layer has been  
thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate  
for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

**Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

**Fayette Series**

*Taxonomic classification:* Fine-silty, mixed,  
superactive, mesic Typic Hapludalfs

**Typical Pedon**

Fayette silt loam, 10 to 18 percent slopes, eroded;  
2,100 feet north and 1,700 feet west of the southeast  
corner of sec. 31, T. 12 N., R. 3 W.; in Warren County,  
Illinois; USGS Rozetta topographic quadrangle; lat. 40  
degrees 59 minutes 13 seconds N. and long. 90  
degrees 46 minutes 18 seconds W., NAD 27:

Ap—0 to 5 inches; mixed dark grayish brown (10YR  
4/2) and yellowish brown (10YR 5/4) silt loam, light  
brownish gray (10YR 6/2) dry; moderate medium  
granular structure; friable; common fine roots  
throughout; moderately acid; clear smooth  
boundary.

EB—5 to 9 inches; mixed brown (10YR 5/3) and  
yellowish brown (10YR 5/4) silt loam; weak

medium platy structure parting to moderate very  
fine subangular blocky; friable; common fine roots  
between peds; few faint dark yellowish brown  
(10YR 4/4) clay films on faces of peds; moderately  
acid; clear smooth boundary.

Bt1—9 to 13 inches; dark yellowish brown (10YR 4/4)  
silt loam; moderate fine and medium subangular  
blocky structure; friable; few fine roots between  
peds; common faint brown (10YR 4/3) clay films  
on faces of peds; moderately acid; clear smooth  
boundary.

Bt2—13 to 27 inches; yellowish brown (10YR 5/4) silty  
clay loam; moderate medium subangular blocky  
structure; friable; few fine roots between peds;  
common faint dark yellowish brown (10YR 4/4)  
clay films on faces of peds; moderately acid;  
gradual smooth boundary.

Bt3—27 to 38 inches; yellowish brown (10YR 5/4)  
silty clay loam; weak coarse prismatic structure  
parting to moderate medium subangular blocky;  
friable; common faint dark yellowish brown  
(10YR 4/4) clay films on faces of peds; common  
distinct light gray (10YR 7/2) (dry) clay depletions  
on faces of peds; few prominent dark brown  
(7.5YR 3/2) accumulations of iron-manganese on  
faces of peds; moderately acid; gradual wavy  
boundary.

BC—38 to 55 inches; yellowish brown (10YR 5/4) silt  
loam; moderate medium and coarse subangular  
blocky structure; friable; common faint dark  
yellowish brown (10YR 4/4) clay films on faces of  
peds; common distinct light gray (10YR 7/2) (dry)  
clay depletions on faces of peds; few prominent  
dark brown (7.5YR 3/2) accumulations of iron-  
manganese on faces of peds; moderately acid;  
clear wavy boundary.

C—55 to 60 inches; yellowish brown (10YR 5/4) silt  
loam; massive; friable; few prominent dark brown  
(7.5YR 3/2) concretions of iron and manganese  
throughout the matrix; moderately acid.

**Range in Characteristics**

*Thickness of the solum:* 36 to 70 inches

*Depth to free carbonates:* More than 40 inches

*Ap or A horizon:*

Hue—10YR

Value—2 to 4

Chroma—1 to 3

*E horizon (if it occurs):*

Value—3 to 5

Chroma—1 to 4

*Bt horizon:*

Hue—10YR

Value—4 or 5  
 Chroma—3 to 6

*BC and C horizons:*

Hue—10YR  
 Value—4 or 5  
 Chroma—4 to 6  
 Texture—silt loam or silty clay loam

**280C2—Fayette silt loam, 5 to 10 percent slopes, eroded**

**Setting**

*Landform:* Ground moraines  
*Position on the landform:* Shoulders and backslopes

**Composition**

Fayette and similar soils: 95 percent  
 Dissimilar soils: 5 percent

**Minor Components**

*Similar soils:*

- Soils that have a darker surface layer
- Soils that have a seasonal high water table within a depth of 6 feet

*Dissimilar soils:*

- The somewhat poorly drained Keomah soils on summits
- The well drained Thebes soils on backslopes and summits

**Properties and Qualities of the Fayette Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
 Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.4 inches

*Content of organic matter in the surface layer:* 1 to 2 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

**Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

**280D—Fayette silt loam, 10 to 18 percent slopes**

**Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

**Composition**

Fayette soil: 92 percent

Dissimilar soils: 8 percent

**Minor Components**

*Dissimilar soils:*

- The somewhat poorly drained Keomah soils on summits
- The well drained Thebes soils on backslopes

**Properties and Qualities of the Fayette Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
 Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.6 inches

*Content of organic matter in the surface layer:* 2 to 3 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

**Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

**280D2—Fayette silt loam, 10 to 18 percent slopes, eroded**

**Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

**Composition**

Fayette and similar soils: 95 percent

Dissimilar soils: 5 percent

**Minor Components**

*Similar soils:*

- Soils that are not eroded

*Dissimilar soils:*

- The somewhat poorly drained Keomah soils on summits
- The well drained Thebes soils on backslopes and summits

**Properties and Qualities of the Fayette Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
11.4 inches

*Content of organic matter in the surface layer:* 1 to 2  
percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Accelerated erosion:* The surface layer has been  
thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate  
for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

**Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

**280D3—Fayette silty clay loam, 10 to 18 percent slopes, severely eroded****Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

**Composition**

Fayette and similar soils: 95 percent

Dissimilar soils: 5 percent

**Minor Components**

*Similar soils:*

- Soils that are calcareous within a depth of 40 inches

*Dissimilar soils:*

- The well drained Thebes soils on backslopes
- The somewhat poorly drained Atlas soils on backslopes
- The moderately well drained Elco soils on backslopes

**Properties and Qualities of the Fayette Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
11.4 inches

*Content of organic matter in the surface layer:* 0.5 to  
1.0 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly  
subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate  
for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very slight

**Interpretive Groups**

*Land capability classification:* 4e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

**3646L—Fluvaquents, loamy, 0 to 2 percent slopes, frequently flooded, long duration****Setting**

*Landform:* Flood plains

**Composition**

Fluvaquents: 95 percent

Dissimilar soils: 5 percent

**Minor Components**

*Dissimilar soils:*

- The somewhat poorly drained Hoopston soils on summits

### **Properties and Qualities of the Fluvaquents**

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.9 inches

*Content of organic matter in the surface layer:* 2 to 4 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface, January to June

*Ponding depth:* As much as 0.5 foot during wet periods

*Frequency and most likely period of flooding:*

Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 5w

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Hydric

### **Greenbush Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Mollic Hapludalfs

#### **Typical Pedon (Official Series Description)**

Greenbush silt loam, 2 to 5 percent slopes, at an elevation of 700 feet; 1,500 feet west and 1,500 feet north of the southeast corner of sec. 18, T. 8 N., R. 1 W.; in Warren County, Illinois; USGS Greenbush topographic quadrangle; lat. 40 degrees 40 minutes 40 seconds N. and long. 90 degrees 32 minutes 45 seconds W., NAD 27:

Ap—0 to 6 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; slightly acid; abrupt smooth boundary.

E—6 to 10 inches; dark grayish brown (10YR 4/2) silt loam; weak thin platy structure; friable; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; moderately acid; abrupt smooth boundary.

BE—10 to 17 inches; brown (10YR 4/3) silt loam;

moderate medium platy structure parting to weak very fine subangular blocky; friable; few distinct very dark gray (10YR 3/1) organic coatings and common distinct gray (10YR 6/1) silt coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—17 to 29 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate fine and medium angular blocky; friable; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common distinct gray (10YR 6/1) silt coatings on faces of peds; strongly acid; gradual smooth boundary.

Bt2—29 to 38 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine angular blocky; friable; common faint brown (10YR 4/3) clay films on faces of peds; many faint light gray (10YR 7/2) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron; common medium prominent gray (5Y 6/1) iron depletions within peds; common prominent black (7.5YR 2/0) manganese oxide stains; strongly acid; gradual wavy boundary.

Bt3—38 to 53 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine angular blocky; friable; common faint brown (10YR 4/3) clay films on faces of peds; many distinct light gray (10YR 7/2) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron; common medium prominent gray (5Y 6/1) iron depletions within peds; common prominent black (7.5YR 2/0) manganese oxide stains; strongly acid; gradual wavy boundary.

BCt—53 to 75 inches; brown (10YR 5/3) and light olive gray (5Y 6/2) silt loam; weak medium and coarse prismatic structure parting to weak fine and medium angular blocky; friable; few faint brown (10YR 4/3) clay films on faces of peds; few faint light gray (10YR 7/2) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron within peds; common prominent black (7.5YR 2/0) manganese oxide stains; moderately acid; gradual wavy boundary.

C—75 to 100 inches; yellowish brown (10YR 5/4) and light olive gray (5Y 6/2) silt loam; massive; friable; many medium distinct light brownish gray (10YR 6/2) iron depletions within peds; many prominent black (7.5YR 2/0) manganese oxide stains; moderately acid.

### **Range in Characteristics**

*Depth to carbonates:* More than 60 inches

*Depth to the base of the argillic horizon:* 36 to 70 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

*E horizon:*

Hue—10YR

Value—3 to 5

Chroma—2 or 3

*Bt horizon:*

Hue—10YR

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam

*C horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam

### **675B—Greenbush silt loam, 2 to 5 percent slopes**

#### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Summits and shoulders

#### ***Composition***

Greenbush and similar soils: 95 percent

Dissimilar soils: 5 percent

#### ***Minor Components***

*Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that have a thicker surface layer

*Dissimilar soils:*

- The somewhat poorly drained Atterberry and Clarksdale soils on summits
- The poorly drained Denny soils in depressions

#### ***Properties and Qualities of the Greenbush Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.8 inches

*Content of organic matter in the surface layer:* 2 to 3 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4 feet, February to April

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Slight

#### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

### **675C2—Greenbush silt loam, 5 to 10 percent slopes, eroded**

#### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders

#### ***Composition***

Greenbush and similar soils: 91 percent

Dissimilar soils: 9 percent

#### ***Minor Components***

*Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that have a thicker surface layer
- Soils that are calcareous within a depth of 60 inches
- Soils that are underlain by clayey glacial till within a depth of 60 inches

*Dissimilar soils:*

- The somewhat poorly drained Atterberry soils on summits

#### ***Properties and Qualities of the Greenbush Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.5 inches

*Content of organic matter in the surface layer:* 1 to 3 percent

*Shrink-swell potential:* Moderate  
*Depth and months of the highest apparent seasonal high water table:* 4 feet, February to April  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 3e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

### **Hickory Series**

*Taxonomic classification:* Fine-loamy, mixed, active, mesic Typic Hapludalfs

#### **Typical Pedon**

Hickory silt loam, 18 to 35 percent slopes; 320 feet south and 2,520 feet west of the northeast corner of sec. 18, T. 15 N., R. 6 E.; in Bureau County, Illinois; USGS Neponset topographic quadrangle; lat. 41 degrees 19 minutes 59 seconds N. and long. 89 degrees 50 minutes 50 seconds W., NAD 27:

- A—0 to 4 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; common fine and medium roots throughout; 1 percent gravel; slightly acid; clear smooth boundary.
- Bt1—4 to 13 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine subangular blocky structure; friable; common fine roots between pedis; common prominent brown (7.5YR 4/4) clay films on faces of pedis; 2 percent gravel; few fine rounded black (N 2/0) concretions of iron-manganese in the matrix; slightly acid; clear smooth boundary.
- 2Bt2—13 to 23 inches; dark yellowish brown (10YR 4/4) clay loam; moderate fine and medium subangular blocky structure; friable; common fine roots between pedis; many distinct brown (7.5YR 4/4) clay films on faces of pedis; 5 percent gravel; few fine rounded black (N 2/0) concretions of iron-manganese in the matrix; neutral; clear smooth boundary.
- 2Bt3—23 to 31 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium subangular

blocky structure; firm; few very fine and fine roots between pedis; many distinct brown (7.5YR 4/4) clay films on faces of pedis; 3 percent gravel; few fine rounded black (N 2/0) concretions of iron-manganese in the matrix; neutral; gradual wavy boundary.

- 2Bt4—31 to 40 inches; dark yellowish brown (10YR 4/4) clay loam; weak medium and coarse subangular blocky structure; firm; few very fine and fine roots between pedis; common distinct brown (7.5YR 4/4) clay films on faces of pedis; few fine rounded black (N 2/0) concretions of iron-manganese in the matrix; 5 percent gravel; neutral; clear smooth boundary.
- 2BC—40 to 54 inches; brown (7.5YR 4/4) clay loam; weak coarse subangular blocky structure; firm; few distinct dark reddish brown (5YR 3/3) clay films on faces of pedis; few fine rounded black (N 2/0) concretions of iron-manganese in the matrix; 5 percent gravel; slightly acid; clear smooth boundary.
- 2C—54 to 60 inches; yellowish brown (10YR 5/4) clay loam; massive; firm; common distinct brown (7.5YR 4/4) clay films on rocks and along pores; few medium faint yellowish brown (10YR 5/6) iron masses in the matrix; 4 percent gravel; effervescent; moderately alkaline.

#### **Range in Characteristics**

*Thickness of the loess:* Less than 20 inches  
*Depth to the argillic horizon:* More than 40 inches  
*Depth to carbonates:* More than 40 inches  
*Thickness of the solum:* Less than 80 inches

#### *Ap or A horizon:*

Hue—7.5YR or 10YR  
 Value—2 to 4  
 Chroma—2 or 3  
 Texture—silt loam or loam

#### *E horizon (if it occurs):*

Value—4 to 6  
 Chroma—2 to 4  
 Texture—silt loam or loam

#### *Bt horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
 Value—4 to 6  
 Chroma—3 to 6  
 Texture—clay loam, silty clay loam, loam, or gravelly clay loam

#### *CB or C horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
 Value—5 to 7  
 Chroma—1 to 8

Texture—loam, clay loam, or sandy loam or the gravelly analogs of these textures

### **8D2—Hickory silt loam, 10 to 18 percent slopes, eroded**

#### **Setting**

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

#### **Composition**

Hickory and similar soils: 90 percent  
Dissimilar soils: 10 percent

#### **Minor Components**

##### *Similar soils:*

- Soils that are calcareous within a depth of 40 inches
- Soils that have a surface layer of clay loam and that are more eroded

##### *Dissimilar soils:*

- The somewhat poorly drained Atlas soils on backslopes and shoulders
- The well drained Fayette soils on shoulders
- The well drained Marseilles soils on backslopes and footslopes
- The well drained Thebes soils on backslopes

#### **Properties and Qualities of the Hickory Soil**

*Parent material:* Loamy till  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 10.2 inches  
*Content of organic matter in the surface layer:* 1 to 2 percent  
*Shrink-swell potential:* Moderate  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

#### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

### **8D3—Hickory clay loam, 10 to 18 percent slopes, severely eroded**

#### **Setting**

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

#### **Composition**

Hickory and similar soils: 90 percent  
Dissimilar soils: 10 percent

#### **Minor Components**

##### *Similar soils:*

- Soils that are calcareous within a depth of 40 inches
- Soils that contain less clay in the surface layer

##### *Dissimilar soils:*

- The somewhat poorly drained Atlas soils on backslopes
- The well drained Fayette and Thebes soils on shoulders
- The well drained Marseilles soils on backslopes and footslopes

#### **Properties and Qualities of the Hickory Soil**

*Parent material:* Loamy till  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 9.2 inches  
*Content of organic matter in the surface layer:* 0.5 to 1.0 percent  
*Shrink-swell potential:* Moderate  
*Flooding:* None  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

#### **Interpretive Groups**

*Land capability classification:* 4e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

## 8F—Hickory silt loam, 18 to 35 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### Composition

Hickory and similar soils: 90 percent

Dissimilar soils: 10 percent

### Minor Components

*Similar soils:*

- Soils that are calcareous within a depth of 40 inches
- Soils that contain more sand in the surface layer

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on backslopes
- The well drained Marseilles soils on footslopes
- The well drained Sylvan and Thebes soils on shoulders

### Properties and Qualities of the Hickory Soil

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 10.5 inches

*Content of organic matter in the surface layer:* 1 to 3 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 6e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

## 8F3—Hickory clay loam, 18 to 35 percent slopes, severely eroded

### Setting

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### Composition

Hickory and similar soils: 90 percent

Dissimilar soils: 10 percent

### Minor Components

*Similar soils:*

- Soils that have less sand in the surface layer

*Dissimilar soils:*

- The well drained Marseilles and Thebes soils on backslopes
- The somewhat poorly drained Atlas soils on backslopes
- The well drained Sylvan soils on shoulders

### Properties and Qualities of the Hickory Soil

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 9.9 inches

*Content of organic matter in the surface layer:* 0.5 to 1.0 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 6e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

## 8G—Hickory silt loam, 35 to 60 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### Composition

Hickory and similar soils: 91 percent

Dissimilar soils: 9 percent

### Minor Components

*Similar soils:*

- Soils that have more sand in the lower part

*Dissimilar soils:*

- The well drained Marseilles, Sylvan, and Thebes soils on backslopes
- The somewhat poorly drained Atlas soils on backslopes

**Properties and Qualities of the Hickory Soil***Parent material:* Loamy till*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:*  
Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity to a depth of 60 inches:* About  
10.2 inches*Content of organic matter in the surface layer:* 1 to 3  
percent*Shrink-swell potential:* Moderate*Flooding:* None*Potential for frost action:* Moderate*Hazard of corrosion:* Moderate for steel and moderate  
for concrete*Surface runoff class:* High*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Slight**Interpretive Groups***Land capability classification:* 7e*Prime farmland status:* Not prime farmland*Hydric soil status:* Not hydric**898F3—Hickory-Sylvan complex, 18 to 35 percent slopes, severely eroded****Setting***Landform:* Ground moraines*Position on the landform:* Backslopes**Composition**

Hickory and similar soils: 50 percent

Sylvan and similar soils: 35 percent

Dissimilar soils: 15 percent

**Minor Components***Similar soils:*

- Soils that are similar to the Hickory soil but are calcareous within a depth of 40 inches
- Soils that are similar to the Sylvan soil but are not calcareous within a depth of 40 inches

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on backslopes

**Properties and Qualities of the Hickory Soil***Parent material:* Till*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:*  
Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity to a depth of 60 inches:* About  
10.1 inches*Content of organic matter in the surface layer:* 0.5 to  
1.0 percent*Shrink-swell potential:* Moderate*Flooding:* None*Potential for frost action:* Moderate*Hazard of corrosion:* Moderate for steel and moderate  
for concrete*Surface runoff class:* High*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Slight**Properties and Qualities of the Sylvan Soil***Parent material:* Loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:*  
Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity to a depth of 60 inches:* About  
12.1 inches*Content of organic matter in the surface layer:* 0.5 to  
1.0 percent*Shrink-swell potential:* Moderate*Flooding:* None*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and moderate  
for concrete*Surface runoff class:* High*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Very slight**Interpretive Groups***Land capability classification:* Hickory—6e; Sylvan—6e*Prime farmland status:* Not prime farmland*Hydric soil status:* Hickory—not hydric; Sylvan—not  
hydric**898G—Hickory-Sylvan silt loams, 35 to 60 percent slopes****Setting***Landform:* Ground moraines*Position on the landform:* Backslopes

### **Composition**

Hickory and similar soils: 60 percent  
 Sylvan and similar soils: 25 percent  
 Dissimilar soils: 15 percent

### **Minor Components**

#### *Similar soils:*

- Soils that are similar to the Hickory soil but are calcareous within a depth of 40 inches
- Soils that are similar to the Sylvan soil but are not calcareous within a depth of 40 inches

#### *Dissimilar soils:*

- The somewhat poorly drained Atlas soils on backslopes

### **Properties and Qualities of the Hickory Soil**

*Parent material:* Till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
 Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
 10.1 inches

*Content of organic matter in the surface layer:* 1 to 2  
 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and moderate  
 for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

### **Properties and Qualities of the Sylvan Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
 Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
 12.1 inches

*Content of organic matter in the surface layer:* 1 to 2  
 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate  
 for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* Hickory—7e; Sylvan—7e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Hickory—not hydric; Sylvan—not  
 hydric

## **946D3—Hickory-Atlas complex, 10 to 18 percent slopes, severely eroded**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### **Composition**

Hickory and similar soils: 50 percent

Atlas and similar soils: 35 percent

Dissimilar soils: 15 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have less clay in the lower part of the subsoil

#### *Dissimilar soils:*

- The well drained Marseilles soils on backslopes
- The somewhat poorly drained Orion and Radford soils on toeslopes

### **Properties and Qualities of the Hickory Soil**

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
 Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
 9.9 inches

*Content of organic matter in the surface layer:* 0.5 to  
 1.0 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly  
 subsoil material.

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and moderate  
 for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

### **Properties and Qualities of the Atlas Soil**

*Parent material:* Paleosol that formed in till  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability within a depth of 40 inches:* Very slow  
*Permeability below a depth of 60 inches:* Slow  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 8 inches  
*Content of organic matter in the surface layer:* 0.5 to 1.0 percent  
*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 0.5 foot, January to May  
*Flooding:* None  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Very slight

### **Interpretive Groups**

*Land capability classification:* Hickory—4e; Atlas—6e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Hickory—not hydric; Atlas—not hydric

## **960F—Hickory-Sylvan-Fayette silt loams, 18 to 35 percent slopes**

### **Setting**

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

### **Composition**

Hickory soil: 40 percent  
 Sylvan soil: 40 percent  
 Fayette soil: 20 percent

### **Properties and Qualities of the Hickory Soil**

*Parent material:* Till  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 10.4 inches  
*Content of organic matter in the surface layer:* 1 to 2 percent

*Shrink-swell potential:* Moderate  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

### **Properties and Qualities of the Sylvan Soil**

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 12.2 inches  
*Content of organic matter in the surface layer:* 1 to 2 percent  
*Shrink-swell potential:* Moderate  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

### **Properties and Qualities of the Fayette Soil**

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 11.6 inches  
*Content of organic matter in the surface layer:* 2 to 3 percent  
*Shrink-swell potential:* Moderate  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* Hickory—6e; Sylvan—6e; Fayette—6e  
*Prime farmland status:* Not prime farmland

*Hydric soil status:* Hickory—not hydric; Sylvan—not hydric; Fayette—not hydric

### **Hoopeston Series**

*Taxonomic classification:* Coarse-loamy, mixed, superactive, mesic Aquic Hapludolls

#### **Typical Pedon**

Hoopeston sandy loam, 0 to 2 percent slopes; 2,530 feet south and 1,060 feet east of the northwest corner of sec. 14, T. 19 N., R. 4 E.; in Whiteside County, Illinois; USGS Erie topographic quadrangle; lat. 41 degrees 38 minutes 04 seconds N. and long. 90 degrees 00 minutes 45 seconds W., NAD 27:

Ap—0 to 10 inches; black (10YR 2/1) sandy loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to weak fine granular; very friable; common very fine roots throughout; neutral; clear smooth boundary.

A—10 to 14 inches; very dark grayish brown (10YR 3/2) sandy loam, grayish brown (10YR 5/2) dry; weak medium and fine subangular blocky structure; very friable; common very fine roots throughout; common faint very dark brown (10YR 2/2) organic coatings on faces of pedis; neutral; clear smooth boundary.

Bw1—14 to 21 inches; brown (10YR 5/3) sandy loam; weak medium subangular blocky structure; very friable; few very fine roots between pedis; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of pedis and in root channels; common fine faint dark grayish brown (10YR 4/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) iron masses in the matrix; neutral; clear smooth boundary.

Bw2—21 to 38 inches; brown (10YR 5/3) sandy loam; weak coarse subangular blocky structure; very friable; few very fine roots between pedis; common fine faint grayish brown (10YR 5/2) iron depletions and common fine distinct yellowish brown (10YR 5/8) iron masses in the matrix; slightly acid; abrupt smooth boundary.

C—38 to 60 inches; pale brown (10YR 6/3) sand; single grain; loose; common fine faint light brownish gray (10YR 6/2) iron depletions and common fine prominent yellowish brown (10YR 5/8) iron masses in the matrix; neutral.

#### **Range in Characteristics**

*Thickness of the mollic epipedon:* 10 to 24 inches

*Depth to free carbonates:* More than 40 inches

*Thickness of the solum:* 20 to 54 inches

*Ap or A horizon:*

Hue—7.5YR or 10YR

Value—2 or 3

Chroma—1 to 3

Texture—sandy loam, fine sandy loam, or loam

*Bw, Bt, Bg, and/or Btg horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—sandy loam or fine sandy loam; strata of loamy sand, loamy fine sand, loam, sandy clay loam, silt loam, or sand in some pedons

*Cg and/or C horizon:*

Hue—7.5YR to 5Y

Value—3 to 6

Chroma—1 to 8

Texture—loamy sand, sand, loamy fine sand, or fine sand; loamy strata in some pedons

### **172A—Hoopeston sandy loam, 0 to 2 percent slopes**

#### **Setting**

*Landform:* Outwash plains

*Position on the landform:* Summits

#### **Composition**

Hoopeston and similar soils: 92 percent

Dissimilar soils: 8 percent

#### **Minor Components**

*Similar soils:*

- Soils that have more sand in the subsoil
- Soils that have more clay in the subsoil
- Soils that have a surface layer less than 10 inches thick

*Dissimilar soils:*

- The well drained Crescent and Dickinson soils on summits

#### **Properties and Qualities of the Hoopeston Soil**

*Parent material:* Alluvium over outwash

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:*

Moderately rapid

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 7.3 inches

*Content of organic matter in the surface layer:* 2 to 3 percent

*Shrink-swell potential:* Low  
*Depth and months of the highest apparent seasonal high water table:* 1 foot, January to May  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and moderate for concrete  
*Surface runoff class:* Very low  
*Susceptibility to water erosion:* Slight  
*Susceptibility to wind erosion:* Moderately high

### **Interpretive Groups**

*Land capability classification:* 2s  
*Prime farmland status:* Prime farmland  
*Hydric soil status:* Not hydric

### **Ipava Series**

*Taxonomic classification:* Fine, smectitic, mesic Aquic Argiudolls

#### **Typical Pedon (Official Series Description)**

Ipava silt loam, 0 to 2 percent slopes, at an elevation of 804 feet; 2,046 feet west and 594 feet north of the southeast corner of sec. 25, T. 13 N., R. 2 E.; in Knox County, Illinois; USGS Oneida topographic quadrangle; lat. 41 degrees 04 minutes 40 seconds N. and long. 90 degrees 13 minutes 03 seconds W., NAD 27:

- Ap—0 to 10 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and medium subangular blocky structure; friable; moderately acid; abrupt smooth boundary.
- A—10 to 18 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure; friable; common distinct black (10YR 2/1) organic coatings on faces of peds; moderately acid; clear smooth boundary.
- BA—18 to 24 inches; brown (10YR 4/3) silty clay loam; moderate fine and medium subangular blocky structure; friable; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine distinct light brownish gray (2.5Y 6/2) iron depletions and few distinct yellowish brown (10YR 5/6) masses of iron in the matrix; moderately acid; clear smooth boundary.
- Btg1—24 to 31 inches; dark grayish brown (10YR 4/2) silty clay; moderate fine prismatic structure parting to moderate fine subangular blocky; friable; common faint dark gray (10YR 4/1) clay films on faces of peds; few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix and common fine prominent yellowish brown (10YR

5/8) masses of iron in the matrix; slightly acid; clear smooth boundary.

Btg2—31 to 37 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; friable; common distinct dark gray (10YR 4/1) clay films on faces of peds; common fine faint light brownish gray (2.5Y 6/2) iron depletions and common medium prominent strong brown (7.5YR 5/8) masses of iron in the matrix; few fine black (7.5YR 2.5/1) very weakly cemented iron and manganese concretions throughout; few fine black (7.5YR 2.5/1) iron and manganese stains on faces of peds; slightly alkaline; gradual smooth boundary.

BCg—37 to 50 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; friable; few distinct very dark grayish brown (10YR 3/2) organo-clay films occurring as linings in pores and on a few vertical faces of peds; common fine faint light brownish gray (2.5Y 6/2) iron depletions and common fine prominent strong brown (7.5YR 5/8) masses of iron in the matrix; few fine black (7.5YR 2.5/1) very weakly cemented iron and manganese concretions throughout; common fine black (7.5YR 2.5/1) iron and manganese stains on faces of peds; slightly alkaline; clear smooth boundary.

Cg—50 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; few faint very dark grayish brown (10YR 3/2) organo-clay films occurring as linings in pores; common fine prominent yellowish brown (10YR 5/8) masses of iron in the matrix; few fine black (7.5YR 2.5/1) very weakly cemented iron and manganese concretions throughout; few fine black (7.5YR 2.5/1) iron and manganese stains on faces of vertical cracks; moderately alkaline.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 10 to 24 inches  
*Depth to the base of the argillic horizon:* 35 to 55 inches  
*Depth to carbonates:* More than 40 inches

*Ap, A, or AB horizon:*

Hue—10YR  
 Value—2 or 3  
 Chroma—1 or 2  
 Texture—silt loam or silty clay loam  
 Reaction—moderately acid to neutral

*BA, Bt, Btg, BC, or BCg horizon:*

Hue—10YR or 2.5Y  
 Value—3 to 6

Chroma—2 to 4  
 Texture—silty clay loam or silty clay  
 Reaction—moderately acid to slightly alkaline

*Cg or C horizon:*

Hue—10YR or 2.5Y  
 Value—5 or 6  
 Chroma—1 to 4  
 Reaction—slightly acid to moderately alkaline

**43A—Ipava silt loam, 0 to 2 percent slopes**

**Setting**

*Landform:* Ground moraines

*Position on the landform:* Summits

**Composition**

Ipava and similar soils: 90 percent

Dissimilar soils: 10 percent

**Minor Components**

*Similar soils:*

- Soils that have a surface layer less than 10 inches thick
- Soils that have a seasonal high water table below a depth of 3 feet

*Dissimilar soils:*

- The poorly drained Denny and Sable soils in depressions
- The well drained Osco soils on shoulders

**Properties and Qualities of the Ipava Soil**

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:*

Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 12 inches

*Content of organic matter in the surface layer:* 4 to 5 percent

*Shrink-swell potential:* High

*Depth and months of the highest apparent seasonal high water table:* 1 foot, January to May

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

**Interpretive Groups**

*Land capability classification:* 1

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

**Joy Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aquic Hapludolls

**Typical Pedon**

Joy silt loam, 0 to 2 percent slopes; 1,900 feet east and 2,600 feet north of the southwest corner of sec. 26, T. 18 N., R. 3 E.; in Whiteside County, Illinois; USGS Spring Hill topographic quadrangle; lat. 41 degrees 31 minutes 01 second N. and long. 90 degrees 06 minutes 59 seconds W., NAD 27:

Ap—0 to 5 inches; black (10YR 2/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; moderately acid; abrupt smooth boundary.

A1—5 to 13 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to moderate medium granular; friable; slightly acid; clear smooth boundary.

A2—13 to 17 inches; very dark grayish brown (10YR 3/2) silt loam; moderate fine subangular blocky structure parting to moderate medium granular; friable; neutral; clear smooth boundary.

Bt1—17 to 21 inches; brown (10YR 4/3) silt loam; moderate medium and fine subangular blocky structure; friable; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; neutral; clear smooth boundary.

Bt2—21 to 27 inches; mixed grayish brown (10YR 5/2) and brown (10YR 5/3) silty clay loam; moderate medium and fine subangular blocky structure; friable; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few prominent black (N 2/0) coatings of iron-manganese on faces of peds; common medium distinct yellowish brown (10YR 5/6) iron masses in the matrix; neutral; clear smooth boundary.

Bt3—27 to 34 inches; yellowish brown (10YR 5/4) silt loam; moderate fine and medium subangular blocky structure; friable; common faint brown (10YR 5/3) clay films on faces of peds; few prominent black (N 2/0) coatings of iron-manganese on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions and yellowish brown (10YR 5/6) iron

masses in the matrix; neutral; clear smooth boundary.

Bt4—34 to 49 inches; mixed light brownish gray (2.5Y 6/2) and yellowish brown (10YR 5/6) silt loam; weak fine prismatic structure parting to weak fine and medium subangular blocky; friable; few faint grayish brown (10YR 5/2) clay films on faces of peds; few prominent black (N 2/0) coatings of iron-manganese on faces of peds; neutral; gradual smooth boundary.

Cg—49 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; common prominent black (N 2/0) coatings of iron-manganese along cleavage planes; many medium prominent yellowish brown (10YR 5/6) iron masses in the matrix; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches

*Depth to free carbonates:* More than 40 inches

*Thickness of the solum:* 36 to 60 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*Bw, Bg, or Bt horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam or silty clay loam

*C or Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 7

Chroma—1 to 4

Texture—silt loam, very fine sandy loam, or loam

## 275A—Joy silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### Composition

Joy and similar soils: 95 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils that have a surface layer more than 24 inches thick

*Dissimilar soils:*

- The well drained Biggsville soils on summits
- The well drained Port Byron soils on shoulders

### Properties and Qualities of the Joy Soil

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 12.9 inches

*Content of organic matter in the surface layer:* 2 to 4 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 1 foot, January to May

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 1

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

## Keomah Series

*Taxonomic classification:* Fine, smectitic, mesic Aeric Endoaqualfs

### Typical Pedon (Official Series Description)

Keomah silt loam, 0 to 2 percent slopes, at an elevation of 655 feet; 2,495 feet south and 300 feet west of the northeast corner of sec. 4, T. 2 N., R. 7 W.; in Adams County, Illinois; USGS Lorraine topographic quadrangle; lat. 40 degrees 11 minutes 22 seconds N. and long. 91 degrees 12 minutes 11 seconds W., NAD 27:

Ap1—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak fine subangular blocky; friable; many very fine and fine roots; moderately acid; abrupt smooth boundary.

Ap2—6 to 11 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak medium platy structure parting to weak very fine

subangular blocky; friable; common very fine and fine roots; few distinct brown (7.5YR 4/4) masses of iron in the matrix; moderately acid; abrupt smooth boundary.

- E—11 to 18 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak medium platy structure parting to weak very fine subangular blocky; friable; common fine roots; few faint dark grayish brown (10YR 4/2) organic coatings on faces of peds and in pores; few distinct strong brown (7.5YR 5/6) masses of iron and few distinct black (2.5Y 2.5/1) masses of iron and manganese in the matrix; few faint light gray (10YR 7/2) clay depletions in the matrix; slightly acid; clear smooth boundary.
- Bt1—18 to 25 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate fine subangular blocky; firm; common fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; many distinct strong brown (7.5YR 5/6) masses of iron and common distinct black (2.5Y 2.5/1) masses of iron and manganese in the matrix; few faint grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; clear smooth boundary.
- Bt2—25 to 33 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds and few faint pressure faces; many distinct strong brown (7.5YR 5/6) masses of iron and common distinct black (2.5Y 2.5/1) masses of iron and manganese in the matrix; strongly acid; clear smooth boundary.
- Bt3—33 to 44 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; many distinct strong brown (7.5YR 5/6) masses of iron and common distinct black (2.5Y 2.5/1) masses of iron and manganese in the matrix; common faint light brownish gray (10YR 6/2) iron depletions in the matrix; moderately acid; clear smooth boundary.
- Bt4—44 to 51 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse prismatic structure; firm; few fine roots; few distinct dark grayish brown (10YR 4/2) clay films in root channels and/or pores; many distinct strong brown (7.5YR 5/6) masses of iron and few distinct black (2.5Y 2.5/1) masses of iron and manganese in the matrix; moderately acid; clear smooth boundary.
- BC1—51 to 63 inches; light brownish gray (10YR 6/2)

silt loam; weak coarse prismatic structure; friable; few very fine roots; common prominent very dark grayish brown (10YR 3/2) organo-clay films in root channels and/or pores; many distinct strong brown (7.5YR 5/6) masses of iron and few distinct black (2.5Y 2.5/1) masses of iron and manganese in the matrix; slightly acid; clear smooth boundary.

- BC2—63 to 76 inches; light brownish gray (10YR 6/2) silt loam; weak coarse prismatic structure; friable; common prominent very dark grayish brown (10YR 3/2) organo-clay films in root channels and/or pores; many distinct strong brown (7.5YR 5/6) masses of iron and few distinct black (2.5Y 2.5/1) masses of iron and manganese in the matrix; slightly acid; clear smooth boundary.

- C—76 to 89 inches; yellowish brown (10YR 5/6) silt loam; massive; friable; few faint strong brown (7.5YR 5/6) masses of iron and few prominent black (2.5Y 2.5/1) masses of iron and manganese in the matrix; common distinct light brownish gray (10YR 6/2) iron depletions in the matrix; slightly acid.

### Range in Characteristics

*Depth to base of diagnostic horizon:* 40 to 76 inches

*Ap or A horizon:*

Hue—10YR  
Value—3 or 4  
Chroma—1 or 2  
Texture—silt loam

*E horizon:*

Hue—10YR  
Value—4 or 5  
Chroma—1 to 3  
Texture—silt loam

*Bt horizon:*

Hue—10YR, 2.5Y, or 5Y  
Value—4 or 5  
Chroma—2 to 4  
Texture—silty clay loam or silty clay

*BC or C horizon:*

Hue—10YR, 2.5Y, or 5Y  
Value—4 or 5  
Chroma—2 to 4  
Texture—silty clay loam or silt loam

## 17A—Keomah silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### Composition

Keomah and similar soils: 92 percent

Dissimilar soils: 8 percent

### Minor Components

#### Similar soils:

- Soils that have a darker surface layer
- Soils that have an average of less than 35 percent clay in the control section

#### Dissimilar soils:

- The poorly drained Denny soils in depressions
- The well drained Fayette and Rozetta soils on shoulders

### Properties and Qualities of the Keomah Soil

*Parent material:* Loess or other silty material

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.8 inches

*Content of organic matter in the surface layer:* 1 to 3 percent

*Shrink-swell potential:* High

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot, January to May

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 2w

*Prime farmland status:* Prime farmland where drained

*Hydric soil status:* Not hydric

### Landes Series

*Taxonomic classification:* Coarse-loamy, mixed, superactive, mesic Fluventic Hapludolls

### Typical Pedon

Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded; 99 feet south and 990 feet west of the northeast corner of sec. 4, T. 18 N., R. 11 W.; in Bureau County, Illinois; USGS Clearlake topographic quadrangle; lat. 40 degrees 02 minutes 51 seconds N. and long. 90 degrees 19 minutes 58 seconds W., NAD 27:

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) fine sandy loam, brown (10YR 4/3) dry; weak fine subangular blocky structure parting to weak fine granular; friable; few very fine roots; few fine very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; abrupt smooth boundary.

A—5 to 14 inches; very dark grayish brown (10YR 3/2) fine sandy loam, brown (10YR 5/3) dry; weak medium subangular blocky structure; friable; few very fine roots; neutral; clear smooth boundary.

AB—14 to 19 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure; friable; few very fine roots; many faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.

Bw1—19 to 23 inches; brown (10YR 4/3) loam; weak fine and medium subangular blocky structure; friable; few very fine roots; many faint dark brown (10YR 3/3) and few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.

Bw2—23 to 28 inches; brown (10YR 4/3) fine sandy loam; weak medium subangular blocky structure; friable; few very fine roots; common faint dark brown (10YR 3/3) organic coatings on faces of peds; neutral; clear smooth boundary.

Bw3—28 to 32 inches; brown (10YR 4/3) and dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; very friable; few very fine roots; common faint dark brown (10YR 3/3) organic coatings on faces of peds; less than 2 percent fine gravel; neutral; clear smooth boundary.

BC—32 to 36 inches; dark yellowish brown (10YR 4/4) and brown (10YR 4/3) loamy sand; weak medium subangular blocky structure; very friable; few very fine roots; 5 percent fine gravel; neutral; clear smooth boundary.

C—36 to 60 inches; yellowish brown (10YR 5/4) sand; single grain; loose; 2 percent fine gravel; neutral.

### Range in Characteristics

*Depth to carbonates (if they occur):* More than 40 inches

*Depth to the base of the cambic horizon:* 22 to 40 inches

*Ap, A, and/or AB horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—fine sandy loam, very fine sandy loam, sandy loam, loam, loamy fine sand, loamy very fine sand, loamy sand, or silt loam

Content of rock fragments—0 to 20 percent

**Bw horizon:**

Hue—10YR  
 Value—3 to 6  
 Chroma—2 to 4  
 Texture—loam, fine sandy loam, very fine sandy loam, sandy loam, loamy fine sand, or loamy very fine sand  
 Content of rock fragments—0 to 10 percent

**BC and C horizons:**

Hue—2.5YR to 10YR  
 Value—4 to 6  
 Chroma—1 to 4  
 Texture—sand, fine sand, very fine sand, loamy sand, loamy fine sand, loamy very fine sand, sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam; stratified in some pedons  
 Content of rock fragments—0 to 10 percent

**7304A—Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded****Setting**

*Landform:* Flood plains and natural levees

**Composition**

Landes and similar soils: 94 percent  
 Dissimilar soils: 6 percent

**Minor Components****Similar soils:**

- Soils that have a surface layer less than 10 inches thick
- Soils that contain more sand in the upper part

**Dissimilar soils:**

- The somewhat poorly drained Orion and Radford soils on toeslopes

**Properties and Qualities of the Landes Soil**

*Parent material:* Loamy alluvium

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
 Moderately rapid

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 7.7 inches

*Content of organic matter in the surface layer:* 1 to 2 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 4 feet, February to April

*Frequency and most likely period of flooding:* Rare, November to June

*Potential for frost action:* Moderate

*Hazard of corrosion:* Low for steel and low for concrete

*Surface runoff class:* Very low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Moderately high

**Interpretive Groups**

*Land capability classification:* 2s

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

**Littleton Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls

**Typical Pedon**

Littleton silt loam, 0 to 2 percent slopes; 200 feet north and 1,420 feet east of the southwest corner of sec. 16, T. 20 N., R. 4 E.; in Whiteside County, Illinois; USGS Erie topographic quadrangle; lat. 41 degrees 42 minutes 52 seconds N. and long. 90 degrees 02 minutes 57 seconds W., NAD 27:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure parting to moderate fine granular; friable; few very fine roots throughout; slightly acid; clear smooth boundary.

A1—8 to 20 inches; very dark gray (10YR 3/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and very fine subangular blocky structure parting to moderate fine granular; friable; few fine roots throughout; few very thin strata of brown (10YR 5/3) silt loam; slightly acid; clear smooth boundary.

A2—20 to 36 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and very fine subangular blocky structure; friable; few fine roots between peds; slightly acid; gradual smooth boundary.

BA—36 to 52 inches; brown (10YR 5/3) silt loam; moderate medium subangular blocky structure; friable; many faint grayish brown (10YR 5/2) coatings on faces of peds and root channels; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine distinct yellowish brown (10YR 5/6) iron masses in the matrix; neutral; clear smooth boundary.

Bg—52 to 61 inches; grayish brown (10YR 5/2) silty clay loam; strong medium prismatic structure; friable; many faint grayish brown (10YR 5/2) coatings on faces of peds; common medium

distinct yellowish brown (10YR 5/6) iron masses in the matrix; few faint black (N 2/0) iron-manganese concretions; neutral; clear smooth boundary.

Cg—61 to 80 inches; grayish brown (10YR 5/2) silt loam; massive; friable; common medium distinct yellowish brown (10YR 5/6) iron masses in the matrix; few faint black (N 2/0) iron-manganese concretions; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 24 to 36 inches

*Thickness of the solum:* 30 to 62 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*Bg horizon:*

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—2 or 3

Texture—silt loam or silty clay loam

*Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 4

Texture—silt loam; thin strata of silty clay loam in some pedons

## 81A—Littleton silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Stream terraces and alluvial fans

*Position on the landform:* Summits and footslopes

### Composition

Littleton and similar soils: 90 percent

Dissimilar soils: 10 percent

### Minor Components

*Similar soils:*

- Soils that have a surface layer less than 24 inches thick
- Soils that have light-colored overwash material on the surface
- Soils that are underlain by clayey lacustrine material within a depth of 60 inches

*Dissimilar soils:*

- The well drained Raddle soils on summits
- The well drained Worthen soils on footslopes

## Properties and Qualities of the Littleton Soil

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 13.1 inches

*Content of organic matter in the surface layer:* 3 to 4 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 1 foot, January to May

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 1

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

## Loran Series

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aquic Argiudolls

### Typical Pedon (Official Series Description)

Loran silt loam, 2 to 5 percent slopes; 1,290 feet west and 620 feet south of the center of sec. 34, T. 26 N., R. 8 E.; in Stephenson County, Illinois; USGS Forreton North topographic quadrangle; lat. 42 degrees 12 minutes 23 seconds N. and long. 89 degrees 33 minutes 58 seconds W., NAD 27:

Ap—0 to 6 inches; black (10YR 2/1) silt loam, very dark gray (10YR 3/1) dry; moderate medium granular structure; friable; neutral; abrupt smooth boundary.

A—6 to 13 inches; black (10YR 2/1) silt loam, very dark gray (10YR 3/1) dry; moderate medium granular structure; friable; neutral; clear smooth boundary.

Bt1—13 to 17 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine and medium subangular blocky structure; firm; few thin very dark gray (10YR 3/1)

clay films on faces of peds; neutral; clear smooth boundary.

**Bt2**—17 to 21 inches; dark grayish brown (10YR 4/2) silty clay loam; few fine faint dark yellowish brown (10YR 4/4) mottles; moderate fine and medium subangular blocky structure; firm; common moderately thick very dark grayish brown (10YR 3/2) clay films on faces of peds; many black (10YR 2/1) concretions of iron and manganese; neutral; clear smooth boundary.

**Btg1**—21 to 29 inches; dark grayish brown (2.5Y 4/2) and grayish brown (2.5Y 5/2) silty clay loam; few fine distinct yellowish brown (10YR 5/6) mottles; weak moderate prismatic structure parting to moderate fine and medium subangular blocky; firm; common moderately thick dark gray (10YR 4/1) clay films on faces of peds; many black (10YR 2/1) concretions of iron and manganese; neutral; clear smooth boundary.

**Btg2**—29 to 38 inches; grayish brown (2.5Y 5/2) silt loam, common fine prominent yellowish brown (10YR 5/8) and brownish yellow (10YR 6/8) mottles; weak medium and coarse prismatic structure parting to moderate medium subangular blocky; firm; common moderately thick dark grayish brown (2.5Y 4/2) clay films on faces of peds; many black (10YR 2/1) concretions of iron and manganese; neutral; abrupt smooth boundary.

**2Bt**—38 to 40 inches; mottled yellowish brown (10YR 5/6), brown (7.5YR 5/4), and strong brown (7.5YR 5/6) clay loam; weak coarse angular blocky structure; firm; few thin dark grayish brown (2.5Y 4/2) clay films on faces of peds; few black (10YR 2/1) stains and concretions of iron and manganese; neutral; abrupt smooth boundary.

**3BCg**—40 to 45 inches; greenish gray (5GY 6/1) clay; weak medium prismatic structure; extremely firm; strongly effervescent; slightly alkaline; gradual smooth boundary.

**3Cr**—45 to 60 inches; greenish gray (5GY 6/1) clayey shale; spots and streaks of yellow (10YR 7/8 and 8/6); massive; extremely firm; strongly effervescent; slightly alkaline.

### Range in Characteristics

*Thickness of the loess:* 30 to 50 inches

*Thickness of the mollic epipedon:* 10 to 17 inches

*Depth to paralithic contact:* 40 to 60 inches

*Thickness of the solum:* 40 to 55 inches

*Ap horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Reaction—slightly acid or neutral

*Bt horizon:*

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—2 or 3

Texture—silty clay loam or silt loam (lower part)

Reaction—slightly acid or neutral

*2Bt horizon (if it occurs):*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—4 to 6

Texture—clay loam, loam, or silt loam

Reaction—slightly acid or neutral

*3BCg or 3Bg horizon:*

Hue—2.5Y, 5Y, 5GY, or 5G

Value—5 or 6

Chroma—1 to 4

Texture—silty clay or clay

Reaction—neutral or slightly alkaline

*3Cr horizon:*

Hue—2.5Y, 5Y, 5GY, or 5G

Value—5 or 6

Chroma—1 to 4

Reaction—slightly alkaline or moderately alkaline

## 572B—Loran silt loam, 2 to 5 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### Composition

Loran and similar soils: 90 percent

Dissimilar soils: 10 percent

### Minor Components

*Similar soils:*

- Soils that have more sand and less clay in the subsoil
- Soils in which the underlying shale bedrock is calcareous
- Soils that have a seasonal high water table below a depth of 3 feet

*Dissimilar soils:*

- The moderately well drained Plano soils on shoulders

### Properties and Qualities of the Loran Soil

*Parent material:* Loess over till over residuum derived from clayey shale

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Very slow or slow  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Available water capacity to a depth of 60 inches:* About 9.6 inches  
*Content of organic matter in the surface layer:* 4 to 5 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 1 foot, January to May  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 2e  
*Prime farmland status:* Prime farmland  
*Hydric soil status:* Not hydric

## **572C—Loran silt loam, 5 to 10 percent slopes**

### **Setting**

*Landform:* Ground moraines  
*Position on the landform:* Shoulders

### **Composition**

Loran and similar soils: 90 percent  
 Dissimilar soils: 10 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have more sand and less clay in the subsoil
- Soils in which the underlying shale bedrock is calcareous
- Soils that have a seasonal high water table below a depth of 3 feet
- Soils that have less than 30 inches of loess over the weathered shale

#### *Dissimilar soils:*

- The well drained Plano soils on shoulders

### **Properties and Qualities of the Loran Soil**

*Parent material:* Loess over till over residuum derived from clayey shale

*Drainage class:* Somewhat poorly drained  
*Slowest permeability within a depth of 40 inches:* Slow  
*Permeability below a depth of 60 inches:* Very slow or slow  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Available water capacity to a depth of 60 inches:* About 7.9 inches  
*Content of organic matter in the surface layer:* 4 to 5 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 1 foot (transitory), January to June  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 2e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

## **Mannon Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Mollic Hapludalfs

### **Typical Pedon (Official Series Description)**

Mannon silt loam, 2 to 5 percent slopes, at an elevation of 670 feet; 1,400 feet east and 160 feet south of the northwest corner of sec. 27, T. 15 N., R. 5 W.; in Mercer County, Illinois; USGS New Boston topographic quadrangle; lat. 41 degrees 16 minutes 30 seconds N. and long. 90 degrees 57 minutes 22 seconds W., NAD 27:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; neutral; abrupt smooth boundary.

E—8 to 12 inches; brown (10YR 4/3) silt loam; weak medium platy structure; friable; neutral; clear smooth boundary.

Bt1—12 to 21 inches; brown (10YR 5/3) silt loam; moderate medium subangular blocky structure; friable; few faint dark brown (10YR 3/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—21 to 36 inches; brown (10YR 5/3) silt loam;

moderate medium subangular blocky structure; friable; common faint brown (10YR 4/3) clay films on faces of peds; neutral; clear smooth boundary.

Bt3—36 to 47 inches; brown (10YR 5/3) silt loam; weak medium subangular blocky structure; friable; common faint brown (10YR 4/3) clay films on faces of peds; common distinct yellowish brown (10YR 5/6) masses of iron throughout; common prominent light olive gray (5Y 6/2) iron depletions throughout; neutral; clear smooth boundary.

BC—47 to 53 inches; brown (10YR 5/3) silt loam; weak medium subangular blocky structure; friable; common distinct light gray (10YR 7/2) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron throughout; common prominent light olive gray (5Y 6/2) iron depletions throughout; slightly acid; clear smooth boundary.

C—53 to 60 inches; brown (10YR 5/3) silt loam; massive; friable; many medium distinct yellowish brown (10YR 5/6) masses of iron oxide throughout; many medium prominent light olive gray (5Y 6/2) iron oxide depletions throughout; moderately acid.

### Range in Characteristics

*Depth to the base of the argillic horizon:* 45 to 60 inches

*Depth to carbonates:* More than 60 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

*E horizon (if it occurs):*

Hue—10YR

Value—3 or 4

Chroma—2 or 3

*Bt horizon:*

Hue—10YR

Value—4 or 5

Chroma—3 to 6

Texture—silt loam

*C horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam

## 678B—Mannon silt loam, 2 to 5 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### Composition

Mannon and similar soils: 95 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils that have a surface layer more than 10 inches thick
- Soils that have a lighter colored surface layer
- Soils that do not have a seasonal high water table within a depth of 6 feet

*Dissimilar soils:*

- The somewhat poorly drained Joy soils on summits

### Properties and Qualities of the Mannon Soil

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 12.7 inches

*Content of organic matter in the surface layer:* 2 to 3 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 4 feet, February to April

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 2e

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

### Marseilles Series

*Taxonomic classification:* Fine-silty, mixed, active, mesic Typic Hapludalfs

### Typical Pedon (Official Series Description)

Marseilles silt loam, 35 to 60 percent slopes, at an elevation of 685 feet; 1,400 feet south and 1,150 feet east of the northwest corner of sec. 14, T. 2 S., R. 6 W.; in Bureau County, Illinois; USGS Liberty topographic quadrangle; lat. 39 degrees 53 minutes 57 seconds N. and long. 91 degrees 03 minutes 53 seconds W., NAD 27:

A—0 to 3 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate very fine granular structure; friable; strongly acid; abrupt smooth boundary.

E—3 to 7 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; moderate thin platy and moderate very fine granular structure; friable; very few faint dark grayish brown (10YR 4/2) organic coatings in root channels and/or pores; strongly acid; clear smooth boundary.

BE—7 to 10 inches; yellowish brown (10YR 5/4) silt loam; weak medium platy and moderate very fine and fine subangular blocky structure; friable; very few faint dark grayish brown (10YR 4/2) organic coatings in root channels and/or pores; strongly acid; clear smooth boundary.

2Bt1—10 to 17 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; very few faint dark grayish brown (10YR 4/2) organic coatings in root channels and/or pores and few distinct brown (10YR 5/3) clay films on faces of peds; 1 percent gravel; very strongly acid; clear smooth boundary.

2Bt2—17 to 22 inches; yellowish brown (10YR 5/4) silty clay loam; strong medium subangular blocky structure; firm; common distinct brown (10YR 5/3) clay films and very few faint very pale brown (10YR 7/3) silt coatings on faces of peds; 1 percent gravel; very strongly acid; clear smooth boundary.

2Bt3—22 to 35 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate medium and coarse subangular blocky structure; firm; very few faint brown (10YR 5/3) clay films and very few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; 1 percent gravel; very strongly acid; gradual smooth boundary.

2Cr—35 to 60 inches; 70 percent light olive brown (2.5Y 5/4) and 30 percent olive (5Y 5/3) silty clay and unweathered bedrock; massive; firm; 10 percent shale gravel; very strongly acid.

### Range in Characteristics

*Depth to the base of the argillic horizon:* 20 to 40 inches

*Depth to paralithic contact:* 20 to 40 inches

#### *Ap or A horizon:*

Hue—10YR

Value—2 to 5

Chroma—2 or 3

Texture—silt loam or silty clay loam

#### *E or BE horizon:*

Hue—10YR

Value—4 or 5

Chroma—2 to 4

Texture—silt loam

#### *Bt horizon:*

Hue—10YR

Value—4 or 5

Chroma—3 to 6

Texture—silt loam or silty clay loam

#### *2Bt horizon:*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—clay loam, silt loam, silty clay loam, or silty clay

#### *2Cr horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 4

## 549C2—Marseilles silt loam, 5 to 10 percent slopes, eroded

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### **Composition**

Marseilles and similar soils: 98 percent

Dissimilar soils: 2 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that formed in calcareous shale

#### *Dissimilar soils:*

- The somewhat poorly drained Atlas soils on backslopes
- The well drained Hickory soils on backslopes

### **Properties and Qualities of the Marseilles Soil**

*Parent material:* Thin layer of loess over residuum derived from shale

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Very slow  
*Permeability below a depth of 60 inches:* Very slow or slow  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Available water capacity to a depth of 60 inches:* About 4.7 inches  
*Content of organic matter in the surface layer:* 1 to 3 percent  
*Shrink-swell potential:* Moderate  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

#### **Interpretive Groups**

*Land capability classification:* 3e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

### **549D2—Marseilles silt loam, 10 to 18 percent slopes, eroded**

#### **Setting**

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

#### **Composition**

Marseilles and similar soils: 94 percent  
 Dissimilar soils: 6 percent

#### **Minor Components**

##### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that formed in calcareous shale
- Soils that are underlain by sandstone bedrock

##### *Dissimilar soils:*

- The somewhat poorly drained Atlas soils on backslopes
- The well drained Hickory soils on backslopes

#### **Properties and Qualities of the Marseilles Soil**

*Parent material:* Thin layer of loess over residuum derived from shale  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Very slow or slow  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)  
*Available water capacity to a depth of 60 inches:* About 4.4 inches  
*Content of organic matter in the surface layer:* 1 to 3 percent  
*Shrink-swell potential:* High  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and moderate for concrete  
*Surface runoff class:* Very high  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

#### **Interpretive Groups**

*Land capability classification:* 4e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

### **549D3—Marseilles silty clay loam, 10 to 18 percent slopes, severely eroded**

#### **Setting**

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

#### **Composition**

Marseilles and similar soils: 92 percent  
 Dissimilar soils: 8 percent

#### **Minor Components**

##### *Similar soils:*

- Soils that have more clay in the subsoil
- Soils that formed in calcareous shale

##### *Dissimilar soils:*

- The somewhat poorly drained Atlas soils on backslopes
- The well drained Hickory soils on backslopes

#### **Properties and Qualities of the Marseilles Soil**

*Parent material:* Thin layer of loess over residuum derived from shale  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Very slow  
*Permeability below a depth of 60 inches:* Very slow or slow

*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Available water capacity to a depth of 60 inches:* About 4 inches

*Content of organic matter in the surface layer:* 0.5 to 1.0 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Very high

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very slight

#### **Interpretive Groups**

*Land capability classification:* 6e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

### **549F—Marseilles silt loam, 18 to 35 percent slopes**

#### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

#### **Composition**

Marseilles and similar soils: 94 percent

Dissimilar soils: 6 percent

#### **Minor Components**

*Similar soils:*

- Soils that have more clay in the subsoil
- Soils that formed in calcareous shale

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils and the well drained Hickory soils on backslopes

#### **Properties and Qualities of the Marseilles Soil**

*Parent material:* Thin layer of loess over residuum derived from shale (fig. 3)

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Very slow or slow

*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Available water capacity to a depth of 60 inches:* About 5.7 inches

*Content of organic matter in the surface layer:* 1 to 3 percent

*Shrink-swell potential:* High

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Very high

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

#### **Interpretive Groups**

*Land capability classification:* 7e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

### **913F—Marseilles-Hickory silt loams, 18 to 35 percent slopes**

#### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

#### **Composition**

Marseilles and similar soils: 41 percent

Hickory and similar soils: 39 percent

Dissimilar soils: 20 percent

#### **Minor Components**

*Similar soils:*

- Soils that have more clay in the subsoil
- Soils that formed in calcareous shale

*Dissimilar soils:*

- The somewhat poorly drained Orion and Radford soils on toeslopes

#### **Properties and Qualities of the Marseilles Soil**

*Parent material:* Thin layer of loess over residuum derived from shale

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Very slow or slow

*Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)

*Available water capacity to a depth of 60 inches:* About 6.3 inches

*Content of organic matter in the surface layer:* 1 to 3 percent

*Shrink-swell potential:* Moderate

*Flooding:* None



Figure 3.—An exposure of shale bedrock in an area of Marseilles silt loam, 18 to 35 percent slopes. This bedrock was a common source of coal in the past.

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

### **Properties and Qualities of the Hickory Soil**

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 10.4 inches

*Content of organic matter in the surface layer:* 1 to 2 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* Marseilles—7e;  
Hickory—6e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Marseilles—not hydric; Hickory—not hydric

### **Muscataune Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aquic Argiudolls

### **Typical Pedon**

Muscataune silt loam, 0 to 2 percent slopes; 2,500 feet west and 2,240 feet north of the southeast corner of

sec. 29, T. 9 N., R. 1 W.; in Warren County, Illinois; USGS Greenbush topographic quadrangle; lat. 40 degrees 44 minutes 11 seconds N. and long. 90 degrees 31 minutes 46 seconds W., NAD 27:

Ap—0 to 7 inches; black (10YR 2/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; very friable; common very fine and fine roots throughout; neutral; abrupt smooth boundary.

A—7 to 13 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; very friable; common very fine and fine roots throughout; neutral; clear smooth boundary.

AB—13 to 20 inches; mixed very dark grayish brown (10YR 3/2) and brown (10YR 4/3) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine subangular blocky structure parting to weak fine granular; friable; common very fine roots throughout; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; neutral; clear smooth boundary.

Bt1—20 to 28 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots between peds; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; common faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common dark manganese stains; neutral; clear smooth boundary.

Bt2—28 to 38 inches; brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots between peds; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) and faint pale brown (10YR 6/3) iron masses in the matrix; common dark manganese stains; neutral; clear smooth boundary.

Btg—38 to 50 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots between peds; common prominent grayish brown (10YR 5/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/6) iron masses in the matrix; common dark manganese stains; slightly acid; clear smooth boundary.

BCg—50 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; weak medium subangular blocky structure; friable; common medium prominent yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/6) iron masses in the matrix;

common dark manganese stains; slightly acid; clear smooth boundary.

Cg—60 to 80 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/6) iron masses in the matrix; few fine rounded very dark brown (10YR 2/2) soft masses of iron and manganese; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 20 inches

*Thickness of the loess:* More than 60 inches

*Depth to free carbonates:* More than 40 inches

*Thickness of the solum:* 40 to 64 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or silty clay loam

*Bt horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay loam

*C horizon:*

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—2 to 4

Texture—silt loam or silty clay loam

## 51A—Muscatune silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### Composition

Muscatune and similar soils: 95 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils that have a surface layer less than 10 inches thick
- Soils that have a seasonal high water table below a depth of 2 feet

*Dissimilar soils:*

- The poorly drained Denny and Sable soils in depressions
- The well drained Osco soils on shoulders

### **Properties and Qualities of the Muscatune Soil**

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 12.1 inches

*Content of organic matter in the surface layer:* 4 to 6 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1 foot, January to May

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 1

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

### **Niota Series**

*Taxonomic classification:* Fine, mixed, superactive, mesic Vertic Albaqualfs

#### **Typical Pedon**

Niota silt loam, 0 to 2 percent slopes; 600 feet north and 1,320 feet east of the southwest corner of sec. 30, T. 19 N., R. 3 E.; in Whiteside County, Illinois; USGS Hillsdale topographic quadrangle; lat. 41 degrees 36 minutes 01 second N. and long. 90 degrees 12 minutes 17 seconds W., NAD 27:

A—0 to 7 inches; black (10YR 2/1) silt loam, gray (10YR 5/1) dry; moderate very fine and fine granular structure; friable; many fine roots throughout; neutral; clear smooth boundary.

E—7 to 14 inches; mixed grayish brown (10YR 5/2) and dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate thin platy structure parting to moderate fine granular; friable; common fine roots throughout; common distinct light gray (10YR 7/1) (dry) clay depletions on faces of peds; few fine dark concretions of iron and manganese in the matrix; strongly acid; abrupt smooth boundary.

2Bt—14 to 24 inches; reddish brown (5YR 4/4) silty clay; moderate medium prismatic structure parting to moderate medium subangular blocky; very firm; few fine roots between peds; many distinct grayish brown (2.5Y 5/2) clay films on faces of peds; very strongly acid; clear smooth boundary.

2Btg1—24 to 37 inches; mixed gray (5Y 5/1) and gray (5Y 6/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots between peds; common distinct dark gray (5Y 4/1) clay films on faces of peds; few fine dark concretions of iron and manganese in the matrix; few fine and medium prominent yellowish red (5Y 4/6) masses of iron in the matrix; very strongly acid; gradual smooth boundary.

3Btg2—37 to 53 inches; gray (5Y 6/1) silt loam; weak coarse prismatic structure parting to weak medium subangular blocky; friable; common distinct reddish gray (5YR 5/2) clay films on faces of peds; many prominent black (N 2/0) iron and manganese stains on faces of peds; many fine dark concretions of iron and manganese in the matrix; few fine and medium prominent yellowish red (5Y 4/6) masses of iron in the matrix; very strongly acid; clear smooth boundary.

3Cg—53 to 60 inches; gray (5Y 6/1) silt loam; massive; friable; many fine dark concretions of iron and manganese in the matrix; many fine and medium prominent yellowish red (5Y 4/6) masses of iron in the matrix; slightly acid.

### **Range in Characteristics**

*Thickness of the solum:* 40 to 60 inches

*Thickness of the loess:* Less than 20 inches

*Depth to lacustrine sediments:* 10 to 20 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

*Eg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 3

*2Bt or 2Btg horizon:*

Hue—2.5Y to 5Y or N

Value—4 to 6

Chroma—0 to 4

Texture—silty clay, clay, or silty clay loam

*3Btg or 3BCg horizon (if it occurs):*

Hue—7.5YR to 5Y or N

Value—4 to 6

Chroma—0 to 2

Texture—silt loam, silty clay loam, or loam

*3Cg horizon:*

Texture—silt loam; strata of loam, clay loam, sandy loam, silty clay loam, or loamy fine sand in some pedons

## **261A—Niota silt loam, 0 to 2 percent slopes**

### **Setting**

*Landform:* Lake plains

*Position on the landform:* Depressions

### **Composition**

Niota and similar soils: 98 percent

Dissimilar soils: 2 percent

### **Minor Components**

*Similar soils:*

- Soils that have a surface layer that is thicker and contains more clay
- Soils that have a seasonal high water table at a depth of more than 1 foot

*Dissimilar soils:*

- The well drained Crescent soils on backslopes
- The well drained Raddle soils on summits

### **Properties and Qualities of the Niota Soil**

*Parent material:* Glaciolacustrine deposits

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Moderately slow or moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 8.3 inches

*Content of organic matter in the surface layer:* 1 to 3 percent

*Shrink-swell potential:* High

*Depth and months of the highest apparent seasonal high water table:* At the surface, January to May

*Ponding depth:* As much as 0.5 foot during wet periods

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and high for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland status:* Prime farmland where drained

*Hydric soil status:* Hydric

### **Orion Series**

*Taxonomic classification:* Coarse-silty, mixed, superactive, nonacid, mesic Aquic Udifluvents

### **Typical Pedon**

Orion silt loam, 0 to 2 percent slopes, frequently flooded; 270 feet south and 1,000 feet east of the northwest corner of sec. 17, T. 22 N., R. 6 E.; in Whiteside County, Illinois; USGS Milledgeville topographic quadrangle; lat. 41 degrees 54 minutes 06 seconds N. and long. 89 degrees 50 minutes 13 seconds W., NAD 27:

A—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; massive; friable; many thin strata of brown (10YR 4/3) and very dark gray (10YR 3/1) silt loam; neutral; abrupt smooth boundary.

C1—5 to 15 inches; dark grayish brown (10YR 4/2) silt loam; massive; friable; many thin strata of pale brown (10YR 6/3) and yellowish brown (10YR 5/4) silt loam; few fine prominent brown (7.5YR 4/4) masses of iron in the matrix; neutral; clear wavy boundary.

C2—15 to 29 inches; dark grayish brown (10YR 4/2) silt loam; massive; friable; many thin strata of dark yellowish brown (10YR 4/4), yellowish brown (10YR 5/6), and pale brown (10YR 6/3) silt loam; few very dark gray (10YR 3/1) wormcasts; few fine prominent brown (7.5YR 4/4) masses of iron in the matrix; neutral; abrupt wavy boundary.

Ab1—29 to 39 inches; black (N 2/0) silt loam; weak thick platy structure parting to weak medium and fine subangular blocky; friable; neutral; clear smooth boundary.

Ab2—39 to 51 inches; black (N 2/0) silty clay loam; strong medium and fine angular blocky structure; friable; neutral; clear smooth boundary.

Ab3—51 to 60 inches; very dark gray (10YR 3/1) silty clay loam; moderate medium and fine subangular blocky structure; friable; neutral.

### **Range in Characteristics**

*Depth to dark buried soil:* 20 to 40 inches

*Thickness of the surface layer:* 5 to 10 inches

*Ap or A horizon:*

Hue—10YR  
 Value—3 to 6  
 Chroma—2 or 3  
 Texture—silt loam; stratified in some pedons

*C horizon:*

Hue—10YR  
 Value—3 to 5  
 Chroma—2 or 3  
 Texture—silt loam; stratified in some pedons

*Ab horizon:*

Hue—10YR or 2.5Y  
 Value—2 or 3  
 Chroma—1 or 2  
 Texture—silty clay loam or silt loam; stratified in some pedons

### **3415A—Orion silt loam, 0 to 2 percent slopes, frequently flooded**

#### ***Setting***

*Landform:* Flood plains

#### ***Composition***

Orion and similar soils: 95 percent  
 Dissimilar soils: 5 percent

#### ***Minor Components***

*Similar soils:*

- Soils that have more sand in the lower part
- Soils in which the buried soil is at a depth of more than 40 inches
- Soils that have a seasonal high water table within a depth of 1 foot

*Dissimilar soils:*

- The poorly drained Beaucoup and Sawmill soils in the lower positions on the landform

#### ***Properties and Qualities of the Orion Soil***

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:*  
 Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 12.3 inches

*Content of organic matter in the surface layer:* 1 to 3 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 1 foot, January to May

*Frequency and most likely period of flooding:*

Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

#### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland status:* Prime farmland where protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Not hydric

### **7415A—Orion silt loam, 0 to 2 percent slopes, rarely flooded**

#### ***Setting***

*Landform:* Flood plains

#### ***Composition***

Orion and similar soils: 100 percent

#### ***Minor Components***

*Similar soils:*

- Soils that have more sand in the lower part
- Soils in which the buried soil is at a depth of more than 40 inches
- Soils that have a seasonal high water table within a depth of 1 foot

#### ***Properties and Qualities of the Orion Soil***

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:*  
 Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 12.7 inches

*Content of organic matter in the surface layer:* 1 to 3 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 1 foot, January to May

*Frequency and most likely period of flooding:* Rare, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

## **802B—Orthents, loamy, undulating**

### **Setting**

*Landform:* Ground moraines

### **Composition**

Orthents: 85 percent

Dissimilar soils: 15 percent

*Dissimilar soils:*

- The well drained Plano soils on summits
- The somewhat poorly drained Muscatune soils on footslopes

### **Properties and Qualities of the Orthents**

*Parent material:* Mine spoil or earthy fill

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*

Moderately slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 10.9 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Moderate

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

## **Oscos Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Argiudolls

*Taxadjunct features:* The Oscos soils in map units 86B2

and 86C2 have a thinner dark surface layer than is defined as the range for the series.

### **Typical Pedon (Official Series Description)**

Oscos silt loam, 2 to 5 percent slopes, at an elevation of 858 feet; 316 feet north and 88 feet west of the southeast corner of sec. 23, T. 24 N., R. 6 E.; in Carroll County, Illinois; USGS Lanark topographic quadrangle; lat. 42 degrees 03 minutes 15 seconds N. and long. 89 degrees 45 minutes 52 seconds W., NAD 27:

Ap—0 to 10 inches; very dark brown (10YR 2/2) silt loam, very dark grayish brown (10YR 3/2) dry; moderate fine granular structure; friable; common fine roots; slightly acid; abrupt smooth boundary.

A—10 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium and coarse granular structure; friable; common fine roots; strongly acid; clear smooth boundary.

BA—14 to 20 inches; dark yellowish brown (10YR 3/4) and dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; friable; common fine roots; few distinct light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; strongly acid; clear smooth boundary.

Bt1—20 to 26 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; few distinct gray (10YR 6/1) (dry) silt coatings and common faint dark brown (10YR 3/3) clay films on faces of peds; strongly acid; clear smooth boundary.

Bt2—26 to 37 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct light brownish gray (10YR 6/2) (dry) silt coatings and many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine faint brown (10YR 5/3) and common medium prominent strong brown (7.5YR 5/8) redoximorphic concentrations; many prominent very dark gray (N 3/0) and dark brown (7.5YR 3/2) manganese concretions; strongly acid; clear smooth boundary.

Bt3—37 to 45 inches; light yellowish brown (10YR 6/4) silty clay loam; moderate coarse subangular blocky structure; friable; few fine roots; many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) redoximorphic depletions and few medium prominent strong brown (7.5YR 5/8) redoximorphic concentrations; strongly acid; gradual smooth boundary.

BC—45 to 55 inches; yellowish brown (10YR 5/4) and brown (10YR 4/3) silty clay loam; weak coarse angular blocky structure; friable; few fine distinct light brownish gray (10YR 6/2) redoximorphic depletions; strongly acid; gradual smooth boundary.

C—55 to 60 inches; yellowish brown (10YR 5/4) and brown (10YR 4/3) silt loam; massive; friable; many fine distinct yellowish brown (10YR 5/6) redoximorphic concentrations and common medium distinct grayish brown (10YR 5/2) redoximorphic depletions; moderately acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 18 inches

*Thickness of the solum:* 40 to more than 60 inches

*Depth to free carbonates:* More than 48 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Bt horizon:*

Hue—10YR

Value—4 to 6

Chroma—3 or 4

Texture—silty clay loam or silt loam

*C or Cg horizon:*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—3 to 6

Texture—silt loam

## 86B—Osco silt loam, 2 to 5 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits and shoulders

### Composition

Osco and similar soils: 90 percent

Dissimilar soils: 10 percent

### Minor Components

*Similar soils:*

- Soils that have a surface layer less than 10 inches thick
- Soils that have more sand in the lower part
- Soils that have a seasonal high water table at a depth of less than 4 feet

*Dissimilar soils:*

- The somewhat poorly drained Ipava soils on summits
- The poorly drained Denny and Sable soils in depressions

### Properties and Qualities of the Osco Soil

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.8 inches

*Content of organic matter in the surface layer:* 3 to 4 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4 feet, February to April

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 2e

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

## 86B2—Osco silt loam, 2 to 5 percent slopes, eroded

### Setting

*Landform:* Ground moraines

*Position on the landform:* Shoulders and summits

### Composition

Osco and similar soils: 88 percent

Dissimilar soils: 12 percent

### Minor Components

*Similar soils:*

- Soils that have a surface layer more than 10 inches thick
- Soils that have more sand in the lower part
- Soils that have a seasonal high water table at a depth of less than 4 feet

*Dissimilar soils:*

- The poorly drained Denny and Sable soils in depressions
- The somewhat poorly drained Ipava soils on shoulders

**Properties and Qualities of the Osco Soil***Parent material:* Loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:*  
Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity to a depth of 60 inches:* About  
11.7 inches*Content of organic matter in the surface layer:* 2 to 3  
percent*Shrink-swell potential:* Moderate*Depth and months of the highest apparent seasonal  
high water table:* 4 feet, February to April*Flooding:* None*Accelerated erosion:* The surface layer has been  
thinned by erosion.*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and moderate  
for concrete*Surface runoff class:* Low*Susceptibility to water erosion:* Moderate*Susceptibility to wind erosion:* Slight**Interpretive Groups***Land capability classification:* 2e*Prime farmland status:* Prime farmland*Hydric soil status:* Not hydric**86C2—Osco silt loam, 5 to 10 percent  
slopes, eroded****Setting***Landform:* Ground moraines*Position on the landform:* Backslopes and shoulders**Composition**

Osco and similar soils: 90 percent

Dissimilar soils: 10 percent

**Minor Components***Similar soils:*

- Soils that have a surface layer less than 10 inches thick
- Soils that have more sand in the lower part
- Soils that have a seasonal high water table at a depth of less than 4 feet

*Dissimilar soils:*

- The somewhat poorly drained Ipava soils on summits and footslopes
- The poorly drained Sable soils on toeslopes
- The poorly drained Denny soils in depressions

**Properties and Qualities of the Osco Soil***Parent material:* Loess*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:*  
Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity to a depth of 60 inches:* About  
11.7 inches*Content of organic matter in the surface layer:* 2 to 3  
percent*Shrink-swell potential:* Moderate*Depth and months of the highest apparent seasonal  
high water table:* 4 feet, February to April*Flooding:* None*Accelerated erosion:* The surface layer has been  
thinned by erosion.*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and moderate  
for concrete*Surface runoff class:* Medium*Susceptibility to water erosion:* Moderate*Susceptibility to wind erosion:* Slight**Interpretive Groups***Land capability classification:* 3e*Prime farmland status:* Not prime farmland*Hydric soil status:* Not hydric**Plano Series***Taxonomic classification:* Fine-silty, mixed,  
superactive, mesic Typic Argiudolls*Taxadjunct features:* The Plano soil in map unit 199C2  
has a thinner dark surface layer than is defined as  
the range for the series.**Typical Pedon (Official Series Description)**

Plano silt loam, 0 to 2 percent slopes, at an elevation of 715 feet; 1,200 feet south and 1,920 feet east of the northwest corner of sec. 13, T. 12 N., R. 7 E.; in Stark County, Illinois; USGS Castleton topographic quadrangle; lat. 41 degrees 01 minute 45 seconds N. and long. 89 degrees 39 minutes 00 seconds W., NAD 27:

Ap—0 to 9 inches; very dark brown (10YR 2/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine

- granular structure; friable; few very fine roots; slightly acid; clear smooth boundary.
- A—9 to 14 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine granular structure; friable; many very fine roots; slightly acid; clear smooth boundary.
- Bt1—14 to 19 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt2—19 to 31 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt3—31 to 43 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; common distinct very pale brown (10YR 7/3) (dry) clay depletions on faces of peds; few fine faint yellowish brown (10YR 5/4) masses of iron in the matrix; slightly acid; clear smooth boundary.
- Bt4—43 to 49 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium prismatic structure; friable; few very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; few distinct very pale brown (10YR 7/3) (dry) clay depletions on faces of peds; slightly acid; clear smooth boundary.
- 2Bt5—49 to 53 inches; dark yellowish brown (10YR 4/4) clay loam; weak medium prismatic structure; friable; few fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; neutral; clear smooth boundary.
- 2BC—53 to 60 inches; brown (7.5YR 4/4) sandy loam; weak medium subangular blocky structure; very friable; many distinct dark yellowish brown (10YR 3/4) clay films bridging sand grains; about 5 percent gravel; neutral; gradual smooth boundary.
- 2C—60 to 72 inches; stratified yellowish brown (10YR 5/6) and brown (7.5YR 4/4) sandy loam, loam, and loamy sand; massive; friable; about 12 percent gravel; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 20 inches  
*Depth to the base of the argillic horizon:* 44 to 70 inches

*Ap or A horizon:*  
 Value—2 or 3

Chroma—1 to 3  
 Reaction—slightly acid or neutral

*AB or BA horizon (if it occurs):*

Hue—10YR  
 Value—3 or 4  
 Chroma—2 to 4  
 Texture—silt loam or silty clay loam  
 Reaction—moderately acid to neutral

*Bt horizon (upper and middle parts):*

Value—4 or 5  
 Chroma—3 or 4  
 Reaction—strongly acid to neutral

*Bt horizon (lower part):*

Hue—7.5YR or 10YR  
 Value—3 to 5  
 Chroma—2 to 4  
 Reaction—moderately acid to neutral

*2Bt or 2BC horizon:*

Hue—7.5YR or 10YR  
 Value—3 to 5  
 Chroma—2 to 6  
 Texture—silt loam, loam, sandy loam, clay loam, or sandy clay loam  
 Reaction—moderately acid to slightly alkaline

*2C horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
 Value—3 to 5  
 Chroma—3 to 6  
 Texture—loam, loamy sand, sandy loam, or silt loam  
 Reaction—moderately acid to moderately alkaline

## 199B—Plano silt loam, 2 to 5 percent slopes

### Setting

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits

### Composition

Plano and similar soils: 91 percent

Dissimilar soils: 9 percent

### Minor Components

*Similar soils:*

- Soils that have a surface layer less than 10 inches thick
- Soils that are underlain by loamy glacial till within a depth of 60 inches

*Dissimilar soils:*

- The poorly drained Sable soils on toeslopes

- The somewhat poorly drained Atterberry and Muscatune soils on summits and footslopes

### **Properties and Qualities of the Plano Soil**

*Parent material:* Loess over outwash

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.1 inches

*Content of organic matter in the surface layer:* 3 to 5 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

## **199C2—Plano silt loam, 5 to 10 percent slopes, eroded**

### **Setting**

*Landform:* Outwash plains

*Position on the landform:* Shoulders

### **Composition**

Plano and similar soils: 91 percent

Dissimilar soils: 9 percent

### **Minor Components**

*Similar soils:*

- Soils that have a surface layer less than 10 inches thick
- Soils that are underlain by loamy glacial till within a depth of 60 inches

*Dissimilar soils:*

- The poorly drained Sable soils on toeslopes
- The somewhat poorly drained Atterberry and Muscatune soils on footslopes

### **Properties and Qualities of the Plano Soil**

*Parent material:* Loess over outwash

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 10.8 inches

*Content of organic matter in the surface layer:* 2 to 4 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and low for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

## **Port Byron Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludolls

### **Typical Pedon (Official Series Description)**

Port Byron silt loam, 2 to 5 percent slopes; 2,620 feet south and 400 feet east of the northwest corner of sec. 9, T. 20 N., R. 3 E.; in Whiteside County, Illinois; USGS Erie Northwest topographic quadrangle; lat. 41 degrees 44 minutes 13 seconds N. and long. 90 degrees 10 minutes 08 seconds W., NAD 27:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; weak medium granular structure; friable; many very fine and fine roots throughout; moderately acid; abrupt smooth boundary.

A—8 to 13 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium and fine subangular blocky structure; friable; common very fine and fine roots throughout; many faint very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; clear smooth boundary.

BA—13 to 20 inches; brown (10YR 4/3) silt loam; moderate medium and fine subangular blocky structure; friable; common fine roots between

pedes; many faint very dark grayish brown (10YR 3/2) organic coatings on faces of pedes; few distinct light gray (10YR 7/2) (dry) clay depletions on faces of pedes; few faint very dark grayish brown (10YR 3/2) wormcasts; slightly acid; clear smooth boundary.

Bt1—20 to 31 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium and fine subangular blocky structure; friable; common fine and medium roots between pedes; common faint brown (10YR 4/3) clay films on faces of pedes; few faint dark brown (10YR 3/3) wormcasts; moderately acid; clear smooth boundary.

Bt2—31 to 40 inches; yellowish brown (10YR 5/4) silt loam; moderate coarse and medium subangular blocky structure; friable; few fine roots between pedes; common faint brown (10YR 4/3) clay films on faces of pedes; few distinct light gray (10YR 7/2) (dry) clay depletions on faces of pedes; moderately acid; clear smooth boundary.

Bt3—40 to 52 inches; yellowish brown (10YR 5/4) silt loam; weak coarse subangular blocky structure; friable; few fine roots between pedes; few faint dark yellowish brown (10YR 4/4) clay films on faces of pedes; few distinct light gray (10YR 7/2) (dry) clay depletions on faces of pedes; few fine faint pale brown (10YR 6/3) masses of iron in the matrix; slightly acid; clear smooth boundary.

BC—52 to 60 inches; yellowish brown (10YR 5/4) silt loam; weak medium and coarse prismatic structure; firm; few fine roots between pedes; few distinct light gray (10YR 7/2) (dry) clay depletions on faces of pedes; common fine faint yellowish brown (10YR 5/6) masses of iron in the matrix; few fine dark brown (7.5YR 3/2) coatings of iron-manganese on faces of pedes; slightly acid; clear smooth boundary.

C1—60 to 66 inches; yellowish brown (10YR 5/4) silt; massive; friable; common fine faint yellowish brown (10YR 5/6 and 5/8) masses of iron in the matrix; few fine and medium irregular brown (7.5YR 4/4) and few fine rounded black (N 2/0) concretions of iron-manganese throughout the matrix; common medium black (5Y 2.5/1) irregular masses of iron-manganese in root channels and pores in the lower 2 inches; neutral; gradual smooth boundary.

C2—66 to 77 inches; 50 percent yellowish brown (10YR 5/4) and 50 percent pale brown (10YR 6/3) silt loam; massive; friable; common fine and medium faint yellowish brown (10YR 5/6) and few medium distinct strong brown (7.5YR 5/6) masses of iron in the matrix; light brownish gray (10YR 6/2) iron depletions; few fine and medium irregular

black (N 2/0) concretions of iron-manganese throughout the matrix; neutral; gradual smooth boundary.

C3—77 to 89 inches; 70 percent yellowish brown (10YR 5/4) and 30 percent pale brown (10YR 6/3) silt; massive; friable; common fine faint yellowish brown (10YR 5/6 and 5/8) masses of iron in the matrix; few fine faint light brownish gray (10YR 6/2) and gray (10YR 6/1) iron depletions; few fine rounded black (N 2/0) concretions of iron-manganese throughout the matrix; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches

*Thickness of the solum:* 42 to more than 60 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*BA or Bw horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—silt loam

*C horizon:*

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—2 to 4

Texture—silt loam

## 277B—Port Byron silt loam, 2 to 5 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### Composition

Port Byron and similar soils: 95 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils that have a lighter colored surface layer

*Dissimilar soils:*

- The somewhat poorly drained Joy soils on summits

### Properties and Qualities of the Port Byron Soil

*Parent material:* Loess

*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:*  
 Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About  
 12.9 inches  
*Content of organic matter in the surface layer:* 2 to 4  
 percent  
*Shrink-swell potential:* Low  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and moderate for  
 concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 2e  
*Prime farmland status:* Prime farmland  
*Hydric soil status:* Not hydric

## **277C—Port Byron silt loam, 5 to 10 percent slopes**

### **Setting**

*Landform:* Ground moraines  
*Position on the landform:* Shoulders

### **Composition**

Port Byron and similar soils: 95 percent  
 Dissimilar soils: 5 percent

### **Minor Components**

#### *Similar soils:*

- Soils that have a surface layer less than 10 inches thick
- Soils that have slopes of less than 5 percent
- Soils that have a lighter colored surface layer

#### *Dissimilar soils:*

- The somewhat poorly drained Joy soils on summits

### **Properties and Qualities of the Port Byron Soil**

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:*  
 Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About  
 12.9 inches

*Content of organic matter in the surface layer:* 2 to 4  
 percent  
*Shrink-swell potential:* Low  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and moderate for  
 concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 3e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

## **Raddle Series**

*Taxonomic classification:* Fine-silty, mixed,  
 superactive, mesic Typic Hapludolls

### **Typical Pedon**

Raddle silt loam, 0 to 2 percent slopes; 1,780 feet west and 2,020 feet north of the southeast corner of sec. 23, T. 19 N., R. 4 E.; in Whiteside County, Illinois; Spring Hill topographic quadrangle; lat. 41 degrees 37 minutes 03 seconds N. and long. 90 degrees 00 minutes 13 seconds W., NAD 27:

Ap—0 to 10 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; slightly acid; abrupt smooth boundary.

A1—10 to 16 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium subangular blocky structure parting to weak fine granular; friable; many faint very dark gray (10YR 3/1) organic coatings on faces of peds; moderately acid; clear smooth boundary.

A2—16 to 21 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; moderate fine and medium subangular blocky structure; friable; clay films on faces of peds; very dark grayish brown (10YR 3/2) organic coatings on faces of peds; moderately acid; clear smooth boundary.

BA—21 to 26 inches; brown (10YR 4/3) silt loam; moderate medium subangular blocky structure; friable; common faint dark brown (10YR 3/3) organic coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—26 to 34 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular blocky structure; friable; common faint brown (10YR 4/3)

clay films on faces of peds; moderately acid; gradual smooth boundary.

Bt2—34 to 51 inches; dark yellowish brown (10YR 4/4) silt loam; moderate coarse subangular blocky structure; friable; few faint brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.

BC—51 to 61 inches; yellowish brown (10YR 5/4) silt loam; weak coarse angular blocky structure; friable; few fine black (N 2/0) iron-manganese stains on faces of peds; few fine distinct light brownish gray (10YR 6/2) iron depletions; moderately acid; clear smooth boundary.

C—61 to 80 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; few fine prominent black (N 2/0) soft masses of iron-manganese in the matrix; few fine distinct light brownish gray (10YR 6/2) iron depletions; slightly acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches

*Thickness of the solum:* 40 to more than 80 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*Bt or Bw horizon:*

Hue—7.5YR or 10YR

Value—3 to 6

Chroma—3 or 4

Texture—silt loam

*C horizon:*

Hue—7.5YR or 10YR

Value—3 to 6

Chroma—2 to 4

Texture—silt loam; thin strata of sandy loam, loam, clay loam, or silty clay loam in some pedons

### 430A—Raddle silt loam, 0 to 2 percent slopes

#### Setting

*Landform:* Stream terraces

*Position on the landform:* Summits

#### Composition

Raddle and similar soils: 95 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils that are underlain by sand within a depth of 60 inches
- Soils that have more clay in the subsoil

*Dissimilar soils:*

- The somewhat poorly drained Littleton soils on footslopes

### Properties and Qualities of the Raddle Soil

*Parent material:* Slope alluvium

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 13 inches

*Content of organic matter in the surface layer:* 2 to 4 percent

*Shrink-swell potential:* Low

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 1

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

### 430B—Raddle silt loam, 2 to 5 percent slopes

#### Setting

*Landform:* Stream terraces

*Position on the landform:* Summits

#### Composition

Raddle and similar soils: 89 percent

Dissimilar soils: 11 percent

### Minor Components

*Similar soils:*

- Soils that have a surface layer more than 24 inches thick
- Soils that have a seasonal high water table within a depth of 6 feet

*Dissimilar soils:*

- The somewhat poorly drained Littleton soils on summits
- The somewhat poorly drained Orion and Tice soils on toeslopes

**Properties and Qualities of the Raddle Soil***Parent material:* Slope alluvium*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:*  
Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity to a depth of 60 inches:* About  
12.8 inches*Content of organic matter in the surface layer:* 2 to 4  
percent*Shrink-swell potential:* Low*Flooding:* None*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and concrete*Surface runoff class:* Low*Susceptibility to water erosion:* Moderate*Susceptibility to wind erosion:* Slight**Interpretive Groups***Land capability classification:* 2e*Prime farmland status:* Prime farmland*Hydric soil status:* Not hydric**899B—Raddle-Sparta complex, 2 to 5 percent slopes****Setting***Landform:* Outwash plains*Position on the landform:* Summits**Composition**

Raddle and similar soils: 60 percent

Sparta and similar soils: 30 percent

Dissimilar soils: 10 percent

**Minor Components***Similar soils:*

- Soils that have a surface layer more than 24 inches thick

*Dissimilar soils:*

- The poorly drained Niota soils in depressions on lake plains

**Properties and Qualities of the Raddle Soil***Parent material:* Alluvium*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:*  
Moderate*Permeability below a depth of 60 inches:* Moderate*Depth to restrictive feature:* More than 80 inches*Available water capacity to a depth of 60 inches:* About  
13 inches*Content of organic matter in the surface layer:* 2 to 4  
percent*Shrink-swell potential:* Low*Depth and months of the highest apparent seasonal  
high water table:* 4 feet, February to May*Flooding:* None*Potential for frost action:* High*Hazard of corrosion:* Moderate for steel and moderate  
for concrete*Surface runoff class:* Low*Susceptibility to water erosion:* Slight*Susceptibility to wind erosion:* Slight**Properties and Qualities of the Sparta Soil***Parent material:* Sandy outwash*Drainage class:* Excessively drained*Slowest permeability within a depth of 40 inches:*  
Moderately rapid*Permeability below a depth of 60 inches:* Rapid*Depth to restrictive feature:* More than 80 inches*Available water capacity to a depth of 60 inches:* About  
4.9 inches*Content of organic matter in the surface layer:* 1 to 2  
percent*Shrink-swell potential:* Low*Flooding:* None*Potential for frost action:* Low*Hazard of corrosion:* Low for steel and moderate for  
concrete*Surface runoff class:* Very low*Susceptibility to water erosion:* Slight*Susceptibility to wind erosion:* High**Interpretive Groups***Land capability classification:* Raddle—2e; Sparta—4s*Prime farmland status:* Not prime farmland*Hydric soil status:* Raddle—not hydric; Sparta—not  
hydric**Radford Series***Taxonomic classification:* Fine-silty, mixed,  
superactive, mesic Fluvaquentic Hapludolls**Typical Pedon**Radford silt loam, 0 to 2 percent slopes, occasionally  
flooded; 1,109 feet west and 1,254 feet south of the  
northeast corner of sec. 23, T. 17 N., R. 8 E.; in Bureau

County, Illinois; USGS Buda Northeast topographic quadrangle; lat. 41 degrees 26 minutes 54 seconds N. and long. 89 degrees 32 minutes 04 seconds W., NAD 27:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; common fine roots; moderately acid; abrupt smooth boundary.

A—9 to 21 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; common fine roots; few fine dark masses of iron and manganese throughout; slightly acid; gradual smooth boundary.

C—21 to 29 inches; stratified very dark gray (10YR 3/1) silt loam and brown (10YR 5/3) silty clay loam; weak medium subangular blocky structure; friable; few fine roots; common fine dark masses of iron and manganese throughout; slightly acid; clear smooth boundary.

Ab1—29 to 36 inches; black (10YR 2/1) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; few medium faint very dark grayish brown (10YR 3/2) masses of iron and manganese in the matrix; few very fine dark masses of iron and manganese throughout; slightly acid; clear smooth boundary.

Ab2—36 to 43 inches; black (10YR 2/1) silty clay loam; weak medium subangular blocky structure; friable; few fine faint very dark grayish brown (10YR 3/2) masses of iron and manganese in the matrix; few very fine dark masses of iron and manganese throughout; neutral; clear smooth boundary.

Bgb—43 to 60 inches; black (10YR 2/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few fine faint dark gray (10YR 4/1) iron depletions in the matrix; few very fine dark masses of iron and manganese throughout; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches

*Depth to the buried soil:* 20 to 40 inches

*Ap or A horizon:*

Value—2 or 3

Chroma—1 or 2

*C horizon:*

Hue—10YR

Value—2 to 6

Chroma—1 or 2

Texture—silt loam

*Ab horizon:*

Hue—10YR or N

Value—2 or 3

Chroma—0 or 1

Texture—silt loam, silty clay loam, clay loam, or loam

*Bgb horizon (if it occurs):*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

## 3074A—Radford silt loam, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains

### Composition

Radford and similar soils: 95 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils in which the buried soil is within a depth of 20 inches
- Soils that have more sand in the lower part
- Soils that have a lighter colored surface layer

*Dissimilar soils:*

- The poorly drained Sawmill soils in the slightly lower positions on the landform

### Properties and Qualities of the Radford Soil

*Parent material:* Alluvium

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 12.3 inches

*Content of organic matter in the surface layer:* 2 to 4 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1 foot, January to May

*Frequency and most likely period of flooding:*

Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 3w

*Prime farmland status:* Prime farmland where protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Not hydric

## **Rozetta Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludalfs

### **Typical Pedon (Official Series Description)**

Rozetta silt loam, 0 to 2 percent slopes, at an elevation of 890 feet; 150 feet south and 500 feet east of the center of sec. 18, T. 27 N., R. 6 E.; in Stephenson County, Illinois; USGS Pearl City topographic quadrangle; lat. 42 degrees 20 minutes 00 seconds N. and long. 89 degrees 51 minutes 19 seconds W., NAD 27:

A—0 to 4 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 6/1) dry; weak medium granular structure; friable; many fine roots throughout; moderately acid; clear wavy boundary.

E—4 to 11 inches; dark grayish brown (10YR 4/2) silt loam; weak medium platy structure; friable; many fine roots throughout; strongly acid; clear smooth boundary.

BE—11 to 14 inches; brown (10YR 4/3) silty clay loam; weak medium subangular blocky structure; firm; many fine roots between pedis; few faint brown (10YR 5/3) (dry) clay depletions on faces of pedis; strongly acid; clear smooth boundary.

Bt1—14 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; firm; many fine roots between pedis; many faint brown (10YR 5/3) clay films on faces of pedis; strongly acid; clear smooth boundary.

Bt2—21 to 39 inches; brown (10YR 5/3) silty clay loam; moderate medium and coarse subangular blocky structure; firm; many faint dark yellowish brown (10YR 4/4) clay films on faces of pedis; few medium faint grayish brown (10YR 5/2) iron depletions; common medium faint light yellowish brown (10YR 6/4) and brown (10YR 4/3) masses of iron in the matrix; strongly acid; clear smooth boundary.

Bt3—39 to 50 inches; yellowish brown (10YR 5/4) silty

clay loam; weak coarse subangular blocky structure; firm; few faint brown (10YR 4/3) clay films on faces of pedis; common medium distinct grayish brown (10YR 5/2) iron depletions; common medium faint pale brown (10YR 6/3) masses of iron in the matrix; moderately acid; clear smooth boundary.

C—50 to 60 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; common medium distinct dark grayish brown (10YR 4/2) iron depletions; slightly acid.

### **Range in Characteristics**

*Thickness of the solum:* 42 to 72 inches

*Ap or A horizon:*

Hue—10YR

Value—3 to 5

Chroma—1 to 3

Texture—silt loam

*E horizon:*

Hue—10YR

Value—4 to 6

Chroma—2 or 3

Texture—silt loam

*Bt horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—silty clay loam

*C horizon:*

Hue—10YR

Value—4 to 6

Chroma—2 to 6

Texture—silt loam or silty clay loam

## **279B—Rozetta silt loam, 2 to 5 percent slopes**

### **Setting**

*Landform:* Ground moraines (fig. 4)

*Position on the landform:* Shoulders and summits

### **Composition**

Rozetta and similar soils: 93 percent

Dissimilar soils: 7 percent

### **Minor Components**

*Similar soils:*

- Soils that have a darker surface layer
- Soils that do not have a seasonal high water table within a depth of 6 feet



Figure 4.—The Rozetta soil in the foreground is in an area that was originally wooded.

*Dissimilar soils:*

- The somewhat poorly drained Keomah soils on summits
- The well drained Hickory soils on backslopes

***Properties and Qualities of the Rozetta Soil***

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
12.3 inches

*Content of organic matter in the surface layer:* 1 to 3  
percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal  
high water table:* 4 feet, February to April

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate  
for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Slight

***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

**279C3—Rozetta silty clay loam, 5 to 10  
percent slopes, severely eroded**

***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders

**Composition**

Rozetta and similar soils: 94 percent

Dissimilar soils: 6 percent

**Minor Components***Similar soils:*

- Soils that are calcareous within a depth of 40 inches
- Soils that contain more sand in the lower part
- Soils that have a darker surface layer

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on backslopes

**Properties and Qualities of the Rozetta Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
12 inches

*Content of organic matter in the surface layer:* 0.5 to  
1.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal  
high water table:* 4 feet, February to April

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly  
subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate  
for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very slight

**Interpretive Groups**

*Land capability classification:* 4e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

**9279B—Rozetta silt loam, terrace, 2 to 5 percent slopes****Setting**

*Landform:* Terraces

*Position on the landform:* Shoulders and summits

**Composition**

Rozetta and similar soils: 95 percent

Dissimilar soils: 5 percent

**Minor Components***Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a darker surface layer

*Dissimilar soils:*

- The poorly drained Beaucoup and Sawmill soils on flood plains

**Properties and Qualities of the Rozetta Soil**

*Parent material:* Loess or other silty material

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
12.2 inches

*Content of organic matter in the surface layer:* 1 to 3  
percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal  
high water table:* 4 feet, February to April

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate  
for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Slight

**Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

**9279C2—Rozetta silt loam, terrace, 5 to 10 percent slopes, eroded****Setting**

*Landform:* Terraces

*Position on the landform:* Shoulders or backslopes

**Composition**

Rozetta and similar soils: 90 percent

Dissimilar soils: 10 percent

**Minor Components***Similar soils:*

- Soils that do not have a seasonal high water table within a depth of 6 feet
- Soils that have a darker surface layer

*Dissimilar soils:*

- The poorly drained Beaucoup and Sawmill soils on flood plains

**Properties and Qualities of the Rozetta Soil**

*Parent material:* Loess or other silty material

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
12.2 inches

*Content of organic matter in the surface layer:* 1 to 3  
percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal  
high water table:* 4 feet, February to April

*Flooding:* None

*Accelerated erosion:* The surface layer has been  
thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate  
for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

**Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

**Sable Series**

*Taxonomic classification:* Fine-silty, mixed,  
superactive, mesic Typic Endoaquolls

**Typical Pedon (Official Series Description)**

Sable silty clay loam, 0 to 2 percent slopes; 1,281 feet south and 97 feet west of the northeast corner of sec. 14, T. 9 N., R. 3 W.; in Warren County, Illinois; USGS Kirkwood East topographic quadrangle; lat. 40 degrees 46 minutes 30 seconds N. and long. 90 degrees 41 minutes 32 seconds W., NAD 27:

Ap—0 to 8 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; firm; moderately acid; abrupt smooth boundary.

A—8 to 19 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine angular blocky structure; firm; few fine rounded

dark concretions of iron and manganese oxides; slightly acid; clear smooth boundary.

AB—19 to 23 inches; very dark gray (10YR 3/1) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine angular blocky structure; firm; few faint dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine dark rounded concretions of iron and manganese; clear smooth boundary.

Bg—23 to 29 inches; dark gray (10YR 4/1) silty clay loam; moderate fine and medium subangular blocky structure; firm; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; common fine and medium dark rounded concretions of iron and manganese oxides; common medium distinct brown (10YR 5/3) masses of iron in the matrix; few medium faint dark grayish brown (10YR 4/2) iron depletions; neutral; clear smooth boundary.

Btg1—29 to 38 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium and coarse subangular blocky structure; firm; few distinct dark gray (10YR 4/1) clay films on faces of peds; many fine and medium dark rounded concretions of iron and manganese; many medium prominent yellowish brown (10YR 5/6) masses of iron in the matrix; neutral; clear wavy boundary.

Btg2—38 to 47 inches; gray (N 5/0) silt loam; weak medium prismatic structure parting to weak medium and coarse angular blocky; firm; few prominent grayish brown (10YR 5/2) clay films on faces of peds; common fine dark rounded concretions of iron and manganese; many medium prominent yellowish brown (10YR 5/6) masses of iron in the matrix; slightly alkaline; gradual smooth boundary.

Cg—47 to 60 inches; gray (N 5/0) silt loam; massive; friable; many fine prominent yellowish brown (10YR 5/6) masses of iron in the matrix; slightly effervescent; slightly alkaline.

**Range in Characteristics**

*Thickness of the mollic epipedon:* 12 to 24 inches

*Thickness of the solum:* 40 to 60 inches

*Ap or A horizon:*

Hue—10YR to 5Y or N

Value—2 or 3

Chroma—0 or 1

Texture—silty clay loam or silt loam

*Bg or Btg horizon:*

Hue—10YR to 5Y or N

Value—3 to 6

Chroma—0 to 2

Texture—silty clay loam or silt loam

*C horizon:*

Hue—10YR to 5Y or N

Value—4 to 6

Chroma—0 to 2

Texture—silt loam or silty clay loam

## **68A—Sable silty clay loam, 0 to 2 percent slopes**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Depressions

### **Composition**

Sable and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Minor Components**

*Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 1 foot
- Soils that are calcareous in the lower part
- Soils that have less clay in the surface layer and more clay in the subsoil

*Dissimilar soils:*

- The well drained Osco soils on summits

### **Properties and Qualities of the Sable Soil**

*Parent material:* Loess

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.9 inches

*Content of organic matter in the surface layer:* 5 to 6 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface, January to May

*Ponding depth:* As much as 0.5 foot during wet periods

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Very slight

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland status:* Prime farmland where drained

*Hydric soil status:* Hydric

### **Sawmill Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls

### **Typical Pedon (Official Series Description)**

Sawmill silty clay loam, 0 to 2 percent slopes, occasionally flooded; 300 feet south and 750 feet east of the northwest corner of sec. 20, T. 15 N., R. 4 W.; in Sangamon County, Illinois; USGS New City topographic quadrangle; lat. 39 degrees 44 minutes 34 seconds N. and long. 89 degrees 34 minutes 15 seconds W., NAD 27:

- Ap—0 to 10 inches; very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) silty clay loam, gray (10YR 5/1) dry; weak fine subangular blocky structure; firm; few fine roots throughout; few subrounded pebbles 1 to 3 millimeters in diameter; slightly acid; clear smooth boundary.
- A1—10 to 17 inches; black (10YR 2/1) and very dark grayish brown (10YR 3/2) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure; firm; few fine roots between peds; few subrounded pebbles 1 to 3 millimeters in diameter; few fine prominent yellowish brown (10YR 5/6) masses of iron in the matrix; few fine concretions of manganese lining root channels and pores; neutral; clear smooth boundary.
- A2—17 to 25 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium angular blocky structure; firm; few fine roots between peds; few fine concretions of manganese lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron in the matrix; neutral; clear smooth boundary.
- AB—25 to 32 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak medium prismatic structure parting to moderate fine subangular blocky; firm; few fine roots between peds; few fine concretions of manganese lining root channels and pores; few fine prominent yellowish brown (10YR 5/6) masses of iron in the matrix; neutral; clear smooth boundary.
- Bg—32 to 40 inches; dark gray (10YR 4/1) silty clay loam; weak medium prismatic structure parting to

moderate fine and medium angular blocky; firm; few fine roots between pedis; few faint very dark gray (10YR 3/1) organic coatings on faces of pedis; few fine concretions of manganese lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) masses of iron in the matrix; slightly alkaline; clear smooth boundary.

Btg1—40 to 49 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to weak medium angular blocky; firm; common distinct dark gray (10YR 4/1) clay films on faces of pedis; few fine concretions of manganese lining root channels and pores; few fine prominent strong brown (7.5YR 5/6) and common fine distinct yellowish brown (10YR 5/4) masses of iron in the matrix; slightly alkaline; clear smooth boundary.

Btg2—49 to 58 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure; firm; few distinct gray (10YR 5/1) clay films on faces of pedis; few fine concretions of manganese lining pores; few fine prominent yellowish brown (10YR 5/6) masses of iron in the matrix; slightly alkaline; gradual smooth boundary.

Cg—58 to 65 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; very dark gray (10YR 3/1) channel linings and fillings; many medium prominent yellowish brown (10YR 5/6) masses of iron in the matrix; slightly alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 24 to 36 inches

*Thickness of the solum:* 36 to 60 inches

*Ap or A horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 or 3

Chroma—0 to 2

Texture—silty clay loam

*Bg or Btg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 or 2

Texture—silty clay loam; strata in some pedons

*Cg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay loam or clay loam; strata in some pedons

## 3107A—Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains

### Composition

Sawmill and similar soils: 99 percent

Dissimilar soils: 1 percent

### Minor Components

*Similar soils:*

- Soils that have a surface layer less than 24 inches thick
- Soils that are calcareous throughout
- Soils that contain more clay

*Dissimilar soils:*

- The well drained Landes soils on summits

### Properties and Qualities of the Sawmill Soil

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 13 inches

*Content of organic matter in the surface layer:* 4 to 5 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface, January to May

*Frequency and most likely period of flooding:*

Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Very slight

### Interpretive Groups

*Land capability classification:* 3w

*Prime farmland status:* Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Hydric

**3107+—Sawmill silt loam, 0 to 2 percent slopes, frequently flooded, overwash****Setting**

*Landform:* Flood plains

**Composition**

Sawmill and similar soils: 98 percent  
Dissimilar soils: 2 percent

**Minor Components***Similar soils:*

- Soils that have a surface layer of silty clay loam
- Soils that are calcareous throughout
- Soils that contain more clay

*Dissimilar soils:*

- Somewhat poorly drained soils in the slightly higher positions on the landform

**Properties and Qualities of the Sawmill Soil**

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
12.4 inches

*Content of organic matter in the surface layer:* 4 to 5  
percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal  
high water table:* At the surface, January to May

*Frequency and most likely period of flooding:*  
Frequent, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for  
concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

**Interpretive Groups**

*Land capability classification:* 3w

*Prime farmland status:* Prime farmland where drained  
and either protected from flooding or not  
frequently flooded during the growing season

*Hydric soil status:* Hydric

**7107A—Sawmill silty clay loam, 0 to 2 percent slopes, rarely flooded****Setting**

*Landform:* Flood plains

**Composition**

Sawmill and similar soils: 90 percent  
Dissimilar soils: 10 percent

**Minor Components***Similar soils:*

- Soils that have a surface layer less than 24 inches thick
- Soils that are calcareous throughout
- Soils that contain more clay

*Dissimilar soils:*

- The well drained Landes soils on summits

**Properties and Qualities of the Sawmill Soil**

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About  
11.2 inches

*Content of organic matter in the surface layer:* 4 to 5  
percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal  
high water table:* At the surface, January to May

*Ponding depth:* As much as 0.5 foot during wet  
periods

*Frequency and most likely period of flooding:* Rare,  
January to May

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for  
concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Very slight

**Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland status:* Prime farmland where drained  
*Hydric soil status:* Hydric

## Seaton Series

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludalfs

### Typical Pedon

Seaton silt loam, 2 to 5 percent slopes; 660 feet north and 30 feet east of the center of sec. 8, T. 11 N., R. 4 W.; in Whiteside County, Illinois; USGS Rozetta topographic quadrangle; lat. 40 degrees 57 minutes 44 seconds N. and long. 90 degrees 52 minutes 24 seconds W., NAD 27:

- A—0 to 4 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine granular structure; very friable; slightly acid; clear smooth boundary.
- E—4 to 9 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak thin platy structure; friable; slightly acid; clear smooth boundary.
- BE—9 to 15 inches; yellowish brown (10YR 5/4) silt loam; weak fine and medium subangular blocky structure; friable; few faint dark brown (10YR 3/3) clay films and common faint light yellowish brown (10YR 6/4) silt coatings on faces of peds; moderately acid; clear smooth boundary.
- Bt1—15 to 21 inches; yellowish brown (10YR 5/4) silt loam; moderate fine and medium subangular blocky structure; friable; few faint dark brown (10YR 3/3) clay films and few faint light yellowish brown (10YR 6/4) silt coatings on faces of peds; moderately acid; clear smooth boundary.
- Bt2—21 to 27 inches; brown (7.5YR 5/4) silt loam; moderate fine and medium subangular blocky structure; firm; few faint dark brown (10YR 3/3) clay films and few faint light yellowish brown (10YR 6/4) silt coatings on faces of peds; strongly acid; clear smooth boundary.
- Bt3—27 to 34 inches; yellowish brown (10YR 5/4) silt loam; moderate medium angular blocky structure; firm; common faint dark brown (10YR 3/3) clay films on faces of peds; strongly acid; gradual smooth boundary.
- Bt4—34 to 44 inches; brown (10YR 5/3) silt loam; weak medium and coarse prismatic structure; firm; few faint dark brown (10YR 3/3) clay films and few faint light yellowish brown (10YR 6/4) silt coatings on faces of peds; moderately acid; gradual smooth boundary.
- BC—44 to 70 inches; brown (10YR 4/3) silt loam; weak very coarse prismatic structure; friable; few faint brown (7.5YR 4/2) clay films on vertical faces of peds; moderately acid; gradual smooth boundary.
- C—70 to 95 inches; light brownish gray (10YR 6/2)

and brown (10YR 5/3) silt loam; massive; friable; common fine faint dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/6) masses of iron; massive; friable; slightly acid.

### Range in Characteristics

*Thickness of the loess:* More than 80 inches

*Thickness of the solum:* 42 to more than 60 inches

*Ap or A horizon:*

Hue—10YR

Value—2 to 4

Chroma—2 or 3

Texture—silt loam or silt

Reaction—moderately acid to neutral

*E horizon (if it occurs):*

Hue—10YR

Value—4 to 6

Chroma—2 to 4

Texture—silt loam or silt

Reaction—moderately acid to neutral

*Bt horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 or 5

Chroma—3 to 6

Texture—silt loam or silt

Reaction—very strongly acid to neutral

*BC horizon (if it occurs):*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—3 or 4

*C horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam or silt

Reaction—moderately acid to moderately alkaline

## 274B—Seaton silt loam, 2 to 5 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### Composition

Seaton and similar soils: 92 percent

Dissimilar soils: 8 percent

### Minor Components

*Similar soils:*

- Soils that have a darker surface layer

- Soils that have a seasonal high water table within a depth of 6 feet

*Dissimilar soils:*

- The somewhat poorly drained Joy soils on summits
- The well drained Thebes soils on shoulders

**Properties and Qualities of the Seaton Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 12.7 inches

*Content of organic matter in the surface layer:* 1 to 3 percent

*Shrink-swell potential:* Low

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Slight

**Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric

**274C2—Seaton silt loam, 5 to 10 percent slopes, eroded**

**Setting**

*Landform:* Ground moraines

*Position on the landform:* Shoulders

**Composition**

Seaton and similar soils: 97 percent

Dissimilar soils: 3 percent

**Minor Components**

*Similar soils:*

- Soils that have a darker surface layer
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that are calcareous within a depth of 40 inches

*Dissimilar soils:*

- The well drained Thebes soils on backslopes

**Properties and Qualities of the Seaton Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 15.4 inches

*Content of organic matter in the surface layer:* 0.5 to 2.0 percent

*Shrink-swell potential:* Low

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

**Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

**274D—Seaton silt loam, 10 to 18 percent slopes**

**Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

**Composition**

Seaton and similar soils: 97 percent

Dissimilar soils: 3 percent

**Minor Components**

*Similar soils:*

- Soils that have a darker surface layer
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that are calcareous within a depth of 40 inches
- Soils in which the lower part of the profile formed in glacial till

*Dissimilar soils:*

- The well drained Thebes soils on backslopes

**Properties and Qualities of the Seaton Soil**

*Parent material:* Loess

*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:*  
 Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 12.9 inches  
*Content of organic matter in the surface layer:* 1 to 3 percent  
*Shrink-swell potential:* Low  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* 3e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

## **943D3—Seaton-Timula silt loams, 10 to 18 percent slopes, severely eroded**

### **Setting**

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

### **Composition**

Seaton and similar soils: 45 percent  
 Timula and similar soils: 40 percent  
 Dissimilar soils: 15 percent

### **Minor Components**

#### *Similar soils:*

- Soils that contain more clay in the subsoil
- Soils that are calcareous throughout

#### *Dissimilar soils:*

- The somewhat poorly drained Joy soils on summits
- The well drained Thebes soils on shoulders

### **Properties and Qualities of the Seaton Soil**

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:*  
 Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 12.6 inches

*Content of organic matter in the surface layer:* 0.5 to 1.0 percent  
*Shrink-swell potential:* Low  
*Flooding:* None  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and moderate for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

### **Properties and Qualities of the Timula Soil**

*Parent material:* Loess  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:*  
 Moderate  
*Permeability below a depth of 60 inches:* Moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 12.1 inches  
*Content of organic matter in the surface layer:* 0.5 to 1.0 percent  
*Shrink-swell potential:* Low  
*Flooding:* None  
*Accelerated erosion:* The surface layer is mostly subsoil material.  
*Potential for frost action:* High  
*Hazard of corrosion:* Low for steel and low for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Slight

### **Interpretive Groups**

*Land capability classification:* Seaton—6e; Timula—6e  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Seaton—not hydric; Timula—not hydric

## **943G—Seaton-Timula silt loams, 35 to 60 percent slopes**

### **Setting**

*Landform:* Ground moraines  
*Position on the landform:* Backslopes

### **Composition**

Seaton and similar soils: 50 percent  
 Timula and similar soils: 40 percent  
 Dissimilar soils: 10 percent

### Minor Components

#### Similar soils:

- Soils that contain more clay in the subsoil
- Soils that are calcareous throughout

#### Dissimilar soils:

- The well drained Marseilles soils on footslopes
- The well drained Thebes soils on backslopes
- The somewhat poorly drained Orion soils in drainageways

#### Properties and Qualities of the Seaton Soil

Parent material: Loess

Drainage class: Well drained

Slowest permeability within a depth of 40 inches:  
Moderate

Permeability below a depth of 60 inches: Moderate

Depth to restrictive feature: More than 80 inches

Available water capacity to a depth of 60 inches: About  
12.7 inches

Content of organic matter in the surface layer: 1 to 3  
percent

Shrink-swell potential: Low

Flooding: None

Potential for frost action: High

Hazard of corrosion: Low for steel and moderate for  
concrete

Surface runoff class: High

Susceptibility to water erosion: High

Susceptibility to wind erosion: Slight

#### Properties and Qualities of the Timula Soil

Parent material: Loess

Drainage class: Well drained

Slowest permeability within a depth of 40 inches:  
Moderate

Permeability below a depth of 60 inches: Moderate

Depth to restrictive feature: More than 80 inches

Available water capacity to a depth of 60 inches: About  
12.2 inches

Content of organic matter in the surface layer: 1 to 2  
percent

Shrink-swell potential: Low

Flooding: None

Potential for frost action: High

Hazard of corrosion: Low for steel and low for concrete

Surface runoff class: High

Susceptibility to water erosion: High

Susceptibility to wind erosion: Slight

### Interpretive Groups

Land capability classification: Seaton—7e; Timula—7e

Prime farmland status: Not prime farmland

Hydric soil status: Seaton—not hydric; Timula—not  
hydric

### Sparta Series

Taxonomic classification: Sandy, mixed, mesic Entic  
Hapludolls

#### Typical Pedon

Sparta loamy sand, 0 to 2 percent slopes; 2,150 feet north and 1,939 feet east of the southwest corner of sec. 20, T. 23 N., R. 10 E.; in Ogle County, Illinois; USGS Daysville topographic quadrangle; lat. 41 degrees 57 minutes 58 seconds N. and long. 89 degrees 22 minutes 13 seconds W., NAD 27:

A1—0 to 10 inches; very dark gray (10YR 3/1) loamy sand, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure parting to moderate very fine granular; very friable; many fine roots throughout; neutral; clear smooth boundary.

A2—10 to 17 inches; very dark grayish brown (10YR 3/2) loamy sand, grayish brown (10YR 5/2) dry; very weak medium and coarse subangular blocky structure parting to moderate very fine granular; very friable; common fine roots throughout; neutral; clear smooth boundary.

Bw1—17 to 24 inches; dark yellowish brown (10YR 5/4) sand; weak medium and coarse subangular blocky structure; very friable; few fine roots throughout; few distinct very dark grayish brown (10YR 3/2) organic coatings and few faint dark brown (10YR 3/3) clay bridges on sand grains; strongly acid; clear smooth boundary.

Bw2—24 to 31 inches; brown (7.5YR 5/4) sand; weak medium and coarse subangular blocky structure; very friable; few fine roots throughout; moderately acid; clear smooth boundary.

C—31 to 60 inches; reddish yellow (7.5YR 6/6) sand; single grain; loose; moderately acid.

#### Range in Characteristics

Thickness of the mollic epipedon: 10 to 24 inches

Ap or A horizon:

Hue—7.5YR or 10YR

Value—2 or 3

Chroma—1 or 2

Texture—fine sand, sand, loamy fine sand, or loamy sand

Bw horizon:

Hue—7.5YR or 10YR

Value—3 to 6  
 Chroma—3 to 6  
 Texture—fine sand, sand, loamy sand, or loamy fine sand

*C horizon:*

Hue—7.5YR or 10YR  
 Value—4 to 6  
 Chroma—3 to 6  
 Texture—fine sand or sand

**88B—Sparta loamy sand, 1 to 6 percent slopes**

**Setting**

*Landform:* Stream terraces; dunes on terraces  
*Position on the landform:* Summits and shoulders

**Composition**

Sparta and similar soils: 91 percent  
 Dissimilar soils: 9 percent

**Minor Components**

*Similar soils:*

- Soils that have a surface layer more than 24 inches thick
- Soils that do not have textural bands in the lower part
- Soils that have slopes of more than 6 percent

*Dissimilar soils:*

- The well drained Dickinson soils on shoulders and summits
- The somewhat poorly drained Hoopston soils on footslopes

**Properties and Qualities of the Sparta Soil**

*Parent material:* Outwash and/or eolian sands  
*Drainage class:* Excessively drained  
*Slowest permeability within a depth of 40 inches:* Moderately rapid  
*Permeability below a depth of 60 inches:* Rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity to a depth of 60 inches:* About 5 inches  
*Content of organic matter in the surface layer:* 1 to 2 percent  
*Shrink-swell potential:* Low  
*Flooding:* None  
*Potential for frost action:* Low  
*Hazard of corrosion:* Low for steel and moderate for concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Slight  
*Susceptibility to wind erosion:* High

**Interpretive Groups**

*Land capability classification:* 4s  
*Prime farmland status:* Not prime farmland  
*Hydric soil status:* Not hydric

**Stronghurst Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs

**Typical Pedon**

Stronghurst silt loam, 0 to 2 percent slopes; 582 feet south and 78 feet west of the northeast corner of sec. 23, T. 16 N., R. 8 E.; in Bureau County, Illinois; USGS Wyand topographic quadrangle; lat. 41 degrees 16 minutes 32 seconds N. and long. 89 degrees 31 minutes 47 seconds W., NAD 27:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; very friable; few fine roots; common fine black (5YR 2/1) accumulations of iron and manganese; neutral; abrupt smooth boundary.

E—8 to 13 inches; brown (10YR 5/3) silt loam; moderate thin and very thin platy structure; friable; few fine roots; common fine faint light brownish gray (10YR 6/2) and common fine distinct yellowish brown (10YR 5/6 and 5/8) redoximorphic features; common fine black (5YR 2/1) accumulations of iron and manganese; strongly acid; clear smooth boundary.

Bt1—13 to 24 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; many distinct grayish brown (10YR 5/2) clay films and many distinct light gray (10YR 7/2) silt coatings on faces of peds; common fine distinct light brownish gray (10YR 6/2), yellowish brown (10YR 5/8), and strong brown (7.5YR 5/6) redoximorphic features; common fine black (10YR 2/1) accumulations of iron and manganese; strongly acid; clear smooth boundary.

Bt2—24 to 30 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2), yellowish brown (10YR 5/8), and strong brown (7.5YR 5/6) redoximorphic features; common fine black (10YR 2/1) accumulations of iron and manganese; strongly acid; clear smooth boundary.

Bt3—30 to 38 inches; yellowish brown (10YR 5/4) silty

clay loam; moderate medium prismatic structure; friable; few fine roots; common distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/8), strong brown (7.5YR 5/6), and light brownish gray (2.5Y 6/2) redoximorphic features; common fine black (10YR 2/1) accumulations of iron and manganese; strongly acid; clear smooth boundary.

**Bt4**—38 to 47 inches; yellowish brown (10YR 5/4) silty clay loam; moderate coarse prismatic structure; friable; few fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2 and 2.5Y 6/2) and yellowish brown (10YR 5/8) redoximorphic features; common fine black (10YR 2/1) accumulations of iron and manganese; strongly acid; gradual smooth boundary.

**C**—47 to 60 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; common fine distinct strong brown (7.5YR 5/6) and light brownish gray (2.5Y 6/2) redoximorphic features; common fine black (10YR 2/1) accumulations of iron and manganese; moderately acid.

### Range in Characteristics

*Thickness of the solum:* More than 42 inches

*Depth to the top of the argillic horizon:* 6 to 24 inches

*Ap or A horizon:*

Value—3 to 6

Chroma—1 or 2

*E horizon:*

Value—4 to 6

Chroma—2 or 3

*Bt or Btg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay loam or silt loam

*C or Cg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 4

Texture—silt loam or silty clay loam

## 278A—Stronghurst silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### Composition

Stronghurst and similar soils: 97 percent

Dissimilar soils: 3 percent

### Minor Components

*Similar soils:*

- Soils that have a darker surface layer
- Soils that have an average of more than 35 percent clay in the subsoil
- Soils that have a seasonal high water table within a depth of 1 foot

*Dissimilar soils:*

- The well drained Fayette and Greenbush soils on shoulders
- The well drained Rozetta soils on summits

### Properties and Qualities of the Stronghurst Soil

*Parent material:* Loess

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.9 inches

*Content of organic matter in the surface layer:* 1 to 3 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot, January to May

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 2w

*Prime farmland status:* Prime farmland where drained

*Hydric soil status:* Not hydric

### Sylvan Series

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Typic Hapludalfs

### Typical Pedon

Sylvan silt loam, 10 to 18 percent slopes; 140 feet east

and 100 feet south of the center of sec. 34, T. 17 N., R. 8 E.; in Bureau County, Illinois; USGS Buda Northeast topographic quadrangle; lat. 41 degrees 25 minutes 55 seconds N. and long. 89 degrees 33 minutes 34 seconds W., NAD 27:

- A—0 to 5 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium and fine granular structure; friable; many very fine and fine roots; neutral; clear smooth boundary.
- E—5 to 10 inches; mixed dark grayish brown (10YR 4/2) and brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak medium platy structure parting to moderate medium granular; friable; many very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings and light brownish gray (10YR 6/2) silt coatings on faces of peds; slightly acid; clear smooth boundary.
- Bt1—10 to 15 inches; brown (10YR 4/3) silty clay loam; moderate fine and very fine subangular blocky structure; friable; common very fine roots; few distinct dark brown (10YR 3/3) clay films and very few distinct light brownish gray (10YR 6/2) silt coatings on faces of peds; few fine dark accumulations of iron and manganese; neutral; clear smooth boundary.
- Bt2—15 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium and fine subangular blocky structure; friable; common very fine roots; common distinct brown (7.5YR 4/4) clay films on faces of peds; few fine dark accumulations of iron and manganese; slightly acid; clear smooth boundary.
- Bt3—21 to 27 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; few distinct dark yellowish brown (10YR 4/4) clay films and very few distinct light brownish gray (10YR 6/2) silt coatings on faces of peds; slightly effervescent; few fine dark accumulations of iron and manganese; neutral; clear smooth boundary.
- Bt4—27 to 35 inches; yellowish brown (10YR 5/4) silt loam; common fine distinct yellowish brown (10YR 5/6) and few fine distinct light brownish gray (10YR 6/2) relict mottles; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; few prominent light gray (10YR 7/2) silt coatings and common faint brown (7.5YR 4/4) clay films on faces of peds; few fine dark accumulations of iron and manganese; neutral; clear smooth boundary.
- BC—35 to 40 inches; yellowish brown (10YR 5/4) silt loam; common medium distinct light brownish gray

(10YR 6/2) mottles; weak coarse prismatic structure parting to weak coarse subangular blocky; friable; few very fine roots; few faint dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine dark accumulations of iron and manganese; few medium light-colored concretions of calcium carbonate; slightly effervescent; slightly alkaline; gradual wavy boundary.

- C1—40 to 54 inches; light yellowish brown (2.5Y 6/4) silt loam; common medium distinct light brownish gray (10YR 6/2) and few fine distinct brownish yellow (10YR 6/6) mottles; appears massive but has planes of weakness; friable; few fine dark accumulations of iron and manganese; common coarse light-colored concretions of calcium carbonate; strongly effervescent; slightly alkaline; gradual wavy boundary.

- C2—54 to 60 inches; brownish yellow (10YR 6/6) silt loam; few medium prominent light brownish gray (10YR 6/2) mottles; massive; friable; few fine dark accumulations of iron and manganese; violently effervescent; moderately alkaline.

### Range in Characteristics

*Depth to carbonates:* 22 to 40 inches

*Thickness of the solum:* 22 to 40 inches

*Ap or A horizon:*

Value—4 to 6

Chroma—2 to 4

Texture—silt loam

*E horizon:*

Hue—10YR

Value—4 or 5

Chroma—2 to 4

*Bt horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam or silt loam

*C and/or Cg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silt loam or silt

## 19D2—Sylvan silt loam, 10 to 18 percent slopes, eroded

### Setting

*Landform:* Ground moraines

*Position on the landform:* Backslopes

**Composition**

Sylvan and similar soils: 96 percent

Dissimilar soils: 4 percent

**Minor Components***Similar soils:*

- Soils in which the subsoil is not calcareous above a depth of 40 inches
- Soils that have slopes of less than 10 percent
- Soils that are underlain by glacial till within a depth of 60 inches

*Dissimilar soils:*

- The well drained Thebes soils on backslopes
- The somewhat poorly drained Atlas soils on shoulders and backslopes

**Properties and Qualities of the Sylvan Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 12 inches

*Content of organic matter in the surface layer:* 1 to 2 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

**Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

**19D3—Sylvan silty clay loam, 10 to 18 percent slopes, severely eroded****Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

**Composition**

Sylvan and similar soils: 90 percent

Dissimilar soils: 10 percent

**Minor Components***Similar soils:*

- Soils in which the subsoil is not calcareous above a depth of 40 inches
- Soils that have slopes of less than 10 percent
- Soils that are underlain by glacial till within a depth of 60 inches

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on backslopes
- The well drained Thebes soils on backslopes

**Properties and Qualities of the Sylvan Soil**

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 12.2 inches

*Content of organic matter in the surface layer:* 0.5 to 1.0 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very slight

**Interpretive Groups**

*Land capability classification:* 4e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

**962D3—Sylvan-Bold complex, 10 to 18 percent slopes, severely eroded****Setting**

*Landform:* Ground moraines

*Position on the landform:* Backslopes

**Composition**

Sylvan and similar soils: 60 percent

-Bold and similar soils: 30 percent

Dissimilar soils: 10 percent

### Minor Components

#### Similar soils:

- Soils that are underlain by clayey glacial till within a depth of 60 inches

#### Dissimilar soils:

- The somewhat poorly drained Orion and Radford soils in drainageways
- The somewhat poorly drained Atlas soils on backslopes

#### Properties and Qualities of the Sylvan Soil

Parent material: Loess

Drainage class: Well drained

Slowest permeability within a depth of 40 inches:  
Moderate

Permeability below a depth of 60 inches: Moderate

Depth to restrictive feature: More than 80 inches

Available water capacity to a depth of 60 inches: About  
12.1 inches

Content of organic matter in the surface layer: 0.5 to  
1.0 percent

Shrink-swell potential: Moderate

Flooding: None

Accelerated erosion: The surface layer is mostly  
subsoil material.

Potential for frost action: High

Hazard of corrosion: Moderate for steel and moderate  
for concrete

Surface runoff class: Medium

Susceptibility to water erosion: High

Susceptibility to wind erosion: Very slight

#### Properties and Qualities of the Bold Soil

Parent material: Loess

Drainage class: Well drained

Slowest permeability within a depth of 40 inches:  
Moderate

Permeability below a depth of 60 inches: Moderate

Depth to restrictive feature: More than 80 inches

Available water capacity to a depth of 60 inches: About  
13.2 inches

Content of organic matter in the surface layer: 0.5 to  
1.0 percent

Shrink-swell potential: Low

Flooding: None

Accelerated erosion: The surface layer is mostly  
subsoil material.

Potential for frost action: High

Hazard of corrosion: Low for steel and low for concrete

Surface runoff class: Medium

Susceptibility to water erosion: High

Susceptibility to wind erosion: Slight

### Interpretive Groups

Land capability classification: Sylvan—4e; Bold—4e

Prime farmland status: Not prime farmland

Hydric soil status: Sylvan—not hydric; Bold—not  
hydric

### Thebes Series

Taxonomic classification: Fine-silty, mixed,  
superactive, mesic Typic Hapludalfs

#### Typical Pedon (Official Series Description)

Thebes silt loam, 5 to 10 percent slopes; 1,060 feet west and 1,800 feet south of the northeast corner of sec. 3, T. 13 N., R. 3 W.; in Mercer County, Illinois; USGS Aledo East topographic quadrangle; lat. 41 degrees 09 minutes 02 seconds N. and long. 90 degrees 42 minutes 30 seconds W., NAD 27:

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; slightly acid; clear smooth boundary.

Bt1—9 to 14 inches; yellowish brown (10YR 5/4) silty clay loam; weak fine and medium subangular blocky structure; friable; few distinct brown (10YR 5/3) clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—14 to 26 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear wavy boundary.

Bt3—26 to 31 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films; few medium distinct pale brown (10YR 6/3) iron depletions and few medium distinct strong brown (7.5YR 4/6) iron concentrations; common dark iron-manganese stains; slightly acid; clear wavy boundary.

2Bt4—31 to 40 inches; dark yellowish brown (10YR 4/4) loam; moderate medium subangular blocky structure; friable; few distinct brown (10YR 4/3) clay films on faces of peds; common coarse distinct pale brown (10YR 6/3) iron depletions and common coarse distinct strong brown (7.5YR 4/6) iron concentrations; common dark iron-manganese stains; slightly acid; clear wavy boundary.

2BC—40 to 50 inches; yellowish brown (10YR 5/4) and brown (7.5YR 4/4), stratified sandy loam and

loamy sand; weak medium subangular blocky structure; friable; few medium distinct pale brown (10YR 6/3) iron depletions; moderately acid; clear wavy boundary.

2C—50 to 80 inches; dark yellowish brown (10YR 4/4), stratified loamy sand and sand; massive; friable; common medium and coarse distinct brown (7.5YR 4/4) iron concentrations; slightly acid.

### Range in Characteristics

*Thickness of the loess or silty material:* 20 to 40 inches

*Thickness of the solum:* 25 to 55 inches

*Ap or A horizon:*

Hue—10YR

Value—3 to 5

Chroma—1 to 4

Texture—silt loam or silty clay loam

Reaction—slightly acid or neutral

*E horizon (if it occurs):*

Hue—10YR

Value—4 or 5

Chroma—3 to 6

Texture—silt loam

Reaction—moderately acid or slightly acid

*Bt horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam or silt loam

Reaction—very strongly acid to slightly acid

*2Bt horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—4 to 6

Texture—loam, sandy loam, fine sandy loam, sandy clay loam, or clay loam

Reaction—very strongly acid to slightly acid

*2C horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—loamy sand, fine sand, loamy fine sand, or sand; strata in some pedons

Reaction—very strongly acid to slightly acid

## 212C—Thebes silt loam, 5 to 10 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### Composition

Thebes and similar soils: 100 percent

### Minor Components

*Similar soils:*

- Soils that have less than 20 inches of loess at the surface
- Soils that contain more sand throughout
- Soils that are underlain by clayey glacial till

### Properties and Qualities of the Thebes Soil

*Parent material:* Loess over eolian sands

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 8.9 inches

*Content of organic matter in the surface layer:* 2 to 3 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 3e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

## 212D3—Thebes silty clay loam, 10 to 18 percent slopes, severely eroded

### Setting

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### Composition

Thebes and similar soils: 100 percent

### Minor Components

*Similar soils:*

- Soils that have less than 20 inches of loess at the surface
- Soils that contain more sand throughout
- Soils that are underlain by clayey glacial till

### **Properties and Qualities of the Thebes Soil**

*Parent material:* Loess over eolian sands

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 9.8 inches

*Content of organic matter in the surface layer:* 0.5 to 1.0 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very slight

### **Interpretive Groups**

*Land capability classification:* 4e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

### **Thorp Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls

#### **Typical Pedon (Official Series Description)**

Thorp silt loam, 0 to 2 percent slopes; 990 feet north and 2,240 feet west of the southeast corner of sec. 27, T. 36 N., R. 5 E.; in La Salle County, Illinois; USGS Sheridan topographic quadrangle; lat. 41 degrees 33 minutes 20 seconds N. and long. 88 degrees 38 minutes 10 seconds W., NAD 27:

Ap—0 to 7 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate very fine granular structure; friable; common very fine roots throughout; neutral; abrupt smooth boundary.

A—7 to 14 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; common very fine roots throughout; slightly acid; abrupt smooth boundary.

Eg—14 to 19 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak fine granular structure; friable; common very fine roots throughout; few fine prominent yellowish brown (10YR 5/6) iron masses in the matrix; moderately acid; clear smooth boundary.

Btg1—19 to 21 inches; mixed dark gray (10YR 4/1) and dark grayish brown (2.5Y 4/2) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; firm; common very fine roots between peds; many distinct very dark gray (10YR 3/1) clay films on faces of peds; few fine prominent yellowish brown (10YR 5/6) iron masses in the matrix; moderately acid; clear smooth boundary.

Btg2—21 to 33 inches; mixed gray (5Y 5/1) and olive gray (5Y 4/2) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; many prominent very dark gray (10YR 3/1) clay films on faces of peds; many fine prominent yellowish brown (10YR 5/6) iron masses in the matrix; moderately acid; clear smooth boundary.

Btg3—33 to 43 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine prismatic structure parting to moderate fine angular and subangular blocky; firm; many distinct very dark gray (10YR 3/1) and dark gray (N 4/0) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) and common fine distinct light yellowish brown (2.5Y 6/4) iron masses in the matrix; slightly acid; clear smooth boundary.

2Btg4—43 to 50 inches; mixed grayish brown (10YR 5/2) and yellowish brown (10YR 5/6) sandy clay loam; weak coarse subangular blocky structure; friable; few distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; neutral; clear smooth boundary.

2Cg—50 to 65 inches; mixed grayish brown (10YR 5/2) and yellowish brown (10YR 5/8) sandy loam; massive; friable in the sandy loam portion; thin strata of sand; single grain; loose in the sand portion; strongly effervescent; moderately alkaline.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 10 to 14 inches

*Thickness of the loess or silty material:* 35 to 54 inches

*Depth to free carbonates:* More than 40 inches

*Thickness of the solum:* 40 to 65 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*Eg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 or 2

Texture—silt loam

**Btg horizon:**

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam or silt loam

**2Btg horizon:**

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 8

Texture—sandy clay loam, loam, clay loam, silt loam, or sandy loam; strata in some pedons

**2Cg horizon:**

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 8

Texture—stratified sandy loam, sandy clay loam, clay loam, loam, silt loam, silty clay loam, sand, or loamy sand

**206A—Thorp silt loam, 0 to 2 percent slopes****Setting***Landform:* Outwash plains*Position on the landform:* Depressions**Composition**

Thorp and similar soils: 94 percent

Dissimilar soils: 6 percent

**Minor Components***Similar soils:*

- Soils that have a thicker dark surface layer
- Soils that contain more clay throughout

*Dissimilar soils:*

- The poorly drained Booker soils on lake plains
- The well drained Plano soils on shoulders

**Properties and Qualities of the Thorp Soil***Parent material:* Loess over outwash*Drainage class:* Poorly drained*Slowest permeability within a depth of 40 inches:* Slow*Permeability below a depth of 60 inches:* Moderately rapid*Depth to restrictive feature:* More than 80 inches*Available water capacity to a depth of 60 inches:* About 11 inches*Content of organic matter in the surface layer:* 4 to 6 percent*Shrink-swell potential:* Moderate*Depth and months of the highest apparent seasonal high water table:* At the surface, January to May*Ponding depth:* As much as 0.5 foot during wet periods*Flooding:* None*Potential for frost action:* High*Hazard of corrosion:* High for steel and moderate for concrete*Surface runoff class:* Negligible*Susceptibility to water erosion:* Slight*Susceptibility to wind erosion:* Slight**Interpretive Groups***Land capability classification:* 2w*Prime farmland status:* Prime farmland where drained*Hydric soil status:* Hydric**Timula Series***Taxonomic classification:* Coarse-silty, mixed, superactive, mesic Typic Eutrudepts**Typical Pedon**

Timula silt loam, in an area of Seaton-Timula silt loams, 18 to 30 percent slopes, eroded; 1,080 feet east and 2,000 feet south of the northwest corner of sec. 29, T. 22 N., R. 5 E.; in Whiteside County, Illinois; USGS Morrison topographic quadrangle; lat. 41 degrees 52 minutes 03 seconds N. and long. 89 degrees 57 minutes 19 seconds W., NAD 27:

Ap—0 to 6 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure parting to weak medium granular; friable; few fine roots throughout; few dark yellowish brown (10YR 4/4) fragments of subsoil material; neutral; abrupt smooth boundary.

Bw1—6 to 12 inches; yellowish brown (10YR 5/4) silt loam; moderate medium and fine subangular blocky structure; friable; few fine roots between peds; few faint brown (10YR 4/3) organic coatings and dark yellowish brown (10YR 4/4) films on faces of peds; neutral; clear smooth boundary.

Bw2—12 to 23 inches; yellowish brown (10YR 5/4) silt loam; weak coarse and medium subangular blocky structure; friable; few fine roots between peds; common faint dark yellowish brown (10YR 4/4) films on faces of peds; neutral; clear smooth boundary.

BC—23 to 28 inches; yellowish brown (10YR 5/4) silt loam; weak coarse angular blocky structure; friable; few fine distinct yellowish brown (10YR 5/6) iron oxide masses in the matrix and light brownish gray (10YR 6/2) iron depletions; slightly effervescent; slightly alkaline; gradual smooth boundary.

C—28 to 60 inches; light yellowish brown (2.5Y 6/4)

silt loam; massive; friable; common fine prominent yellowish brown (10YR 5/6) iron masses in the matrix and common fine distinct light gray (10YR 7/2) iron depletions; few fine soft masses of iron; strongly effervescent; slightly alkaline.

### Range in Characteristics

*Thickness of the solum:* 18 to 40 inches

*Depth to carbonates:* 18 to 40 inches

*Ap or A horizon:*

Hue—10YR

Value—3 or 4

Chroma—1 to 3

Texture—silt loam or silt

*E horizon (if it occurs):*

Hue—10YR

Value—4 or 5

Chroma—2 to 4

Texture—silt loam or silt

*Bw horizon:*

Hue—10YR

Value—4 to 6

Chroma—3 to 6

Texture—silt loam or silt

*BC, Bk, or C horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—5 or 6

Chroma—2 to 4

Texture—silt loam or silt

## 911G—Timula-Hickory silt loams, 35 to 60 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### Composition

Timula and similar soils: 55 percent

Hickory and similar soils: 30 percent

Dissimilar soils: 15 percent

### Minor Components

*Similar soils:*

- Soils that are similar to the Timula soil but are not calcareous within a depth of 40 inches
- Soils that are similar to the Hickory soil but are calcareous within a depth of 40 inches

*Dissimilar soils:*

- The well drained Marseilles soils on backslopes

### Properties and Qualities of the Timula Soil

*Parent material:* Loess

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 11.7 inches

*Content of organic matter in the surface layer:* 1 to 2 percent

*Shrink-swell potential:* Low

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and low for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

### Properties and Qualities of the Hickory Soil

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*  
Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 10.2 inches

*Content of organic matter in the surface layer:* 1 to 2 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and moderate for concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* Timula—7e; Hickory—7e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Timula—not hydric; Hickory—not hydric

### Titus Series

*Taxonomic classification:* Fine, smectitic, mesic Vertic Endoaquolls

### Typical Pedon

Titus silty clay loam, 0 to 2 percent slopes, frequently flooded; 20 feet west and 10 feet north of the

southeast corner of sec. 28, T. 20 N., R. 3 E.; in Henry County, Illinois; USGS Erie Northwest topographic quadrangle; lat. 41 degrees 41 minutes 10 seconds N. and long. 90 degrees 09 minutes 01 second W., NAD 27:

- Ap—0 to 8 inches; black (10YR 2/1) silty clay loam, very dark gray (10YR 3/1) dry; weak medium subangular blocky structure parting to moderate fine granular; friable; few fine roots throughout; neutral; abrupt smooth boundary.
- A1—8 to 17 inches; very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium and fine subangular blocky structure; friable; few fine roots throughout; many faint black (10YR 2/1) organic coatings on faces of peds; few prominent dark brown (7.5YR 3/4) concretions of iron throughout; neutral; clear smooth boundary.
- A2—17 to 22 inches; very dark gray (10YR 3/1) silty clay loam, dark gray (10YR 4/1) dry; strong medium and fine angular blocky structure; firm; few fine roots between peds; many faint black (10YR 2/1) organic coatings on faces of peds; few prominent reddish brown (5YR 4/4) soft masses of iron and few prominent dark brown (7.5YR 3/4) concretions of iron throughout; neutral; clear smooth boundary.
- Bg1—22 to 32 inches; dark gray (10YR 4/1) silty clay; strong medium and fine prismatic structure; firm; few faint very dark gray (10YR 3/1) organic coatings and few prominent dark brown (7.5YR 3/4) coatings of iron-manganese on faces of peds; few prominent reddish brown (5YR 4/4) soft masses of iron and dark brown (7.5YR 3/4) concretions of iron in the matrix; few fine prominent strong brown (7.5YR 5/6) iron masses in the matrix; neutral; clear smooth boundary.
- Bg2—32 to 46 inches; dark gray (10YR 4/1) silty clay loam; moderate medium prismatic structure parting to moderate coarse subangular blocky; firm; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; strata of mixed dark gray (10YR 4/1) and strong brown (7.5YR 5/6) silty clay loam 1 inch thick at a depth of 39 inches; common fine prominent strong brown (7.5YR 5/6) iron masses in the matrix; neutral; clear smooth boundary.
- Bg3—46 to 52 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate coarse and medium subangular blocky structure; friable; few distinct pressure faces; common fine prominent strong brown (7.5YR 4/6 and 5/6) and yellowish brown (10YR 5/4) iron masses in the matrix; neutral; clear smooth boundary.
- BCg—52 to 60 inches; stratified grayish brown (2.5Y

5/2) silty clay loam and clay loam; weak coarse angular blocky structure; friable; few fine distinct dark gray (10YR 4/1) iron depletions and common medium prominent strong brown (7.5YR 4/6) and common fine prominent yellowish brown (10YR 5/4) iron masses in the matrix; few prominent dark brown (7.5YR 3/4) concretions of iron throughout; neutral; clear smooth boundary.

- Cg—60 to 80 inches; stratified grayish brown (2.5Y 5/2) silty clay loam and clay loam; massive; friable; few fine distinct dark gray (10YR 4/1) iron depletions and common medium prominent strong brown (7.5YR 4/6) and common fine prominent yellowish brown (10YR 5/4) iron oxide masses in the matrix; few hard masses of iron; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 24 inches

*Thickness of the solum:* 35 to 60 inches

*Ap or A horizon:*

Hue—10YR, 5Y, or N

Value—2 or 3

Chroma—0 to 2

Texture—silty clay loam or silty clay

*Bg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay loam or silty clay

*BCg and/or Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam; thin strata in some pedons

## 7404A—Titus silty clay loam, 0 to 2 percent slopes, rarely flooded

### Setting

*Landform:* Flood plains

### Composition

Titus and similar soils: 90 percent

Dissimilar soils: 10 percent

### Minor Components

*Similar soils:*

- Soils that contain more clay throughout
- Soils that contain more sand and less clay
- Soils that have a surface layer more than 24 inches thick
- Soils that are calcareous in the lower part

*Dissimilar soils:*

- The well drained Landes soils on summits

**Properties and Qualities of the Titus Soil**

*Parent material:* Clayey alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Slow

*Permeability below a depth of 60 inches:* Moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 10.7 inches

*Content of organic matter in the surface layer:* 2 to 4 percent

*Shrink-swell potential:* High

*Depth and months of the highest apparent seasonal high water table:* At the surface, January to May

*Ponding depth:* As much as 0.5 foot during wet periods

*Frequency and most likely period of flooding:* Rare, November to June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Moderate

**Interpretive Groups**

*Land capability classification:* 3w

*Prime farmland status:* Prime farmland where drained

*Hydric soil status:* Hydric

**Velma Series**

*Taxonomic classification:* Fine-loamy, mixed, superactive, mesic Typic Argiudolls

**Typical Pedon**

Velma silt loam, 10 to 18 percent slopes, eroded; 1,880 feet north and 260 feet east of the southwest corner of sec. 25, T. 14 N., R. 3 E.; in Henry County, Illinois; USGS Galva topographic quadrangle; lat. 41 degrees 10 minutes 12 seconds N. and long. 90 degrees 06 minutes 52 seconds W., NAD 27:

Ap—0 to 10 inches; very dark gray (10YR 3/1) and dark brown (10YR 3/3) silt loam, dark grayish brown (10YR 4/2) dry; weak fine and medium granular structure; friable; strongly acid; abrupt smooth boundary.

AB—10 to 13 inches; dark brown (10YR 3/3) and very dark gray (10YR 3/1) silt loam, grayish brown (10YR 5/2) and brown (10YR 5/3) dry; weak medium subangular blocky structure parting to

weak fine and medium granular; friable; strongly acid; clear smooth boundary.

2Bt1—13 to 18 inches; dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/6) clay loam; weak medium subangular blocky structure; friable; prominent dark grayish brown (10YR 4/2) clay films; prominent very dark grayish brown (10YR 3/2) organic coatings; strongly acid; abrupt smooth boundary.

2Bt2—18 to 22 inches; yellowish brown (10YR 5/6 and 5/8) clay loam; weak medium subangular blocky structure; friable; prominent brown (10YR 4/3) clay films; strongly acid; clear smooth boundary.

2Bt3—22 to 27 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; friable; prominent dark brown (10YR 4/3) clay films; few fine faint brownish yellow (10YR 6/8) iron accumulations; neutral; clear smooth boundary.

2Bt4—27 to 34 inches; yellowish brown (10YR 5/4 and 5/6) clay loam; moderate medium and coarse subangular and angular blocky structure; firm; prominent brown (10YR 4/3) clay films; few medium distinct light brownish gray (10YR 6/2) iron depletions; neutral; clear smooth boundary.

2BC—34 to 44 inches; pale brown (10YR 6/3) and yellowish brown (10YR 5/6) clay loam; moderate medium and coarse angular blocky structure; firm; neutral; clear smooth boundary.

2C—44 to 60 inches; yellowish brown (10YR 5/4 and 5/6) clay loam; massive; firm; few fine distinct light gray (5Y 7/1) iron depletions; slightly alkaline.

**Range in Characteristics**

*Thickness of the mollic epipedon:* 10 to 24 inches

*Thickness of the loess:* 0 to 20 inches

*Thickness of the solum:* 42 to more than 60 inches

*Depth to carbonates:* 42 to 60 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam or loam

*Bt or 2Bt horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 8

Texture—clay loam or loam

*C or 2C horizon:*

Hue—7.5YR or 10YR

Value—5 or 6

Chroma—3 to 8

Texture—clay loam, loam, or sandy loam

## 250D2—Velma silt loam, 10 to 18 percent slopes, eroded

### Setting

*Landform:* Ground moraines

*Position on the landform:* Backslopes

### Composition

Velma and similar soils: 92 percent

Dissimilar soils: 8 percent

### Minor Components

*Similar soils:*

- Soils that have more clay in the lower part
- Soils that have a loess mantle more than 20 inches thick
- Soils that have a lighter colored surface layer

*Dissimilar soils:*

- The somewhat poorly drained Atlas soils on backslopes
- The somewhat poorly drained Radford soils on footslopes

### Properties and Qualities of the Velma Soil

*Parent material:* Loamy till

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 9.2 inches

*Content of organic matter in the surface layer:* 3 to 4 percent

*Shrink-swell potential:* Moderate

*Flooding:* None

*Accelerated erosion:* The surface layer has been thinned by erosion.

*Potential for frost action:* Moderate

*Hazard of corrosion:* High for steel and high for concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 3e

*Prime farmland status:* Not prime farmland

*Hydric soil status:* Not hydric

## Wabash Series

*Taxonomic classification:* Fine, smectitic, mesic  
Cumulic Vertic Endoaquolls

### Typical Pedon

Wabash silty clay, 0 to 2 percent slopes, rarely flooded; 2,620 feet south and 1,340 feet east of the northwest corner of sec. 36, T. 16 N., R. 6 W.; in Mercer County, Illinois; USGS Blanchard Island topographic quadrangle; lat. 41 degrees 20 minutes 02 seconds N. and long. 91 degrees 01 minute 06 seconds W., NAD 27:

Ap—0 to 6 inches; black (N 2/0) silty clay; moderate medium and coarse subangular blocky and angular blocky structure; firm; neutral; abrupt smooth boundary.

A—6 to 15 inches; black (N 2/0) silty clay; moderate medium and coarse subangular blocky and angular blocky structure; firm; neutral; clear smooth boundary.

Bg1—15 to 32 inches; black (N 2/0) clay; moderate medium prismatic structure parting to moderate coarse subangular blocky; firm; olive (5Y 4/4) root linings in the lower part; neutral; clear smooth boundary.

Bg2—32 to 40 inches; mixed black (N 2/0) and dark gray (5Y 4/1) clay; weak medium prismatic structure parting to moderate medium subangular blocky; firm; many fine distinct olive (5Y 4/4) and many fine prominent brownish yellow (10YR 6/8) redoximorphic features; common fine prominent white (10YR 8/1) redoximorphic features lining root channels; neutral; abrupt smooth boundary.

Cg—40 to 63 inches; dark gray (10YR 4/1), olive brown (2.5Y 4/4), olive gray (5Y 5/2), and olive (5Y 5/3) clay loam; massive or weak coarse subangular blocky structure in the upper half; firm; many fine faint olive (5Y 4/4) and many fine distinct brownish yellow (10YR 6/8) redoximorphic features; common fine prominent white (10YR 8/1) redoximorphic features lining root channels; abundant snail shells in the upper half and few in the lower half; moderately alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* More than 36 inches

*Thickness of the solum:* 40 to 60 inches

*Ap and A horizons:*

Hue—10YR to 5Y or N

Value—2 or 3

Chroma—0 to 2  
Texture—silty clay or clay

*Bg horizon (upper part):*  
Hue—10YR to 5Y or N  
Value—2 or 3  
Chroma—0 to 2

*Bg horizon (lower part):*  
Hue—10YR to 5Y or N  
Value—2 to 5  
Chroma—0 to 2

### **7083A—Wabash silty clay, 0 to 2 percent slopes, rarely flooded**

#### **Setting**

*Landform:* Flood plains

#### **Composition**

Wabash and similar soils: 100 percent

#### **Minor Components**

##### *Similar soils:*

- Soils that contain less clay throughout
- Soils that contain more sand and less clay
- Soils that have a surface layer less than 24 inches thick
- Soils that are calcareous in the lower part

#### **Properties and Qualities of the Wabash Soil**

*Parent material:* Alluvium

*Drainage class:* Poorly drained

*Slowest permeability within a depth of 40 inches:* Very slow

*Permeability below a depth of 60 inches:* Very slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 6.4 inches

*Content of organic matter in the surface layer:* 2 to 4 percent

*Shrink-swell potential:* Very high

*Depth and months of the highest apparent seasonal high water table:* At the surface, January to May

*Ponding depth:* As much as 0.5 foot during wet periods

*Frequency and most likely period of flooding:* Rare, November to June

*Potential for frost action:* Moderate

*Hazard of corrosion:* High for steel and moderate for concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Moderate

#### **Interpretive Groups**

*Land capability classification:* 3w

*Prime farmland status:* Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Hydric

#### **Worthen Series**

*Taxonomic classification:* Fine-silty, mixed, superactive, mesic Cumulic Hapludolls

#### **Typical Pedon (Official Series Description)**

Worthen silt loam, 2 to 5 percent slopes, at an elevation of 465 feet; 160 feet south and 640 feet west of the northeast corner of sec. 26, T. 13 N., R. 13 W.; in Scott County, Illinois; USGS Bedford topographic quadrangle; lat. 39 degrees 33 minutes 00 seconds N. and long. 90 degrees 30 minutes 33 seconds W., NAD 27:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; common very fine and fine roots; neutral; abrupt smooth boundary.

A—9 to 20 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak medium granular structure; friable; few very fine and fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.

AB—20 to 29 inches; dark brown (10YR 3/3) silt loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; friable; few very fine and fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.

Bw1—29 to 41 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; few very fine and fine roots; common distinct dark brown (10YR 3/3) organic coatings on faces of peds, few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and/or pores, and few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; neutral; clear smooth boundary.

Bw2—41 to 64 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine subangular blocky structure; friable; few very fine and fine roots; few distinct dark brown (10YR 3/3) organic coatings in root channels and/or pores and few distinct very pale brown (10YR 7/3) silt coatings on faces of peds; neutral; gradual smooth boundary.

C—64 to 80 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 24 to 36 inches

*Depth to carbonates (if they occur):* More than 50 inches

*Depth to the base of the cambic horizon:* 30 to 70 inches

*Ap or A horizon:*

Hue—7.5YR or 10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*Bw horizon (upper part):*

Hue—7.5YR or 10YR

Value—3 or 4

Chroma—2 to 4

Texture—silt loam

*Bw horizon (lower part):*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—silt loam

*C horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—silt loam

## 37A—Worthen silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Alluvial fans and stream terraces

*Position on the landform:* Footslopes

### Composition

Worthen and similar soils: 95 percent

Dissimilar soils: 5 percent

### Minor Components

*Similar soils:*

- Soils that have a dark surface layer less than 24 inches thick
- Soils that have light-colored overwash material on the surface

*Dissimilar soils:*

- The somewhat poorly drained Littleton soils on footslopes

### Properties and Qualities of the Worthen Soil

*Parent material:* Silty alluvium

*Drainage class:* Well drained

*Slowest permeability within a depth of 40 inches:*

Moderate

*Permeability below a depth of 60 inches:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity to a depth of 60 inches:* About 13.1 inches

*Content of organic matter in the surface layer:* 2 to 4 percent

*Shrink-swell potential:* Low

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Low for steel and low for concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Slight

*Susceptibility to wind erosion:* Slight

### Interpretive Groups

*Land capability classification:* 1

*Prime farmland status:* Prime farmland

*Hydric soil status:* Not hydric



# Use and Management of the Soils

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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; 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 create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand 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*, *poor*, and *very 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 "Soil Series and Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

## 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 6. 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 (Fehrenbacher and others, 1978). 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 productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 6 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.

## Pasture and Hayland Interpretations

Under good management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation also are important management practices.

Yield estimates are often provided in animal unit months (AUM), or the amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about forage yields other than those shown in table 6.

## Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The 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 generally are grouped at three levels—capability class, subclass, and unit (USDA, 1961). These categories indicate the degree and kinds of limitations affecting mechanized farming systems that produce the more commonly grown field crops, such as corn, small grain, cotton, hay, and field-grown vegetables. Only class and subclass are used in this survey.

*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.

If properly managed, soils in classes 1, 2, 3, and 4 are suitable for the mechanized production of commonly grown field crops and for pasture and woodland. The degree of the soil limitations affecting the production of cultivated crops increases progressively from class 1 to class 4. The limitations can affect levels of production and the risk of permanent soil deterioration caused by erosion and other factors.

Soils in classes 5, 6, and 7 are generally not suited to the mechanized production of commonly grown field crops without special management, but they are suitable for plants that provide a permanent cover, such as grasses and trees. The severity of the soil limitations affecting crops increases progressively from class 5 to class 7.

Areas in class 8 are generally not suitable for crops, pasture, or forestland without a level of management that is impractical. These areas may have potential for other uses, such as recreational facilities and wildlife habitat.

*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 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 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, forestland, wildlife habitat, or recreation.

The capability classification of map units in this survey area is given in table 6.

## 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.

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.

About 202,571 acres, or nearly 56 percent of the survey area, meets the requirements for prime farmland.

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 5. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Soil Series and Detailed Soil Map Units."

## Forestland Management and Productivity

Table 8 can be used by woodland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed. The table lists the ordination 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. The number 1 indicates low potential productivity; 2 and 3, moderate; 4 and 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; and *L*, low strength. 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, and L.

In table 8, *slight*, *moderate*, and *severe* indicate the degree of the major soil limitations to be considered in management.

*Erosion hazard* is the probability that damage will occur as a result of site preparation and cutting where the soil is exposed along roads, skid trails, and fire lanes and in log-handling areas. Forests that have been burned or overgrazed are also subject to erosion. Ratings of the erosion hazard are based on the percent of the slope. A rating of *slight* indicates that no particular prevention measures are needed under ordinary conditions. A rating of *moderate* indicates that erosion-control measures are needed in certain silvicultural activities. A rating of *severe* indicates that special precautions are needed to control erosion in most silvicultural activities.

*Equipment limitation* reflects the characteristics and conditions of the soil that restrict use of the equipment generally needed in forestland management or harvesting. The chief characteristics and conditions considered in the ratings are slope, stones on the surface, rock outcrops, soil wetness, and texture of the surface layer. A rating of *slight* indicates that under normal conditions the kind of equipment and season of use are not significantly restricted by soil factors. Soil wetness can restrict equipment use, but the wet period does not exceed 1 month. A rating of *moderate* indicates that equipment use is moderately restricted because of one or more soil factors. If the soil is wet, the wetness restricts equipment use for a period of 1 to 3 months. A rating of *severe* indicates that equipment use is severely restricted either as to the kind of equipment that can be used or the season of use. If the soil is wet, the wetness restricts equipment use for more than 3 months.

*Seedling mortality* refers to the death of naturally occurring or planted tree seedlings, as influenced by the kind of soil, soil wetness, or topographic conditions. The factors used in rating the soils for seedling mortality are texture of the surface layer, depth to a seasonal high water table and the length of the period when the water table is high, rock fragments in the surface layer, effective rooting depth, and slope aspect. A rating of *slight* indicates that seedling mortality is not likely to be a problem under normal conditions. Expected mortality is less than 25 percent. A rating of *moderate* indicates that some problems from seedling mortality can be expected. Extra precautions are advisable. Expected mortality is 25 to 50 percent. A rating of *severe* indicates that seedling mortality is a serious problem. Extra

precautions are important. Replanting may be necessary. Expected mortality is more than 50 percent.

*Windthrow hazard* is the likelihood that trees will be uprooted by the wind because the soil is not deep enough for adequate root anchorage. The main restrictions that affect rooting are a seasonal high water table and the depth to bedrock, a fragipan, or other limiting layers. A rating of *slight* indicates that under normal conditions no trees are blown down by the wind. Strong winds may damage trees, but they do not uproot them. A rating of *moderate* indicates that some trees can be blown down during periods when the soil is wet and winds are moderate or strong. A rating of *severe* indicates that many trees can be blown down during these periods.

*Trees to manage* are those that are suitable for commercial wood production.

## Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 9 shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in table 9 are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery.

## Recreation

The soils of the survey area are rated in tables 10a and 10b according to limitations that affect their

suitability for recreation (fig. 5). 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



Figure 5.—The Mississippi River provides many recreational opportunities in Mercer County.

flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 10a and 10b 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. 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 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 (fig. 6). 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 11, 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



**Figure 6.—The bluff along the Mississippi River is a prominent landscape feature in the western part of the county. Areas along the river provide important habitat for wildlife.**

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 brome grass, timothy, orchardgrass, clover, alfalfa, wheatgrass, and birdsfoot trefoil.

*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 bluestems, indiagrass, blueberry, goldenrod, lambsquarters, dandelions, blackberry, ragweed, wheatgrass, and nightshade.

*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, poplar, box elder, birch, maple, green ash, willow, and American elm. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian-olive, autumn-olive, and crabapple.

*Coniferous plants* furnish browse 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, cedar, and tamarack.

*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 smartweeds, wild millet, rushes, sedges, bulrushes, wild rice, arrowhead, waterplantain, cattail, prairie cordgrass, bluejoint grass, asters, and beggarticks.

*Shallow water areas* have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

*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 Hungarian partridge, ring-necked pheasant, bobwhite quail, sharp-tailed grouse, meadowlark, field sparrow, killdeer, cottontail rabbit, and red fox.

*Habitat for woodland wildlife* consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, thrushes, woodpeckers, owls, tree squirrels, porcupine, raccoon, white-tailed deer, and bear.

*Habitat for wetland wildlife* consists of open, marshy or swampy shallow water areas, bogs, or flood plains that support water-tolerant plants. Some of the wildlife attracted to such areas are ducks, geese, herons, bitterns, rails, kingfishers, muskrat, otter, mink, and beaver.

## 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, 1998) 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.

Table 12 provides the hydric properties of the soils in the survey area. Soils that are considered hydric meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. 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. The information in the table 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).

## 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, shrink-swell potential, 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 sand 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 13a and 13b 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

Table 14 shows 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 table 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

Table 15 gives information about the soils as potential sources of sand and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

*Sand* is a natural aggregate suitable for commercial use with a minimum of processing. It is used in many kinds of construction. Specifications for each use vary widely. In table 15, 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 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 sand, the soil is considered a likely source regardless of thickness. The assumption is that the sand layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of 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. 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 topsoil. The features that limit the soils as sources of this material are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil. The lower the number, the greater the limitation.

*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 16 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 and for embankments, dikes, and levees. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives for each soil the restrictive features that affect drainage, irrigation, terraces and diversions, and grassed waterways.

*Pond reservoir areas* hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other

permeable material. Excessive slope can affect the storage capacity of the reservoir area.

*Embankments, dikes, and levees* are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

*Drainage* is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and the potential for frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. Availability of drainage outlets is not considered in the ratings.

*Irrigation* is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

*Terraces and diversions* are embankments or a combination of channels and ridges constructed

across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

*Grassed waterways* are natural or constructed

channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

# Soil Properties

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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.

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 17 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 oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

*Liquid limit and plasticity index* (Atterberg limits)

indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of 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 18 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.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 18, 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 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 (oven-dry) 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.

*Erosion factors* are shown in table 18 as the K factor ( $K_w$  and  $K_f$ ) 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 six 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. Descriptions of the groups are provided in the "National Soil Survey Handbook" (USDA, 2003).

*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 19 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.

*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.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In table 19, 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.

*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.

*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.

## Water Features

Table 20 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.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/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 20 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.

Also shown in table 20 is the kind of water table—that is, apparent or perched. An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

*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 20 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.

## Soil Features

Table 21 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. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*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.



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# Glossary

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**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.

**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.

**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.

**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.

**Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

**Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

**Catena.** A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

**Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

**Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to

soils, is synonymous with base-exchange capacity but is more precise in meaning.

- 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.
- Clayey soil.** Silty clay, sandy clay, or clay.
- Closed depression.** A low area completely surrounded by higher ground and having no natural outlet.
- 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.
- COLE (coefficient of linear extensibility).** See Linear extensibility.
- 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.

- 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.
- 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.
- 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.
- Cropping system.** Growing crops according to a planned system of rotation and management practices.
- 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.

**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.

**Depth to rock** (in tables). Bedrock is too near the surface for the specified use.

**Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

**Drainage class** (natural). Refers to the frequency and duration of 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.

**Drainageway.** An area of ground at a lower elevation than the surrounding ground and in which water collects and is drained to a closed depression or lake or to a drainageway at a lower elevation. A drainageway may or may not have distinctly incised channels at its upper reaches or throughout its course.

**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.

**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.

**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.

**Fast intake** (in tables). The rapid movement of water into the soil.

**Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

**Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

**Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity, or capillary capacity*.

**Fine textured soil.** Sandy clay, silty clay, or clay.

**Flood plain.** A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

**Flood-plain splay.** A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

**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.

**Frost action** (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

**Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

**Glacial drift** (geology). Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.

**Glacial outwash** (geology). Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

**Glacial till** (geology). Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

**Glaciated uplands.** Land areas that were previously covered by continental or alpine glaciers and that are at a higher elevation than the flood plain.

**Glaciofluvial deposits** (geology). Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

**Glaciolacustrine deposits** (geology). Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.

**Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

**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** (geology). 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.

**Hard to reclaim** (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

**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.

**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.

**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.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**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. Typical methods of irrigation used in the survey area are:

*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.

*Sprinkler.*—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

**Karst (topography).** The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

**K<sub>sat</sub>.** Saturated hydraulic conductivity. (See Permeability.)

**Lacustrine deposit (geology).** Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

**Lake plain.** A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

**Leaching.** The removal of soluble material from soil or other material by percolating water.

**Linear extensibility.** Refers to the change in length of an unconfined clod as moisture content is

decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. 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. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

**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.

**Loamy soil.** Coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam, silt, clay loam, sandy clay loam, or silty clay loam.

**Loess.** Fine grained material, dominantly of silt-sized particles, deposited by wind.

**Low strength.** The soil is not strong enough to support loads.

**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.

**Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.

**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.

**MLRA (Major Land Resource Area).** A geographic area characterized by a particular pattern of land uses, elevation and topography, soils, climate, water resources, and potential natural 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.

**Moraine.** An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

**Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

**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).

**Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

**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.

**Natric horizon.** A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

**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.

**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.

**Pedimentation.** 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.

**Percs slowly** (in tables). The slow movement of water through the soil adversely affects the specified use.

**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," which is 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

**pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

**Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

**Piping** (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

**Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.

**Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

**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 there is little difference in size of the particles, density can be increased only slightly by compaction.

**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.

**Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as 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

**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 are indications of 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.

**Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

**Rock outcrop.** Exposures of bare bedrock other than lava flows and rocklined pits.

**Root zone.** The part of the soil that can be penetrated by plant roots.

**Rooting depth** (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts 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.

**Sandy soil.** Sand or loamy sand.

**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.

**Saturated hydraulic conductivity ( $K_{sat}$ ).** See Permeability.

**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.

**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.

**Seepage** (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

**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.

**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.

**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.

**Slackwater.** A still body of water in a stream.

**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.

**Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

**Slope** (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

**Slow intake** (in tables). The slow movement of water into the soil.

**Sodium adsorption ratio (SAR).** 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.

**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 and by the passage 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.

**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.

**Stream channel.** The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

**Stream terrace.** One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel. It originally formed near the level of the stream and is the dissected remnants of an abandoned flood plain, streambed, or valley floor that were produced during a former stage of erosion or deposition.

**Strippcropping.** 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.** Technically, the E horizon.

Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying 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."

**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.

**Terminal moraine.** A belt of thick glacial drift that generally marks the termination of important glacial advances.

**Terrace.** An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field 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.

**Till plain.** An extensive area of nearly level to undulating soils underlain by glacial till.

**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.

**Understory.** Any plants in a forest community that grow to a height of less than 5 feet.

**Upland** (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

**Variation.** 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 still water 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 still water in front of a glacier.

**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 oven-dry 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

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Table 1.--Temperature and Precipitation  
(Recorded in the period 1971-2000 at Aledo, Illinois)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
°F	°F	°F	°F	°F	Units	In	In	In		In	
January----	29.9	13.3	21.6	57	-17	0	1.28	0.56	1.89	3	8.7
February---	35.9	18.8	27.4	65	-13	1	1.30	.67	1.86	3	6.1
March-----	48.7	29.2	39.0	80	4	33	2.46	1.12	3.62	5	3.7
April-----	62.3	39.5	50.9	86	19	135	3.69	2.08	5.12	6	1.0
May-----	73.4	50.5	61.9	90	33	373	3.92	2.12	5.50	7	.0
June-----	82.3	59.9	71.1	96	44	634	4.43	2.26	6.32	6	.0
July-----	85.8	63.5	74.7	98	49	759	4.13	1.64	6.22	6	.0
August-----	83.7	61.8	72.7	97	47	703	4.37	1.79	6.55	6	.0
September--	76.5	53.0	64.7	94	33	439	3.15	1.86	4.52	5	.0
October----	64.6	42.1	53.4	86	22	172	2.73	1.25	3.99	5	.2
November---	47.8	30.4	39.1	73	6	24	2.50	1.04	3.74	5	2.2
December---	34.2	18.6	26.4	61	-11	2	1.93	.91	2.81	4	6.8
Yearly:											
Average---	60.4	40.0	50.2	---	---	---	---	---	---	---	---
Extreme---	103	-28	---	99	-19	---	---	---	---	---	---
Total-----	---	---	---	---	---	3,275	35.88	28.12	42.47	61	28.7

\* 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 (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Moline, Illinois)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
<b>Last freezing temperature in spring:</b>			
1 year in 10 later than--	Apr. 14	Apr. 23	May 8
2 years in 10 later than--	Apr. 10	Apr. 19	May 4
5 years in 10 later than--	Apr. 2	Apr. 11	Apr. 25
<b>First freezing temperature in fall:</b>			
1 year in 10 earlier than--	Oct. 17	Oct. 6	Sept. 26
2 years in 10 earlier than--	Oct. 22	Oct. 11	Sept. 30
5 years in 10 earlier than--	Nov. 1	Oct. 22	Oct. 8

Table 3.--Growing Season

(Recorded in the period 1971-2000 at Moline, Illinois)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	194	172	146
8 years in 10	200	179	153
5 years in 10	212	193	165
2 years in 10	224	207	177
1 year in 10	230	215	184

Table 4.--Classification of the Soils

(An asterisk in the first column indicates 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
Ade-----	Coarse-loamy, mixed, superactive, mesic Lamellic Argiudolls
Ambraw-----	Fine-loamy, mixed, superactive, mesic Fluvaquentic Endoaquolls
*Assumption----	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Atlas-----	Fine, smectitic, mesic Aeric Chromic Vertic Epiaqualfs
Atterberry----	Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs
Beaucoup-----	Fine-silty, mixed, superactive, mesic Fluvaquentic Endoaquolls
*Biggsville----	Fine-silty, mixed, superactive, mesic Typic Hapludolls
Blake-----	Fine-silty, mixed, superactive, calcareous, mesic Aquic Udifluvents
Bold-----	Coarse-silty, mixed, superactive, calcareous, mesic Typic Udorthents
Booker-----	Very fine, smectitic, mesic Cumulic Vertic Endoaquolls
Broadwell-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Brooklyn-----	Fine, smectitic, mesic Vertic Albaqualfs
Camden-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Clarksdale----	Fine, smectitic, mesic Udollic Endoaqualfs
Coffeen-----	Coarse-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Coloma-----	Mixed, mesic Lamellic Udipsamments
Cresent-----	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Denny-----	Fine, smectitic, mesic Mollic Albaqualfs
Dickinson-----	Coarse-loamy, mixed, superactive, mesic Typic Hapludolls
Elco-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Elkhart-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Fayette-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Fluvaquents---	Fine-silty, mixed, active, nonacid, mesic Typic Fluvaquents
Greenbush-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Hickory-----	Fine-loamy, mixed, active, mesic Typic Hapludalfs
Hoopeston-----	Coarse-loamy, mixed, superactive, mesic Aquic Hapludolls
Ipava-----	Fine, smectitic, mesic Aquic Argiudolls
Joy-----	Fine-silty, mixed, superactive, mesic Aquic Hapludolls
Keomah-----	Fine, smectitic, mesic Aeric Endoaqualfs
Landes-----	Coarse-loamy, mixed, superactive, mesic Fluventic Hapludolls
Littleton-----	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
Loran-----	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Mannon-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Marseilles----	Fine-silty, mixed, active, mesic Typic Hapludalfs
Muscatune-----	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Niota-----	Fine, mixed, superactive, mesic Vertic Albaqualfs
Orion-----	Coarse-silty, mixed, superactive, nonacid, mesic Aquic Udifluvents
Orthents-----	Fine-loamy, mixed, active, nonacid, mesic Typic Udorthents
*Osco-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Plano-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Port Byron----	Fine-silty, mixed, superactive, mesic Typic Hapludolls
Raddle-----	Fine-silty, mixed, superactive, mesic Typic Hapludolls
Radford-----	Fine-silty, mixed, superactive, mesic Fluvaquentic Hapludolls
Rozetta-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Sable-----	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Sawmill-----	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Seaton-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Sparta-----	Sandy, mixed, mesic Entic Hapludolls
Stronghurst---	Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Sylvan-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Thebes-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Thorp-----	Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls
Timula-----	Coarse-silty, mixed, superactive, mesic Typic Eutrudepts
Titus-----	Fine, smectitic, mesic Vertic Endoaquolls
Velma-----	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
Wabash-----	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Worthen-----	Fine-silty, mixed, superactive, mesic Cumulic Hapludolls

Table 5.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
8D2	Hickory silt loam, 10 to 18 percent slopes, eroded-----	3,827	1.1
8D3	Hickory clay loam, 10 to 18 percent slopes, severely eroded-----	3,885	1.1
8F	Hickory silt loam, 18 to 35 percent slopes-----	14,889	4.1
8F3	Hickory clay loam, 18 to 35 percent slopes, severely eroded-----	2,641	0.7
8G	Hickory silt loam, 35 to 60 percent slopes-----	3,415	0.9
17A	Keomah silt loam, 0 to 2 percent slopes-----	1,043	0.3
19D2	Sylvan silt loam, 10 to 18 percent slopes, eroded-----	1,404	0.4
19D3	Sylvan silty clay loam, 10 to 18 percent slopes, severely eroded-----	9,766	2.7
37A	Worthen silt loam, 0 to 2 percent slopes-----	1,536	0.4
43A	Ipava silt loam, 0 to 2 percent slopes-----	8,544	2.3
45A	Denny silt loam, 0 to 2 percent slopes-----	262	*
51A	Muscatune silt loam, 0 to 2 percent slopes-----	41,656	11.5
61A	Atterberry silt loam, 0 to 2 percent slopes-----	5,979	1.6
68A	Sable silty clay loam, 0 to 2 percent slopes-----	3,128	0.9
81A	Littleton silt loam, 0 to 2 percent slopes-----	2,530	0.7
86B	Osco silt loam, 2 to 5 percent slopes-----	22,960	6.3
86B2	Osco silt loam, 2 to 5 percent slopes, eroded-----	11	*
86C2	Osco silt loam, 5 to 10 percent slopes, eroded-----	6,399	1.8
87B	Dickinson sandy loam, 2 to 5 percent slopes-----	1,894	0.5
88B	Sparta loamy sand, 1 to 6 percent slopes-----	5,833	1.6
98B	Ade loamy fine sand, 2 to 7 percent slopes-----	1,446	0.4
119D	Elco silt loam, 10 to 18 percent slopes-----	2,039	0.6
119D2	Elco silt loam, 10 to 18 percent slopes, eroded-----	14	*
134C	Camden silt loam, 5 to 10 percent slopes-----	252	*
134D3	Camden silty clay loam, 10 to 18 percent slopes, severely eroded-----	377	0.1
136A	Brooklyn silt loam, 0 to 2 percent slopes-----	1,368	0.4
172A	Hoopston sandy loam, 0 to 2 percent slopes-----	785	0.2
199B	Plano silt loam, 2 to 5 percent slopes-----	211	*
199C2	Plano silt loam, 5 to 10 percent slopes, eroded-----	155	*
206A	Thorp silt loam, 0 to 2 percent slopes-----	695	0.2
212C	Thebes silt loam, 5 to 10 percent slopes-----	92	*
212D3	Thebes silty clay loam, 10 to 18 percent slopes, severely eroded-----	700	0.2
250D2	Velma silt loam, 10 to 18 percent slopes, eroded-----	332	*
257A	Clarksdale silt loam, 0 to 2 percent slopes-----	1,727	0.5
259C2	Assumption silt loam, 5 to 10 percent slopes, eroded-----	1,566	0.4
259D2	Assumption silt loam, 10 to 18 percent slopes, eroded-----	714	0.2
261A	Niota silt loam, 0 to 2 percent slopes-----	1,636	0.4
274B	Seaton silt loam, 2 to 5 percent slopes-----	6,478	1.8
274C2	Seaton silt loam, 5 to 10 percent slopes, eroded-----	4,575	1.3
274D	Seaton silt loam, 10 to 18 percent slopes-----	1,209	0.3
275A	Joy silt loam, 0 to 2 percent slopes-----	6,126	1.7
277B	Port Byron silt loam, 2 to 5 percent slopes-----	949	0.3
277C	Port Byron silt loam, 5 to 10 percent slopes-----	99	*
278A	Stronghurst silt loam, 0 to 2 percent slopes-----	3,633	1.0
279B	Rozetta silt loam, 2 to 5 percent slopes-----	13,346	3.7
279C3	Rozetta silty clay loam, 5 to 10 percent slopes, severely eroded-----	5,216	1.4
280C2	Fayette silt loam, 5 to 10 percent slopes, eroded-----	12,580	3.5
280D	Fayette silt loam, 10 to 18 percent slopes-----	335	*
280D2	Fayette silt loam, 10 to 18 percent slopes, eroded-----	3,730	1.0
280D3	Fayette silty clay loam, 10 to 18 percent slopes, severely eroded-----	2,806	0.8
430A	Raddle silt loam, 0 to 2 percent slopes-----	5,245	1.4
430B	Raddle silt loam, 2 to 5 percent slopes-----	3,531	1.0
457A	Booker silty clay, 0 to 2 percent slopes-----	615	0.2
549C2	Marseilles silt loam, 5 to 10 percent slopes, eroded-----	811	0.2
549D2	Marseilles silt loam, 10 to 18 percent slopes, eroded-----	1,148	0.3
549D3	Marseilles silty clay loam, 10 to 18 percent slopes, severely eroded-----	570	0.2
549F	Marseilles silt loam, 18 to 35 percent slopes-----	1,367	0.4
567D	Elkhart silt loam, 10 to 18 percent slopes-----	885	0.2
567D2	Elkhart silt loam, 10 to 18 percent slopes, eroded-----	69	*
572B	Loran silt loam, 2 to 5 percent slopes-----	444	0.1
572C	Loran silt loam, 5 to 10 percent slopes-----	419	0.1
671B	Biggsville silt loam, 2 to 5 percent slopes-----	3,448	0.9

See footnote at end of table.

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
671C2	Biggsville silt loam, 5 to 10 percent slopes, eroded-----	293	*
672B	Crescent loam, 2 to 5 percent slopes-----	1,452	0.4
675B	Greenbush silt loam, 2 to 5 percent slopes-----	9,949	2.7
675C2	Greenbush silt loam, 5 to 10 percent slopes, eroded-----	10,084	2.8
678B	Mannon silt loam, 2 to 5 percent slopes-----	1,374	0.4
684B	Broadwell silt loam, 2 to 5 percent slopes-----	417	0.1
684C2	Broadwell silt loam, 5 to 10 percent slopes, eroded-----	860	0.2
689B	Coloma sand, 1 to 7 percent slopes-----	4,429	1.2
689D	Coloma sand, 7 to 15 percent slopes-----	661	0.2
689G	Coloma sand, 20 to 60 percent slopes-----	469	0.1
802B	Orthents, loamy, undulating-----	4	*
898F3	Hickory-Sylvan complex, 18 to 35 percent slopes, severely eroded-----	10	*
898G	Hickory-Sylvan silt loams, 35 to 60 percent slopes-----	10,441	2.9
899B	Raddle-Sparta complex, 2 to 5 percent slopes-----	2,209	0.6
911G	Timula-Hickory silt loams, 35 to 60 percent slopes-----	3,022	0.8
913F	Marseilles-Hickory silt loams, 18 to 35 percent slopes-----	2,822	0.8
943D3	Seaton-Timula silt loams, 10 to 18 percent slopes, severely eroded-----	3,209	0.9
943G	Seaton-Timula silt loams, 35 to 60 percent slopes-----	2,511	0.7
946D3	Hickory-Atlas complex, 10 to 18 percent slopes, severely eroded-----	1,671	0.5
957D3	Elco-Atlas silty clay loams, 10 to 18 percent slopes, severely eroded----	6,605	1.8
960F	Hickory-Sylvan-Fayette silt loams, 18 to 35 percent slopes-----	39	*
962D3	Sylvan-Bold complex, 10 to 18 percent slopes, severely eroded-----	3,350	0.9
1070A	Beaucoup silty clay loam, undrained, 0 to 2 percent slopes, rarely flooded-----		0.6
3074A	Radford silt loam, 0 to 2 percent slopes, frequently flooded-----	2,078	
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded-----	5,939	1.6
3107+	Sawmill silt loam, 0 to 2 percent slopes, frequently flooded, overwash---	4,997	1.4
3415A	Orion silt loam, 0 to 2 percent slopes, frequently flooded-----	4,646	1.3
3646L	Fluvaquents, loamy, 0 to 2 percent slopes, frequently flooded, long duration-----	13,894	3.8
3870L	Blake-Beaucoup complex, 0 to 2 percent slopes, frequently flooded, long duration-----	3,081	0.8
7070A	Beaucoup silty clay loam, 0 to 2 percent slopes, rarely flooded-----	1,518	0.4
7083A	Wabash silty clay, 0 to 2 percent slopes, rarely flooded-----	2,920	0.8
7107A	Sawmill silty clay loam, 0 to 2 percent slopes, rarely flooded-----	2,604	0.7
7302A	Ambraw clay loam, 0 to 2 percent slopes, rarely flooded-----	767	0.2
7304A	Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded-----	2,294	0.6
7304A	Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded-----	954	0.3
7404A	Titus silty clay loam, 0 to 2 percent slopes, rarely flooded-----	8,069	2.2
7415A	Orion silt loam, 0 to 2 percent slopes, rarely flooded-----	749	0.2
7428A	Coffeen silt loam, 0 to 2 percent slopes, rarely flooded-----	1,025	0.3
9061A	Atterberry silt loam, terrace, 0 to 2 percent slopes-----	344	*
9279B	Rozetta silt loam, terrace, 2 to 5 percent slopes-----	298	*
9279C2	Rozetta silt loam, terrace, 5 to 10 percent slopes, eroded-----	147	*
W	Water-----	6,050	1.7
	Total-----	363,600	100.0

\* Less than 0.1 percent.

Table 6.--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)

Map symbol and soil name	Land capability	Corn	Soybeans	Oats	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
8D2----- Hickory	3e	72	23	50	26	2.7	4.5
8D3----- Hickory	4e	66	22	46	24	2.5	4.2
8F----- Hickory	6e	---	---	---	---	2.4	4.0
8F3----- Hickory	6e	---	---	---	---	2.1	3.5
8G----- Hickory	7e	---	---	---	---	---	---
17A----- Keomah	2w	129	39	72	52	5.1	8.5
19D2----- Sylvan	3e	101	32	59	48	4.5	7.5
19D3----- Sylvan	4e	93	29	55	44	4.2	6.9
37A----- Worthen	1	151	46	88	62	5.9	9.8
43A----- Ipava	1	163	52	91	66	6.1	10.1
45A----- Denny	3w	113	37	62	47	---	---
51A----- Muscatune	1	167	51	95	64	6.2	10.3
61A----- Atterberry	1	149	44	85	60	5.6	9.3
68A----- Sable	2w	156	51	85	61	---	---
81A----- Littleton	1	159	50	90	63	6.1	10.1
86B----- Osco	2e	153	46	88	61	5.8	9.7
86B2----- Osco	2e	150	45	86	60	5.7	9.4
86C2----- Osco	3e	146	43	84	58	5.5	9.2
87B----- Dickinson	2e	98	36	77	44	3.8	6.4

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Oats	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
88B----- Sparta	4s	84	29	52	37	3.3	5.4
98B----- Ade	3s	90	30	56	40	3.7	6.1
119D----- Elco	3e	104	34	60	44	4.0	6.8
119D2----- Elco	3e	100	33	57	42	3.9	6.5
134C----- Camden	3e	121	38	70	53	4.9	8.1
134D3----- Camden	6e	104	32	60	46	4.2	6.9
136A----- Brooklyn	2w	108	35	58	44	3.7	6.2
172A----- Hoopeston	2s	105	33	70	47	4.1	6.8
199B----- Plano	2e	149	45	89	59	5.7	9.5
199C2----- Plano	3e	142	42	85	56	5.5	9.1
206A----- Thorp	2w	126	42	69	51	4.6	7.7
212C----- Thebes	3e	97	34	71	45	3.9	6.5
212D3----- Thebes	4e	83	29	61	38	3.3	5.5
250D2----- Velma	3e	106	35	65	46	4.1	6.9
257A----- Clarksdale	1	140	43	79	57	5.3	8.8
259C2----- Assumption	3e	120	37	72	52	4.7	7.8
259D2----- Assumption	4e	115	35	69	50	4.5	7.5
261A----- Niota	2w	86	30	53	39	3.3	5.5
274B----- Seaton	2e	117	35	68	49	4.7	7.9
274C2----- Seaton	3e	110	33	65	46	4.5	7.5

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Oats	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
274D----- Seaton	3e	109	33	64	46	4.5	7.4
275A----- Joy	1	161	48	92	63	6.1	10.2
277B----- Port Byron	2e	148	45	87	60	5.5	9.2
277C----- Port Byron	3e	146	44	85	59	5.4	9.1
278A----- Stronghurst	2w	138	42	76	55	5.3	8.8
279B----- Rozetta	2e	130	40	72	53	5.1	8.6
279C3----- Rozetta	4e	114	35	64	46	4.5	7.5
280C2----- Fayette	3e	121	37	69	50	4.9	8.1
280D----- Fayette	3e	120	36	68	49	4.8	8.1
280D2----- Fayette	3e	116	35	61	48	4.7	7.8
280D3----- Fayette	4e	107	32	61	44	4.3	7.2
430A----- Raddle	1	149	45	83	59	5.8	9.7
430B----- Raddle	2e	148	45	82	58	5.7	9.6
457A----- Booker	3w	78	28	45	34	2.9	4.8
549C2----- Marseilles	3e	96	33	59	42	4.0	6.7
549D2----- Marseilles	4e	90	31	56	40	3.9	6.3
549D3----- Marseilles	6e	---	---	---	---	3.1	5.2
549F----- Marseilles	7e	---	---	---	---	---	---
567D----- Elkhart	3e	123	36	68	49	4.7	7.9
567D2----- Elkhart	3e	119	35	66	48	4.6	7.7

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Oats	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
572B----- Loran	2e	119	39	67	49	4.7	7.8
572C----- Loran	2e	115	37	65	47	4.6	7.6
671B----- Biggsville	2e	149	45	87	60	5.5	9.2
671C2----- Biggsville	3e	141	42	83	57	5.3	8.8
672B----- Crescent	2e	137	42	87	56	5.2	8.7
675B----- Greenbush	2e	147	42	82	57	5.5	9.2
675C2----- Greenbush	3e	139	40	78	55	5.3	8.7
678B----- Mannon	2e	136	43	75	56	5.3	8.7
684B----- Broadwell	2e	144	44	83	58	5.5	9.2
684C2----- Broadwell	3e	136	41	79	55	5.2	8.8
689B----- Coloma	4s	57	40	20	28	2.4	4.0
689D----- Coloma	6s	---	---	---	---	---	---
689G----- Coloma	7s	---	---	---	---	---	---
802B----- Orthents	2e	---	---	---	---	---	---
898F3----- Hickory-Sylvan	6e	---	---	---	---	2.6	4.4
898G----- Hickory-Sylvan	7e	---	---	---	---	---	---
899B----- Raddle----- Sparta-----	2e 4s	127	39	72	51	4.9	8.2
911G----- Timula-Hickory	7e	---	---	---	---	---	---
913F----- Marseilles----- Hickory-----	7e 6e	---	---	---	---	---	4.8
943D3----- Seaton-Timula	6e	---	---	---	---	3.7	6.2

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Oats	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
943G----- Seaton-Timula	7e	---	---	---	---	---	---
946D3----- Hickory----- Atlas-----	4e 6e	---	---	---	---	2.2	3.9
957D3----- Elco-Atlas	6e	---	---	---	---	2.8	4.5
960F----- Hickory-Sylvan- Fayette	6e	---	---	---	---	3.4	5.7
962D3----- Sylvan-Bold	4e	82	26	49	39	3.6	6.1
1070A----- Beaucoup	5w	---	---	---	---	---	---
3074A----- Radford	3w	129	41	76	---	5.0	8.4
3107A, 3107+----- Sawmill	3w	132	42	68	---	5.0	8.3
3415A----- Orion	3w	80	26	58	---	4.2	7.0
3646L----- Fluvaquents	5w	---	---	---	---	---	---
3870L----- Blake-Beaucoup	5w	---	---	---	---	---	---
7070A----- Beaucoup	2w	138	46	75	55	5.1	8.5
7083A----- Wabash	3w	106	35	55	43	3.7	6.2
7107A----- Sawmill	2w	147	47	76	54	5.5	9.2
7302A----- Ambraw	2w	132	43	70	52	4.6	7.7
7304A----- Landes	2s	99	34	62	45	3.7	6.2
7404A----- Titus	3w	125	42	68	52	4.3	7.2
7415A----- Orion	2w	135	43	72	52	4.7	7.8
7428A----- Coffeen	1	152	47	79	57	5.8	9.7

See footnote at end of table.

Table 6.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Oats	Winter wheat	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
9061A----- Atterberry	1	149	44	85	60	5.6	9.3
9279B----- Rozetta	2e	130	40	72	53	5.1	8.6
9279C2----- Rozetta	3e	123	38	69	51	4.9	8.1

\* Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

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. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

Map symbol	Soil name
17A	Keomah silt loam, 0 to 2 percent slopes (where drained)
37A	Worthen silt loam, 0 to 2 percent slopes
43A	Ipava silt loam, 0 to 2 percent slopes
45A	Denny silt loam, 0 to 2 percent slopes (where drained)
51A	Muscatune silt loam, 0 to 2 percent slopes
61A	Atterberry silt loam, 0 to 2 percent slopes (where drained)
68A	Sable silty clay loam, 0 to 2 percent slopes (where drained)
81A	Littleton silt loam, 0 to 2 percent slopes
86B	Osco silt loam, 2 to 5 percent slopes
86B2	Osco silt loam, 2 to 5 percent slopes, eroded
87B	Dickinson sandy loam, 2 to 5 percent slopes
136A	Brooklyn silt loam, 0 to 2 percent slopes (where drained)
172A	Hoopeston sandy loam, 0 to 2 percent slopes
199B	Plano silt loam, 2 to 5 percent slopes
206A	Thorp silt loam, 0 to 2 percent slopes (where drained)
257A	Clarksdale silt loam, 0 to 2 percent slopes (where drained)
261A	Niota silt loam, 0 to 2 percent slopes (where drained)
274B	Seaton silt loam, 2 to 5 percent slopes
275A	Joy silt loam, 0 to 2 percent slopes
277B	Port Byron silt loam, 2 to 5 percent slopes
278A	Stronghurst silt loam, 0 to 2 percent slopes (where drained)
279B	Rozetta silt loam, 2 to 5 percent slopes
430A	Raddle silt loam, 0 to 2 percent slopes
430B	Raddle silt loam, 2 to 5 percent slopes
457A	Booker silty clay, 0 to 2 percent slopes (where drained)
572B	Loran silt loam, 2 to 5 percent slopes
671B	Biggsville silt loam, 2 to 5 percent slopes
672B	Crescent loam, 2 to 5 percent slopes
675B	Greenbush silt loam, 2 to 5 percent slopes
678B	Mannon silt loam, 2 to 5 percent slopes
684B	Broadwell silt loam, 2 to 5 percent slopes
3074A	Radford silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3107+	Sawmill silt loam, 0 to 2 percent slopes, frequently flooded, overwash (where drained and either protected from flooding or not frequently flooded during the growing season)
3415A	Orion silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
7070A	Beaucoup silty clay loam, 0 to 2 percent slopes, rarely flooded (where drained)
7083A	Wabash silty clay, 0 to 2 percent slopes, rarely flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
7107A	Sawmill silty clay loam, 0 to 2 percent slopes, rarely flooded (where drained)
7302A	Ambraw clay loam, 0 to 2 percent slopes, rarely flooded (where drained)
7304A	Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded
7404A	Titus silty clay loam, 0 to 2 percent slopes, rarely flooded (where drained)
7415A	Orion silt loam, 0 to 2 percent slopes, rarely flooded
7428A	Coffeen silt loam, 0 to 2 percent slopes, rarely flooded
9061A	Atterberry silt loam, terrace, 0 to 2 percent slopes (where drained)
9279B	Rozetta silt loam, terrace, 2 to 5 percent slopes

Table 8.--Forestland Management and Productivity

(Only the soils that are suitable for forestland management are listed)

Map symbol and soil name	Ordi- nation symbol	Management concerns				Trees to manage
		Erosion hazard	Equip- ment limita- tion	Seedling mortal- ity	Wind- throw hazard	
8F, 8F3: Hickory-----	5R	Moderate	Moderate	Slight	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
8G: Hickory-----	5R	Severe	Severe	Slight	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
549F: Marseilles-----	2R	Moderate	Moderate	Slight	Slight	Black oak, common hackberry, eastern white pine, green ash
898F3: Hickory-----	5R	Moderate	Moderate	Slight	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
Sylvan-----	6R	Moderate	Moderate	Moderate	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
898G: Hickory-----	5R	Severe	Severe	Slight	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak

Table 8.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns				Trees to manage
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	
898G: Sylvan-----	6R	Severe	Severe	Severe	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
911G: Timula-----	4R	Severe	Severe	Severe	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
Hickory-----	5R	Severe	Severe	Slight	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
913F: Marseilles-----	3R	Moderate	Moderate	Slight	Slight	Black oak, common hackberry, eastern white pine, green ash
Hickory-----	5R	Moderate	Moderate	Slight	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
943G: Seaton-----	6R	Severe	Severe	Severe	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak

Table 8.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns				Trees to manage
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	
943G: Timula-----	4R	Severe	Severe	Severe	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
946D3: Hickory-----	5R	Moderate	Moderate	Slight	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
Atlas-----	4R	Moderate	Moderate	Moderate	Moderate	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash
957D3: Elco-----	4A	Slight	Slight	Slight	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
Atlas-----	4C	Slight	Slight	Moderate	Moderate	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash
960F: Hickory-----	5R	Moderate	Moderate	Slight	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak

Table 8.--Forestland Management and Productivity--Continued

Map symbol and soil name	Ordination symbol	Management concerns				Trees to manage
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	
960F: Sylvan-----	6R	Moderate	Moderate	Moderate	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak
Fayette-----	4R	Moderate	Moderate	Slight	Slight	Black walnut, eastern cottonwood, eastern white pine, green ash, northern red oak, pecan, pin oak, tuliptree, white oak

Table 9.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
8D2, 8D3, 8F, 8F3, 8G: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
17A: Keomah-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
19D2, 19D3: Sylvan-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
37A: Worthen-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
43A: Ipava-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
45A: Denny-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
51A: Muscatune-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
61A: Atterberry-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
68A: Sable-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
81A: Littleton-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
86B, 86B2, 86C2: Osco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
87B: Dickinson-----	American cranberrybush, American hazelnut, black chokeberry, common chokecherry, common elderberry, common juniper, coralberry, mapleleaf viburnum, silky dogwood	American plum, bur oak, chinkapin oak, common serviceberry, eastern redcedar, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac	Black oak, common hackberry, eastern white pine, green ash	Carolina poplar-----	---

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
88B: Sparta-----	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternatleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar-----	Eastern white pine
98B: Ade-----	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, green ash, pecan	Norway spruce, common hackberry, pin oak, red pine, tuliptree	Carolina poplar, eastern white pine
119D, 119D2: Elco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
134C, 134D3: Camden-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
136A: Brooklyn-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
172A: Hoopeston-----	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, green ash, pecan	Norway spruce, common hackberry, pin oak, red pine, tuliptree	Carolina poplar, eastern white pine
199B, 199C2: Plano-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
206A: Thorp-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
212C, 212D3: Thebes-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
250D2: Velma-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
257A: Clarksdale-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
259C2, 259D2: Assumption-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
261A: Niota-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
274B, 274C2, 274D: Seaton-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
275A: Joy-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
277B, 277C: Port Byron-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
278A: Stronghurst-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
279B, 279C3: Rozetta-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
280C2, 280D, 280D2, 280D3: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
430A, 430B: Raddle-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
457A: Booker-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
549C2, 549D2, 549D3, 549F: Marseilles-----	American cranberrybush, American hazelnut, black chokeberry, common chokecherry, common elderberry, common juniper, coralberry, mapleleaf viburnum, silky dogwood	American plum, bur oak, chinkapin oak, common serviceberry, eastern redcedar, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac	Black oak, common hackberry, eastern white pine, green ash	Carolina poplar-----	---
567D, 567D2: Elkhart-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
572B, 572C: Loran-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
671B, 671C2: Biggsville-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
672B: Crescent-----	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, green ash, pecan	Norway spruce, common hackberry, pin oak, red pine, tuliptree	Carolina poplar, eastern white pine
675B, 675C2: Greenbush-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
678B: Mannon-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
684B, 684C2: Broadwell-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
689B, 689D, 689G: Coloma-----	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateleaf dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar-----	Eastern white pine
802B. Orthents					

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
898F3, 898G: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Sylvan-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
899B: Raddle-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Sparta-----	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternateteal dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, green ash, red maple	Carolina poplar-----	Eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
911G: Timula-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
913F: Marseilles-----	American cranberrybush, American hazelnut, black chokeberry, common chokecherry, common elderberry, common juniper, coralberry, mapleleaf viburnum, silky dogwood	American plum, bur oak, chinkapin oak, common serviceberry, eastern redcedar, nannyberry, prairie crabapple, roughleaf dogwood, smooth sumac	Black oak, common hackberry, eastern white pine, green ash	Carolina poplar-----	---
Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
943D3, 943G: Seaton-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Timula-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
946D3: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Atlas-----	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Norway spruce-----	Carolina poplar

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
957D3: Elco-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Atlas-----	American cranberrybush, American hazelnut, black chokeberry, common juniper, coralberry, gray dogwood, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, Washington hawthorn, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, staghorn sumac	Virginia pine, arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Norway spruce-----	Carolina poplar
960F: Hickory-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Sylvan-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
960F: Fayette-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
962D3: Sylvan-----	American hazelnut, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, coralberry, mapleleaf viburnum, redosier dogwood, silky dogwood	American plum, American witchhazel, blackhaw, common chokecherry, common serviceberry, prairie crabapple, roughleaf dogwood, smooth sumac, southern arrowwood	Washington hawthorn, arborvitae, blue spruce, common persimmon, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, green ash, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
Bold-----	American hazelnut, common winterberry, gray dogwood, redosier dogwood	Blackhaw, common chokecherry, common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	American sycamore, arborvitae, blue spruce, bur oak, chinkapin oak, common hackberry, eastern redcedar, green ash	Carolina poplar, eastern cottonwood	---
1070A: Beaucoup-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3074A: Radford-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3107A, 3107+: Sawmill-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3415A: Orion-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3646L. Fluvaquents					

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
3870L: Blake-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
Beaucoup-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7070A: Beaucoup-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
7083A: Wabash-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7107A: Sawmill-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7302A: Ambraw-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
7304A: Landes-----	American hazelnut, black chokeberry, common winterberry, coralberry, gray dogwood, mapleleaf viburnum	American plum, American witchhazel, Arnold hawthorn, blackhaw, common chokecherry, common serviceberry, prairie crabapple	Douglas fir, arborvitae, black walnut, blackgum, blue spruce, bur oak, eastern redcedar, green ash, pecan	Norway spruce, common hackberry, pin oak, red pine, tuliptree	Carolina poplar, eastern white pine
7404A: Titus-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Cockspur hawthorn, hazel alder, nannyberry, roughleaf dogwood	Arborvitae, blackgum, common hackberry, green hawthorn, northern whitecedar, shingle oak	Green ash, red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
7415A: Orion-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
7428A: Coffeen-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
9061A: Atterberry-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
9279B: Rozetta-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 9.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
9279C2: Rozetta-----	American cranberrybush, Canada yew, black chokeberry, common elderberry, common juniper, common ninebark, common winterberry, northern spicebush, redosier dogwood, silky dogwood	Blackhaw, cockspur hawthorn, common pawpaw, common serviceberry, prairie crabapple, roughleaf dogwood, rusty blackhaw, southern arrowwood, witchhazel	Austrian pine, Douglas fir, arborvitae, blue spruce, common persimmon, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, green ash, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10a.--Recreation

(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)

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2, 8D3: Hickory-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
8F, 8F3, 8G: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
17A: Keomah-----	Very limited Depth to saturated zone	1.00	Somewhat limited Restricted permeability	0.96	Very limited Depth to saturated zone	1.00
	Restricted permeability	0.96	Depth to saturated zone	0.94	Restricted permeability	0.96
19D2, 19D3: Sylvan-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
37A: Worthen-----	Not limited		Not limited		Not limited	
43A: Ipava-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
45A: Denny-----	Very limited Depth to saturated zone	1.00	Very limited Ponding Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Ponding Restricted permeability	1.00	Restricted permeability	0.96	Ponding Restricted permeability	1.00
		0.96		0.96		0.96
51A: Muscatune-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
61A: Atterberry-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
68A: Sable-----	Very limited Depth to saturated zone	1.00	Very limited Ponding Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	saturated zone	1.00	Ponding	1.00
81A: Littleton-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98

Table 10a.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
86B: Osco-----	Not limited		Not limited		Somewhat limited Slope	0.28
86B2: Osco-----	Not limited		Not limited		Somewhat limited Slope	0.28
86C2: Osco-----	Not limited		Not limited		Very limited Slope	1.00
87B: Dickinson-----	Not limited		Not limited		Somewhat limited Slope	0.28
88B: Sparta-----	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy Slope	0.95 0.50
98B: Ade-----	Somewhat limited Too sandy	0.50	Somewhat limited Too sandy	0.50	Somewhat limited Slope Too sandy	0.50 0.50
119D, 119D2: Elco-----	Somewhat limited Slope Restricted permeability	0.96 0.43	Somewhat limited Slope Restricted permeability	0.96 0.43	Very limited Slope Restricted permeability	1.00 0.43
134C: Camden-----	Not limited		Not limited		Very limited Slope	1.00
134D3: Camden-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
136A: Brooklyn-----	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.96	Very limited Ponding Depth to saturated zone Restricted permeability	1.00 1.00 0.96	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.96
172A: Hoopeston-----	Somewhat limited Depth to saturated zone	0.81	Somewhat limited Depth to saturated zone	0.48	Somewhat limited Depth to saturated zone	0.81
199B: Plano-----	Not limited		Not limited		Somewhat limited Slope	0.28
199C2: Plano-----	Not limited		Not limited		Very limited Slope	1.00

Table 10a.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
206A: Thorp-----	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	0.96	Restricted permeability	0.96	Restricted permeability	0.96
212C: Thebes-----	Not limited		Not limited		Very limited Slope	1.00
212D3: Thebes-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
250D2: Velma-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
257A: Clarksdale-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
	Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
259C2: Assumption-----	Somewhat limited Restricted permeability	0.43	Somewhat limited Restricted permeability	0.43	Very limited Slope Restricted permeability	1.00 0.43
259D2: Assumption-----	Somewhat limited Slope Restricted permeability	0.96 0.43	Somewhat limited Slope Restricted permeability	0.96 0.43	Very limited Slope Restricted permeability	1.00 0.43
261A: Niota-----	Very limited Depth to saturated zone	1.00	Very limited Ponding	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	1.00	Restricted permeability	1.00	Restricted permeability	1.00
274B: Seaton-----	Not limited		Not limited		Somewhat limited Slope	0.28
274C2: Seaton-----	Not limited		Not limited		Very limited Slope	1.00
274D: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
275A: Joy-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98

Table 10a.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
277B: Port Byron-----	Not limited		Not limited		Somewhat limited Slope	0.50
277C: Port Byron-----	Not limited		Not limited		Very limited Slope	1.00
278A: Stronghurst-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
279B: Rozetta-----	Not limited		Not limited		Somewhat limited Slope	0.28
279C3: Rozetta-----	Not limited		Not limited		Very limited Slope	1.00
280C2: Fayette-----	Not limited		Not limited		Very limited Slope	1.00
280D: Fayette-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
280D2, 280D3: Fayette-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
430A: Raddle-----	Not limited		Not limited		Not limited	
430B: Raddle-----	Not limited		Not limited		Somewhat limited Slope	0.28
457A: Booker-----	Very limited Depth to saturated zone Ponding Restricted permeability Too clayey	1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Restricted permeability Too clayey	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Restricted permeability Too clayey	1.00 1.00 1.00 1.00
549C2: Marseilles-----	Somewhat limited Restricted permeability	0.99	Somewhat limited Restricted permeability	0.99	Very limited Slope Restricted permeability Depth to bedrock	1.00 0.99 0.42
549D2: Marseilles-----	Somewhat limited Restricted permeability Slope	0.96 0.96	Somewhat limited Restricted permeability Slope	0.96 0.96	Very limited Slope Restricted permeability Depth to bedrock	1.00 0.96 0.71

Table 10a.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
549D3: Marseilles-----	Somewhat limited Restricted permeability Slope	0.99  0.96	Somewhat limited Restricted permeability Slope	0.99  0.96	Very limited Slope Restricted permeability Depth to bedrock	1.00  0.99  0.42
549F: Marseilles-----	Very limited Slope Restricted permeability	1.00  0.96	Very limited Slope Restricted permeability	1.00  0.96	Very limited Slope Restricted permeability Depth to bedrock	1.00  0.96  0.10
567D, 567D2: Elkhart-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
572B: Loran-----	Somewhat limited Depth to saturated zone	0.39	Somewhat limited Depth to saturated zone	0.19	Somewhat limited Depth to saturated zone Slope	0.39  0.28
572C: Loran-----	Somewhat limited Restricted permeability Depth to saturated zone	0.96  0.39	Somewhat limited Restricted permeability Depth to saturated zone	0.96  0.19	Very limited Slope Restricted permeability Depth to saturated zone	1.00  0.96  0.39
671B: Biggsville-----	Not limited		Not limited		Somewhat limited Slope	0.28
671C2: Biggsville-----	Not limited		Not limited		Very limited Slope	1.00
672B: Crescent-----	Not limited		Not limited		Somewhat limited Slope	0.28
675B: Greenbush-----	Not limited		Not limited		Somewhat limited Slope	0.28
675C2: Greenbush-----	Not limited		Not limited		Very limited Slope	1.00
678B: Mannon-----	Not limited		Not limited		Somewhat limited Slope	0.28
684B: Broadwell-----	Not limited		Not limited		Somewhat limited Slope	0.28
684C2: Broadwell-----	Not limited		Not limited		Very limited Slope	1.00

Table 10a.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
689B: Coloma-----	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy Slope	1.00 0.50
689D: Coloma-----	Very limited Too sandy Slope	1.00 0.37	Very limited Too sandy Slope	1.00 0.37	Very limited Slope Too sandy	1.00 1.00
689G: Coloma-----	Very limited Slope Too sandy	1.00 1.00	Very limited Too sandy Slope	1.00 1.00	Very limited Slope Too sandy	1.00 1.00
802B: Orthents-----	Somewhat limited Restricted permeability	0.21	Somewhat limited Restricted permeability	0.21	Somewhat limited Slope Restricted permeability	0.50 0.21
898F3, 898G: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Sylvan-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
899B: Raddle-----	Not limited		Not limited		Not limited	
Sparta-----	Somewhat limited Too sandy	0.82	Somewhat limited Too sandy	0.82	Somewhat limited Too sandy Slope	0.82 0.50
911G: Timula-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
913F: Marseilles-----	Very limited Slope Restricted permeability	1.00 0.96	Very limited Slope Restricted permeability	1.00 0.96	Very limited Slope Restricted permeability Depth to bedrock	1.00 0.96 0.42
Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
943D3: Seaton-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Timula-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
943G: Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 10a.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
943G: Timula-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
946D3: Hickory-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Atlas-----	Very limited Restricted permeability Depth to saturated zone Slope	1.00 1.00 0.96	Very limited Restricted permeability Depth to saturated zone	1.00 0.96 0.94	Very limited Slope Restricted permeability Depth to saturated zone	1.00 1.00 1.00
957D3: Elco-----	Somewhat limited Slope Restricted permeability	0.96 0.43	Somewhat limited Slope Restricted permeability	0.96 0.43	Very limited Slope Restricted permeability	1.00 0.43
Atlas-----	Very limited Restricted permeability Depth to saturated zone Slope	1.00 1.00 0.96	Very limited Restricted permeability Depth to saturated zone	1.00 0.96 0.94	Very limited Slope Restricted permeability Depth to saturated zone	1.00 1.00 1.00
960F: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Sylvan-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Fayette-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
962D3: Sylvan-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
Bold-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
1070A: Beaucoup-----	Very limited Depth to saturated zone Flooding Ponding Restricted permeability	1.00 1.00 1.00 0.21	Very limited Ponding Depth to saturated zone Restricted permeability	1.00 1.00 0.21	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.21
3074A: Radford-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone Flooding	0.75 0.40	Very limited Flooding Depth to saturated zone	1.00 0.98

Table 10a.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3107A, 3107+: Sawmill-----	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
3415A: Orion-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone Flooding	0.75 0.40	Very limited Flooding Depth to saturated zone	1.00 0.98
3646L: Fluvaquents-----	Very limited Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Flooding Ponding	1.00 1.00 1.00
3870L: Blake-----	Very limited Flooding	1.00	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
Beaucoup-----	Very limited Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.21	Very limited Depth to saturated zone Flooding Restricted permeability	1.00 0.40 0.21	Very limited Flooding Depth to saturated zone Restricted permeability	1.00 1.00 0.21
7070A: Beaucoup-----	Very limited Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
7083A: Wabash-----	Very limited Depth to saturated zone Flooding Ponding Restricted permeability Too clayey	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Restricted permeability Too clayey	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Restricted permeability Too clayey	1.00 1.00 1.00 1.00
7107A: Sawmill-----	Very limited Flooding Ponding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
7302A: Ambraw-----	Very limited Depth to saturated zone Flooding Ponding Restricted permeability	1.00 1.00 1.00 0.21	Very limited Ponding Depth to saturated zone Restricted permeability	1.00 1.00 0.21	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.21

Table 10a.--Recreation--Continued

Map symbol and soil name	Camp areas		Picnic areas		Playgrounds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7304A: Landes-----	Very limited Flooding	1.00	Not limited		Not limited	
7404A: Titus-----	Very limited Depth to saturated zone Flooding Ponding Restricted permeability	1.00 1.00 1.00 0.96	Very limited Ponding Depth to saturated zone Restricted permeability	1.00 1.00 0.96	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.96
7415A: Orion-----	Very limited Flooding Depth to saturated zone	1.00 0.39	Somewhat limited Depth to saturated zone	0.19	Somewhat limited Depth to saturated zone	0.39
7428A: Coffeen-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
9061A: Atterberry-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
9279B: Rozetta-----	Not limited		Not limited		Somewhat limited Slope	0.28
9279C2: Rozetta-----	Not limited		Not limited		Very limited Slope	1.00

Table 10b.--Recreation

(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)

Map symbol and soil name	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
8D2, 8D3: Hickory-----	Not limited		Not limited		Somewhat limited Slope	0.96
8F, 8F3: Hickory-----	Very limited Slope	1.00	Somewhat limited Slope	0.04	Very limited Slope	1.00
8G: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
17A: Keomah-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
19D2, 19D3: Sylvan-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
37A: Worthen-----	Not limited		Not limited		Not limited	
43A: Ipava-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
45A: Denny-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
51A: Muscatune-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
61A: Atterberry-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
68A: Sable-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
81A: Littleton-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75

Table 10b.--Recreation--Continued

Map symbol and soil name	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
86B, 86B2, 86C2: Osco-----	Not limited		Not limited		Not limited	
87B: Dickinson-----	Not limited		Not limited		Not limited	
88B: Sparta-----	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Droughty	0.08
98B: Ade-----	Somewhat limited Too sandy	0.50	Somewhat limited Too sandy	0.50	Somewhat limited Droughty	0.34
119D, 119D2: Elco-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
134C: Camden-----	Not limited		Not limited		Not limited	
134D3: Camden-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
136A: Brooklyn-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
172A: Hoopeston-----	Somewhat limited Depth to saturated zone	0.11	Somewhat limited Depth to saturated zone	0.11	Somewhat limited Depth to saturated zone	0.48
199B, 199C2: Plano-----	Not limited		Not limited		Not limited	
206A: Thorp-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
212C: Thebes-----	Not limited		Not limited		Not limited	
212D3: Thebes-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
250D2: Velma-----	Not limited		Not limited		Somewhat limited Slope	0.96
257A: Clarksdale-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94

Table 10b.--Recreation--Continued

Map symbol and soil name	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
259C2: Assumption-----	Not limited		Not limited		Not limited	
259D2: Assumption-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
261A: Niota-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
274B, 274C2: Seaton-----	Not limited		Not limited		Not limited	
274D: Seaton-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
275A: Joy-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
277B, 277C: Port Byron-----	Not limited		Not limited		Not limited	
278A: Stronghurst-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
279B, 279C3: Rozetta-----	Not limited		Not limited		Not limited	
280C2: Fayette-----	Not limited		Not limited		Not limited	
280D, 280D2, 280D3: Fayette-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
430A, 430B: Raddle-----	Not limited		Not limited		Not limited	
457A: Booker-----	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	1.00 1.00 1.00
549C2: Marseilles-----	Not limited		Not limited		Somewhat limited Depth to bedrock	0.42
549D2: Marseilles-----	Not limited		Not limited		Somewhat limited Slope Depth to bedrock	0.96 0.71

Table 10b.--Recreation--Continued

Map symbol and soil name	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
549D3: Marseilles-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope Depth to bedrock	0.96 0.42
549F: Marseilles-----	Very limited Slope	1.00	Somewhat limited Slope	0.04	Very limited Slope Depth to bedrock	1.00 0.10
567D, 567D2: Elkhart-----	Not limited		Not limited		Somewhat limited Slope	0.96
572B, 572C: Loran-----	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19
671B, 671C2: Biggsville-----	Not limited		Not limited		Not limited	
672B: Crescent-----	Not limited		Not limited		Not limited	
675B, 675C2: Greenbush-----	Not limited		Not limited		Not limited	
678B: Mannon-----	Not limited		Not limited		Not limited	
684B, 684C2: Broadwell-----	Not limited		Not limited		Not limited	
689B: Coloma-----	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Too sandy Droughty	0.50 0.49
689D: Coloma-----	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Droughty Too sandy Slope	0.58 0.50 0.37
689G: Coloma-----	Very limited Too sandy Slope	1.00 1.00	Very limited Too sandy Slope	1.00 1.00	Very limited Slope Too sandy Droughty	1.00 0.50 0.16
802B: Orthents-----	Not limited		Not limited		Not limited	
898F3: Hickory-----	Very limited Slope	1.00	Somewhat limited Slope	0.01	Very limited Slope	1.00
Sylvan-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.01	Very limited Slope	1.00

Table 10b.--Recreation--Continued

Map symbol and soil name	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
898G:						
Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Sylvan-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
899B:						
Raddle-----	Not limited		Not limited		Not limited	
Sparta-----	Somewhat limited Too sandy	0.82	Somewhat limited Too sandy	0.82	Somewhat limited Droughty	0.05
911G:						
Timula-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
913F:						
Marseilles-----	Very limited Slope	1.00	Somewhat limited Slope	0.01	Very limited Slope Depth to bedrock	1.00 0.42
Hickory-----	Very limited Slope	1.00	Somewhat limited Slope	0.01	Very limited Slope	1.00
943D3:						
Seaton-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
Timula-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
943G:						
Seaton-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
Timula-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope	1.00
946D3:						
Hickory-----	Not limited		Not limited		Somewhat limited Slope	0.96
Atlas-----	Very limited Water erosion Depth to saturated zone	1.00 0.86	Very limited Water erosion Depth to saturated zone	1.00 0.86	Somewhat limited Slope Depth to saturated zone	0.96 0.94
957D3:						
Elco-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96

Table 10b.--Recreation--Continued

Map symbol and soil name	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
957D3:						
Atlas-----	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
	Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
960F:						
Hickory-----	Very limited		Somewhat limited		Very limited	
	Slope	1.00	Slope	0.04	Slope	1.00
Sylvan-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00	Slope	0.04		
Fayette-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	1.00
	Slope	1.00	Slope	0.04		
962D3:						
Sylvan-----	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
Bold-----	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
1070A:						
Beaucoup-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
3074A:						
Radford-----	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
3107A, 3107+:						
Sawmill-----	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
3415A:						
Orion-----	Somewhat limited		Somewhat limited		Very limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.75
3646L:						
Fluvaquents-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
3870L:						
Blake-----	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00

Table 10b.--Recreation--Continued

Map symbol and soil name	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
3870L: Beaucoup-----	Very limited Depth to saturated zone Flooding	1.00  0.40	Very limited Depth to saturated zone Flooding	1.00  0.40	Very limited Flooding Depth to saturated zone	1.00  1.00
7070A: Beaucoup-----	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Ponding Depth to saturated zone	1.00  1.00
7083A: Wabash-----	Very limited Depth to saturated zone Ponding Too clayey	1.00  1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey	1.00  1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	1.00  1.00 1.00
7107A: Sawmill-----	Very limited Ponding Depth to saturated zone	1.00  1.00	Very limited Ponding Depth to saturated zone	1.00  1.00	Very limited Ponding Depth to saturated zone	1.00  1.00
7302A: Ambraw-----	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Ponding Depth to saturated zone	1.00  1.00
7304A: Landes-----	Not limited		Not limited		Not limited	
7404A: Titus-----	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Ponding Depth to saturated zone	1.00  1.00
7415A: Orion-----	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19
7428A: Coffeen-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
9061A: Atterberry-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
9279B: Rozetta-----	Not limited		Not limited		Not limited	

Table 10b.--Recreation--Continued

Map symbol and soil name	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
9279C2: Rozetta-----	Not limited		Not limited		Not limited	

Table 11.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is 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	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
8D2, 8D3: Hickory-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
8F, 8F3: Hickory-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
8G: Hickory-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
17A: Keomah-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
19D2, 19D3: Sylvan-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
37A: Worthen-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
43A: Ipava-----	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
45A: Denny-----	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
51A: Muscatune-----	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
61A: Atterberry-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
68A: Sable-----	Fair	Good	Good	Fair	Fair	Good	Good	Good	Fair	Good.
81A: Littleton-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
86B, 86B2: Osco-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
86C2: Osco-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
87B: Dickinson-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
88B: Sparta-----	Poor	Poor	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.

Table 11.--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	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
98B: Ade-----	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
119D, 119D2: Elco-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
134C: Camden-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
134D3: Camden-----	Fair	Good	Good	Good	Good	Very poor	Very poor.	Good	Good	Very poor.
136A: Brooklyn-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
172A: Hoopeston-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
199B: Plano-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
199C2: Plano-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
206A: Thorp-----	Poor	Fair	Good	Fair	Fair	Good	Good	Fair	Fair	Good.
212C: Thebes-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
212D3: Thebes-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
250D2: Velma-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
257A: Clarksdale-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
259C2: Assumption-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Fair	Very poor.
259D2: Assumption-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
261A: Niota-----	Poor	Fair	Good	Fair	Fair	Good	Good	Fair	Fair	Good.
274B: Seaton-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 11.--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	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
274C2: Seaton-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
274D: Seaton-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
275A: Joy-----	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
277B: Port Byron-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
277C: Port Byron-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
278A: Stronghurst-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
279B: Rozetta-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
279C3: Rozetta-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
280C2: Fayette-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
280D, 280D2, 280D3: Fayette-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
430A, 430B: Raddle-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
457A: Booker-----	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
549C2, 549D2, 549D3: Marseilles-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
549F: Marseilles-----	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
567D, 567D2: Elkhart-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
572B: Loran-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 11.--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	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
572C: Loran-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
671B: Biggsville-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
671C2: Biggsville-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
672B: Crescent-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
675B: Greenbush-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
675C2: Greenbush-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
678B: Mannon-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
684B: Broadwell-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
684C2: Broadwell-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
689B: Coloma-----	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
689D: Coloma-----	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
689G: Coloma-----	Very poor.	Fair	Fair	Fair	Good	Very poor.	Very poor.	Fair	Fair	Very poor.
802B. Orthents										
898F3: Hickory-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Sylvan-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
898G: Hickory-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Sylvan-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.

Table 11.--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	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
899B:										
Raddle-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Sparta-----	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
911G:										
Timula-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Hickory-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
913F:										
Marseilles-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Hickory-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
943D3:										
Seaton-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Timula-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
943G:										
Seaton-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Timula-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
946D3:										
Hickory-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Atlas-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
957D3:										
Elco-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Atlas-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
960F:										
Hickory-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Sylvan-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Fayette-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
962D3:										
Sylvan-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 11.--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	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
962D3: Bold-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
1070A: Beaucoup-----	Very poor.	Poor	Fair	Poor	Poor	Good	Good	Poor	Poor	Good.
3074A: Radford-----	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
3107A: Sawmill-----	Poor	Fair	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair.
3107+: Sawmill-----	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Good.
3415A: Orion-----	Poor	Fair	Fair	Good	Good	Fair	Fair	Good	Fair	Fair.
3646L: Fluvaquents-----	Very poor.	Poor	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
3870L: Blake-----	Very poor.	Poor	Fair	Good	Good	Fair	Fair	Poor	Fair	Fair.
Beaucoup-----	Very poor.	Poor	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
7070A: Beaucoup-----	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
7083A: Wabash-----	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
7107A: Sawmill-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
7302A: Ambraw-----	Fair	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
7304A: Landes-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
7404A: Titus-----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
7415A: Orion-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
7428A: Coffeen-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Fair.
9061A: Atterberry-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
9279B: Rozetta-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.

Table 11.--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	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
9279C2: Rozetta-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 12.--Hydric Soils

(See text for a description of hydric qualities)

Map symbol and map unit name	Component	Hydric status	Local landform
8D2: Hickory silt loam, 10 to 18 percent slopes, eroded	Hickory	No	ground moraine
8D3: Hickory clay loam, 10 to 18 percent slopes, severely eroded	Hickory	No	ground moraine
8F: Hickory silt loam, 18 to 35 percent slopes	Hickory	No	ground moraine
8F3: Hickory clay loam, 18 to 35 percent slopes, severely eroded	Hickory	No	ground moraine
8G: Hickory silt loam, 35 to 60 percent slopes	Hickory	No	ground moraine
17A: Keomah silt loam, 0 to 2 percent slopes	Keomah	No	ground moraine
	Denny	Yes	depression
19D2: Sylvan silt loam, 10 to 18 percent slopes, eroded	Sylvan	No	ground moraine
19D3: Sylvan silty clay loam, 10 to 18 percent slopes, severely eroded	Sylvan	No	ground moraine
37A: Worthen silt loam, 0 to 2 percent slopes	Worthen	No	alluvial fan, stream terrace
43A: Ipava silt loam, 0 to 2 percent slopes	Ipava	No	ground moraine
	Denny	Yes	depression
	Sable	Yes	depression
45A: Denny silt loam, 0 to 2 percent slopes	Denny	Yes	depression
51A: Muscatune silt loam, 0 to 2 percent slopes	Muscatune	No	ground moraine
	Denny	Yes	depression
	Sable	Yes	depression

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
61A: Atterberry silt loam, 0 to 2 percent slopes	Atterberry	No	ground moraine
68A: Sable silty clay loam, 0 to 2 percent slopes	Sable	Yes	depression
81A: Littleton silt loam, 0 to 2 percent slopes	Littleton	No	alluvial fan, stream terrace
86B: Osco silt loam, 2 to 5 percent slopes	Osco	No	ground moraine
	Sable	Yes	ground moraine, depression
	Denny	Yes	depression
86B2: Osco silt loam, 2 to 5 percent slopes, eroded	Osco	No	ground moraine
	Denny	Yes	ground moraine
	Sable	Yes	ground moraine
86C2: Osco silt loam, 5 to 10 percent slopes, eroded	Osco	No	ground moraine
	Denny	Yes	depression
	Sable	Yes	toeslope
87B: Dickinson sandy loam, 2 to 5 percent slopes	Dickinson	No	stream terrace
88B: Sparta loamy sand, 1 to 6 percent slopes	Sparta	No	stream terrace
98B: Ade loamy fine sand, 2 to 7 percent slopes	Ade	No	stream terrace
119D: Elco silt loam, 10 to 18 percent slopes	Elco	No	ground moraine
119D2: Elco silt loam, 10 to 18 percent slopes, eroded	Elco	No	ground moraine
134C: Camden silt loam, 5 to 10 percent slopes	Camden	No	outwash plain

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
134D3: Camden silty clay loam, 10 to 18 percent slopes, severely eroded	Camden	No	outwash plain
136A: Brooklyn silt loam, 0 to 2 percent slopes	Brooklyn	Yes	stream terrace
	Sawmill	Yes	flood plain
172A: Hoopeston sandy loam, 0 to 2 percent slopes	Hoopeston	No	outwash plain
199B: Plano silt loam, 2 to 5 percent slopes	Plano	No	outwash plain, stream terrace
	Sable	Yes	toeslope
199C2: Plano silt loam, 5 to 10 percent slopes, eroded	Plano	No	outwash plain
	Sable	Yes	toeslope
206A: Thorp silt loam, 0 to 2 percent slopes	Thorp	Yes	outwash plain
	Booker	Yes	lake plain
212C: Thebes silt loam, 5 to 10 percent slopes	Thebes	No	ground moraine
212D3: Thebes silty clay loam, 10 to 18 percent slopes, severely eroded	Thebes	No	ground moraine
250D2: Velma silt loam, 10 to 18 percent slopes, eroded	Velma	No	ground moraine
257A: Clarksdale silt loam, 0 to 2 percent slopes	Clarksdale	No	ground moraine
	Denny	Yes	depression
259C2: Assumption silt loam, 5 to 10 percent slopes, eroded	Assumption	No	ground moraine
259D2: Assumption silt loam, 10 to 18 percent slopes, eroded	Assumption	No	ground moraine

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
261A: Niota silt loam, 0 to 2 percent slopes	Niota	Yes	lake plain
274B: Seaton silt loam, 2 to 5 percent slopes	Seaton	No	ground moraine
274C2: Seaton silt loam, 5 to 10 percent slopes, eroded	Seaton	No	ground moraine
274D: Seaton silt loam, 10 to 18 percent slopes	Seaton	No	ground moraine
275A: Joy silt loam, 0 to 2 percent slopes	Joy	No	ground moraine
277B: Port Byron silt loam, 2 to 5 percent slopes	Port Byron	No	ground moraine
277C: Port Byron silt loam, 5 to 10 percent slopes	Port Byron	No	ground moraine
278A: Stronghurst silt loam, 0 to 2 percent slopes	Stronghurst	No	ground moraine
279B: Rozetta silt loam, 2 to 5 percent slopes	Rozetta	No	ground moraine
279C3: Rozetta silty clay loam, 5 to 10 percent slopes, severely eroded	Rozetta	No	ground moraine
280C2: Fayette silt loam, 5 to 10 percent slopes, eroded	Fayette	No	ground moraine
280D: Fayette silt loam, 10 to 18 percent slopes	Fayette	No	ground moraine
280D2: Fayette silt loam, 10 to 18 percent slopes, eroded	Fayette	No	ground moraine
280D3: Fayette silty clay loam, 10 to 18 percent slopes, severely eroded	Fayette	No	ground moraine

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
430A: Raddle silt loam, 0 to 2 percent slopes	Raddle	No	stream terrace
430B: Raddle silt loam, 2 to 5 percent slopes	Raddle	No	stream terrace
457A: Booker silty clay, 0 to 2 percent slopes	Booker	Yes	lake plain
549C2: Marseilles silt loam, 5 to 10 percent slopes, eroded	Marseilles	No	ground moraine
549D2: Marseilles silt loam, 10 to 18 percent slopes, eroded	Marseilles	No	ground moraine
549D3: Marseilles silty clay loam, 10 to 18 percent slopes, severely eroded	Marseilles	No	ground moraine
549F: Marseilles silt loam, 18 to 35 percent slopes	Marseilles	No	ground moraine
567D: Elkhart silt loam, 10 to 18 percent slopes	Elkhart	No	ground moraine
567D2: Elkhart silt loam, 10 to 18 percent slopes, eroded	Elkhart	No	ground moraine
572B: Loran silt loam, 2 to 5 percent slopes	Loran	No	ground moraine
572C: Loran silt loam, 5 to 10 percent slopes	Loran	No	ground moraine
671B: Biggsville silt loam, 2 to 5 percent slopes	Biggsville	No	ground moraine
671C2: Biggsville silt loam, 5 to 10 percent slopes, eroded	Biggsville	No	ground moraine
672B: Crescent loam, 2 to 5 percent slopes	Crescent	No	outwash plain

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
675B: Greenbush silt loam, 2 to 5 percent slopes	Greenbush	No	ground moraine
	Denny	Yes	depression
675C2: Greenbush silt loam, 5 to 10 percent slopes, eroded	Greenbush	No	ground moraine
678B: Mannon silt loam, 2 to 5 percent slopes	Mannon	No	ground moraine
684B: Broadwell silt loam, 2 to 5 percent slopes	Broadwell	No	ground moraine, knoll, outwash plain
684C2: Broadwell silt loam, 5 to 10 percent slopes, eroded	Broadwell	No	outwash plain
	Sable	Yes	toeslope
689B: Coloma sand, 1 to 7 percent slopes	Coloma	No	dune
689D: Coloma sand, 7 to 15 percent slopes	Coloma	No	dune
689G: Coloma sand, 20 to 60 percent slopes	Coloma	No	dune
802B: Orthents, loamy, undulating	Orthents	No	ground moraine
898F3: Hickory-Sylvan complex, 18 to 35 percent slopes, severely eroded	Hickory	No	ground moraine
	Sylvan	No	ground moraine
898G: Hickory-Sylvan silt loams, 35 to 60 percent slopes	Hickory	No	ground moraine
	Sylvan	No	ground moraine
899B: Raddle-Sparta complex, 2 to 5 percent slopes	Raddle	No	outwash plain
	Sparta	No	outwash plain
	Niota	Yes	lake plain
911G: Timula-Hickory silt loams, 35 to 60 percent slopes	Timula	No	ground moraine
	Hickory	No	ground moraine

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
913F: Marseilles-Hickory silt loams, 18 to 35 percent slopes	Marseilles	No	ground moraine
	Hickory	No	ground moraine
943D3: Seaton-Timula silt loams, 10 to 18 percent slopes, severely eroded	Seaton	No	ground moraine
	Timula	No	ground moraine
943G: Seaton-Timula silt loams, 35 to 60 percent slopes	Seaton	No	ground moraine
	Timula	No	ground moraine
946D3: Hickory-Atlas complex, 10 to 18 percent slopes, severely eroded	Hickory	No	ground moraine
	Atlas	No	ground moraine
957D3: Elco-Atlas silty clay loams, 10 to 18 percent slopes, severely eroded	Elco	No	ground moraine
	Atlas	No	ground moraine
960F: Hickory-Sylvan-Fayette silt loams, 18 to 35 percent slopes	Hickory	No	ground moraine
	Sylvan	No	ground moraine
	Fayette	No	ground moraine
962D3: Sylvan-Bold complex, 10 to 18 percent slopes, severely eroded	Sylvan	No	ground moraine
	Bold	No	ground moraine
1070A: Beaucoup silty clay loam, undrained, 0 to 2 percent slopes, rarely flooded	Beaucoup	Yes	flood plain
3074A: Radford silt loam, 0 to 2 percent slopes, frequently flooded	Radford	No	flood plain
3107A: Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	Sawmill	Yes	flood plain
3107+: Sawmill silt loam, 0 to 2 percent slopes, frequently flooded, overwash	Sawmill	Yes	flood plain

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
3415A:			
Orion silt loam, 0 to 2 percent slopes, frequently flooded	Orion	No	flood plain
	Sawmill	Yes	flood plain
	Zook	Yes	flood plain
3646L:			
Fluvaquents, loamy, 0 to 2 percent slopes, frequently flooded, long duration	Fluvaquents	Yes	flood plain
3870L:			
Blake-Beaucoup complex, 0 to 2 percent slopes, frequently flooded, long duration	Blake	Yes	flood plain
	Beaucoup	Yes	flood plain
7070A:			
Beaucoup silty clay loam, 0 to 2 percent slopes, rarely flooded	Beaucoup	Yes	flood plain
7083A:			
Wabash silty clay, 0 to 2 percent slopes, rarely flooded	Wabash	Yes	flood plain
7107A:			
Sawmill silty clay loam, 0 to 2 percent slopes, rarely flooded	Sawmill	Yes	flood plain
7302A:			
Ambraw clay loam, 0 to 2 percent slopes, rarely flooded	Ambraw	Yes	flood plain
7304A:			
Landes fine sandy loam, 0 to 2 percent slopes, rarely flooded	Landes	No	flood plain, natural levee
7404A:			
Titus silty clay loam, 0 to 2 percent slopes, rarely flooded	Titus	Yes	flood plain
7415A:			
Orion silt loam, 0 to 2 percent slopes, rarely flooded	Orion	No	flood plain
7428A:			
Coffeen silt loam, 0 to 2 percent slopes, rarely flooded	Coffeen	No	flood plain
	Sawmill	Yes	flood plain

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Hydric status	Local landform
9061A: Atterberry silt loam, terrace, 0 to 2 percent slopes	Atterberry	No	terrace
	Beaucoup	Yes	flood plain
	Sawmill	Yes	flood plain
9279B: Rozetta silt loam, terrace, 2 to 5 percent slopes	Rozetta	No	terrace
	Beaucoup	Yes	flood plain
	Sawmill	Yes	flood plain
9279C2: Rozetta silt loam, terrace, 5 to 10 percent slopes, eroded	Rozetta	No	terrace
	Beaucoup	Yes	flood plain
	Sawmill	Yes	flood plain

Table 13a.--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 potential limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2, 8D3: Hickory-----	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.98	Slope	0.98	Slope	1.00
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
8F, 8F3, 8G: Hickory-----	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
17A: Keomah-----	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Depth to	1.00	Shrink-swell	1.00
	Depth to saturated zone	1.00	saturated zone		Depth to saturated zone	1.00
19D2, 19D3: Sylvan-----	Somewhat limited		Somewhat limited		Very limited	
	Slope	0.98	Slope	0.98	Slope	1.00
	Shrink-swell	0.50			Shrink-swell	0.50
37A: Worthen-----	Not limited		Not limited		Not limited	
43A: Ipava-----	Very limited		Very limited		Very limited	
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Depth to saturated zone	0.44	Depth to saturated zone	1.00	Depth to saturated zone	0.44
45A: Denny-----	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	1.00	Shrink-swell	1.00	Shrink-swell	1.00
51A: Muscatune-----	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
61A: Atterberry-----	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
68A: Sable-----	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 13a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
81A: Littleton-----	Somewhat limited Depth to saturated zone	0.99	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.99
86B, 86B2: Osc-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50
86C2: Osc-----	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Shrink-swell Depth to saturated zone Slope	0.50 0.15 0.12	Somewhat limited Slope Shrink-swell	0.94 0.50
87B: Dickinson-----	Not limited		Not limited		Not limited	
88B: Sparta-----	Not limited		Not limited		Somewhat limited Slope	0.10
98B: Ade-----	Not limited		Not limited		Somewhat limited Slope	0.10
119D, 119D2: Elco-----	Somewhat limited Slope Shrink-swell	0.98 0.50	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.99 0.98	Very limited Slope Shrink-swell	1.00 0.50
134C: Camden-----	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Slope Shrink-swell	0.94 0.50
134D3: Camden-----	Somewhat limited Slope Shrink-swell	0.98 0.50	Somewhat limited Slope Shrink-swell	0.98 0.50	Very limited Slope Shrink-swell	1.00 0.50
136A: Brooklyn-----	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
172A: Hoopeston-----	Somewhat limited Depth to saturated zone	0.84	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.84
199B: Plano-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
199C2: Plano-----	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Slope Shrink-swell	0.94 0.50
206A: Thorp-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
212C: Thebes-----	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Slope	0.12	Somewhat limited Slope Shrink-swell	0.94 0.50
212D3: Thebes-----	Somewhat limited Slope Shrink-swell	0.98 0.50	Somewhat limited Slope	0.98	Very limited Slope Shrink-swell	1.00 0.50
250D2: Velma-----	Somewhat limited Slope Shrink-swell	0.98 0.50	Somewhat limited Slope Shrink-swell	0.98 0.50	Very limited Slope Shrink-swell	1.00 0.50
257A: Clarksdale-----	Very limited Shrink-swell Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 1.00
259C2: Assumption-----	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Depth to saturated zone Shrink-swell Slope	0.99 0.50 0.12	Somewhat limited Slope Shrink-swell	0.94 0.50
259D2: Assumption-----	Somewhat limited Slope Shrink-swell	0.98 0.50	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.99 0.98	Very limited Slope Shrink-swell	1.00 0.50
261A: Niota-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
274B: Seaton-----	Not limited		Not limited		Not limited	
274C2: Seaton-----	Somewhat limited Slope	0.12	Somewhat limited Slope	0.12	Somewhat limited Slope	0.94
274D: Seaton-----	Somewhat limited Slope	0.92	Somewhat limited Slope	0.92	Very limited Slope	1.00

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
275A: Joy-----	Somewhat limited Depth to saturated zone	0.99	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.99
277B: Port Byron-----	Not limited		Not limited		Somewhat limited Slope	0.10
277C: Port Byron-----	Somewhat limited Slope	0.12	Somewhat limited Slope	0.12	Somewhat limited Slope	0.94
278A: Stronghurst-----	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50
279B: Rozetta-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50
279C3: Rozetta-----	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Depth to saturated zone Slope	0.15 0.12	Somewhat limited Slope Shrink-swell	0.94 0.50
280C2: Fayette-----	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Slope Shrink-swell	0.94 0.50
280D, 280D2, 280D3: Fayette-----	Somewhat limited Slope Shrink-swell	0.98 0.50	Somewhat limited Slope Shrink-swell	0.98 0.50	Very limited Slope Shrink-swell	1.00 0.50
430A: Raddle-----	Not limited		Not limited		Not limited	
430B: Raddle-----	Not limited		Not limited		Somewhat limited Slope	0.10
457A: Booker-----	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
549C2: Marseilles-----	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Shrink-swell Depth to rock Slope	0.50 0.42 0.12	Somewhat limited Slope Shrink-swell	0.94 0.50

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
549D2, 549D3: Marseilles-----	Somewhat limited Slope Shrink-swell	0.98 0.50	Somewhat limited Slope Shrink-swell Depth to rock	0.98 0.50 0.42	Very limited Slope Shrink-swell	1.00 0.50
549F: Marseilles-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to rock	1.00 0.50 0.42	Very limited Slope Shrink-swell	1.00 0.50
567D, 567D2: Elkhart-----	Somewhat limited Slope Shrink-swell	0.98 0.50	Somewhat limited Slope Depth to saturated zone	0.98 0.16	Very limited Slope Shrink-swell	1.00 0.50
572B: Loran-----	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.44	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.44
572C: Loran-----	Somewhat limited Shrink-swell Depth to saturated zone Slope	0.50 0.44 0.08	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.50 0.08	Somewhat limited Slope Shrink-swell Depth to saturated zone	0.90 0.50 0.44
671B: Biggsville-----	Not limited		Somewhat limited Depth to saturated zone	0.15	Somewhat limited Slope	0.10
671C2: Biggsville-----	Somewhat limited Slope	0.12	Somewhat limited Depth to saturated zone Slope	0.15 0.12	Somewhat limited Slope	0.94
672B: Crescent-----	Not limited		Not limited		Not limited	
675B: Greenbush-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell Slope	0.50 0.10
675C2: Greenbush-----	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Shrink-swell Depth to saturated zone Slope	0.50 0.15 0.12	Somewhat limited Slope Shrink-swell	0.94 0.50
678B: Mannon-----	Not limited		Somewhat limited Depth to saturated zone	0.15	Somewhat limited Slope	0.10

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
684B: Broadwell-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
684C2: Broadwell-----	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Shrink-swell Slope	0.50 0.12	Somewhat limited Slope Shrink-swell	0.94 0.50
689B: Coloma-----	Not limited		Not limited		Somewhat limited Slope	0.10
689D: Coloma-----	Somewhat limited Slope	0.68	Somewhat limited Slope	0.68	Very limited Slope	1.00
689G: Coloma-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
802B: Orthents-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.10
898F3, 898G: Hickory-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Sylvan-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
899B: Raddle-----	Not limited		Somewhat limited Depth to saturated zone	0.15	Not limited	
Sparta-----	Not limited		Not limited		Somewhat limited Slope	0.10
911G: Timula-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
913F: Marseilles-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to rock	1.00 0.50 0.42	Very limited Slope Shrink-swell	1.00 0.50
Hickory-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
943D3:						
Seaton-----	Somewhat limited Slope	0.98	Somewhat limited Slope	0.98	Very limited Slope	1.00
Timula-----	Somewhat limited Slope	0.98	Somewhat limited Slope	0.98	Very limited Slope	1.00
943G:						
Seaton-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Timula-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
946D3:						
Hickory-----	Somewhat limited Slope Shrink-swell	0.98 0.50	Somewhat limited Slope Shrink-swell	0.98 0.50	Very limited Slope Shrink-swell	1.00 0.50
Atlas-----	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.99 0.98	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.98	Very limited Slope Shrink-swell Depth to saturated zone	1.00 1.00 0.99
957D3:						
Elco-----	Somewhat limited Slope Shrink-swell	0.98 0.50	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.99 0.98	Very limited Slope Shrink-swell	1.00 0.50
Atlas-----	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.99 0.98	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.98	Very limited Slope Shrink-swell Depth to saturated zone	1.00 1.00 0.99
960F:						
Hickory-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Sylvan-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
Fayette-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
962D3:						
Sylvan-----	Somewhat limited Slope Shrink-swell	0.98 0.50	Somewhat limited Slope	0.98	Very limited Slope Shrink-swell	1.00 0.50
Bold-----	Somewhat limited Slope	0.98	Somewhat limited Slope	0.98	Very limited Slope	1.00

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1070A: Beaucoup-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	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
3074A: Radford-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
			Shrink-swell	0.50		
3107A, 3107+: Sawmill-----	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
3415A: Orion-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.44	Depth to saturated zone	1.00	Depth to saturated zone	0.44
3646L: Fluvaquents-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	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
3870L: Blake-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Shrink-swell	0.50	Depth to saturated zone	0.95	Shrink-swell	0.50
Beaucoup-----	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
7070A: Beaucoup-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	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
7083A: Wabash-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	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	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 13a.--Building Site Development--Continued

Map symbol and soil name	Dwellings without basements		Dwellings with basements		Small commercial buildings	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
7107A: Sawmill-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	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
7302A: Ambraw-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	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
7304A: Landes-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
			Depth to saturated zone	0.15		
7404A: Titus-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	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	1.00	Shrink-swell	1.00	Shrink-swell	1.00
7415A: Orion-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.44	Depth to saturated zone	1.00	Depth to saturated zone	0.44
7428A: Coffeen-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	0.44	Depth to saturated zone	1.00	Depth to saturated zone	0.44
9061A: Atterberry-----	Somewhat limited		Very limited		Somewhat limited	
	Depth to saturated zone	0.99	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
9279B: Rozetta-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
			Depth to saturated zone	0.15	Slope	0.10
9279C2: Rozetta-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Shrink-swell	0.50	Slope	0.94
	Slope	0.12	Depth to saturated zone	0.15	Shrink-swell	0.50
			Slope	0.12		

Table 13b.--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 potential limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	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
8D2, 8D3: Hickory-----	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Slope	0.96	Slope	0.96
	Slope	0.98				
	Shrink-swell	0.50				
	Frost action	0.50				
8F, 8F3, 8G: Hickory-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00				
	Shrink-swell	0.50				
	Frost action	0.50				
17A: Keomah-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.94
	Low strength	1.00	saturated zone		saturated zone	
	Shrink-swell	1.00	Too clayey	0.03		
	Depth to	0.94				
	saturated zone					
19D2, 19D3: Sylvan-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00				
	Slope	0.98				
	Shrink-swell	0.50				
37A: Worthen-----	Very limited		Not limited		Not limited	
	Frost action	1.00				
	Low strength	1.00				
43A: Ipava-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.19
	Low strength	1.00	saturated zone		saturated zone	
	Shrink-swell	1.00	Too clayey	0.05		
	Depth to	0.19				
	saturated zone					
45A: Denny-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Frost action	1.00	Too clayey	0.08		
	Low strength	1.00				
	Shrink-swell	1.00				
51A: Muscatune-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75				
	saturated zone					
	Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	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
61A: Atterberry-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	1.00 1.00 0.75 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.75
68A: Sable-----	Very limited Depth to saturated zone Frost action Low strength Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
81A: Littleton-----	Very limited Frost action Low strength Depth to saturated zone	1.00 1.00 0.75	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.75
86B, 86B2: Osco-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone	0.15	Not limited	
86C2: Osco-----	Very limited Frost action Low strength Shrink-swell Slope	1.00 1.00 0.50 0.12	Somewhat limited Depth to saturated zone	0.15	Not limited	
87B: Dickinson-----	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
88B: Sparta-----	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.08
98B: Ade-----	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.34
119D, 119D2: Elco-----	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.98 0.50	Somewhat limited Depth to saturated zone Slope	0.99 0.96	Somewhat limited Slope	0.96
134C: Camden-----	Very limited Frost action Low strength Shrink-swell Slope	1.00 1.00 0.50 0.12	Very limited Cutbanks cave	1.00	Not limited	

Table 13b.--Building Site Development--Continued

Map symbol and soil name	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
134D3: Camden-----	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.98 0.50	Very limited Cutbanks cave Slope	1.00 0.96	Somewhat limited Slope	0.96
136A: Brooklyn-----	Very limited Depth to saturated zone Frost action Low strength Shrink-swell	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.12	Very limited Depth to saturated zone	1.00
172A: Hoopeston-----	Very limited Frost action Depth to saturated zone	1.00 0.48	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.48
199B: Plano-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Not limited		Not limited	
199C2: Plano-----	Very limited Frost action Low strength Shrink-swell Slope	1.00 1.00 0.50 0.12	Not limited		Not limited	
206A: Thorp-----	Very limited Depth to saturated zone Frost action Low strength Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
212C: Thebes-----	Very limited Frost action Low strength Shrink-swell Slope	1.00 1.00 0.50 0.12	Not limited		Not limited	
212D3: Thebes-----	Very limited Frost action Low strength Slope Shrink-swell	1.00 1.00 0.98 0.50	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
250D2: Velma-----	Very limited Low strength Slope Shrink-swell Frost action	1.00 0.98 0.50 0.50	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96

Table 13b.--Building Site Development--Continued

Map symbol and soil name	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
257A: Clarksdale-----	Very limited Frost action Low strength Shrink-swell Depth to saturated zone	 1.00 1.00 1.00 0.94	Very limited Depth to saturated zone Too clayey	 1.00 0.05	Somewhat limited Depth to saturated zone	 0.94
259C2: Assumption-----	Very limited Frost action Low strength Shrink-swell Slope	 1.00 1.00 0.50 0.12	Somewhat limited Depth to saturated zone Too clayey	 0.99 0.02	Not limited	
259D2: Assumption-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.98 0.50	Somewhat limited Depth to saturated zone Slope Too clayey	 0.99 0.96 0.02	Somewhat limited Slope	 0.96
261A: Niota-----	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	 1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00 0.61	Very limited Ponding Depth to saturated zone	 1.00 1.00
274B: Seaton-----	Very limited Frost action Low strength	 1.00 1.00	Not limited		Not limited	
274C2: Seaton-----	Very limited Frost action Low strength Slope	 1.00 1.00 0.12	Not limited		Not limited	
274D: Seaton-----	Very limited Frost action Low strength Slope	 1.00 1.00 0.92	Somewhat limited Slope	 0.84	Somewhat limited Slope	 0.84
275A: Joy-----	Very limited Frost action Low strength Depth to saturated zone	 1.00 1.00 0.75	Very limited Depth to saturated zone	 1.00	Somewhat limited Depth to saturated zone	 0.75
277B: Port Byron-----	Very limited Frost action Low strength	 1.00 1.00	Not limited		Not limited	

Table 13b.--Building Site Development--Continued

Map symbol and soil name	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
277C: Port Byron-----	Very limited Frost action Low strength Slope	 1.00 1.00 0.12	Not limited		Not limited	
278A: Stronghurst-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	 1.00 1.00 0.75  0.50	Very limited Depth to saturated zone	 1.00	Somewhat limited Depth to saturated zone	 0.75
279B: Rozetta-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone	 0.15	Not limited	
279C3: Rozetta-----	Very limited Frost action Low strength Shrink-swell Slope	 1.00 1.00 0.50 0.12	Somewhat limited Depth to saturated zone	 0.15	Not limited	
280C2: Fayette-----	Very limited Frost action Low strength Shrink-swell Slope	 1.00 1.00 0.50 0.12	Not limited		Not limited	
280D, 280D2, 280D3: Fayette-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.98 0.50	Somewhat limited Slope	 0.96	Somewhat limited Slope	 0.96
430A, 430B: Raddle-----	Very limited Frost action Low strength	 1.00 0.40	Not limited		Not limited	
457A: Booker-----	Very limited Shrink-swell Depth to saturated zone Low strength Frost action	 1.00 1.00  1.00 0.50	Very limited Depth to saturated zone Too clayey	 1.00 0.92	Very limited Depth to saturated zone Too clayey	 1.00 1.00
549C2: Marseilles-----	Very limited Frost action Low strength Shrink-swell Slope	 1.00 1.00 0.50 0.12	Somewhat limited Depth to soft bedrock	 0.42	Somewhat limited Depth to bedrock	 0.42

Table 13b.--Building Site Development--Continued

Map symbol and soil name	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
549D2, 549D3: Marseilles-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Depth to soft bedrock	0.42	Depth to bedrock	0.42
	Slope	0.98				
	Shrink-swell	0.50				
549F: Marseilles-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Depth to soft bedrock	0.42	Depth to bedrock	0.42
	Low strength	1.00				
	Shrink-swell	0.50				
567D, 567D2: Elkhart-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Depth to saturated zone	0.16		
	Slope	0.98				
	Shrink-swell	0.50				
572B: Loran-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Low strength	1.00				
	Shrink-swell	0.50	Too clayey	0.18		
	Depth to saturated zone	0.19				
572C: Loran-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
	Low strength	1.00				
	Shrink-swell	0.50	Too clayey	0.18		
	Depth to saturated zone	0.19				
	Slope	0.08				
671B: Biggsville-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00				
671C2: Biggsville-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00				
	Slope	0.12				
672B: Crescent-----	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
	Low strength	0.05				
675B: Greenbush-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	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
675C2: Greenbush-----	Very limited Frost action Low strength Shrink-swell Slope	 1.00 1.00 0.50 0.12	Somewhat limited Depth to saturated zone	 0.15	Not limited	
678B: Mannon-----	Very limited Frost action Low strength	 1.00 1.00	Somewhat limited Depth to saturated zone	 0.15	Not limited	
684B: Broadwell-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Cutbanks cave	 1.00	Not limited	
684C2: Broadwell-----	Very limited Frost action Low strength Shrink-swell Slope	 1.00 1.00 0.50 0.12	Very limited Cutbanks cave	 1.00	Not limited	
689B: Coloma-----	Not limited		Very limited Cutbanks cave	 1.00	Somewhat limited Too sandy Droughty	  0.50 0.49
689D: Coloma-----	Somewhat limited Slope	 0.68	Very limited Cutbanks cave Slope	 1.00 0.37	Somewhat limited Droughty Too sandy Slope	  0.58 0.50 0.37
689G: Coloma-----	Very limited Slope	 1.00	Very limited Slope Cutbanks cave	 1.00 1.00	Very limited Slope Too sandy Droughty	 1.00 0.50 0.16
802B: Orthents-----	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Not limited		Not limited	
898F3, 898G: Hickory-----	Very limited Slope Low strength Shrink-swell Frost action	 1.00 1.00 0.50 0.50	Very limited Slope	 1.00	Very limited Slope	 1.00
Sylvan-----	Very limited Slope Frost action Low strength Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Slope	 1.00	Very limited Slope	 1.00

Table 13b.--Building Site Development--Continued

Map symbol and soil name	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
899B:						
Raddle-----	Very limited Frost action Low strength	1.00 1.00	Somewhat limited Depth to saturated zone	0.15	Not limited	
Sparta-----	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.05
911G:						
Timula-----	Very limited Slope Frost action Low strength	1.00 1.00 0.05	Very limited Slope	1.00	Very limited Slope	1.00
Hickory-----	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope	1.00	Very limited Slope	1.00
913F:						
Marseilles-----	Very limited Slope Frost action Low strength Shrink-swell	1.00 1.00 1.00 0.50	Very limited Slope Depth to soft bedrock	1.00 0.42	Very limited Slope Depth to bedrock	1.00 0.42
Hickory-----	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope	1.00	Very limited Slope	1.00
943D3:						
Seaton-----	Very limited Frost action Low strength Slope	1.00 1.00 0.98	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
Timula-----	Very limited Frost action Slope Low strength	1.00 0.98 0.05	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
943G:						
Seaton-----	Very limited Slope Frost action Low strength	1.00 1.00 1.00	Very limited Slope	1.00	Very limited Slope	1.00
Timula-----	Very limited Slope Frost action Low strength	1.00 1.00 0.05	Very limited Slope	1.00	Very limited Slope	1.00
946D3:						
Hickory-----	Very limited Low strength Slope Shrink-swell Frost action	1.00 0.98 0.50 0.50	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96

Table 13b.--Building Site Development--Continued

Map symbol and soil name	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
946D3: Atlas-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Slope	0.96
	Low strength	1.00	saturated zone		Depth to	0.75
	Shrink-swell	1.00	Slope	0.96	saturated zone	
	Slope	0.98	Too clayey	0.16		
	Depth to	0.75				
	saturated zone					
957D3: Elco-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Depth to	0.99	Slope	0.96
	Low strength	1.00	saturated zone			
	Slope	0.98	Slope	0.96		
	Shrink-swell	0.50				
Atlas-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Slope	0.96
	Low strength	1.00	saturated zone		Depth to	0.75
	Shrink-swell	1.00	Slope	0.96	saturated zone	
	Slope	0.98	Too clayey	0.16		
	Depth to	0.75				
	saturated zone					
960F: Hickory-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00				
	Shrink-swell	0.50				
	Frost action	0.50				
Sylvan-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00				
	Low strength	1.00				
	Shrink-swell	0.50				
Fayette-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00				
	Low strength	1.00				
	Shrink-swell	0.50				
962D3: Sylvan-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00				
	Slope	0.98				
	Shrink-swell	0.50				
Bold-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Slope	0.98				
	Low strength	0.40				
1070A: Beaucoup-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Flooding	1.00
	saturated zone		saturated zone		Depth to	1.00
	Frost action	1.00	Flooding	0.80	saturated zone	
	Flooding	1.00				
	Low strength	1.00				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	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
3074A: Radford-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to	1.00	Flooding	1.00
	Flooding	1.00	saturated zone		Depth to	0.75
	Low strength	1.00	Flooding	0.80	saturated zone	
	Depth to saturated zone	0.75				
3107A: Sawmill-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to	1.00	Flooding	1.00
	Flooding	1.00	saturated zone		Depth to	1.00
	Low strength	1.00	Flooding	0.80	saturated zone	
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
3107+: Sawmill-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to	1.00	Flooding	1.00
	Flooding	1.00	saturated zone		Depth to	1.00
	Low strength	1.00	Flooding	0.80	saturated zone	
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				
3415A: Orion-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to	1.00	Flooding	1.00
	Flooding	1.00	saturated zone		Depth to	0.19
	Low strength	1.00	Flooding	0.80	saturated zone	
	Depth to saturated zone	0.19				
3646L: Fluvaquents-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to	1.00	Depth to	1.00	Flooding	1.00
	saturated zone		saturated zone		Depth to	1.00
	Frost action	1.00	Flooding	0.80	saturated zone	
	Flooding	1.00				
	Low strength	1.00				
3870L: Blake-----	Very limited		Somewhat limited		Very limited	
	Frost action	1.00	Depth to	0.95	Flooding	1.00
	Flooding	1.00	saturated zone			
	Low strength	1.00	Flooding	0.80		
	Shrink-swell	0.50				
Beaucoup-----	Very limited		Very limited		Very limited	
	Frost action	1.00	Depth to	1.00	Flooding	1.00
	Flooding	1.00	saturated zone		Depth to	1.00
	Low strength	1.00	Flooding	0.80	saturated zone	
	Depth to saturated zone	1.00				
	Shrink-swell	0.50				

Table 13b.--Building Site Development--Continued

Map symbol and soil name	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
7070A: Beaucoup-----	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	 1.00 1.00  1.00 1.00 0.50	Very limited Ponding Depth to saturated zone	 1.00 1.00  	Very limited Ponding Depth to saturated zone	 1.00 1.00  
7083A: Wabash-----	Very limited Shrink-swell Ponding Depth to saturated zone Low strength Frost action	 1.00 1.00 1.00  1.00 0.50	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00  0.68	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00  1.00
7107A: Sawmill-----	Very limited Ponding Frost action Low strength Depth to saturated zone Shrink-swell	 1.00 1.00 1.00 1.00  0.50	Very limited Ponding Depth to saturated zone	 1.00 1.00  	Very limited Ponding Depth to saturated zone	 1.00 1.00  
7302A: Ambraw-----	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	 1.00 1.00  1.00 1.00 0.50	Very limited Ponding Depth to saturated zone	 1.00 1.00  	Very limited Ponding Depth to saturated zone	 1.00 1.00  
7304A: Landes-----	Somewhat limited Frost action Flooding	 0.50 0.40	Very limited Cutbanks cave Depth to saturated zone	 1.00 0.15  	Not limited	
7404A: Titus-----	Very limited Ponding Depth to saturated zone Frost action Low strength Shrink-swell	 1.00 1.00  1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00  0.08	Very limited Ponding Depth to saturated zone	 1.00 1.00  
7415A: Orion-----	Very limited Frost action Low strength Flooding Depth to saturated zone	 1.00 1.00 0.40 0.19  	Very limited Depth to saturated zone	 1.00  	Somewhat limited Depth to saturated zone	 0.19  

Table 13b.--Building Site Development--Continued

Map symbol and soil name	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
7428A: Coffeen-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.19
	Flooding	0.40	saturated zone		saturated zone	
	Depth to	0.19				
	saturated zone					
	Low strength	0.05				
9061A: Atterberry-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to	1.00	Depth to	0.75
	Low strength	1.00	saturated zone		saturated zone	
	Depth to	0.75				
	saturated zone					
	Shrink-swell	0.50				
9279B: Rozetta-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.15		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50				
9279C2: Rozetta-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.15		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50				
	Slope	0.12				

Table 14.--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 potential limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		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	Rating class and limiting features	Value	Rating class and limiting features	Value
8D2, 8D3: Hickory-----	Somewhat limited Slope	0.96	Very limited Slope	1.00	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
	Restricted permeability	0.46	Seepage	0.53	Too clayey	0.50			Too clayey	0.50
8F, 8F3, 8G: Hickory-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
	Restricted permeability	0.46	Seepage	0.53	Too clayey	0.50			Too clayey	0.50
17A: Keomah-----	Very limited Restricted permeability	1.00	Very limited Depth to saturated zone	1.00						
	Depth to saturated zone	1.00	Seepage	0.53					Too clayey	0.50
19D2, 19D3: Sylvan-----	Somewhat limited Slope	0.96	Very limited Slope	1.00	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
	Restricted permeability	0.46	Seepage	0.53						
37A: Worthen-----	Somewhat limited Restricted permeability	0.46	Somewhat limited Seepage	0.53	Not limited		Not limited		Not limited	
43A: Ipava-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Restricted permeability	1.00			Too clayey	0.50			Too clayey	0.50

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value								
45A:										
Denny-----	Very limited									
	Restricted permeability	1.00	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00	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
51A:										
Muscataune-----	Very limited									
	Depth to saturated zone	1.00								
	Restricted permeability	0.46	Seepage	0.53	Too clayey	0.50			Too clayey	0.50
61A:										
Atterberry-----	Very limited									
	Depth to saturated zone	1.00								
	Restricted permeability	0.46	Seepage	0.53	Too clayey	0.50			Too clayey	0.50
68A:										
Sable-----	Very limited									
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.46	Seepage	0.53	Too clayey	0.50			Too clayey	0.50
81A:										
Littleton-----	Very limited									
	Depth to saturated zone	1.00								
	Restricted permeability	0.46	Seepage	0.53						
86B, 86B2:										
Osco-----	Somewhat limited		Somewhat limited		Very limited		Very limited		Somewhat limited	
	Restricted permeability	0.46	Seepage	0.53	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Depth to saturated zone	0.40	Slope	0.18	Too clayey	0.50				

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		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	Rating class and limiting features	Value	Rating class and limiting features	Value
86C2: Osco-----	Somewhat limited Restricted permeability Depth to saturated zone	 0.46 0.40	Very limited Slope Seepage	 1.00 0.53	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Not limited	
87B: Dickinson-----	Very limited Filtering capacity	 1.00	Very limited Seepage Slope	 1.00 0.18	Very limited Seepage Too sandy	 1.00 1.00	Very limited Seepage	 1.00	Very limited Too sandy Seepage	 1.00 1.00
88B: Sparta-----	Very limited Filtering capacity	 1.00	Very limited Seepage Slope	 1.00 0.32	Very limited Seepage Too sandy	 1.00 1.00	Very limited Seepage	 1.00	Very limited Seepage Too sandy	 1.00 0.50
98B: Ade-----	Very limited Filtering capacity	 1.00	Very limited Seepage Slope	 1.00 0.32	Very limited Seepage Too sandy	 1.00 1.00	Very limited Seepage	 1.00	Very limited Too sandy Seepage	 1.00 1.00
119D, 119D2: Elco-----	Very limited Depth to saturated zone Restricted permeability Slope	 1.00 1.00 0.96	Very limited Slope Depth to saturated zone Seepage	 1.00 0.96 0.53	Somewhat limited Slope Depth to saturated zone Too clayey	 0.96 0.68 0.50	Somewhat limited Slope Depth to saturated zone	 0.96 0.32	Somewhat limited Slope Too clayey Depth to saturated zone	 0.96 0.50 0.25
134C: Camden-----	Very limited Filtering capacity Restricted permeability	 1.00 0.46	Very limited Seepage Slope	 1.00 1.00	Very limited Seepage Too clayey	 1.00 0.50	Very limited Seepage	 1.00	Somewhat limited Too clayey	 0.50
134D3: Camden-----	Very limited Filtering capacity Slope Restricted permeability	 1.00 0.96 0.46	Very limited Slope Seepage	 1.00 1.00	Very limited Seepage Slope Too clayey	 1.00 0.96 0.50	Very limited Seepage Slope	 1.00 0.96	Somewhat limited Slope Too clayey	 0.96 0.50

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		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	Rating class and limiting features	Value	Rating class and limiting features	Value
136A: Brooklyn-----	Very limited Restricted permeability Ponding Depth to saturated zone	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Seepage	 1.00 1.00 0.53	Very limited Depth to saturated zone Ponding Too clayey	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00 1.00
172A: Hoopeston-----	Very limited Depth to saturated zone Filtering capacity	 1.00 1.00	Very limited Seepage Depth to saturated zone	 1.00 1.00	Very limited Depth to saturated zone Seepage	 1.00 1.00	Very limited Depth to saturated zone Seepage	 1.00 1.00	Somewhat limited Depth to saturated zone Seepage	 0.96 0.52
199B: Plano-----	Somewhat limited Restricted permeability	 0.46	Very limited Seepage Slope	 1.00 0.18	Very limited Seepage Too clayey	 1.00 0.50	Not limited		Somewhat limited Too clayey	 0.50
199C2: Plano-----	Somewhat limited Restricted permeability	 0.46	Very limited Seepage Slope	 1.00 1.00	Very limited Seepage Too clayey	 1.00 0.50	Not limited		Somewhat limited Too clayey	 0.50
206A: Thorp-----	Very limited Restricted permeability Ponding Depth to saturated zone	 1.00 1.00 1.00	Very limited Ponding Seepage Depth to saturated zone	 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Seepage Too clayey	 1.00 1.00 1.00 0.50	Very limited Ponding Depth to saturated zone	 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00 0.50
212C: Thebes-----	Very limited Filtering capacity Restricted permeability	 1.00 0.46	Very limited Seepage Slope	 1.00 1.00	Very limited Seepage	 1.00	Very limited Seepage	 1.00	Very limited Seepage Too clayey	 1.00 0.50

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value								
212D3:										
Thebes-----	Very limited		Very limited		Very limited		Very limited		Somewhat limited	
	Filtering capacity	1.00	Slope	1.00	Seepage	1.00	Seepage	1.00	Slope	0.96
	Slope	0.96	Seepage	1.00	Slope	0.96	Slope	0.96	Seepage	0.52
	Restricted permeability	0.46								
250D2:										
Velma-----	Somewhat limited		Very limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	1.00	Slope	0.96	Slope	0.96	Slope	0.96
	Restricted permeability	0.46	Seepage	0.53	Too clayey	0.50			Too clayey	0.50
257A:										
Clarksdale-----	Very limited									
	Depth to saturated zone	1.00								
	Restricted permeability	1.00	Seepage	0.53	Too clayey	0.50			Too clayey	0.50
259C2:										
Assumption-----	Very limited		Very limited		Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Too clayey	0.50						
	Restricted permeability	1.00	Slope	1.00	Too clayey	0.50			Depth to saturated zone	0.25
			Seepage	0.53						
259D2:										
Assumption-----	Very limited		Very limited		Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	0.96
	Restricted permeability	1.00	Depth to saturated zone	1.00	Slope	0.96	Slope	0.96	Too clayey	0.50
	Slope	0.96	Seepage	0.53	Too clayey	0.50			Depth to saturated zone	0.25
261A:										
Niota-----	Very limited									
	Restricted permeability	1.00	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.28						

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		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	Rating class and limiting features	Value	Rating class and limiting features	Value
274B: Seaton-----	Somewhat limited Restricted permeability	0.46	Somewhat limited Seepage Slope	0.53 0.18	Not limited		Not limited		Not limited	
274C2: Seaton-----	Somewhat limited Restricted permeability	0.46	Very limited Slope Seepage	1.00 0.53	Not limited		Not limited		Not limited	
274D: Seaton-----	Somewhat limited Slope Restricted permeability	0.96 0.46	Very limited Slope Seepage	1.00 0.53	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
275A: Joy-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 0.53	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
277B: Port Byron-----	Somewhat limited Restricted permeability	0.46	Somewhat limited Seepage Slope	0.53 0.32	Not limited		Not limited		Not limited	
277C: Port Byron-----	Somewhat limited Restricted permeability	0.46	Very limited Slope Seepage	1.00 0.53	Not limited		Not limited		Not limited	
278A: Stronghurst-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 0.53	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		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	Rating class and limiting features	Value	Rating class and limiting features	Value
279B: Rozetta-----	Somewhat limited Restricted permeability Depth to saturated zone	 0.46 0.40	Somewhat limited Seepage Slope	 0.53 0.18	Very limited Depth to saturated zone Too clayey	 1.00 0.50	Very limited Depth to saturated zone	 1.00	Somewhat limited Too clayey	 0.50
279C3: Rozetta-----	Somewhat limited Restricted permeability Depth to saturated zone	 0.46 0.40	Very limited Slope Seepage	 1.00 0.53	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Not limited	
280C2: Fayette-----	Somewhat limited Restricted permeability	 0.46	Very limited Slope Seepage	 1.00 0.53	Somewhat limited Too clayey	 0.50	Not limited		Somewhat limited Too clayey	 0.50
280D, 280D2, 280D3: Fayette-----	Somewhat limited Slope Restricted permeability	 0.96 0.46	Very limited Slope Seepage	 1.00 0.53	Somewhat limited Slope Too clayey	 0.96 0.50	Somewhat limited Slope	 0.96	Somewhat limited Slope Too clayey	 0.96 0.50
430A: Raddle-----	Somewhat limited Restricted permeability	 0.46	Somewhat limited Seepage	 0.53	Not limited		Not limited		Not limited	
430B: Raddle-----	Somewhat limited Restricted permeability	 0.46	Somewhat limited Seepage Slope	 0.53 0.18	Not limited		Not limited		Not limited	
457A: Booker-----	Very limited Restricted permeability Ponding Depth to saturated zone	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00 1.00 1.00

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		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	Rating class and limiting features	Value	Rating class and limiting features	Value
549C2: Marseilles-----	Very limited Restricted permeability Depth to bedrock	 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 0.53	Very limited Depth to bedrock Too clayey	 1.00 0.50	Very limited Depth to bedrock	 1.00	Very limited Depth to bedrock Too clayey	 1.00 0.50
549D2, 549D3: Marseilles-----	Very limited Restricted permeability Depth to bedrock Slope	 1.00 1.00 0.96	Very limited Depth to soft bedrock Slope	 1.00 1.00	Very limited Depth to bedrock Slope Too clayey	 1.00 0.96 0.50	Very limited Depth to bedrock Slope	 1.00 0.96	Very limited Depth to bedrock Slope Too clayey	 1.00 0.96 0.50
549F: Marseilles-----	Very limited Restricted permeability Depth to bedrock Slope	 1.00 1.00 1.00	Very limited Depth to soft bedrock Slope	 1.00 1.00	Very limited Slope Depth to bedrock Too clayey	 1.00 1.00 0.50	Very limited Slope Depth to bedrock	 1.00 1.00	Very limited Depth to bedrock Slope Too clayey	 1.00 1.00 0.50
567D, 567D2: Elkhart-----	Somewhat limited Slope Restricted permeability Depth to saturated zone	 0.96 0.46 0.43	Very limited Slope Seepage	 1.00 0.53	Very limited Depth to saturated zone Slope	 1.00 0.96	Very limited Depth to saturated zone Slope	 1.00 0.96	Somewhat limited Slope	 0.96
572B: Loran-----	Very limited Depth to saturated zone Depth to bedrock Restricted permeability	 1.00 0.78 0.46	Somewhat limited Seepage Depth to soft bedrock Depth to saturated zone Slope	 0.53 0.42 0.25 0.18	Very limited Depth to saturated zone Depth to bedrock Too clayey	 1.00 1.00 0.50	Very limited Depth to saturated zone Depth to bedrock	 1.00 0.42	Somewhat limited Depth to saturated zone Too clayey Depth to bedrock	 0.86 0.50 0.42

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		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	Rating class and limiting features	Value	Rating class and limiting features	Value
572C: Loran-----	Very limited Restricted permeability Depth to saturated zone Depth to bedrock	 1.00 1.00 0.78	Very limited Slope Seepage Depth to soft bedrock Depth to saturated zone	 1.00 0.53 0.42 0.25	Very limited Depth to bedrock Depth to saturated zone Too clayey	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Depth to bedrock	 0.75 0.42	Somewhat limited Depth to saturated zone Too clayey Depth to bedrock	 0.86 0.50 0.42
671B: Biggsville-----	Somewhat limited Restricted permeability Depth to saturated zone	 0.46 0.40	Somewhat limited Seepage Slope	 0.53 0.18	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Not limited	
671C2: Biggsville-----	Somewhat limited Restricted permeability Depth to saturated zone	 0.46 0.40	Very limited Slope Seepage	 1.00 0.53	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Not limited	
672B: Crescent-----	Very limited Filtering capacity Restricted permeability	 1.00 0.46	Very limited Seepage Slope	 1.00 0.18	Very limited Seepage Too clayey	 1.00 0.50	Not limited		Somewhat limited Too clayey	 0.50
675B: Greenbush-----	Somewhat limited Restricted permeability Depth to saturated zone	 0.46 0.40	Somewhat limited Seepage Slope	 0.53 0.18	Very limited Depth to saturated zone Too clayey	 1.00 0.50	Very limited Depth to saturated zone	 1.00	Somewhat limited Too clayey	 0.50
675C2: Greenbush-----	Somewhat limited Restricted permeability Depth to saturated zone	 0.46 0.40	Very limited Slope Seepage	 1.00 0.53	Very limited Depth to saturated zone Too clayey	 1.00 0.50	Very limited Depth to saturated zone	 1.00	Somewhat limited Too clayey	 0.50

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		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	Rating class and limiting features	Value	Rating class and limiting features	Value
678B: Mannon-----	Somewhat limited Restricted permeability Depth to saturated zone	0.46  0.40	Somewhat limited Seepage Slope	0.53 0.18	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
684B: Broadwell-----	Very limited Filtering capacity Restricted permeability	1.00  0.46	Very limited Seepage Slope	1.00 0.18	Very limited Seepage Too clayey	1.00 0.50	Not limited		Somewhat limited Too clayey	0.50
684C2: Broadwell-----	Very limited Filtering capacity Restricted permeability	1.00  0.46	Very limited Seepage Slope	1.00 1.00	Very limited Seepage Too clayey	1.00 0.50	Not limited		Somewhat limited Too clayey	0.50
689B: Coloma-----	Very limited Filtering capacity	1.00	Very limited Seepage Slope	1.00 0.32	Very limited Seepage Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
689D: Coloma-----	Very limited Filtering capacity Slope	1.00  0.37	Very limited Slope Seepage	1.00 1.00	Very limited Seepage Too sandy Slope	1.00 1.00 0.37	Very limited Seepage Slope	1.00 0.37	Very limited Too sandy Seepage Slope	1.00 1.00 0.37
689G: Coloma-----	Very limited Slope Filtering capacity	1.00 1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Too sandy	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Too sandy Seepage	1.00 1.00 1.00
802B: Orthents-----	Very limited Restricted permeability	1.00	Somewhat limited Slope	0.32	Not limited		Not limited		Not limited	

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value								
898F3, 898G:										
Hickory-----	Very limited									
	Slope	1.00								
	Restricted permeability	0.46	Seepage	0.53	Too clayey	0.50			Too clayey	0.50
Sylvan-----	Very limited									
	Slope	1.00								
	Restricted permeability	0.46	Seepage	0.53						
899B:										
Raddle-----	Somewhat limited		Somewhat limited		Very limited		Very limited		Not limited	
	Restricted permeability	0.46	Seepage	0.53	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
	Depth to saturated zone	0.40								
Sparta-----	Very limited									
	Filtering capacity	1.00	Seepage	1.00	Seepage	1.00	Seepage	1.00	Too sandy	1.00
			Slope	0.32	Too sandy	1.00			Seepage	1.00
911G:										
Timula-----	Very limited									
	Slope	1.00								
	Restricted permeability	0.46	Seepage	0.53						
Hickory-----	Very limited									
	Slope	1.00								
	Restricted permeability	0.46	Seepage	0.53	Too clayey	0.50			Too clayey	0.50
913F:										
Marseilles-----	Very limited									
	Depth to bedrock	1.00	Depth to soft bedrock	1.00	Slope	1.00	Slope	1.00	Depth to bedrock	1.00
	Slope	1.00	Slope	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	1.00
			Seepage	0.53	Too clayey	0.50			Too clayey	0.50
Hickory-----	Very limited									
	Slope	1.00								
	Restricted permeability	0.46	Seepage	0.53	Too clayey	0.50			Too clayey	0.50

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value								
943D3:										
Seaton-----	Somewhat limited		Very limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	1.00	Slope	0.96	Slope	0.96	Slope	0.96
	Restricted permeability	0.46	Seepage	0.53						
Timula-----	Somewhat limited		Very limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	1.00	Slope	0.96	Slope	0.96	Slope	0.96
	Restricted permeability	0.46	Seepage	0.53						
943G:										
Seaton-----	Very limited									
	Slope	1.00								
	Restricted permeability	0.46	Seepage	0.53						
Timula-----	Very limited									
	Slope	1.00								
	Restricted permeability	0.46	Seepage	0.53						
946D3:										
Hickory-----	Somewhat limited		Very limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	1.00	Slope	0.96	Slope	0.96	Slope	0.96
	Restricted permeability	0.46	Seepage	0.53	Too clayey	0.50			Too clayey	0.50
Atlas-----	Very limited									
	Restricted permeability	1.00	Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Depth to saturated zone	1.00			Too clayey	1.00	Slope	0.96	Depth to saturated zone	1.00
	Slope	0.96			Slope	0.96			Slope	0.96
957D3:										
Elco-----	Very limited		Very limited		Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Slope	0.96
	Restricted permeability	1.00	Depth to saturated zone	0.96	Slope	0.96	Slope	0.96	Too clayey	0.50
	Slope	0.96	Seepage	0.53	Too clayey	0.50			Depth to saturated zone	0.25

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
	Rating class and limiting features	Value								
957D3:										
Atlas-----	Very limited									
	Restricted permeability	1.00	Slope	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
	Depth to saturated zone	1.00			Too clayey	1.00	Slope	0.96	Depth to saturated zone	1.00
	Slope	0.96			Slope	0.96			Slope	0.96
960F:										
Hickory-----	Very limited									
	Slope	1.00								
	Restricted permeability	0.46	Seepage	0.53	Too clayey	0.50			Too clayey	0.50
Sylvan-----	Very limited									
	Slope	1.00								
	Restricted permeability	0.46	Seepage	0.53						
Fayette-----	Very limited									
	Slope	1.00								
	Restricted permeability	0.46	Seepage	0.53	Too clayey	0.50			Too clayey	0.50
962D3:										
Sylvan-----	Somewhat limited		Very limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	1.00	Slope	0.96	Slope	0.96	Slope	0.96
	Restricted permeability	0.46	Seepage	0.53						
Bold-----	Somewhat limited		Very limited		Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	1.00	Slope	0.96	Slope	0.96	Slope	0.96
	Restricted permeability	0.46	Seepage	0.53						
1070A:										
Beaucoup-----	Very limited									
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00								
	Restricted permeability	1.00	Flooding	0.40	Too clayey	0.50	Flooding	0.40	Too clayey	0.50
	Flooding	0.40			Flooding	0.40				

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		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	Rating class and limiting features	Value	Rating class and limiting features	Value
3074A: Radford-----	Very limited Flooding Depth to saturated zone Restricted permeability	 1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	 1.00 1.00 0.53	Very limited Flooding Depth to saturated zone Too clayey	 1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	 1.00 1.00	Very limited Depth to saturated zone Too clayey	 1.00 0.50
3107A, 3107+: Sawmill-----	Very limited Flooding Depth to saturated zone Restricted permeability	 1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	 1.00 1.00 0.53	Very limited Flooding Depth to saturated zone Too clayey	 1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	 1.00 1.00	Very limited Depth to saturated zone Too clayey	 1.00 0.50
3415A: Orion-----	Very limited Flooding Depth to saturated zone Restricted permeability	 1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	 1.00 1.00 0.53	Very limited Flooding Depth to saturated zone	 1.00 1.00	Very limited Flooding Depth to saturated zone	 1.00 1.00	Very limited Depth to saturated zone	 1.00
3646L: Fluvaquents-----	Very limited Flooding Ponding Depth to saturated zone Restricted permeability	 1.00 1.00 1.00 0.46	Very limited Ponding Flooding Depth to saturated zone Seepage	 1.00 1.00 1.00 0.53	Very limited Flooding Depth to saturated zone Ponding	 1.00 1.00 1.00	Very limited Flooding Ponding Depth to saturated zone	 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00
3870L: Blake-----	Very limited Flooding Depth to saturated zone Restricted permeability	 1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	 1.00 1.00 0.53	Very limited Flooding Depth to saturated zone	 1.00 1.00	Very limited Flooding Depth to saturated zone	 1.00 1.00	Somewhat limited Depth to saturated zone	 0.09

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		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	Rating class and limiting features	Value	Rating class and limiting features	Value
3870L: Beaucoup-----	Very limited Flooding Depth to saturated zone Restricted permeability	 1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	 1.00 1.00	Very limited Flooding Depth to saturated zone	 1.00 1.00	Very limited Flooding Depth to saturated zone	 1.00 1.00	Very limited Depth to saturated zone	 1.00
7070A: Beaucoup-----	Very limited Ponding Depth to saturated zone Restricted permeability Flooding	 1.00 1.00 0.46 0.40	Very limited Ponding Depth to saturated zone Seepage Flooding	 1.00 1.00 0.53 0.40	Very limited Depth to saturated zone Ponding Too clayey Flooding	 1.00 1.00 0.50 0.40	Very limited Ponding Depth to saturated zone Flooding	 1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00 0.50
7083A: Wabash-----	Very limited Restricted permeability Ponding Depth to saturated zone Flooding	 1.00 1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Flooding	 1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Too clayey Flooding	 1.00 1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Flooding	 1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00 1.00
7107A: Sawmill-----	Very limited Ponding Depth to saturated zone Restricted permeability Flooding	 1.00 1.00 0.46 0.40	Very limited Ponding Depth to saturated zone Seepage Flooding	 1.00 1.00 0.53 0.40	Very limited Depth to saturated zone Ponding Too clayey Flooding	 1.00 1.00 0.50 0.40	Very limited Ponding Depth to saturated zone Flooding	 1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00 0.50
7302A: Ambraw-----	Very limited Ponding Depth to saturated zone Restricted permeability Flooding	 1.00 1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Flooding Seepage	 1.00 1.00 0.40 0.28	Very limited Depth to saturated zone Ponding Too clayey Flooding	 1.00 1.00 0.50 0.40	Very limited Ponding Depth to saturated zone Flooding	 1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00 0.50

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		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	Rating class and limiting features	Value	Rating class and limiting features	Value
7304A: Landes-----	Very limited Filtering capacity Depth to saturated zone Flooding	 1.00 0.40 0.40	Very limited Seepage Flooding	 1.00 0.40	Very limited Depth to saturated zone Seepage Too sandy Flooding	 1.00 1.00 1.00 0.40	Very limited Depth to saturated zone Seepage Flooding	 1.00 1.00 1.00 0.40	Very limited Too sandy Seepage	 1.00 1.00
7404A: Titus-----	Very limited Restricted permeability Ponding Depth to saturated zone Flooding	 1.00 1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Flooding	 1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Too clayey Flooding	 1.00 1.00 0.50 0.40	Very limited Ponding Depth to saturated zone Flooding	 1.00 1.00 0.40	Very limited Ponding Depth to saturated zone Too clayey	 1.00 1.00 0.50
7415A: Orion-----	Very limited Depth to saturated zone Restricted permeability Flooding	 1.00 0.46 0.40	Very limited Depth to saturated zone Seepage Flooding	 1.00 0.53 0.40	Very limited Depth to saturated zone Flooding	 1.00 0.40	Very limited Depth to saturated zone Flooding	 1.00 0.40	Somewhat limited Depth to saturated zone	 0.86
7428A: Coffeen-----	Very limited Depth to saturated zone Restricted permeability Flooding	 1.00 0.46 0.40	Very limited Depth to saturated zone Seepage Flooding	 1.00 1.00 0.40	Very limited Depth to saturated zone Seepage Flooding	 1.00 1.00 0.40	Very limited Depth to saturated zone Seepage Flooding	 1.00 1.00 0.40	Very limited Depth to saturated zone Seepage	 1.00 0.22
9061A: Atterberry-----	Very limited Depth to saturated zone Restricted permeability	 1.00 0.46	Very limited Depth to saturated zone Seepage	 1.00 0.53	Very limited Depth to saturated zone Too clayey	 1.00 0.50	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Too clayey	 1.00 0.50

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons		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	Rating class and limiting features	Value	Rating class and limiting features	Value
9279B: Rozetta-----	Somewhat limited Restricted permeability Depth to saturated zone	0.46  0.40	Somewhat limited Seepage Slope	0.53 0.18	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
9279C2: Rozetta-----	Somewhat limited Restricted permeability Depth to saturated zone	0.46  0.40	Very limited Slope Seepage	1.00 0.53	Very limited Depth to saturated zone Too clayey	1.00  0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50

Table 15.--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. For sand, the greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source. For topsoil, the smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of sand		Potential as source of topsoil	
	Rating class	Value	Rating class and limiting features	Value
8D2, 8D3: Hickory-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00	Too clayey	0.57
			Rock fragments	0.88
8F, 8F3, 8G: Hickory-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00	Too clayey	0.57
			Rock fragments	0.88
17A: Keomah-----	Poor		Fair	
	Bottom layer	0.00	Depth to	0.04
	Thickest layer	0.00	saturated zone	
			Too clayey	0.05
			Too acid	0.98
19D2, 19D3: Sylvan-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00	Too clayey	0.58
37A: Worthen-----	Poor		Good	
	Bottom layer	0.00		
	Thickest layer	0.00		
43A: Ipava-----	Poor		Fair	
	Bottom layer	0.00	Depth to	0.53
	Thickest layer	0.00	saturated zone	
45A: Denny-----	Poor		Poor	
	Bottom layer	0.00	Depth to	0.00
	Thickest layer	0.00	saturated zone	
			Too clayey	0.00
51A: Muscatune-----	Poor		Fair	
	Bottom layer	0.00	Depth to	0.14
	Thickest layer	0.00	saturated zone	
			Too clayey	0.77
61A: Atterberry-----	Poor		Fair	
	Bottom layer	0.00	Depth to	0.14
	Thickest layer	0.00	saturated zone	

Table 15.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand		Potential as source of topsoil	
	Rating class	Value	Rating class and limiting features	Value
68A: Sable-----	Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00
	Thickest layer	0.00	Too clayey	0.98
81A: Littleton-----	Poor		Fair	
	Bottom layer	0.00	Depth to saturated zone	0.14
	Thickest layer	0.00		
86B, 86B2, 86C2: Osco-----	Poor		Fair	
	Bottom layer	0.00	Too clayey	0.64
	Thickest layer	0.00		
87B: Dickinson-----	Fair		Good	
	Thickest layer	0.06		
	Bottom layer	0.90		
88B: Sparta-----	Good		Poor	
	Thickest layer	0.50	Too sandy	0.00
	Bottom layer	0.76		
98B: Ade-----	Fair		Poor	
	Thickest layer	0.50	Too sandy	0.00
	Bottom layer	0.90		
119D, 119D2: Elco-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00	Too clayey	0.57
			Depth to saturated zone	0.98
134C: Camden-----	Fair		Fair	
	Thickest layer	0.00	Too clayey	0.64
	Bottom layer	0.06	Too acid	0.98
134D3: Camden-----	Fair		Fair	
	Thickest layer	0.00	Slope	0.04
	Bottom layer	0.06	Too clayey	0.64
			Too acid	0.98
136A: Brooklyn-----	Poor		Poor	
	Bottom layer	0.00	Depth to saturated zone	0.00
	Thickest layer	0.00	Too clayey	0.00
172A: Hoopeston-----	Fair		Fair	
	Thickest layer	0.06	Depth to saturated zone	0.29
	Bottom layer	0.76		

Table 15.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand		Potential as source of topsoil	
	Rating class	Value	Rating class and limiting features	Value
199B, 199C2: Plano-----	Fair		Fair	
	Thickest layer	0.00	Too clayey	0.67
	Bottom layer	0.10		
206A: Thorp-----	Fair		Poor	
	Thickest layer	0.00	Depth to	0.00
	Bottom layer	0.03	saturated zone	
212C: Thebes-----	Fair		Fair	
	Thickest layer	0.00	Too clayey	0.65
	Bottom layer	0.22	Too acid	0.98
212D3: Thebes-----	Fair		Fair	
	Thickest layer	0.00	Slope	0.04
	Bottom layer	0.22	Too clayey	0.65
			Too acid	0.98
250D2: Velma-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00		
257A: Clarksdale-----	Poor		Fair	
	Bottom layer	0.00	Too clayey	0.01
	Thickest layer	0.00	Depth to	0.04
			saturated zone	
259C2: Assumption-----	Poor		Fair	
	Bottom layer	0.00	Too clayey	0.64
	Thickest layer	0.00	Depth to	0.98
			saturated zone	
259D2: Assumption-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00	Too clayey	0.64
			Depth to	0.98
			saturated zone	
261A: Niota-----	Poor		Poor	
	Bottom layer	0.00	Depth to	0.00
	Thickest layer	0.00	saturated zone	
			Too clayey	0.00
			Too acid	0.76
274B, 274C2: Seaton-----	Poor		Good	
	Bottom layer	0.00		
	Thickest layer	0.00		
274D: Seaton-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.16
	Thickest layer	0.00		

Table 15.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand		Potential as source of topsoil	
	Rating class	Value	Rating class and limiting features	Value
275A: Joy-----	Poor		Fair	
	Bottom layer	0.00	Depth to	0.14
	Thickest layer	0.00	saturated zone	
277B, 277C: Port Byron-----	Poor		Good	
	Bottom layer	0.00		
	Thickest layer	0.00		
278A: Stronghurst-----	Poor		Fair	
	Bottom layer	0.00	Depth to	0.14
	Thickest layer	0.00	saturated zone	
279B: Rozetta-----	Poor		Fair	
	Bottom layer	0.00	Too clayey	0.57
	Thickest layer	0.00		
279C3: Rozetta-----	Poor		Fair	
	Bottom layer	0.00	Too clayey	0.60
	Thickest layer	0.00		
280C2: Fayette-----	Poor		Fair	
	Bottom layer	0.00	Too clayey	0.57
	Thickest layer	0.00	Too acid	0.98
280D: Fayette-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00	Too clayey	0.64
			Too acid	0.98
280D2, 280D3: Fayette-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00	Too clayey	0.57
			Too acid	0.98
430A, 430B: Raddle-----	Poor		Good	
	Bottom layer	0.00		
	Thickest layer	0.00		
457A: Booker-----	Poor		Poor	
	Bottom layer	0.00	Too clayey	0.00
	Thickest layer	0.00	Depth to	0.00
			saturated zone	
549C2: Marseilles-----	Poor		Fair	
	Bottom layer	0.00	Too clayey	0.43
	Thickest layer	0.00	Depth to bedrock	0.58
			Too acid	0.88

Table 15.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand		Potential as source of topsoil	
	Rating class	Value	Rating class and limiting features	Value
549D2, 549D3, 549F: Marseilles-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00	Too clayey	0.39
			Depth to bedrock	0.58
			Too acid	0.88
567D, 567D2: Elkhart-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00		
572B, 572C: Loran-----	Poor		Fair	
	Bottom layer	0.00	Depth to	0.53
	Thickest layer	0.00	saturated zone	
671B, 671C2: Biggsville-----	Poor		Good	
	Bottom layer	0.00		
	Thickest layer	0.00		
672B: Crescent-----	Fair		Good	
	Thickest layer	0.00		
	Bottom layer	0.90		
675B: Greenbush-----	Poor		Fair	
	Bottom layer	0.00	Too clayey	0.70
	Thickest layer	0.00		
675C2: Greenbush-----	Poor		Fair	
	Bottom layer	0.00	Too clayey	0.72
	Thickest layer	0.00		
678B: Mannon-----	Poor		Good	
	Bottom layer	0.00		
	Thickest layer	0.00		
684B: Broadwell-----	Fair		Fair	
	Thickest layer	0.00	Too clayey	0.64
	Bottom layer	0.50		
684C2: Broadwell-----	Fair		Fair	
	Thickest layer	0.00	Too clayey	0.86
	Bottom layer	0.50		
689B: Coloma-----	Fair		Poor	
	Thickest layer	0.76	Too sandy	0.00
	Bottom layer	0.76		
689D: Coloma-----	Fair		Poor	
	Bottom layer	0.76	Too sandy	0.00
	Thickest layer	0.83	Slope	0.63

Table 15.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand		Potential as source of topsoil	
	Rating class	Value	Rating class and limiting features	Value
689G: Coloma-----	Fair		Poor	
	Bottom layer	0.76	Slope	0.00
	Thickest layer	0.94	Too sandy	0.00
802B: Orthents-----	Poor		Good	
	Bottom layer	0.00		
	Thickest layer	0.00		
898F3: Hickory-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00	Too clayey Rock fragments	0.57 0.88
Sylvan-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00	Too clayey	0.57
898G: Hickory-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00	Too clayey Rock fragments	0.57 0.88
Sylvan-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00	Too clayey	0.60
899B: Raddle-----	Poor		Good	
	Bottom layer	0.00		
	Thickest layer	0.00		
Sparta-----	Fair		Poor	
	Thickest layer	0.36	Too sandy	0.00
	Bottom layer	0.90		
911G: Timula-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00	Carbonate content	0.92
Hickory-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00	Too clayey Rock fragments	0.57 0.88
913F: Marseilles-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00	Too clayey Depth to bedrock Rock fragments	0.49 0.58 0.88
Hickory-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00	Too clayey Rock fragments	0.57 0.88

Table 15.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand		Potential as source of topsoil	
	Rating class	Value	Rating class and limiting features	Value
943D3:				
Seaton-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00		
Timula-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00		
943G:				
Seaton-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00		
Timula-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00		
946D3:				
Hickory-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00	Too clayey	0.57
			Rock fragments	0.88
Atlas-----	Poor		Poor	
	Bottom layer	0.00	Too clayey	0.00
	Thickest layer	0.00	Slope	0.04
			Depth to	0.14
			saturated zone	
957D3:				
Elco-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00	Too clayey	0.57
			Depth to	0.98
			saturated zone	
Atlas-----	Poor		Poor	
	Bottom layer	0.00	Too clayey	0.00
	Thickest layer	0.00	Slope	0.04
			Depth to	0.14
			saturated zone	
960F:				
Hickory-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00	Too clayey	0.57
			Rock fragments	0.88
Sylvan-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00	Too clayey	0.60
Fayette-----	Poor		Poor	
	Bottom layer	0.00	Slope	0.00
	Thickest layer	0.00	Too clayey	0.64
962D3:				
Sylvan-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00	Too clayey	0.58

Table 15.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand		Potential as source of topsoil	
	Rating class	Value	Rating class and limiting features	Value
962D3: Bold-----	Poor		Fair	
	Bottom layer	0.00	Slope	0.04
	Thickest layer	0.00	Carbonate content	0.32
1070A: Beaucoup-----	Poor		Poor	
	Bottom layer	0.00	Depth to	0.00
	Thickest layer	0.00	saturated zone Too clayey	0.76
3074A: Radford-----	Poor		Fair	
	Bottom layer	0.00	Depth to	0.14
	Thickest layer	0.00	saturated zone	
3107A: Sawmill-----	Poor		Poor	
	Bottom layer	0.00	Depth to	0.00
	Thickest layer	0.00	saturated zone Too clayey	0.98
3107+: Sawmill-----	Poor		Poor	
	Bottom layer	0.00	Depth to	0.00
	Thickest layer	0.00	saturated zone Too clayey	0.93
3415A: Orion-----	Poor		Fair	
	Bottom layer	0.00	Depth to	0.53
	Thickest layer	0.00	saturated zone	
3646L: Fluvaquents-----	Poor		Poor	
	Bottom layer	0.00	Depth to	0.00
	Thickest layer	0.00	saturated zone	
3870L: Blake-----	Poor		Fair	
	Bottom layer	0.00	Carbonate content	0.97
	Thickest layer	0.00		
Beaucoup-----	Poor		Poor	
	Bottom layer	0.00	Depth to	0.00
	Thickest layer	0.00	saturated zone Too clayey	0.98
7070A: Beaucoup-----	Poor		Poor	
	Bottom layer	0.00	Depth to	0.00
	Thickest layer	0.00	saturated zone Too clayey	0.76
7083A: Wabash-----	Poor		Poor	
	Bottom layer	0.00	Too clayey	0.00
	Thickest layer	0.00	Depth to saturated zone	0.00

Table 15.--Construction Materials--Continued

Map symbol and soil name	Potential as source of sand		Potential as source of topsoil	
	Rating class	Value	Rating class and limiting features	Value
7107A: Sawmill-----	Poor		Poor	
	Bottom layer	0.00	Depth to	0.00
	Thickest layer	0.00	saturated zone	
			Too clayey	0.93
7302A: Ambraw-----	Poor		Poor	
	Bottom layer	0.00	Depth to	0.00
	Thickest layer	0.00	saturated zone	
7304A: Landes-----	Fair		Good	
	Thickest layer	0.01		
	Bottom layer	0.95		
7404A: Titus-----	Poor		Poor	
	Bottom layer	0.00	Depth to	0.00
	Thickest layer	0.00	saturated zone	
			Too clayey	0.12
7415A: Orion-----	Poor		Fair	
	Bottom layer	0.00	Depth to	0.53
	Thickest layer	0.00	saturated zone	
7428A: Coffeen-----	Poor		Fair	
	Bottom layer	0.00	Depth to	0.53
	Thickest layer	0.00	saturated zone	
9061A: Atterberry-----	Poor		Fair	
	Bottom layer	0.00	Depth to	0.14
	Thickest layer	0.00	saturated zone	
9279B: Rozetta-----	Poor		Fair	
	Bottom layer	0.00	Too clayey	0.60
	Thickest layer	0.00	Too acid	0.98
9279C2: Rozetta-----	Poor		Fair	
	Bottom layer	0.00	Too clayey	0.60
	Thickest layer	0.00	Too acid	0.98

Table 16.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
8D2: Hickory-----	Severe: slope	Moderate: thin layer	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
8D3: Hickory-----	Severe: slope	Moderate: thin layer	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
8F: Hickory-----	Severe: slope	Moderate: thin layer	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
8F3: Hickory-----	Severe: slope	Moderate: thin layer	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
8G: Hickory-----	Severe: slope	Moderate: thin layer	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
17A: Keomah-----	Slight	Severe: wetness	Limitation: frost action percs slowly	Limitation: percs slowly wetness	Limitation: erodes easily wetness	Limitation: erodes easily percs slowly wetness
19D2: Sylvan-----	Severe: slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
19D3: Sylvan-----	Severe: slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
37A: Worthen-----	Moderate: seepage	Severe: piping	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
43A: Ipava-----	Slight	Severe: wetness	Limitation: frost action	Limitation: wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness
45A: Denny-----	Slight	Severe: ponding	Limitation: frost action percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily ponding	Limitation: erodes easily percs slowly wetness
51A: Muscatune-----	Moderate: seepage	Severe: wetness	Limitation: frost action	Limitation: wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
61A: Atterberry-----	Moderate: seepage	Severe: wetness	Limitation: frost action	Limitation: wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness
68A: Sable-----	Moderate: seepage	Severe: ponding	Limitation: frost action ponding	Limitation: ponding	Limitation: ponding	Limitation: wetness
81A: Littleton-----	Moderate: seepage	Severe: piping wetness	Limitation: frost action	Limitation: wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness
86B: Osco-----	Moderate: seepage slope	Moderate: piping	Limitation: frost action slope deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
86B2: Osco-----	Moderate: seepage slope	Moderate: piping	Limitation: frost action slope	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
86C2: Osco-----	Moderate: seepage slope	Moderate: piping wetness	Limitation: frost action slope	Limitation: slope wetness	Limitation: erodes easily wetness	Limitation: erodes easily
87B: Dickinson-----	Severe: seepage	Severe: seepage piping	Limitation: deep to water	Limitation: slope soil blowing	Limitation: too sandy soil blowing	Favorable
88B: Sparta-----	Severe: seepage	Severe: seepage piping	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: too sandy soil blowing	Limitation: droughty
98B: Ade-----	Severe: seepage	Severe: seepage piping	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: too sandy soil blowing	Limitation: droughty
119D: Elco-----	Severe: slope	Moderate: piping wetness	Limitation: frost action slope	Limitation: percs slowly slope wetness	Limitation: erodes easily slope wetness	Limitation: erodes easily slope
119D2: Elco-----	Severe: slope	Moderate: piping wetness	Limitation: frost action slope	Limitation: percs slowly slope wetness	Limitation: erodes easily slope wetness	Limitation: erodes easily slope
134C: Camden-----	Severe: seepage	Moderate: thin layer	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
134D3: Camden-----	Severe: seepage slope	Moderate: thin layer	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
136A: Brooklyn-----	Slight	Severe: thin layer ponding	Limitation: frost action percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly wetness
172A: Hoopeston-----	Severe: seepage	Severe: piping wetness	Limitation: frost action cutbanks cave	Limitation: wetness soil blowing	Limitation: too sandy wetness soil blowing	Limitation: wetness
199B: Plano-----	Moderate: seepage slope	Moderate: piping thin layer wetness	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
199C2: Plano-----	Severe: seepage	Moderate: piping thin layer	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
206A: Thorp-----	Severe: seepage	Severe: ponding	Limitation: frost action percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly ponding	Limitation: erodes easily percs slowly wetness
212C: Thebes-----	Severe: seepage	Moderate: thin layer	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
212D3: Thebes-----	Severe: seepage slope	Moderate: thin layer	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
250D2: Velma-----	Severe: slope	Moderate: thin layer	Limitation: deep to water	Limitation: slope	Limitation: slope	Limitation: slope
257A: Clarksdale-----	Slight	Severe: wetness	Limitation: frost action	Limitation: erodes easily wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness
259C2: Assumption-----	Moderate: seepage slope	Moderate: wetness	Limitation: frost action percs slowly slope	Limitation: percs slowly slope wetness	Limitation: erodes easily wetness	Limitation: erodes easily percs slowly
259D2: Assumption-----	Severe: slope	Moderate: wetness	Limitation: frost action percs slowly slope	Limitation: percs slowly slope wetness	Limitation: erodes easily slope wetness	Limitation: erodes easily percs slowly slope

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
261A: Niota-----	Moderate: seepage	Severe: hard to pack ponding	Limitation: percs slowly ponding	Limitation: percs slowly ponding	Limitation: erodes easily ponding	Limitation: erodes easily wetness
274B: Seaton-----	Moderate: seepage slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
274C2: Seaton-----	Moderate: seepage slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
274D: Seaton-----	Severe: slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
275A: Joy-----	Moderate: seepage	Moderate: piping thin layer wetness	Limitation: frost action	Limitation: wetness	Limitation: erodes easily wetness	Limitation: erodes easily
277B: Port Byron-----	Moderate: seepage slope	Severe: piping	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
277C: Port Byron-----	Moderate: seepage slope	Severe: piping	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
278A: Stronghurst-----	Moderate: seepage	Severe: wetness	Limitation: frost action	Limitation: erodes easily wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness
279B: Rozetta-----	Moderate: seepage slope	Moderate: piping	Limitation: frost action slope deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
279C3: Rozetta-----	Moderate: seepage slope	Moderate: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
280C2: Fayette-----	Moderate: seepage slope	Slight	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
280D: Fayette-----	Severe: slope	Slight	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
280D2: Fayette-----	Severe: slope	Slight	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
280D3: Fayette-----	Severe: slope	Slight	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
430A: Raddle-----	Moderate: seepage	Severe: piping	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
430B: Raddle-----	Moderate: seepage slope	Severe: piping	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
457A: Booker-----	Slight	Severe: hard to pack ponding	Limitation: percs slowly ponding	Limitation: percs slowly ponding droughty	Limitation: percs slowly ponding	Limitation: percs slowly wetness
549C2: Marseilles-----	Moderate: seepage slope depth to rock	Severe: thin layer	Limitation: frost action percs slowly depth to rock	Limitation: percs slowly slope wetness	Limitation: erodes easily depth to rock	Limitation: erodes easily depth to rock
549D2: Marseilles-----	Severe: slope	Severe: thin layer	Limitation: deep to water	Limitation: percs slowly slope depth to rock	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope depth to rock
549D3: Marseilles-----	Severe: slope	Severe: thin layer	Limitation: deep to water	Limitation: percs slowly slope depth to rock	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope depth to rock
549F: Marseilles-----	Severe: slope	Severe: thin layer	Limitation: deep to water	Limitation: percs slowly slope depth to rock	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope depth to rock
567D: Elkhart-----	Severe: slope	Moderate: piping	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
567D2: Elkhart-----	Severe: slope	Moderate: piping	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
572B: Loran-----	Moderate: seepage slope depth to rock	Moderate: thin layer wetness	Limitation: frost action slope	Limitation: percs slowly slope wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
572C: Loran-----	Moderate: seepage slope depth to rock	Moderate: thin layer wetness	Limitation: frost action slope	Limitation: percs slowly slope wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness
671B: Biggsville-----	Moderate: seepage slope	Moderate: piping	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
671C2: Biggsville-----	Moderate: seepage slope	Moderate: piping	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
672B: Crescent-----	Severe: seepage	Severe: piping	Limitation: deep to water	Limitation: slope	Favorable	Favorable
675B: Greenbush-----	Moderate: seepage slope	Moderate: piping	Limitation: frost action slope deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
675C2: Greenbush-----	Moderate: seepage slope	Moderate: piping	Limitation: frost action slope deep to water	Limitation: slope erodes easily	Limitation: erodes easily	Limitation: erodes easily
678B: Mannon-----	Moderate: seepage slope	Moderate: piping	Limitation: deep to water	Limitation: slope erodes easily	Limitation: erodes easily	Limitation: erodes easily
684B: Broadwell-----	Severe: seepage	Moderate: piping thin layer	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
684C2: Broadwell-----	Severe: seepage	Severe: thin layer	Limitation: deep to water	Limitation: slope	Limitation: erodes easily	Limitation: erodes easily
689B: Coloma-----	Severe: seepage	Severe: seepage piping	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: too sandy soil blowing	Limitation: droughty
689D: Coloma-----	Severe: seepage slope	Severe: seepage piping	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy soil blowing	Limitation: slope droughty
689G: Coloma-----	Severe: seepage slope	Severe: seepage piping	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: slope too sandy soil blowing	Limitation: slope droughty

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
802B: Orthents-----	Moderate: slope	Moderate: piping	Limitation: deep to water	Limitation: erodes easily rooting depth slope	Limitation: erodes easily	Limitation: erodes easily rooting depth
898F3: Hickory-----	Severe: slope	Moderate: thin layer	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Sylvan-----	Severe: slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
898G: Hickory-----	Severe: slope	Moderate: thin layer	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Sylvan-----	Severe: slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
899B: Raddle-----	Moderate: seepage	Severe: piping	Limitation: deep to water	Favorable	Limitation: erodes easily	Limitation: erodes easily
Sparta-----	Severe: seepage	Severe: seepage piping	Limitation: deep to water	Limitation: fast intake slope droughty	Limitation: too sandy soil blowing	Limitation: droughty
911G: Timula-----	Severe: slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Hickory-----	Severe: slope	Moderate: thin layer	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
913F: Marseilles-----	Severe: slope	Severe: thin layer	Limitation: frost action percs slowly depth to rock	Limitation: percs slowly slope wetness	Limitation: erodes easily slope depth to rock	Limitation: erodes easily slope depth to rock
Hickory-----	Severe: slope	Moderate: thin layer	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
943D3: Seaton-----	Severe: slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Timula-----	Severe: slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
943G: Seaton-----	Severe: slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Timula-----	Severe: slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
946D3: Hickory-----	Severe: slope	Moderate: thin layer	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Atlas-----	Severe: slope	Severe: hard to pack	Limitation: frost action percs slowly slope	Limitation: slope wetness droughty	Limitation: erodes easily slope wetness	Limitation: erodes easily slope wetness
957D3: Elco-----	Severe: slope	Moderate: piping wetness	Limitation: frost action slope	Limitation: percs slowly slope wetness	Limitation: erodes easily slope wetness	Limitation: erodes easily slope
Atlas-----	Severe: slope	Severe: hard to pack	Limitation: frost action percs slowly slope	Limitation: slope wetness droughty	Limitation: slope wetness	Limitation: slope wetness
960F: Hickory-----	Severe: slope	Moderate: thin layer	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Sylvan-----	Severe: slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Fayette-----	Severe: slope	Slight	Limitation: deep to water	Limitation: slope	Limitation: erodes easily slope	Limitation: erodes easily slope
962D3: Sylvan-----	Severe: slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
Bold-----	Severe: slope	Severe: piping	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily slope	Limitation: erodes easily slope
1070A: Beaucoup-----	Slight	Severe: ponding	Limitation: frost action ponding	Limitation: ponding	Limitation: ponding	Limitation: wetness
3074A: Radford-----	Moderate: seepage	Severe: wetness	Limitation: flooding frost action	Limitation: flooding wetness	Limitation: wetness	Limitation: wetness

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
3107A: Sawmill-----	Moderate: seepage	Severe: wetness	Limitation: flooding frost action	Limitation: flooding wetness	Limitation: wetness	Limitation: wetness
3107+: Sawmill-----	Moderate: seepage	Severe: wetness	Limitation: flooding frost action	Limitation: flooding wetness	Limitation: wetness	Limitation: wetness
3415A: Orion-----	Moderate: seepage	Severe: piping wetness	Limitation: flooding frost action	Limitation: wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness
3646L: Fluvaquents-----	Moderate: seepage	Severe: piping wetness	Limitation: flooding frost action	Limitation: erodes easily wetness	Limitation: erodes easily wetness	Limitation: erodes easily
3870L: Blake-----	Moderate: seepage	Severe: piping	Limitation: flooding frost action	Limitation: flooding wetness	Limitation: erodes easily wetness	Limitation: erodes easily
Beaucoup-----	Slight	Severe: ponding	Limitation: flooding frost action	Limitation: flooding ponding	Limitation: ponding	Limitation: wetness
7070A: Beaucoup-----	Slight	Severe: ponding	Limitation: frost action ponding	Limitation: ponding	Limitation: ponding	Limitation: wetness
7083A: Wabash-----	Slight	Severe: hard to pack wetness	Limitation: flooding percs slowly	Limitation: slow intake wetness droughty	Limitation: percs slowly wetness	Limitation: percs slowly wetness droughty
7107A: Sawmill-----	Moderate: seepage	Severe: ponding	Limitation: frost action ponding	Limitation: ponding	Limitation: erodes easily ponding	Limitation: erodes easily wetness
7302A: Ambraw-----	Moderate: seepage	Severe: piping wetness	Limitation: frost action	Limitation: wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness
7304A: Landes-----	Severe: seepage	Severe: seepage piping	Limitation: deep to water	Favorable	Limitation: too sandy soil blowing	Favorable
7404A: Titus-----	Slight	Severe: ponding	Limitation: percs slowly ponding	Limitation: percs slowly ponding	Limitation: percs slowly ponding	Limitation: percs slowly rooting depth wetness

Table 16.--Water Management--Continued

Map symbol and soil name	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
7415A: Orion-----	Moderate: seepage	Severe: piping wetness	Limitation: flooding frost action	Limitation: wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness
7428A: Coffeen-----	Severe: seepage	Severe: piping wetness	Limitation: frost action	Limitation: wetness	Limitation: wetness	Limitation: wetness
9061A: Atterberry-----	Moderate: seepage	Severe: wetness	Limitation: frost action	Limitation: wetness	Limitation: erodes easily wetness	Limitation: erodes easily wetness
9279B: Rozetta-----	Moderate: seepage slope	Moderate: wetness	Limitation: deep to water	Limitation: erodes easily slope	Limitation: erodes easily	Limitation: erodes easily
9279C2: Rozetta-----	Moderate: seepage slope	Moderate: wetness	Limitation: frost action slope	Limitation: erodes easily slope wetness	Limitation: erodes easily wetness	Limitation: erodes easily

Table 17.--Engineering Index Properties

(Absence of an entry indicates that the data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
8D2: Hickory-----	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0-5	95-100	90-100	90-100	75-95	20-35	3-15
	6-51	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	95-100	70-100	65-95	50-80	30-50	15-30
	51-60	Clay loam, loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
8D3: Hickory-----	0-5	Clay loam	CL	A-6, A-7	0	0-5	95-100	90-100	80-100	65-80	30-50	15-30
	5-30	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	30-40	Clay loam, loam, gravelly clay loam	CL, SC	A-4, A-6	0-1	0-5	85-100	70-100	65-95	50-85	30-50	8-30
	40-60	Clay loam, loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-6, A-2, A-4	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
8F: Hickory-----	0-12	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	12-53	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	53-58	Sandy loam, loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
	58-63	Loam, sandy loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
8F3: Hickory-----	0-6	Clay loam	CL	A-6, A-7	0	0-5	95-100	90-100	80-100	65-80	30-50	15-30
	6-42	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	42-60	Clay loam, loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
8G: Hickory-----	0-4	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	4-12	Loam	CL, ML, CL-ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	12-40	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	40-58	Loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
	58-63	Loam, sandy loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
17A: Keomah-----	0-11	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-35	10-15
	11-18	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-35	10-20
	18-33	Silty clay, loam	CH, CL	A-7-6	0	0	100	100	100	95-100	45-55	25-30
	33-51	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	100	95-100	35-45	15-25
	51-89	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
19D2: Sylvan-----	0-4	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	4-32	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	20-30
	32-60	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	5-20

Table 17.--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											
19D3:												
Sylvan-----	0-9	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-50	20-30
	9-28	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-50	20-30
	28-60	Silt loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	5-20
37A:												
Worthen-----	0-29	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	80-100	25-40	7-21
	29-64	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	80-100	25-40	7-21
	64-80	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	80-100	25-40	7-21
43A:												
Ipava-----	0-20	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-20
	20-40	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	45-70	25-40
	40-60	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
45A:												
Denny-----	0-9	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	30-40	8-15
	9-22	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	22-45	Silty clay loam, silty clay	CH, CL	A-6, A-7	0	0	100	100	95-100	95-100	35-60	15-35
	45-60	Silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	95-100	25-40	11-20
51A:												
Muscataune-----	0-16	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	5-18
	16-22	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	40-50	22-25
	22-46	Silty clay loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	40-52	23-30
	46-60	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	38-46	19-25
61A:												
Atterberry-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	9-17	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	17-48	Silt loam, silty clay loam	CH, CL	A-6, A-7	0	0	100	100	95-100	95-100	35-55	15-30
	48-60	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	30-40	10-20

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
68A: Sable-----	0-17	Silty clay loam	CH, CL, MH, ML	A-7	0	0	100	100	95-100	95-100	41-65	15-35
	17-23	Silty clay loam	CH, CL, MH, ML	A-7	0	0	100	100	95-100	95-100	41-65	15-35
	23-60	Silty clay loam, silt loam	CH, CL	A-7	0	0	100	100	95-100	95-100	40-55	20-35
81A: Littleton-----	0-9	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	25-40	7-20
	9-32	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	25-40	7-20
	32-60	Silt loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	95-100	80-100	20-45	5-20
86B: Osco-----	0-12	Silt loam	CL, ML	A-6, A-7	0	0	100	100	100	95-100	35-45	10-20
	12-36	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	40-50	15-25
	36-60	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
86B2: Osco-----	0-8	Silt loam	CL, ML	A-6, A-7	0	0	100	100	95-100	95-100	35-45	11-15
	8-42	Silty clay loam, silt loam	CL, ML	A-6, A-7	0	0	100	100	95-100	95-100	40-50	14-22
	42-60	Silt loam, silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	95-100	35-45	11-18
86C2: Osco-----	0-9	Silt loam	CL, ML	A-6, A-7	0	0	100	100	95-100	95-100	35-45	10-20
	9-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	40-50	15-25
	34-60	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
87B: Dickinson-----	0-9	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	100	100	70-80	30-50	19-25	2-8
	9-17	Sandy loam, fine sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	100	100	70-80	30-50	19-25	3-9
	17-33	Sandy loam, fine sandy loam	SC, SC-SM	A-4	0	0	100	100	65-80	25-50	17-22	4-9
	33-41	Loamy sand, loamy fine sand, fine sand	SC-SM, SM	A-2, A-3	0	0	100	100	58-82	8-25	10-20	NP-5
	41-60	Sand, loamy fine sand, loamy sand	SM, SP-SM	A-2, A-3	0	0	100	100	50-80	2-25	6-16	NP-5
88B: Sparta-----	0-14	Loamy sand	SM	A-4, A-2	0	0	85-100	85-100	50-95	10-50	0-14	NP
	14-47	Loamy sand, fine sand, sand	SM, SP-SM	A-2, A-3, A-4	0	0	85-100	85-100	50-95	5-50	0-14	NP
	47-72	Stratified sand to loamy sand	SM, SP, SP-SM	A-2-4, A-3	0	0	85-100	85-100	50-95	4-50	0-14	NP-4
	72-85	Sand	SP-SM, SM, SP	A-2, A-3	0	0	85-100	85-100	50-95	2-15	0-14	NP
98B: Ade-----	0-10	Loamy fine sand	SM	A-2-4	0	0	100	100	75-95	18-34	6-20	NP-3
	10-27	Fine sand, loamy fine sand	SM	A-2-4, A-3	0	0	100	100	75-98	8-35	4-15	NP-3
	27-80	Stratified sand to loam	SM, SP, SP-SM	A-2-4, A-3	0	0	100	100	65-95	2-15	0-14	NP-4
119D: Elco-----	0-4	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	4-12	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	12-26	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	25-45	10-30
	26-80	Silty clay loam, loam, clay	CL	A-6, A-7	0	0	100	90-100	80-100	60-95	25-50	10-30

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
119D2: Elco-----	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	6-28	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	25-45	10-30
	28-60	Silty clay loam, loam, clay	CL	A-6, A-7	0	0	100	90-100	80-100	60-95	25-50	10-30
134C: Camden-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	9-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	31-40	Sandy loam, loam, clay loam	SC, SC-SM	A-4	0	0	100	95-100	80-90	35-50	20-30	5-10
	40-60	Sandy loam, loamy sand, sand	SC-SM, SM, SP-SM	A-2, A-3	0	0	100	95-100	80-90	2-20	6-20	NP-5
134D3: Camden-----	0-7	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	7-37	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	37-53	Sandy loam, loam	SC, SC-SM	A-4	0	0	100	95-100	80-90	35-50	20-30	5-10
	53-60	Loamy fine sand, loamy sand, fine sand	SM, SP-SM, SC-SM	A-2, A-3	0	0	100	95-100	80-90	2-20	6-20	NP-5
136A: Brooklyn-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-35	5-15
	7-17	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-35	5-15
	17-44	Silty clay, loam	CH, CL	A-7	0	0	100	100	95-100	95-100	45-60	25-40
	44-60	Stratified loam to silt loam to clay loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	100	100	60-90	30-70	15-38	5-20

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
172A: Hoopeston-----	0-14	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	90-100	90-100	70-90	25-45	0-25	NP-10
	14-38	Sandy loam	SC, SC-SM, SM	A-2, A-4	0	0	90-100	90-100	60-85	25-50	0-30	NP-10
	38-60	Stratified fine sandy loam	SC, SC-SM, SM, SP-SM	A-2, A-3	0	0	90-100	90-100	50-80	5-35	0-25	NP-10
199B: Plano-----	0-15	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-30	5-15
	15-45	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-25
	45-60	Clay loam, loam, sandy loam	SC-SM, CL, CL-ML, SC	A-4, A-6, A-7	0	0-1	90-100	85-95	60-90	35-75	20-45	5-25
	60-72	Stratified silt loam to loamy sand	CL, ML, SC, SM	A-2, A-4	0	0-5	90-100	70-95	60-90	15-70	0-25	NP-10
199C2: Plano-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	20-30	5-15
	8-41	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-25
	41-53	Clay loam, loam, sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6, A-7	0	0-1	90-100	85-95	60-90	35-75	20-45	5-25
	53-60	Stratified loamy sand to silt loam	CL, ML, SC, SM	A-2, A-4	0	0-5	90-100	70-95	60-90	15-70	0-25	NP-10
206A: Thorp-----	0-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	85-95	20-40	7-19
	14-19	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	90-100	85-95	25-35	7-15
	19-43	Silty clay loam, silt loam	CL	A-6, A-7	0	0	95-100	95-100	90-100	85-95	35-50	13-27
	43-50	Silt loam, clay loam, sandy clay loam	CL, SC	A-4, A-6, A-7	0	0	90-100	90-100	90-100	40-90	20-50	8-26
	50-65	Stratified sandy loam to silty clay loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	85-100	85-100	65-85	20-85	0-20	NP-6

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
212C: Thebes-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	9-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	31-40	Sandy loam, loam, clay loam	CL, CL-ML	A-4	0	0	100	95-100	80-90	45-75	20-30	5-10
	40-80	Stratified loamy sand to sandy loam, loamy sand, sand	SC-SM, SM, SP-SM	A-2, A-3	0	0	100	95-100	80-90	2-20	15-20	NP-5
212D3: Thebes-----	0-9	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	9-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	34-60	Sandy loam, loam	CL, CL-ML	A-4	0	0	100	95-100	80-90	45-75	20-30	5-10
	60-80	Stratified sand to loamy sand, loamy fine sand, loamy sand, fine sand	SC-SM, SM, SP-SM	A-2, A-3	0	0	100	95-100	80-90	2-20	15-20	NP-5
250D2: Velma-----	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	90-100	70-90	20-40	8-25
	7-45	Clay loam, loam, silty clay loam	CL	A-6, A-7	0-1	0-5	100	85-100	80-95	55-75	30-50	15-30
	45-60	Loam, clay loam, sandy loam	CL, ML, SC, SM	A-2, A-4, A-6	0-1	0-5	90-100	75-100	60-90	30-80	20-40	3-20

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
257A:												
Clarksdale-----	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-20
	8-16	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	20-35	8-18
	16-47	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	40-65	25-40
	47-67	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	25-45	10-25
	67-80	Silt loam	CL	A-6	0	0	95-100	95-100	95-100	90-100	25-40	10-20
259C2:												
Assumption-----	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	25-40	8-20
	8-24	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	30-50	10-30
	24-60	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	90-100	85-95	75-90	30-50	10-30
259D2:												
Assumption-----	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	90-100	25-40	8-20
	7-28	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	30-50	10-30
	28-60	Clay loam, silty clay loam, clay	CL	A-6, A-7	0	0-5	100	95-100	90-100	70-90	35-50	20-35
261A:												
Niota-----	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	30-40	5-15
	9-16	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-35	5-15
	16-27	Silty clay, clay, silty clay loam	CH	A-7	0	0	100	100	95-100	95-100	52-76	26-42
	27-36	Silty clay loam, silt loam, loam	CH, CL	A-6, A-7	0	0	100	100	95-100	95-100	38-52	17-25
	36-49	Silt loam, loam, loamy fine sand	CL, ML, SC, SM	A-2, A-4, A-6, A-7	0	0	100	95-100	60-90	20-90	18-48	NP-20
	49-60	Stratified loamy sand to silt loam	SC, SM, CL, ML, SC-SM, CL-ML	A-2-4, A-4	0	0-5	90-100	70-95	40-80	15-55	20-25	NP-10

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
274B:												
Seaton-----	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	95-100	95-100	20-45	2-20
	9-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
	60-80	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
274C2:												
Seaton-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-35	5-15
	7-47	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
	47-60	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
274D:												
Seaton-----	0-14	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	95-100	95-100	20-45	2-20
	14-49	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
	49-60	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
275A:												
Joy-----	0-15	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	5-20
	15-51	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	25-40	10-20
	51-60	Silt loam, loam, very fine sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	100	90-100	40-100	20-35	5-15
277B:												
Port Byron-----	0-15	Silt loam	CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	15-52	Silt loam	CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-20
	52-60	Silt loam	CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-15
	60-77	Silt loam, silt	CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	20-30	5-15
	77-89	Silt	ML	A-4	0	0	100	100	95-100	90-100	15-25	NP-5
277C:												
Port Byron-----	0-16	Silt loam	CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	16-40	Silt loam	CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-20
	40-60	Silt loam	CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-15
278A:												
Stronghurst-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	8-47	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	40-55	20-35
	47-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-20

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
279B:												
Rozetta-----	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	7-11	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-30	5-15
	11-55	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	55-60	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	7-20
279C3:												
Rozetta-----	0-6	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	95-100	35-45	10-20
	6-33	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	33-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	7-20
280C2:												
Fayette-----	0-8	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-45	10-25
	8-64	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	64-80	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280D:												
Fayette-----	0-13	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-35	5-15
	13-38	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	38-60	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	30-40	10-20
280D2:												
Fayette-----	0-6	Silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-45	10-25
	6-48	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	48-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
280D3:												
Fayette-----	0-8	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	8-36	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	36-60	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	30-40	10-20
430A:												
Raddle-----	0-21	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	4-15
	21-80	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	80-100	20-35	4-15

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
430B:												
Raddle-----	0-13	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	4-15
	13-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	80-100	20-35	4-15
457A:												
Booker-----	0-18	Silty clay, clay	CH, CL	A-7	0	0	100	100	95-100	95-100	45-75	30-45
	18-44	Silty clay, clay	CH, CL	A-7	0	0	100	100	95-100	95-100	45-75	30-45
	44-60	Silty clay, clay	CH, CL	A-7	0	0	100	100	95-100	95-100	45-75	30-50
549C2:												
Marseilles-----	0-5	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-15
	5-16	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	35-50	15-25
	16-26	Silty clay loam, clay loam, silty clay, silt loam	CH, CL	A-7	0-5	0-20	90-100	90-100	85-100	70-100	40-60	15-30
	26-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
549D2:												
Marseilles-----	0-5	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-15
	5-27	Clay loam, silty clay, silty clay loam	CH, CL	A-7	0-1	0-5	95-100	90-100	85-100	80-95	40-60	15-30
	27-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
549D3:												
Marseilles-----	0-3	Silty clay loam	ML	A-7, A-6	0-1	0-5	95-100	95-100	90-100	85-100	35-50	10-20
	3-27	Silty clay loam, silty clay	CH, CL	A-7	0-1	0-5	95-100	90-100	85-100	80-95	40-60	15-30
	27-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
549F:												
Marseilles-----	0-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-15
	10-35	Silty clay loam, silty clay	CH, CL	A-7	0-1	0-5	95-100	90-100	85-100	80-95	40-60	15-30
	35-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
567D:												
Elkhart-----	0-10	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	25-35	8-15
	10-29	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	18-30
	29-60	Silt loam, silt	CL	A-4, A-6	0	0	100	100	95-100	90-100	20-37	8-20
567D2:												
Elkhart-----	0-10	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	25-35	8-15
	10-30	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	18-30
	30-60	Silt loam, silt	CL	A-4, A-6	0	0	100	100	95-100	90-100	20-37	8-20
572B:												
Loran-----	0-12	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	30-40	6-15
	12-43	Silty clay loam, silt loam, loam	CL	A-6, A-7	0	0	100	95-100	95-100	80-100	35-50	15-25
	43-51	Channery clay, channery silty clay, clay	CL	A-6, A-7	0	0-5	95-100	95-100	90-100	80-100	30-50	15-35
	51-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---
572C:												
Loran-----	0-13	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	30-40	6-15
	13-38	Silty clay loam, silt loam, loam	CL	A-6, A-7	0	0	100	95-100	95-100	80-100	35-50	15-25
	38-40	Channery clay, channery silty clay, clay	CL	A-6, A-7	0	0-5	95-100	95-100	90-100	80-100	30-50	15-35
	40-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 17.--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	3-10	4	10	40	200			
					inches	inches							
In					Pct	Pct					Pct		
<b>671B:</b>													
Biggsville-----	0-13	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-40	7-18	
	13-53	Silt loam	CL	A-4, A-6	0	0	100	100	100	95-100	25-40	7-18	
	53-80	Silt loam	CL	A-4, A-6	0	0	100	100	100	90-100	25-40	7-17	
<b>671C2:</b>													
Biggsville-----	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	95-100	25-48	7-18	
	9-60	Silt loam	CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	7-18	
<b>672B:</b>													
Crescent-----	0-7	Loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	25-35	5-15	
	7-11	Silt loam, loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	15-35	4-15	
	11-41	Loam, clay loam, sandy clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	100	60-100	35-85	20-35	5-20	
	41-60	Loamy sand, sand	SC, SC-SM, SM, SP-SM	A-2-4, A-3	0	0	100	100	50-75	5-30	5-25	NP-10	
<b>675B:</b>													
Greenbush-----	0-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15	
	14-60	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25	
	60-80	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	11-20	
<b>675C2:</b>													
Greenbush-----	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15	
	6-46	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25	
	46-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	11-20	
<b>678B:</b>													
Mannon-----	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	100	95-100	25-40	7-18	
	7-10	Silt loam	CL	A-4, A-6	0	0	100	100	100	90-100	25-40	7-18	
	10-59	Silt loam	CL	A-4, A-6	0	0	100	100	100	95-100	25-40	8-20	
	59-80	Silt loam	CL	A-4, A-6	0	0	100	100	100	90-100	25-40	7-17	

Table 17.--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		
684B:												
Broadwell-----	0-15	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-45	5-20
	15-50	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-100	30-45	10-25
	50-55	Loamy fine sand, clay loam, fine sandy loam, loam	SC, SC-SM	A-4	0	0	100	95-100	80-90	35-50	20-30	5-10
	55-80	Loamy sand, fine sand, sand	SC-SM, SM, SP, SP-SM	A-2, A-3	0	0	100	100	75-95	4-35	0-20	NP-5
684C2:												
Broadwell-----	0-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	10-48	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-50	15-25
	48-59	Sandy loam, loam	SC, SC-SM	A-4	0	0	100	95-100	80-90	35-50	20-30	5-10
	59-70	Loamy fine sand, loamy sand, fine sand	SC-SM, SM, SP-SM	A-2, A-3	0	0	100	95-100	80-90	2-20	0-20	NP-5
689B:												
Coloma-----	0-10	Sand	SP-SM, SM, SP	A-2, A-3	0	0	85-100	85-100	50-80	2-15	0-14	NP
	10-27	Sand, loamy sand	SM, SP, SP-SM	A-2, A-3	0	0	85-100	85-100	50-75	2-30	0-14	NP
	27-60	Stratified sand to sandy loam	SM, SP, SP-SM	A-2, A-3, A-4	0	0	85-100	85-100	50-100	2-40	0-14	NP
689D:												
Coloma-----	0-12	Sand	SM, SP, SP-SM	A-2, A-3	0	0-7	85-100	85-100	50-75	2-15	0-14	NP
	12-25	Sand, loamy sand	SM, SP, SP-SM	A-2, A-3	0	0-7	85-100	85-100	50-75	2-30	0-14	NP
	25-60	Sand, loamy sand, sandy loam	SM, SP, SP-SM	A-2, A-3, A-4	0	0-7	85-100	85-100	50-100	2-40	0-14	NP

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
689G: Coloma-----	0-7	Sand	SM, SP, SP-SM	A-2, A-3	0	0	85-100	85-100	50-75	2-15	0-14	NP
	7-45	Sand, loamy sand	SM, SP, SP-SM	A-2, A-3	0	0	85-100	85-100	50-75	2-30	0-14	NP
	45-60	Loamy sand, sand, sandy loam	SM, SP, SP-SM	A-2, A-3, A-4	0	0	85-100	85-100	50-100	2-40	0-14	NP
802B: Orthents-----	0-6	Loam	CL	A-6	0-1	0-5	95-100	90-100	85-95	60-90	20-40	10-20
	6-60	Loam, silt loam, clay loam	CL	A-6	0-1	0-5	95-100	90-100	85-95	60-90	20-40	10-20
898F3: Hickory-----	0-12	Clay loam	CL	A-6, A-7	0	0-5	95-100	90-100	80-100	65-80	30-50	15-30
	12-48	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	48-60	Clay loam, loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
Sylvan-----	0-6	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	20-30
	6-30	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	20-30
	30-60	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	5-20
898G: Hickory-----	0-10	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	10-35	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	35-60	Clay loam, loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
898G:												
Sylvan-----	0-3	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	3-7	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	95-100	30-40	7-15
	7-33	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	20-30
	33-60	Silt, silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	5-20
899B:												
Raddle-----	0-21	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
	21-60	Silt loam, loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-20
Sparta-----	0-18	Loamy sand	SM	A-2, A-4	0	0	85-100	85-100	50-95	15-50	0-14	NP
	18-38	Loamy fine sand, fine sand, sand	SM, SP-SM	A-2, A-3, A-4	0	0	85-100	85-100	50-95	5-50	0-14	NP
	38-60	Sand, fine sand	SM, SP, SP-SM	A-2, A-3	0	0	85-100	85-100	50-95	2-30	0-18	NP
911G:												
Timula-----	0-10	Silt loam	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
	10-60	Silt loam, silt	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
Hickory-----	0-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	7-46	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	46-60	Clay loam, loam, gravelly clay loam	CL, CL-ML, SC-SM, SC	A-4, A-6, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
913F:												
Marseilles-----	0-12	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-15
	12-18	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	35-50	15-25
	18-34	Clay loam, silty clay, silty clay loam	CH, CL	A-7	0-5	0-20	90-100	90-100	85-100	80-100	40-60	15-30
	34-60	Weathered bedrock	---	---	---	---	---	---	---	---	---	---

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
913F: Hickory-----	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	8-57	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	57-60	Clay loam, loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6, A-2	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
943D3: Seaton-----	0-4	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-35	5-15
	4-39	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
	39-60	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
Timula-----	0-23	Silt loam	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
	23-60	Silt loam, silt	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
943G: Seaton-----	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	95-100	95-100	20-45	2-20
	9-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
Timula-----	0-28	Silt loam	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
	28-60	Silt loam, silt	ML	A-4	0	0	100	100	95-100	85-100	25-35	NP-10
946D3: Hickory-----	0-7	Clay loam	CL	A-6, A-7	0	0-5	95-100	90-100	80-100	65-80	30-50	15-30
	7-42	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	42-60	Clay loam, loam, gravelly clay loam	CL, CL-ML	A-4, A-6, A-2	0-1	0-5	85-100	75-95	45-95	25-75	20-40	5-20

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
946D3: Atlas-----	0-6	Silty clay loam	CH, CL	A-7	0	0	100	100	95-100	75-100	40-60	25-40
	6-12	Silty clay loam, silty clay, clay loam	CH	A-7	0	0	100	95-100	95-100	75-95	50-70	30-45
	12-55	Silty clay loam, silty clay, clay loam	CH	A-7	0	0	100	95-100	95-100	75-95	50-70	30-45
	55-60	Clay loam, clay, loam	CH, CL	A-6, A-7	0	0	95-100	90-100	80-100	60-95	35-55	20-30
957D3: Elco-----	0-7	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-45	15-30
	7-27	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	25-45	10-30
	27-39	Silty clay loam, clay loam, silt loam	CL	A-6, A-7	0	0	100	90-100	85-95	75-95	25-45	10-30
	39-60	Clay loam, silty clay loam, loam, silty clay	CL	A-6, A-7	0	0	100	90-100	80-100	60-95	25-50	10-30
Atlas-----	0-5	Silty clay loam	CH, CL	A-7	0	0	100	100	95-100	75-95	45-65	30-40
	5-9	Silty clay loam, silty clay, clay loam	CH	A-7	0	0	100	95-100	95-100	75-95	50-70	30-45
	9-39	Silty clay loam, silty clay, clay loam	CH	A-7	0	0	100	95-100	95-100	75-95	50-70	30-45
	39-60	Silty clay loam, clay, clay loam	CH	A-7	0	0	100	90-100	80-100	60-95	50-70	30-45

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
960F:												
Hickory-----	0-12	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0-5	95-100	90-100	75-100	55-100	20-35	3-15
	12-48	Clay loam, silty clay loam, gravelly clay loam	CL	A-6, A-7	0-1	0-5	85-100	70-100	65-95	50-85	30-50	15-30
	48-60	Clay loam, loam, gravelly clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0-1	0-5	85-100	70-95	45-95	25-75	20-40	5-20
Sylvan-----	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	6-30	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	20-30
	30-60	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	5-20
Fayette-----	0-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	10-60	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-45	15-25
	60-70	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	30-40	10-20
962D3:												
Sylvan-----	0-8	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	20-30
	8-31	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	95-100	35-50	20-30
	31-60	Silt loam, silt	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	20-40	5-20
Bold-----	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	20-35	3-15
	8-60	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	20-35	3-15

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
1070A:												
Beaucoup-----	0-11	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	30-45	15-25
	11-32	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	30-45	15-30
	32-42	Silt loam, stratified very fine sandy loam to silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	90-100	65-95	25-45	5-25
	42-60	Silt loam, stratified very fine sandy loam to silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	60-95	20-40	5-20
3074A:												
Radford-----	0-12	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	28-36	5-15
	12-33	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	28-36	5-15
	33-60	Silt loam, silty clay loam, clay loam	CL	A-6, A-7	0	0	100	100	85-100	70-95	35-50	15-25
3107A:												
Sawmill-----	0-26	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30
	26-54	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30
	54-60	Silty clay loam, clay loam, loam	CL	A-4, A-6, A-7	0	0	100	100	85-100	70-95	25-50	8-25
3107+:												
Sawmill-----	0-11	Silt loam	CL	A-6	0	0	100	100	95-100	85-100	25-40	10-20
	11-36	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30
	36-53	Silty clay loam, clay loam, loam	CL	A-4, A-6, A-7	0	0	100	100	95-100	70-95	25-50	8-25
	53-60	Silty clay loam, clay loam, silt loam	CL	A-4, A-6, A-7	0	0	100	100	85-100	70-95	20-50	8-30

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
3415A:												
Orion-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	80-100	25-35	4-12
	7-22	Stratified very fine sand to silt loam	CL, CL-ML	A-4	0	0	100	100	90-100	70-80	20-30	4-10
	22-60	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	85-100	20-40	4-18
	60-80	Stratified sand to silt loam	CL, CL-ML	A-4	0	0	80-100	80-100	80-100	80-100	20-30	4-10
3646L:												
Fluvaquents----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	25-35	5-15
	9-37	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-95	25-40	5-20
	37-60	Stratified sandy loam to silt loam	CL, CL-ML, SC	A-4, A-6	0	0	100	100	65-95	35-85	25-35	5-12
3870L:												
Blake-----	0-7	Silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-20
	7-31	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	90-100	85-95	30-50	10-30
	31-60	Silt loam, loam, very fine sandy loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	80-90	75-90	20-40	3-15
Beaucoup-----	0-21	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	30-45	15-25
	21-37	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	30-45	15-30
	37-60	Stratified very fine sandy loam to silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	60-95	20-40	5-20

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
<b>7070A:</b>												
Beaucoup-----	0-16	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	30-45	15-25
	16-43	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	85-100	30-45	15-30
	43-50	Silt loam, stratified very fine sandy loam to silty clay loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	90-100	65-95	25-45	5-25
	50-60	Silt loam, stratified very fine sandy loam to silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	60-95	20-40	5-20
<b>7083A:</b>												
Wabash-----	0-15	Silty clay	CH	A-7	0	0	100	100	95-100	95-100	50-75	30-50
	15-60	Silty clay, clay	CH	A-7	0	0	100	100	95-100	95-100	52-78	30-55
<b>7107A:</b>												
Sawmill-----	0-10	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30
	10-35	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-100	30-50	15-30
	35-60	Silty clay loam, clay loam, silt loam	CL	A-4, A-6, A-7	0	0	100	90-100	85-100	70-95	20-50	8-30
<b>7302A:</b>												
Ambraw-----	0-20	Clay loam	CL	A-6, A-7	0	0	100	100	85-95	55-80	30-45	10-20
	20-36	Clay loam, clay, loam	CH, CL	A-6, A-7	0	0	100	100	80-90	60-80	35-55	15-30
	36-45	Clay loam, sandy clay loam	CL, SC	A-6, A-7	0	0	100	90-100	85-95	40-80	30-50	10-25
	45-60	Stratified clay loam to sandy clay loam	CL, ML, SC, SM	A-4, A-6	0	0	100	90-100	80-90	40-80	20-40	NP-17

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
7304A: Landes-----	0-19	Fine sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	100	85-100	85-95	30-60	5-25	NP-10
	19-32	Loam, very fine sandy loam, loamy fine sand, fine sandy loam	CL-ML, SC, SC-SM, SM	A-2-4, A-4	0	0	100	85-100	70-95	15-60	0-25	NP-10
	32-60	Fine sandy loam, stratified sand to silt loam, loamy fine sand, sand	SC, SC-SM, SM, SP-SM	A-2-4, A-4	0	0	100	85-100	60-85	5-50	0-30	NP-10
7404A: Titus-----	0-22	Silty clay loam	CH, CL	A-7	0	0	100	100	95-100	90-100	40-55	20-30
	22-52	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	40-55	20-30
	52-60	Silty clay loam, silt loam, loam	CL	A-6	0	0	100	90-100	70-90	55-85	20-40	10-25
7415A: Orion-----	0-21	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-35	4-12
	21-27	Stratified very fine sand to silt loam	CL-ML, CL	A-4	0	0	100	100	90-100	85-100	20-30	4-10
	27-45	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	85-100	20-40	4-18
	45-60	Stratified sand to silt loam	CL, CL-ML	A-4, A-2	0	0	80-100	80-100	80-100	30-85	20-30	4-10
7428A: Coffee-----	0-20	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-20
	20-32	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	90-100	80-95	20-35	3-10
	32-60	Stratified sandy loam to silt loam	CL, ML, SC, SM	A-2, A-4	0	0	100	90-100	85-100	30-85	15-30	NP-10

Table 17.--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	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
9061A:												
Atterberry-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	9-17	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	17-48	Silt loam, silty clay loam	CH, CL	A-6, A-7	0	0	100	100	95-100	95-100	35-55	15-30
	48-60	Silt loam	CL	A-6	0	0	100	100	85-100	85-100	30-40	10-20
9279B:												
Rozetta-----	0-9	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	9-66	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	66-76	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	7-20
9279C2:												
Rozetta-----	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	8-15
	7-66	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	95-100	35-50	15-30
	66-70	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	7-20

Table 18.--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)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct					
8D2: Hickory-----	0-6	19-25	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.32	.32	5	6	48
	6-51	27-35	1.45-1.65	0.60-2.00	0.15-0.19	3.0-5.9	.28	.32			
	51-60	15-32	1.50-1.70	0.60-2.00	0.11-0.19	0.0-2.9	.28	.32			
8D3: Hickory-----	0-5	27-35	1.40-1.65	0.60-2.00	0.17-0.19	3.0-5.9	.28	.32	4	6	48
	5-30	24-35	1.45-1.65	0.60-2.00	0.15-0.19	3.0-5.9	.28	.32			
	30-40	24-35	1.45-1.65	0.60-2.00	0.15-0.19	3.0-5.9	.28	.32			
	40-60	15-30	1.50-1.75	0.60-2.00	0.10-0.15	0.0-2.9	.28	.32			
8F: Hickory-----	0-12	19-25	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.32	.32	5	6	48
	12-53	24-35	1.45-1.65	0.60-2.00	0.15-0.19	3.0-5.9	.28	.32			
	53-58	15-32	1.50-1.70	0.60-2.00	0.11-0.19	0.0-2.9	.28	.32			
	58-63	15-30	1.50-1.75	0.60-2.00	0.10-0.15	0.0-2.9	.28	.32			
8F3: Hickory-----	0-6	27-35	1.40-1.65	0.60-2.00	0.17-0.19	3.0-5.9	.28	.32	4	6	48
	6-42	27-35	1.45-1.65	0.60-2.00	0.15-0.19	3.0-5.9	.28	.32			
	42-60	15-32	1.50-1.70	0.60-2.00	0.11-0.19	0.0-2.9	.28	.32			
8G: Hickory-----	0-4	19-25	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.32	.32	5	6	48
	4-12	15-22	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.37	.37			
	12-40	24-35	1.45-1.65	0.60-2.00	0.15-0.19	3.0-5.9	.28	.32			
	40-58	15-32	1.50-1.70	0.60-2.00	0.11-0.19	0.0-2.9	.28	.32			
	58-63	15-30	1.50-1.75	0.60-2.00	0.10-0.15	0.0-2.9	.28	.32			
17A: Keomah-----	0-11	16-26	1.35-1.45	0.60-2.00	0.19-0.24	0.0-2.9	.43	.43	5	6	48
	11-18	16-26	1.40-1.60	0.20-0.60	0.17-0.21	0.0-2.9	.49	.49			
	18-33	35-42	1.30-1.40	0.06-0.20	0.15-0.19	6.0-8.9	.37	.37			
	33-51	27-35	1.35-1.45	0.20-0.60	0.16-0.20	3.0-5.9	.37	.37			
	51-89	15-27	1.40-1.60	0.60-2.00	0.19-0.22	0.0-2.9	.49	.49			
19D2: Sylvan-----	0-4	20-27	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43	5	6	48
	4-32	25-35	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	32-60	10-27	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
19D3: Sylvan-----	0-9	27-32	1.25-1.45	0.60-2.00	0.20-0.22	3.0-5.9	.37	.37	4	7	38
	9-28	25-35	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	28-60	10-27	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
37A: Worthen-----	0-29	12-22	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.32	.32	5	6	48
	29-64	15-26	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
	64-80	15-24	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
43A: Ipava-----	0-20	20-27	1.15-1.35	0.60-2.00	0.22-0.24	3.0-5.9	.28	.28	5	6	48
	20-40	35-43	1.25-1.50	0.20-0.60	0.11-0.20	6.0-8.9	.37	.37			
	40-60	20-30	1.30-1.55	0.20-0.60	0.20-0.22	3.0-5.9	.49	.49			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct					
45A:											
Denny-----	0-9	20-27	1.25-1.45	0.60-2.00	0.22-0.24	0.0-2.9	.37	.37	5	6	48
	9-22	15-22	1.25-1.45	0.20-0.60	0.18-0.20	0.0-2.9	.43	.43			
	22-45	35-45	1.20-1.40	0.06-0.20	0.11-0.22	6.0-8.9	.37	.37			
	45-60	25-35	1.40-1.60	0.20-0.60	0.20-0.22	3.0-5.9	.43	.43			
51A:											
Muscatune-----	0-16	24-27	1.25-1.45	0.60-2.00	0.22-0.24	0.0-2.9	.28	.28	5	6	48
	16-22	25-35	1.30-1.50	0.60-2.00	0.18-0.21	3.0-5.9	.37	.37			
	22-46	27-35	1.35-1.55	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	46-60	15-30	1.40-1.60	0.60-2.00	0.19-0.26	0.0-2.9	.49	.49			
61A:											
Atterberry-----	0-9	15-27	1.25-1.45	0.60-2.00	0.19-0.26	0.0-2.9	.37	.37	5	6	48
	9-17	15-27	1.40-1.60	0.60-2.00	0.17-0.21	0.0-2.9	.43	.43			
	17-48	25-35	1.35-1.55	0.60-2.00	0.16-0.20	3.0-5.9	.37	.37			
	48-60	15-27	1.30-1.50	0.60-2.00	0.17-0.22	0.0-2.9	.49	.49			
68A:											
Sable-----	0-17	27-35	1.15-1.35	0.60-2.00	0.21-0.23	3.0-5.9	.24	.24	5	7	38
	17-23	27-35	1.20-1.40	0.60-2.00	0.18-0.20	3.0-5.9	.24	.24			
	23-60	24-35	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
81A:											
Littleton-----	0-9	18-27	1.20-1.45	0.60-2.00	0.20-0.24	0.0-2.9	.32	.32	5	6	48
	9-32	22-27	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.49	.49			
	32-60	18-27	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
86B:											
Oscos-----	0-14	20-26	1.25-1.30	0.60-2.00	0.22-0.24	3.0-5.9	.28	.28	5	6	48
	14-55	24-35	1.30-1.35	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	55-60	20-30	1.35-1.40	0.60-2.00	0.18-0.20	3.0-5.9	.49	.49			
86B2:											
Oscos-----	0-8	20-26	1.40-1.60	0.60-2.00	0.18-0.22	0.0-2.9	.37	.37	5	6	48
	8-42	25-35	1.35-1.55	0.60-2.00	0.18-0.21	3.0-5.9	.37	.37			
	42-51	15-30	1.35-1.55	0.60-2.00	0.18-0.23	0.0-2.9	.49	.49			
	51-60	15-27	1.40-1.60	0.60-2.00	0.19-0.26	0.0-2.9	.49	.49			
86C2:											
Oscos-----	0-9	20-26	1.25-1.30	0.60-2.00	0.22-0.24	3.0-5.9	.37	.37	5	6	48
	9-34	24-35	1.30-1.35	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	34-60	20-30	1.35-1.40	0.60-2.00	0.18-0.20	3.0-5.9	.49	.49			
87B:											
Dickinson-----	0-9	10-18	1.50-1.55	2.00-6.00	0.12-0.15	0.0-2.9	.15	.15	4	3	86
	9-17	10-18	1.50-1.55	2.00-6.00	0.12-0.15	0.0-2.9	.15	.15			
	17-33	10-15	1.45-1.55	2.00-6.00	0.12-0.15	0.0-2.9	.24	.24			
	33-41	4-10	1.55-1.65	6.00-20.00	0.08-0.10	0.0-2.9	.20	.20			
	41-60	4-10	1.60-1.70	6.00-20.00	0.02-0.04	0.0-2.9	.15	.15			
88B:											
Sparta-----	0-14	0-10	1.20-1.40	2.00-6.00	0.09-0.12	0.0-2.9	.02	.02	5	2	134
	14-47	1-8	1.40-1.60	6.00-20.00	0.05-0.11	0.0-2.9	.10	.10			
	47-72	3-16	1.40-1.60	6.00-20.00	0.06-0.08	0.0-2.9	.17	.17			
98B:											
Ade-----	0-10	3-12	1.35-1.55	6.00-20.00	0.10-0.12	0.0-2.9	.17	.17	5	2	134
	10-27	3-12	1.40-1.60	6.00-20.00	0.06-0.08	0.0-2.9	.17	.17			
	27-80	3-16	1.40-1.60	6.00-20.00	0.06-0.08	0.0-2.9	.17	.17			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct					
119D: Elco-----	0-4	20-27	1.15-1.30	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	6	48
	4-12	18-27	1.20-1.35	0.60-2.00	0.22-0.24	0.0-2.9	.49	.49			
	12-26	23-35	1.25-1.45	0.60-2.00	0.18-0.21	3.0-5.9	.37	.37			
	26-80	25-45	1.45-1.70	0.06-0.60	0.14-0.20	6.0-8.9	.28	.28			
119D2: Elco-----	0-6	20-27	1.20-1.35	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	6	48
	6-28	23-35	1.25-1.45	0.60-2.00	0.18-0.21	3.0-5.9	.37	.37			
	28-60	25-45	1.45-1.70	0.06-0.60	0.14-0.20	6.0-8.9	.28	.28			
134C: Camden-----	0-9	15-25	1.30-1.35	0.60-2.00	0.20-0.22	0.0-2.9	.37	.37	5	6	48
	9-31	25-35	1.30-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	31-40	15-30	1.30-1.35	2.00-6.00	0.11-0.17	0.0-2.9	.24	.24			
	40-60	3-10	1.30-1.35	6.00-20.00	0.05-0.10	0.0-2.9	.17	.17			
134D3: Camden-----	0-7	28-32	1.35-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37	4	7	38
	7-37	25-35	1.30-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	37-53	15-20	1.30-1.35	2.00-6.00	0.11-0.17	0.0-2.9	.24	.24			
	53-60	3-10	1.30-1.35	6.00-20.00	0.05-0.10	0.0-2.9	.17	.17			
136A: Brooklyn-----	0-7	20-27	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.37	.37	3	6	48
	7-17	14-22	1.25-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
	17-44	35-45	1.35-1.55	0.06-0.20	0.11-0.20	6.0-8.9	.37	.37			
	44-60	10-30	1.40-1.70	0.20-0.60	0.11-0.19	0.0-2.9	.24	.28			
172A: Hoopeston-----	0-14	8-18	1.35-1.70	2.00-6.00	0.12-0.15	0.0-2.9	.15	.15	4	3	86
	14-38	10-18	1.45-1.70	2.00-6.00	0.12-0.17	0.0-2.9	.24	.24			
	38-60	2-12	1.50-1.70	6.00-20.00	0.05-0.10	0.0-2.9	.05	.05			
199B: Plano-----	0-15	18-27	1.10-1.30	0.60-2.00	0.22-0.24	0.0-2.9	.28	.28	5	6	48
	15-45	20-35	1.20-1.40	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	45-55	15-30	1.30-1.55	0.60-6.00	0.09-0.16	0.0-2.9	.32	.32			
	55-72	5-15	1.50-1.70	2.00-6.00	0.11-0.22	0.0-2.9	.28	.28			
199C2: Plano-----	0-8	18-27	1.10-1.30	0.60-2.00	0.22-0.24	0.0-2.9	.28	.28	5	6	48
	8-41	20-35	1.20-1.40	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	41-53	15-30	1.30-1.55	0.60-6.00	0.09-0.16	0.0-2.9	.32	.32			
	53-60	5-15	1.50-1.70	2.00-6.00	0.11-0.22	0.0-2.9	.28	.28			
206A: Thorp-----	0-14	20-27	1.15-1.35	0.20-0.60	0.22-0.24	0.0-2.9	.28	.28	5	6	48
	14-19	18-25	1.30-1.50	0.20-0.60	0.20-0.22	0.0-2.9	.43	.43			
	19-43	22-35	1.35-1.55	0.06-0.20	0.18-0.20	3.0-5.9	.37	.37			
	43-50	18-30	1.40-1.60	0.06-0.20	0.15-0.22	3.0-5.9	.28	.28			
	50-65	5-30	1.50-1.70	2.00-6.00	0.05-0.13	0.0-2.9	.28	.28			
212C: Thebes-----	0-9	15-25	1.30-1.35	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43	5	6	48
	9-31	25-35	1.30-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	31-40	15-30	1.30-1.35	2.00-6.00	0.11-0.17	0.0-2.9	.32	.32			
	40-80	3-10	1.30-1.35	6.00-20.00	0.05-0.10	0.0-2.9	.17	.17			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct					
212D3: Thebes-----	0-9	28-32	1.35-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37	4	7	38
	9-34	25-35	1.30-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	34-59	15-30	1.30-1.35	2.00-6.00	0.11-0.17	0.0-2.9	.32	.32			
	59-80	3-10	1.30-1.35	6.00-20.00	0.05-0.10	0.0-2.9	.17	.17			
250D2: Velma-----	0-7	20-27	1.30-1.50	0.60-2.00	0.20-0.24	0.0-2.9	.28	.28	5	6	48
	7-45	25-35	1.45-1.65	0.60-2.00	0.15-0.19	3.0-5.9	.32	.32			
	45-60	15-30	1.50-1.70	0.60-2.00	0.06-0.09	0.0-2.9	.37	.37			
257A: Clarksdale-----	0-8	20-27	1.30-1.50	0.60-2.00	0.22-0.25	3.0-5.9	.37	.37	5	6	48
	8-16	15-27	1.25-1.50	0.20-0.60	0.20-0.22	0.0-2.9	.43	.43			
	16-47	35-45	1.30-1.50	0.20-0.60	0.11-0.20	6.0-8.9	.37	.37			
	47-67	20-30	1.40-1.60	0.60-2.00	0.20-0.22	3.0-5.9	.43	.43			
	67-80	18-27	1.40-1.60	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
259C2: Assumption-----	0-8	20-27	1.25-1.45	0.60-2.00	0.23-0.25	0.0-2.9	.28	.28	5	6	48
	8-24	25-35	1.20-1.40	0.60-2.00	0.18-0.22	3.0-5.9	.37	.37			
	24-60	25-45	1.40-1.60	0.06-0.60	0.16-0.20	3.0-8.9	.28	.28			
259D2: Assumption-----	0-7	20-27	1.25-1.45	0.60-2.00	0.23-0.25	0.0-2.9	.37	.37	5	6	48
	7-28	25-35	1.20-1.40	0.60-2.00	0.18-0.22	3.0-5.9	.37	.37			
	28-60	30-45	1.45-1.65	0.06-0.60	0.14-0.20	6.0-8.9	.28	.28			
261A: Niota-----	0-9	20-27	1.20-1.35	0.20-0.60	0.22-0.24	0.0-2.9	.37	.37	3	6	48
	9-16	18-25	1.30-1.55	0.20-0.60	0.18-0.22	0.0-2.9	.43	.43			
	16-27	38-60	1.40-1.60	0.00-0.06	0.09-0.13	6.0-8.9	.32	.32			
	27-36	25-40	1.40-1.60	0.20-0.60	0.17-0.22	3.0-5.9	.37	.37			
	36-49	12-25	1.50-1.70	0.20-2.00	0.08-0.20	3.0-5.9	.32	.32			
	49-60	5-20	1.50-1.70	2.00-6.00	0.11-0.22	0.0-2.9	.28	.28			
274B: Seaton-----	0-9	10-22	1.10-1.45	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	5	56
	9-60	18-27	1.20-1.60	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
	60-80	10-25	1.20-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
274C2: Seaton-----	0-7	15-22	1.10-1.20	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	5	56
	7-47	18-27	1.15-1.30	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
	47-60	10-25	1.20-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
274D: Seaton-----	0-14	10-22	1.10-1.45	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	5	56
	14-49	18-27	1.20-1.60	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
	49-60	10-25	1.20-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
275A: Joy-----	0-15	15-25	1.10-1.20	0.60-2.00	0.22-0.24	0.0-2.9	.28	.28	5	6	48
	15-51	18-27	1.15-1.25	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
	51-60	12-23	1.15-1.30	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
277B: Port Byron-----	0-15	18-27	1.10-1.20	0.60-2.00	0.22-0.24	0.0-2.9	.28	.28	5	6	48
	15-52	18-27	1.15-1.30	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
	52-60	15-27	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
	60-77	11-18	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.55	.55			
	77-89	5-12	1.25-1.50	0.60-2.00	0.18-0.20	0.0-2.9	.55	.55			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct					
277C: Port Byron-----	0-16	18-27	1.10-1.20	0.60-2.00	0.22-0.24	0.0-2.9	.28	.28	5	6	48
	16-40	18-27	1.15-1.30	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
	40-60	15-27	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
278A: Stronghurst-----	0-8	20-27	1.25-1.45	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	6	48
	8-47	22-35	1.30-1.55	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	47-60	20-27	1.35-1.60	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
279B: Rozetta-----	0-7	15-27	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	6	48
	7-11	12-27	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.49	.49			
	11-55	27-35	1.35-1.55	0.60-2.00	0.18-0.22	3.0-5.9	.37	.37			
	55-60	20-30	1.40-1.60	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
279C3: Rozetta-----	0-6	27-35	1.30-1.45	0.60-2.00	0.18-0.22	3.0-5.9	.37	.37	4	7	38
	6-33	27-35	1.35-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	33-60	15-27	1.40-1.60	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
280C2: Fayette-----	0-8	25-27	1.35-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.43	.43	5	6	48
	8-64	25-35	1.30-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	64-80	22-26	1.45-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.49	.49			
280D: Fayette-----	0-13	15-27	1.30-1.35	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43	5	6	48
	13-38	25-35	1.30-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	38-60	22-26	1.45-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.49	.49			
280D2: Fayette-----	0-6	25-27	1.35-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.43	.43	5	6	48
	6-48	25-35	1.30-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	48-60	22-26	1.45-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.49	.49			
280D3: Fayette-----	0-8	27-32	1.35-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37	4	7	38
	8-36	25-35	1.30-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	36-60	22-26	1.45-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.49	.49			
430A: Raddle-----	0-21	18-24	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.32	.32	5	6	48
	21-80	18-24	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
430B: Raddle-----	0-13	18-24	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.32	.32	5	6	48
	13-60	18-24	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
457A: Booker-----	0-18	40-70	1.30-1.50	0.00-0.06	0.11-0.14	9.0-25.0	.17	.17	5	4	86
	18-44	40-70	1.30-1.60	0.00-0.06	0.09-0.14	9.0-25.0	.32	.32			
	44-60	40-70	1.30-1.60	0.00-0.06	0.09-0.11	9.0-25.0	.37	.37			
549C2: Marseilles-----	0-5	20-27	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	3	6	48
	5-16	25-35	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	16-26	25-42	1.35-1.60	0.06-0.20	0.09-0.20	3.0-5.9	.37	.37			
	26-60	---	---	0.00-0.20	---	---	---	---			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct					
549D2: Marseilles-----	0-5	20-27	1.20-1.40	0.57-1.98	0.20-0.24	0.0-2.9	.32	.32	3	6	48
	5-27	27-42	1.35-1.60	0.06-0.20	0.09-0.20	3.0-6.0	.37	.37			
	27-60	---	---	0.00-0.20	---	---	---	---			
549D3: Marseilles-----	0-3	27-35	1.25-1.45	0.57-1.98	0.18-0.22	3.0-5.9	.37	.37	2	7	38
	3-27	27-42	1.35-1.60	0.06-0.20	0.09-0.20	3.0-5.9	.37	.37			
	27-60	---	---	0.00-0.20	---	---	---	---			
549F: Marseilles-----	0-10	20-27	1.20-1.40	0.57-1.98	0.20-0.24	0.0-2.9	.32	.32	3	6	48
	10-35	27-42	1.35-1.60	0.06-0.20	0.09-0.20	3.0-6.0	.37	.37			
	35-60	---	---	0.00-0.20	---	---	---	---			
567D: Elkhart-----	0-10	20-27	1.15-1.35	0.60-2.00	0.22-0.24	0.0-2.9	.28	.28	5	6	48
	10-29	25-35	1.25-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	29-60	10-27	1.35-1.55	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
567D2: Elkhart-----	0-10	20-27	1.15-1.35	0.60-2.00	0.22-0.24	0.0-2.9	.28	.28	5	6	48
	10-30	25-35	1.25-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	30-60	10-27	1.35-1.55	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
572B: Loran-----	0-12	20-27	1.10-1.30	0.60-2.00	0.22-0.24	0.0-2.9	.28	.28	4	6	48
	12-43	22-35	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	43-51	35-50	1.50-1.70	0.06-0.20	0.04-0.08	3.0-5.9	.32	.32			
	51-60	---	---	0.01-0.20	---	---	---	---			
572C: Loran-----	0-13	20-27	1.10-1.30	0.60-2.00	0.22-0.24	0.0-2.9	.28	.28	4	6	48
	13-38	22-35	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	38-40	35-50	1.50-1.70	0.06-0.20	0.04-0.08	3.0-5.9	.32	.32			
	40-60	---	---	0.01-0.20	---	---	---	---			
671B: Biggsville-----	0-13	18-27	1.10-1.20	0.60-2.00	0.22-0.24	0.0-2.9	.28	.28	5	6	48
	13-53	18-25	1.15-1.30	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
	53-80	15-27	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
671C2: Biggsville-----	0-9	18-27	1.10-1.20	0.60-2.00	0.22-0.24	0.0-2.9	.37	.37	5	6	48
	9-60	18-25	1.15-1.30	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
672B: Crescent-----	0-7	10-22	1.30-1.45	0.60-2.00	0.22-0.24	0.0-2.9	.24	.24	4	5	56
	7-11	10-22	1.35-1.55	0.60-2.00	0.17-0.22	0.0-2.9	.24	.24			
	11-41	20-32	1.40-1.60	0.60-2.00	0.13-0.19	0.0-2.9	.32	.32			
	41-60	2-10	1.50-1.70	6.00-20.00	0.05-0.10	0.0-2.9	.05	.05			
675B: Greenbush-----	0-14	18-25	1.25-1.30	0.60-2.00	0.21-0.23	0.0-2.9	.37	.37	5	6	48
	14-60	26-35	1.30-1.35	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	60-80	18-27	1.35-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.49	.49			
675C2: Greenbush-----	0-6	18-25	1.25-1.30	0.60-2.00	0.21-0.23	0.0-2.9	.37	.37	5	6	48
	6-46	26-35	1.30-1.35	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	46-60	18-27	1.35-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.49	.49			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct					
<b>678B:</b>											
Mannon-----	0-7	15-22	1.10-1.20	0.60-2.00	0.22-0.24	0.0-2.9	.37	.37	5	6	48
	7-10	15-22	1.15-1.30	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
	10-59	18-27	1.15-1.30	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
	59-80	16-24	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
<b>684B:</b>											
Broadwell-----	0-15	20-27	1.25-1.45	0.60-2.00	0.23-0.26	0.0-2.9	.28	.28	5	6	48
	15-50	24-35	1.35-1.60	0.60-2.00	0.14-0.24	3.0-5.9	.37	.37			
	50-55	10-28	1.30-1.35	2.00-6.00	0.11-0.17	0.0-2.9	.32	.32			
	55-80	3-10	1.55-1.75	6.00-20.00	0.08-0.11	0.0-2.9	.15	.15			
<b>684C2:</b>											
Broadwell-----	0-10	20-27	1.25-1.30	0.60-2.00	0.22-0.24	0.0-2.9	.28	.28	5	6	48
	10-48	24-35	1.30-1.35	0.60-2.00	0.19-0.22	3.0-5.9	.37	.37			
	48-59	15-20	1.30-1.35	2.00-6.00	0.11-0.17	0.0-2.9	.24	.24			
	59-70	3-10	1.30-1.35	6.00-20.00	0.05-0.10	0.0-2.9	.17	.17			
<b>689B:</b>											
Coloma-----	0-10	0-10	1.35-1.65	6.00-20.00	0.05-0.09	0.0-2.9	.02	.02	5	1	250
	10-27	0-10	1.35-1.65	6.00-20.00	0.05-0.12	0.0-2.9	.15	.15			
	27-60	2-12	1.50-1.65	2.00-20.00	0.03-0.08	0.0-2.9	.15	.15			
<b>689D:</b>											
Coloma-----	0-12	0-10	1.35-1.65	6.00-20.00	0.05-0.09	0.0-2.9	.02	.02	5	1	250
	12-25	0-10	1.35-1.65	6.00-20.00	0.05-0.12	0.0-2.9	.15	.15			
	25-60	2-12	1.50-1.65	2.00-20.00	0.03-0.08	0.0-2.9	.15	.15			
<b>689G:</b>											
Coloma-----	0-7	0-10	1.35-1.65	5.95-19.98	0.05-0.09	0.0-2.9	.15	.15	5	1	250
	7-45	0-10	1.35-1.65	5.95-19.98	0.05-0.12	0.0-2.9	.15	.15			
	45-60	2-12	1.50-1.65	2.00-20.00	0.03-0.08	0.0-2.9	.15	.15			
<b>802B:</b>											
Orthents-----	0-6	22-30	1.70-1.75	0.20-0.60	0.18-0.22	3.0-5.9	.43	.43	5	6	48
	6-60	22-30	1.70-1.80	0.20-0.60	0.16-0.20	3.0-5.9	.43	.43			
<b>898F3:</b>											
Hickory-----	0-12	27-35	1.40-1.65	0.60-2.00	0.17-0.19	3.0-5.9	.24	.24	4	6	48
	12-48	27-35	1.45-1.65	0.60-2.00	0.15-0.19	3.0-5.9	.28	.32			
	48-60	15-32	1.50-1.70	0.60-2.00	0.11-0.19	0.0-2.9	.28	.32			
<b>Sylvan-----</b>	0-6	27-32	1.25-1.45	0.60-2.00	0.20-0.22	3.0-5.9	.43	.43	4	7	38
	6-30	25-35	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	30-60	10-27	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
<b>898G:</b>											
Hickory-----	0-10	19-25	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.32	.32	5	6	48
	10-35	27-35	1.45-1.65	0.60-2.00	0.15-0.19	3.0-5.9	.28	.32			
	35-60	15-32	1.50-1.70	0.60-2.00	0.11-0.19	0.0-2.9	.28	.32			
<b>Sylvan-----</b>	0-3	18-27	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	6	48
	3-7	15-25	1.25-1.45	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
	7-33	25-35	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	33-60	10-27	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
<b>899B:</b>											
Raddle-----	0-21	12-24	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.32	.32	5	5	56
	21-60	18-24	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
<b>Sparta-----</b>	0-18	0-10	1.20-1.40	2.00-6.00	0.09-0.12	0.0-2.9	.02	.02	5	2	134
	18-38	0-8	1.40-1.60	6.00-20.00	0.05-0.11	0.0-2.9	.17	.17			
	38-60	0-10	1.50-1.70	6.00-20.00	0.04-0.07	0.0-2.9	.15	.15			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct					
911G:											
Timula-----	0-10	10-18	1.30-1.60	0.60-2.00	0.20-0.24	0.0-2.9	.43	.43	5	5	56
	10-22	10-18	1.35-1.60	0.60-2.00	0.19-0.22	0.0-2.9	.43	.43			
	22-60	10-18	1.40-1.60	0.60-2.00	0.18-0.20	0.0-2.9	.55	.55			
Hickory-----	0-7	19-25	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.32	.32	5	6	48
	7-46	27-35	1.45-1.65	0.60-2.00	0.15-0.19	3.0-5.9	.32	.32			
	46-60	15-32	1.50-1.70	0.60-2.00	0.11-0.19	0.0-2.9	.32	.32			
913F:											
Marseilles-----	0-12	20-27	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.32	.32	3	6	48
	12-18	24-35	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.43	.43			
	18-34	25-42	1.35-1.60	0.06-0.20	0.09-0.20	3.0-5.9	.37	.37			
	34-60	---	---	0.01-0.20	---	---	---	---			
Hickory-----	0-8	19-25	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.32	.32	5	6	48
	8-57	27-35	1.45-1.65	0.60-2.00	0.15-0.19	3.0-5.9	.28	.32			
	57-60	15-32	1.50-1.70	0.60-2.00	0.11-0.19	0.0-2.9	.28	.32			
943D3:											
Seaton-----	0-4	11-22	1.10-1.20	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	4	5	56
	4-39	18-27	1.15-1.30	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
	39-60	11-25	1.20-1.40	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
Timula-----	0-23	10-18	1.30-1.60	0.60-2.00	0.20-0.24	0.0-2.9	.55	.55	4	5	56
	23-60	10-18	1.40-1.60	0.60-2.00	0.18-0.20	0.0-2.9	.55	.55			
943G:											
Seaton-----	0-9	10-22	1.10-1.45	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	5	56
	9-60	18-27	1.20-1.60	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43			
Timula-----	0-28	10-18	1.30-1.60	0.60-2.00	0.20-0.24	0.0-2.9	.43	.43	5	5	56
	28-60	10-18	1.40-1.60	0.60-2.00	0.18-0.20	0.0-2.9	.55	.55			
946D3:											
Hickory-----	0-7	27-35	1.40-1.65	0.60-2.00	0.17-0.19	3.0-5.9	.28	.32	4	6	48
	7-42	27-35	1.45-1.65	0.60-2.00	0.15-0.19	3.0-5.9	.28	.32			
	42-60	15-32	1.50-1.70	0.60-2.00	0.11-0.19	0.0-2.9	.28	.32			
Atlas-----	0-6	30-40	1.35-1.55	0.06-0.20	0.14-0.19	6.0-8.9	.37	.37	2	7	38
	6-12	38-45	1.35-1.55	0.00-0.06	0.07-0.19	6.0-8.9	.37	.37			
	12-55	38-45	1.35-1.55	0.00-0.06	0.07-0.19	6.0-8.9	.32	.32			
	55-60	25-45	1.35-1.60	0.06-0.20	0.07-0.18	3.0-5.9	.37	.37			
957D3:											
Elco-----	0-7	25-33	1.20-1.35	0.60-2.00	0.18-0.21	3.0-5.9	.37	.37	4	7	38
	7-27	23-35	1.25-1.45	0.60-2.00	0.18-0.21	3.0-5.9	.37	.37			
	27-39	23-35	1.40-1.60	0.20-0.60	0.16-0.20	3.0-5.9	.37	.37			
	39-60	25-45	1.45-1.70	0.06-0.60	0.14-0.20	6.0-8.9	.43	.43			
Atlas-----	0-5	30-40	1.35-1.55	0.06-0.20	0.11-0.16	6.0-8.9	.37	.37	2	6	48
	5-9	38-45	1.35-1.55	0.00-0.06	0.07-0.19	6.0-8.9	.37	.37			
	9-39	38-45	1.35-1.55	0.00-0.06	0.07-0.19	6.0-8.9	.32	.32			
	39-60	30-45	1.35-1.55	0.00-0.06	0.07-0.19	6.0-8.9	.37	.37			
960F:											
Hickory-----	0-12	19-25	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.32	.32	5	6	48
	12-48	27-35	1.45-1.65	0.60-2.00	0.15-0.19	3.0-5.9	.28	.32			
	48-60	15-32	1.50-1.70	0.60-2.00	0.11-0.19	0.0-2.9	.28	.32			
Sylvan-----	0-6	18-27	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	6	48
	6-30	25-35	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	30-60	18-27	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct					
<b>960F:</b>											
<b>Fayette</b> -----	0-10	15-27	1.30-1.35	0.60-2.00	0.20-0.22	0.0-2.9	.43	.43	5	6	48
	10-60	25-35	1.30-1.45	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	60-70	22-26	1.45-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.49	.49			
<b>962D3:</b>											
<b>Sylvan</b> -----	0-8	27-32	1.25-1.45	0.60-2.00	0.20-0.22	3.0-5.9	.37	.37	4	7	38
	8-31	25-35	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.37	.37			
	31-60	10-27	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
<b>Bold</b> -----	0-8	12-18	1.40-1.60	0.60-2.00	0.21-0.24	0.0-2.9	.55	.55	4	4L	86
	8-60	12-18	1.10-1.30	0.60-2.00	0.20-0.24	0.0-2.9	.55	.55			
<b>1070A:</b>											
<b>Beaucoup</b> -----	0-11	27-35	1.15-1.35	0.20-0.60	0.15-0.20	3.0-5.9	.32	.32	5	7	38
	11-32	27-35	1.30-1.50	0.20-0.60	0.18-0.20	3.0-5.9	.32	.32			
	32-42	15-30	1.35-1.55	0.20-0.60	0.18-0.22	3.0-5.9	.32	.32			
	42-60	10-30	1.40-1.65	0.20-0.60	0.18-0.22	3.0-5.9	.32	.32			
<b>3074A:</b>											
<b>Radford</b> -----	0-12	18-27	1.40-1.60	0.60-2.00	0.22-0.24	0.0-2.9	.32	.32	5	6	48
	12-33	18-27	1.40-1.60	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
	33-60	24-35	1.35-1.55	0.60-2.00	0.18-0.20	3.0-5.9	.32	.32			
<b>3107A:</b>											
<b>Sawmill</b> -----	0-26	27-35	1.20-1.40	0.60-2.00	0.21-0.23	3.0-5.9	.28	.28	5	7	38
	26-54	27-35	1.20-1.40	0.60-2.00	0.21-0.23	3.0-5.9	.32	.32			
	54-60	25-35	1.30-1.45	0.60-2.00	0.17-0.20	3.0-5.9	.32	.32			
<b>3107+:</b>											
<b>Sawmill</b> -----	0-11	18-27	1.25-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.32	.32	5	6	48
	11-36	27-35	1.20-1.40	0.60-2.00	0.21-0.23	3.0-5.9	.28	.28			
	36-53	25-35	1.30-1.45	0.60-2.00	0.17-0.20	3.0-5.9	.32	.32			
	53-60	18-35	1.35-1.50	0.60-2.00	0.15-0.19	3.0-5.9	.28	.28			
<b>3415A:</b>											
<b>Orion</b> -----	0-7	10-18	1.20-1.30	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	5	56
	7-22	10-18	1.20-1.30	0.60-2.00	0.20-0.22	0.0-2.9	.28	.28			
	22-60	10-30	1.25-1.45	0.60-2.00	0.18-0.22	0.0-2.9	.32	.32			
	60-80	10-18	1.20-1.40	0.60-2.00	0.18-0.22	0.0-2.9	.28	.28			
<b>3646L:</b>											
<b>Fluvaquents</b> -----	0-9	15-27	1.35-1.45	0.60-2.00	0.22-0.24	0.0-2.9	.37	.37	5	6	48
	9-37	18-30	1.35-1.45	0.60-2.00	0.20-0.24	3.0-5.9	.49	.49			
	37-60	15-27	1.35-1.45	0.60-2.00	0.12-0.20	0.0-2.9	.49	.49			
<b>3870L:</b>											
<b>Blake</b> -----	0-7	22-27	1.25-1.30	0.60-2.00	0.20-0.22	3.0-5.9	.37	.37	5	4L	86
	7-31	22-35	1.25-1.30	0.60-2.00	0.20-0.22	3.0-5.9	.32	.32			
	31-60	10-20	1.30-1.35	0.60-2.00	0.20-0.22	0.0-2.9	.55	.55			
<b>Beaucoup</b> -----	0-21	27-35	1.15-1.35	0.20-0.60	0.15-0.20	3.0-5.9	.32	.32	5	7	38
	21-37	27-35	1.30-1.50	0.20-0.60	0.18-0.20	3.0-5.9	.32	.32			
	37-60	10-30	1.40-1.65	0.20-0.60	0.18-0.22	3.0-5.9	.28	.28			
<b>7070A:</b>											
<b>Beaucoup</b> -----	0-16	27-35	1.15-1.35	0.60-2.00	0.15-0.20	3.0-5.9	.32	.32	5	7	38
	16-43	27-35	1.30-1.50	0.60-2.00	0.18-0.20	3.0-5.9	.32	.32			
	43-50	15-30	1.35-1.55	0.60-2.00	0.18-0.22	3.0-5.9	.28	.28			
	50-60	10-30	1.40-1.65	0.60-2.00	0.18-0.22	3.0-5.9	.28	.28			

Table 18.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
							Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct					
7083A: Wabash-----	0-15	40-46	1.25-1.45	0.00-0.06	0.12-0.14	9.0-25.0	.24	.24	5	4	86
	15-60	40-60	1.20-1.45	0.00-0.06	0.08-0.12	9.0-25.0	.28	.28			
7107A: Sawmill-----	0-10	27-35	1.20-1.40	0.60-2.00	0.21-0.23	3.0-5.9	.28	.28	5	7	38
	10-35	27-35	1.20-1.40	0.60-2.00	0.17-0.20	3.0-5.9	.32	.32			
	35-60	20-35	1.35-1.50	0.60-2.00	0.15-0.19	3.0-5.9	.32	.32			
7302A: Ambraw-----	0-20	27-35	1.30-1.55	0.60-2.00	0.15-0.22	3.0-5.9	.24	.24	5	6	48
	20-36	25-42	1.30-1.55	0.20-0.60	0.08-0.19	3.0-5.9	.28	.28			
	36-45	24-35	1.40-1.65	0.20-2.00	0.10-0.15	3.0-5.9	.28	.28			
	45-60	18-30	1.35-1.65	0.20-2.00	0.11-0.22	0.0-2.9	.28	.28			
7304A: Landes-----	0-19	7-20	1.40-1.60	2.00-6.00	0.13-0.20	0.0-2.9	.20	.20	4	3	86
	19-32	5-18	1.60-1.70	2.00-6.00	0.10-0.15	0.0-2.9	.24	.24			
	32-60	5-18	1.60-1.80	6.00-20.00	0.05-0.15	0.0-2.9	.02	.02			
7404A: Titus-----	0-22	35-40	1.30-1.50	0.06-0.20	0.18-0.22	6.0-8.9	.28	.28	5	4	86
	22-52	35-45	1.30-1.60	0.06-0.20	0.11-0.22	6.0-8.9	.32	.32			
	52-60	20-30	1.45-1.75	0.20-0.60	0.10-0.20	3.0-5.9	.49	.49			
7415A: Orion-----	0-21	10-18	1.20-1.30	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	5	56
	21-27	4-18	1.20-1.30	0.60-2.00	0.20-0.22	0.0-2.9	.28	.28			
	27-45	10-30	1.25-1.45	0.60-2.00	0.18-0.22	0.0-2.9	.32	.32			
	45-60	4-18	1.20-1.40	0.60-2.00	0.18-0.22	0.0-2.9	.28	.28			
7428A: Coffeen-----	0-20	15-27	1.35-1.55	0.60-2.00	0.22-0.25	0.0-2.9	.32	.32	5	6	48
	20-32	10-18	1.40-1.60	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
	32-60	5-15	1.50-1.70	0.60-6.00	0.11-0.19	0.0-2.9	.37	.37			
9061A: Atterberry-----	0-9	20-26	1.35-1.55	0.60-2.00	0.22-0.25	0.0-2.9	.37	.37	5	6	48
	9-17	15-26	1.40-1.60	0.60-2.00	0.21-0.24	0.0-2.9	.43	.43			
	17-48	25-35	1.40-1.60	0.60-2.00	0.14-0.24	3.0-5.9	.37	.37			
	48-60	18-27	1.40-1.65	0.60-2.00	0.14-0.24	0.0-2.9	.49	.49			
9279B: Rozetta-----	0-9	15-27	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	6	48
	9-66	27-35	1.35-1.55	0.60-2.00	0.18-0.22	3.0-5.9	.37	.37			
	66-76	20-30	1.40-1.60	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			
9279C2: Rozetta-----	0-7	15-27	1.20-1.40	0.60-2.00	0.22-0.24	0.0-2.9	.43	.43	5	6	48
	7-66	27-35	1.35-1.55	0.60-2.00	0.18-0.22	3.0-5.9	.37	.37			
	66-70	20-30	1.40-1.60	0.60-2.00	0.20-0.22	0.0-2.9	.49	.49			

Table 19.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation- exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
8D2:					
Hickory-----	0-6	4.5-7.3	1.0-2.0	14-19	0
	6-51	4.5-7.3	0.0-0.5	16-22	0
	51-60	5.1-8.4	0.0-0.2	9.0-19	0-15
8D3:					
Hickory-----	0-5	4.5-7.3	0.5-1.0	17-23	0
	5-30	4.5-7.3	0.0-0.5	16-22	0
	30-40	4.5-7.8	0.0-0.5	16-22	0
	40-60	5.6-8.4	0.0-0.5	5.0-15	0-25
8F:					
Hickory-----	0-12	4.5-7.3	1.0-3.0	14-19	0
	12-53	4.5-7.3	0.0-0.5	16-22	0
	53-58	5.1-7.8	0.0-0.5	9.0-19	0-15
	58-63	5.6-8.4	0.0-0.5	5.0-15	0-25
8F3:					
Hickory-----	0-6	4.5-7.3	0.5-1.0	17-23	0
	6-42	4.5-7.3	0.0-0.5	16-22	0
	42-60	5.1-7.8	0.0-0.2	9.0-19	0-15
8G:					
Hickory-----	0-4	4.5-7.3	1.0-3.0	14-19	0
	4-12	4.5-7.3	0.0-0.5	9.0-14	0
	12-40	4.5-7.3	0.0-0.5	16-22	0
	40-58	5.1-7.8	0.0-0.5	9.0-19	0-15
	58-63	5.6-8.4	0.0-0.5	5.0-15	0-25
17A:					
Keomah-----	0-11	5.1-7.3	1.0-3.0	10-26	0
	11-18	5.1-7.3	0.1-1.0	9.0-24	0
	18-33	5.1-5.5	0.1-0.5	28-41	0
	33-51	5.6-7.3	0.1-0.5	16-29	0
	51-89	6.1-7.3	0.0-0.2	8.0-18	0
19D2:					
Sylvan-----	0-4	5.6-7.3	1.0-2.0	14-20	0
	4-32	5.6-7.3	0.0-0.5	15-22	0
	32-60	6.6-8.4	0.0-0.5	6.0-18	0-35
19D3:					
Sylvan-----	0-9	5.6-7.3	0.5-1.0	17-21	0
	9-28	5.6-7.3	0.0-0.5	15-22	0
	28-60	6.6-8.4	0.0-0.5	6.0-18	0-35
37A:					
Worthen-----	0-29	5.6-7.3	2.0-4.0	15-21	0
	29-64	5.6-7.8	0.5-2.0	11-14	0
	64-80	6.1-8.4	0.0-1.0	9.0-14	0-25
43A:					
Ipava-----	0-20	5.6-7.3	4.0-5.0	20-27	0
	20-40	5.6-7.8	0.5-1.0	22-27	0
	40-60	6.1-8.4	0.0-0.5	12-19	0

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation- exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
45A:					
Denny-----	0-9	5.6-7.3	3.0-4.0	18-24	0
	9-22	5.6-6.5	0.0-0.5	9.0-15	0
	22-45	5.6-6.5	0.0-1.0	21-29	0
	45-60	5.6-7.8	0.0-0.2	15-21	0
51A:					
Muscatune-----	0-16	5.1-7.3	4.0-6.0	20-27	0
	16-22	5.1-7.3	2.0-3.0	20-27	0
	22-46	5.1-7.3	1.0-2.0	22-27	0
	46-60	6.1-7.8	0.5-1.0	12-19	0-15
61A:					
Atterberry-----	0-9	5.6-7.3	2.0-4.0	16-24	0
	9-17	5.1-7.3	0.5-1.0	10-18	0
	17-48	5.1-7.3	0.1-0.5	15-22	0
	48-60	5.6-7.8	0.1-0.5	11-17	0-15
68A:					
Sable-----	0-17	5.6-7.3	5.0-6.0	26-33	0
	17-23	5.6-7.3	2.0-4.0	20-30	0
	23-60	5.6-7.8	0.2-1.0	15-23	0
81A:					
Littleton-----	0-9	5.6-7.8	3.0-4.0	11-28	0
	9-32	5.6-7.8	0.5-2.0	11-29	0
	32-60	5.6-7.8	0.0-1.0	11-23	0
86B:					
Osco-----	0-12	5.1-7.3	3.0-4.0	18-25	0
	12-36	5.1-7.3	0.0-1.0	15-23	0
	36-60	5.6-7.3	0.0-0.5	12-18	0
86B2:					
Osco-----	0-8	5.1-7.3	2.0-3.0	18-25	0
	8-42	5.1-6.5	0.0-1.0	15-23	0
	42-60	5.6-7.3	0.0-0.5	12-18	0
86C2:					
Osco-----	0-9	5.1-7.3	2.0-3.0	18-25	0
	9-34	5.1-6.5	0.0-1.0	15-23	0
	34-60	5.6-7.3	0.0-0.5	12-18	0
87B:					
Dickinson-----	0-9	5.6-7.3	1.0-2.0	10-20	0
	9-17	5.6-7.3	0.5-1.5	7.0-17	0
	17-33	5.1-6.5	0.5-1.0	9.0-17	0
	33-41	5.1-6.5	0.0-0.5	0.0-10	0
	41-60	5.6-6.5	0.0-0.5	0.0-10	0
88B:					
Sparta-----	0-14	5.1-7.3	1.0-2.0	2.0-12	0
	14-47	5.1-7.3	0.1-1.0	1.0-6.0	0
	47-72	5.1-6.0	0.2-1.0	1.0-9.0	0
	72-85	5.1-6.2	0.0-0.5	0.0-2.0	0
98B:					
Ade-----	0-10	5.1-6.5	1.0-3.0	6.0-15	0
	10-27	5.1-6.5	0.5-1.0	1.0-7.0	0
	27-80	5.1-6.0	0.2-1.0	1.0-9.0	0

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation- exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
<b>119D:</b>					
Elco-----	0-4	5.6-7.3	1.0-3.0	14-22	0
	4-12	5.6-7.3	0.1-1.0	14-22	0
	12-26	5.1-7.8	0.0-0.5	14-22	0
	26-80	5.1-7.8	0.0-0.2	15-27	0
<b>119D2:</b>					
Elco-----	0-6	5.6-7.3	1.0-2.0	14-22	0
	6-28	5.1-7.8	0.0-0.5	14-22	0
	28-60	5.1-7.8	0.0-0.2	15-27	0
<b>134C:</b>					
Camden-----	0-9	5.1-7.3	2.0-3.0	15-20	0
	9-31	4.5-6.0	0.0-1.0	15-20	0
	31-40	5.1-6.5	0.0-0.5	15-20	0
	40-60	5.1-7.3	0.0-0.5	5.0-10	0
<b>134D3:</b>					
Camden-----	0-7	5.1-7.3	0.5-1.0	15-20	0
	7-37	4.5-6.0	0.0-1.0	15-20	0
	37-53	5.1-6.5	0.0-0.5	15-20	0
	53-60	5.1-7.3	0.0-0.5	5.0-10	0
<b>136A:</b>					
Brooklyn-----	0-7	5.6-7.3	3.0-4.0	18-24	0
	7-17	4.5-6.5	0.0-1.0	9.0-14	0
	17-44	4.5-7.8	0.0-0.5	21-28	0-5
	44-60	5.1-7.8	0.0-0.5	6.0-19	0-20
<b>172A:</b>					
Hoopeston-----	0-14	5.1-7.3	2.0-3.0	9.0-17	0
	14-38	5.1-7.8	0.2-1.0	7.0-13	0-5
	38-60	4.5-8.4	0.1-0.5	1.0-7.0	0-20
<b>199B:</b>					
Plano-----	0-15	6.1-7.3	3.0-5.0	17-26	0
	15-45	5.1-7.3	0.2-1.0	15-23	0
	45-60	5.6-7.8	0.1-0.5	9.0-20	0
	60-72	5.6-8.4	0.1-0.5	6.0-13	0-20
<b>199C2:</b>					
Plano-----	0-8	6.1-7.3	2.0-4.0	17-26	0
	8-41	5.1-7.3	0.2-1.0	15-23	0
	41-53	5.6-7.8	0.1-0.5	9.0-20	0
	53-60	5.6-8.4	0.1-0.5	6.0-13	0-20
<b>206A:</b>					
Thorp-----	0-14	5.1-7.8	4.0-6.0	20-28	0
	14-19	5.1-7.3	0.5-1.0	11-17	0
	19-43	5.1-7.3	0.0-0.5	13-22	0
	43-50	5.6-7.8	0.0-0.5	12-19	0-5
	50-65	6.1-8.4	0.0-0.5	3.0-13	0-20
<b>212C:</b>					
Thebes-----	0-9	5.1-7.3	2.0-3.0	15-20	0
	9-31	4.5-6.0	0.0-1.0	15-20	0
	31-40	5.1-6.5	0.0-0.5	15-20	0
	40-80	5.1-7.3	0.0-0.5	5.0-10	0

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation- exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
212D3:					
Thebes-----	0-9	5.1-7.3	0.5-1.0	15-20	0
	9-34	4.5-6.0	0.0-1.0	15-20	0
	34-60	5.1-6.5	0.0-0.5	15-20	0
	60-80	5.1-7.3	0.0-0.5	5.0-10	0
250D2:					
Velma-----	0-7	5.1-7.3	3.0-4.0	18-24	0
	7-45	4.5-7.3	0.2-1.0	15-23	0
	45-60	7.4-8.4	0.2-0.5	12-19	5-30
257A:					
Clarksdale-----	0-8	5.1-7.3	2.0-3.0	10-22	0
	8-16	5.1-7.3	0.0-1.0	9.0-18	0
	16-47	5.1-7.3	0.0-0.5	21-28	0
	47-67	6.1-8.4	0.0-0.5	12-19	0-15
	67-80	6.1-8.4	0.0-0.5	12-18	0-15
259C2:					
Assumption-----	0-8	5.6-7.3	3.0-4.0	18-24	0
	8-24	5.1-7.3	0.0-1.0	15-23	0
	24-60	5.1-7.3	0.0-0.5	15-22	0
259D2:					
Assumption-----	0-7	5.6-7.3	2.0-3.0	18-24	0
	7-28	5.1-7.3	0.0-1.0	15-23	0
	28-60	5.1-7.3	0.0-0.5	18-28	0
261A:					
Niota-----	0-9	5.1-7.3	1.0-3.0	14-22	0
	9-16	5.1-6.0	0.0-0.5	11-16	0
	16-27	3.6-6.0	0.0-1.0	21-35	0
	27-36	4.5-6.0	0.0-0.5	15-25	0
	36-49	5.6-7.3	0.0-0.5	7.0-15	0
	49-60	5.6-8.4	0.1-0.5	6.0-13	0-20
274B:					
Seaton-----	0-9	5.6-7.3	1.0-3.0	8.0-19	0
	9-60	4.5-7.3	0.5-1.0	11-16	0
	60-80	5.6-8.4	0.2-0.5	6.0-15	0-35
274C2:					
Seaton-----	0-7	5.6-7.3	0.5-2.0	10-17	0
	7-47	4.5-7.3	0.5-1.0	11-16	0
	47-60	5.6-8.4	0.2-0.5	6.0-15	0-35
274D:					
Seaton-----	0-14	5.6-7.3	1.0-3.0	8.0-19	0
	14-49	4.5-7.3	0.5-1.0	11-16	0
	49-60	5.6-8.4	0.2-0.5	6.0-15	0-35
275A:					
Joy-----	0-15	5.6-7.3	2.0-4.0	13-23	0
	15-51	5.1-7.3	0.1-1.0	11-28	0
	51-60	6.1-8.4	0.0-0.2	7.0-14	0-30
277B:					
Port Byron-----	0-15	5.1-7.3	2.0-4.0	15-24	0-10
	15-52	5.6-7.3	0.2-0.5	11-17	0
	52-60	5.6-8.4	0.2-0.5	9.0-17	0-30
	60-77	6.1-8.4	0.0-0.2	7.0-11	0-30
	77-89	6.1-8.4	0.0-0.2	3.0-7.0	0-30

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation- exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
277C:					
Port Byron-----	0-16	5.1-7.3	2.0-4.0	15-24	0-10
	16-40	5.6-7.3	0.2-0.5	11-17	0
	40-60	5.6-8.4	0.0-0.2	9.0-17	0-30
278A:					
Stronghurst-----	0-8	5.1-7.3	1.0-3.0	14-22	0
	8-47	5.1-7.3	0.5-1.0	17-23	0
	47-60	5.6-7.8	0.2-0.5	12-17	0-15
279B:					
Rozetta-----	0-7	5.1-7.3	1.0-3.0	10-22	0
	7-11	4.5-7.3	0.1-1.0	7.0-17	0
	11-55	4.5-6.0	0.0-0.5	16-22	0
	55-60	5.6-7.8	0.0-0.5	12-17	0-15
279C3:					
Rozetta-----	0-6	5.1-7.3	0.5-1.0	7.0-17	0
	6-33	4.5-6.5	0.2-0.5	16-22	0
	33-60	5.6-7.8	0.2-0.5	12-17	0-15
280C2:					
Fayette-----	0-8	5.1-7.3	1.0-2.0	18-25	0
	8-64	4.5-6.0	0.0-0.5	15-20	0
	64-80	5.1-7.8	0.0-0.5	15-20	0-15
280D:					
Fayette-----	0-13	5.1-7.3	2.0-3.0	15-20	0
	13-38	4.5-6.0	0.0-1.0	15-20	0
	38-60	5.1-7.8	0.0-0.5	15-20	0-15
280D2:					
Fayette-----	0-6	5.1-7.3	1.0-2.0	18-25	0
	6-48	4.5-6.0	0.0-0.5	15-20	0
	48-60	5.1-7.8	0.0-0.5	15-20	0-15
280D3:					
Fayette-----	0-8	5.1-7.3	0.5-1.0	25-30	0
	8-36	4.5-6.0	0.0-0.5	15-20	0
	36-60	5.1-7.8	0.0-0.5	15-20	0-15
430A:					
Raddle-----	0-21	5.6-7.3	2.0-4.0	12-18	0
	21-80	5.6-7.3	1.0-3.0	12-18	0
430B:					
Raddle-----	0-13	5.6-7.3	2.0-4.0	12-18	0
	13-60	5.6-7.3	1.0-3.0	12-18	0
457A:					
Booker-----	0-18	5.6-7.3	1.0-5.0	30-35	0
	18-44	5.6-7.8	0.2-1.0	28-42	0
	44-60	5.6-7.8	0.2-1.0	25-30	0-15
549C2:					
Marseilles-----	0-5	5.1-6.5	1.0-3.0	14-22	0
	5-16	4.5-6.5	0.5-1.0	15-23	0
	16-26	4.5-6.5	0.5-1.0	16-27	0
	26-60	---	---	---	---

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation- exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
549D2:					
Marseilles-----	0-5	5.1-6.5	1.0-3.0	14-22	0
	5-27	4.5-6.5	0.0-0.5	16-27	0
	27-60	---	---	---	---
549D3:					
Marseilles-----	0-3	5.1-6.5	0.5-1.0	17-23	0
	3-27	4.5-6.5	0.0-0.5	16-27	0
	27-60	---	---	---	---
549F:					
Marseilles-----	0-10	5.1-6.5	1.0-3.0	14-22	0
	10-35	4.5-6.5	0.0-0.5	16-27	0
	35-60	---	---	---	---
567D:					
Elkhart-----	0-10	5.6-7.8	2.0-4.0	16-24	0
	10-29	5.6-8.4	0.0-0.5	15-22	0-20
	29-60	7.4-8.4	0.0-0.1	12-21	10-40
567D2:					
Elkhart-----	0-10	5.6-7.8	2.0-3.0	16-24	0
	10-30	5.6-8.4	0.0-0.5	15-22	0-20
	30-60	7.4-8.4	0.0-0.1	12-21	10-40
572B:					
Loran-----	0-12	6.1-7.3	4.0-5.0	20-36	0
	12-43	6.1-7.3	0.5-2.0	14-25	0
	43-51	6.6-8.4	0.0-0.5	18-27	0
	51-60	---	---	---	---
572C:					
Loran-----	0-13	6.1-7.3	4.0-5.0	20-36	0
	13-38	6.1-7.3	0.5-2.0	14-25	0
	38-40	6.6-8.4	0.0-0.5	18-27	0
	40-60	---	---	---	---
671B:					
Biggsville-----	0-13	5.1-8.4	3.0-5.0	19-29	0
	13-53	5.6-7.3	0.5-2.0	14-22	0
	53-80	5.6-8.4	0.0-0.5	11-20	0
671C2:					
Biggsville-----	0-9	5.1-8.4	2.0-3.0	19-29	0
	9-60	5.6-7.3	0.0-1.0	14-22	0
672B:					
Crescent-----	0-7	5.6-7.3	2.0-4.0	8.0-22	0
	7-11	5.1-7.3	0.5-1.0	4.0-15	0
	11-41	5.1-6.5	0.0-0.5	8.0-20	0
	41-60	6.1-7.8	0.0-0.5	1.0-6.0	0
675B:					
Greenbush-----	0-14	5.1-7.3	2.0-3.0	20-25	0
	14-60	4.5-7.3	0.5-1.0	25-30	0
	60-80	5.6-7.3	0.0-0.5	20-25	0
675C2:					
Greenbush-----	0-6	5.1-7.3	1.0-3.0	20-25	0
	6-46	4.5-7.3	0.5-1.0	25-30	0
	46-60	5.6-7.3	0.0-0.5	20-25	0

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation- exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
<b>678B:</b>					
Mannon-----	0-7	5.6-7.3	2.0-3.0	10-18	0
	7-10	5.6-7.3	0.2-0.5	10-16	0
	10-59	5.1-7.3	0.2-1.0	10-18	0
	59-80	5.6-8.4	0.2-0.5	10-15	0-30
<b>684B:</b>					
Broadwell-----	0-15	5.6-7.3	3.0-4.0	18-27	0
	15-50	5.6-7.3	0.0-1.0	15-23	0
	50-55	5.6-7.3	0.0-0.5	15-20	0
	55-80	5.6-7.3	0.0-0.5	2.0-7.0	0
<b>684C2:</b>					
Broadwell-----	0-10	5.1-7.3	2.0-4.0	25-30	0
	10-48	5.1-6.0	1.0-2.0	25-30	0
	48-59	5.1-6.5	0.5-1.0	15-20	0
	59-70	5.1-7.3	0.0-0.5	5.0-10	0
<b>689B:</b>					
Coloma-----	0-10	4.5-7.3	0.5-2.0	1.0-12	0
	10-27	4.5-7.3	0.0-0.5	0.1-9.0	0
	27-60	4.5-7.3	0.0-0.5	0.4-11	0
<b>689D:</b>					
Coloma-----	0-12	4.5-7.3	0.5-2.0	1.0-12	0
	12-25	4.5-7.3	0.0-0.5	0.1-9.0	0
	25-60	4.5-7.3	0.0-0.5	0.4-11	0
<b>689G:</b>					
Coloma-----	0-7	4.5-7.3	0.5-2.0	1.0-12	0
	7-45	4.5-6.5	0.0-0.5	0.1-9.0	0
	45-60	4.5-7.3	0.0-0.5	0.4-11	0
<b>802B:</b>					
Orthents-----	0-6	5.6-7.8	0.5-2.0	10-25	0-10
	6-60	5.6-7.8	0.2-1.0	10-20	0-20
<b>898F3:</b>					
Hickory-----	0-12	4.5-7.3	0.5-1.0	17-23	0
	12-48	4.5-7.3	0.0-0.5	16-22	0
	48-60	5.1-8.4	0.0-0.2	9.0-19	0-15
Sylvan-----	0-6	5.6-7.3	0.5-1.0	17-21	0
	6-30	5.6-7.3	0.0-0.5	15-22	0
	30-60	6.6-8.4	0.0-0.5	6.0-18	0-35
<b>898G:</b>					
Hickory-----	0-10	4.5-7.3	1.0-2.0	14-19	0
	10-35	4.5-7.3	0.0-0.5	16-22	0
	35-60	5.1-8.4	0.0-0.2	9.0-19	0-15
Sylvan-----	0-3	5.6-7.3	1.0-2.0	13-20	0
	3-7	5.6-7.3	0.2-1.0	9.0-17	0
	7-33	5.6-7.3	0.2-0.5	15-22	0
	33-60	6.6-8.4	0.2-0.5	11-17	0-35
<b>899B:</b>					
Raddle-----	0-21	5.6-7.3	2.0-4.0	11-22	0
	21-60	5.6-7.3	0.5-2.0	12-18	0
Sparta-----	0-18	5.1-7.3	1.0-2.0	2.0-12	0
	18-38	5.1-7.3	0.1-1.0	1.0-6.0	0
	38-60	5.1-7.8	0.0-0.5	1.0-9.0	0

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation- exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
911G:					
Timula-----	0-10	6.1-7.8	1.0-2.0	8.0-15	0-5
	10-60	7.4-8.4	0.2-0.5	6.0-12	5-35
Hickory-----	0-7	4.5-7.3	1.0-2.0	14-19	0
	7-46	4.5-7.3	0.0-0.5	16-22	0
	46-60	5.1-8.4	0.0-0.2	9.0-19	0-15
913F:					
Marseilles-----	0-12	5.1-6.5	1.0-3.0	14-22	0
	12-18	5.6-6.5	0.5-1.0	15-23	0
	18-34	4.5-6.5	0.5-1.0	16-27	0
	34-60	---	---	---	---
Hickory-----	0-8	4.5-7.3	1.0-2.0	14-19	0
	8-57	4.5-7.3	0.0-0.5	16-22	0
	57-60	5.1-8.4	0.0-0.2	9.0-19	0-15
943D3:					
Seaton-----	0-4	5.6-7.3	0.5-1.0	10-17	0
	4-39	4.5-7.3	0.5-1.0	11-16	0
	39-60	5.6-8.4	0.2-0.5	9.0-15	0-25
Timula-----	0-23	6.1-7.8	0.5-1.0	8.0-15	0-5
	23-60	7.4-8.4	0.2-0.5	6.0-12	5-35
943G:					
Seaton-----	0-9	5.6-7.3	1.0-3.0	8.0-19	0
	9-60	4.5-7.3	0.5-1.0	11-16	0
Timula-----	0-28	6.1-7.8	1.0-2.0	8.0-15	0-5
	28-60	7.4-8.4	0.2-0.5	6.0-12	5-35
946D3:					
Hickory-----	0-7	4.5-7.3	0.5-1.0	17-23	0
	7-42	4.5-7.3	0.0-0.5	16-22	0
	42-60	5.1-8.4	0.0-0.2	9.0-19	0-15
Atlas-----	0-6	4.5-7.3	0.5-1.0	19-26	0
	6-12	4.5-7.3	0.0-1.0	21-29	0
	12-55	4.5-7.8	0.0-1.0	18-29	0-25
	55-60	6.1-7.8	0.0-1.0	12-20	0-25
957D3:					
Elco-----	0-7	5.6-7.3	0.5-1.0	16-22	0
	7-27	5.1-7.8	0.0-0.5	14-22	0
	27-39	5.1-7.8	0.0-0.2	14-21	0
	39-60	5.1-7.8	0.0-0.2	15-27	0-10
Atlas-----	0-5	4.5-7.3	0.5-1.0	19-28	0
	5-9	4.5-7.3	0.0-1.0	21-29	0
	9-39	4.5-7.8	0.0-1.0	18-29	0-25
	39-60	4.5-7.8	0.0-1.0	18-29	0-25
960F:					
Hickory-----	0-12	4.5-7.3	1.0-2.0	14-19	0
	12-48	4.5-7.3	0.0-0.5	16-22	0
	48-60	5.1-8.4	0.0-0.2	9.0-19	0-15
Sylvan-----	0-6	5.6-7.3	1.0-2.0	13-20	0
	6-30	5.6-7.3	0.2-0.5	15-22	0
	30-60	6.6-8.4	0.2-0.5	11-17	0-35

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation- exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
<b>960F:</b>					
Fayette-----	0-10	5.1-7.3	2.0-3.0	15-20	0
	10-60	4.5-6.5	0.0-1.0	15-20	0
	60-70	5.1-7.8	0.0-0.5	15-20	0-15
<b>962D3:</b>					
Sylvan-----	0-8	5.6-7.3	0.5-1.0	17-21	0
	8-31	5.6-7.3	0.0-0.5	15-22	0
	31-60	6.6-8.4	0.0-0.5	6.0-18	0-35
<b>Bold-----</b>	0-8	7.4-8.4	0.5-1.0	6.0-15	10-40
	8-60	7.4-8.4	0.0-0.5	5.0-12	10-50
<b>1070A:</b>					
Beaucoup-----	0-11	5.6-7.8	5.0-6.0	26-33	0
	11-32	5.6-7.8	0.0-2.0	16-25	0
	32-42	5.6-7.8	0.0-1.0	9.0-20	0-5
	42-60	6.1-8.4	0.0-1.0	6.0-20	0-25
<b>3074A:</b>					
Radford-----	0-12	5.6-7.8	2.0-4.0	15-24	0
	12-33	6.1-7.8	0.0-2.0	11-20	0
	33-60	6.1-7.8	0.0-1.0	14-23	0-20
<b>3107A:</b>					
Sawmill-----	0-26	6.1-7.8	4.0-5.0	24-31	0
	26-54	6.1-7.8	1.0-3.0	17-27	0
	54-60	6.1-7.8	0.0-2.0	16-25	0-10
<b>3107+:</b>					
Sawmill-----	0-11	6.1-7.8	4.0-5.0	19-26	0
	11-36	6.1-7.8	1.0-3.0	17-27	0
	36-53	6.1-7.8	0.0-2.0	16-25	0-10
	53-60	6.1-8.4	0.0-1.0	11-22	0-30
<b>3415A:</b>					
Orion-----	0-7	5.6-7.8	1.0-3.0	7.0-20	0
	7-22	5.6-7.8	1.0-3.0	7.0-20	0
	22-60	5.6-7.8	3.0-8.0	10-35	0
	60-80	5.6-7.8	0.0-0.5	5.0-15	0
<b>3646L:</b>					
Fluvaquents-----	0-9	5.6-7.3	2.0-4.0	8.0-12	0
	9-37	5.6-7.8	0.5-1.0	8.0-14	0
	37-60	5.6-7.3	0.5-1.0	6.0-12	0
<b>3870L:</b>					
Blake-----	0-7	7.4-8.4	1.0-3.0	20-25	5-30
	7-31	7.4-8.4	0.0-1.0	20-30	5-30
	31-60	7.4-8.4	0.0-0.5	10-20	5-30
<b>Beaucoup-----</b>	0-21	5.6-7.8	5.0-6.0	26-33	0
	21-37	5.6-7.8	0.0-2.0	16-25	0
	37-60	6.1-8.4	0.0-1.0	6.0-20	0-25
<b>7070A:</b>					
Beaucoup-----	0-16	5.6-7.8	5.0-6.0	26-33	0
	16-43	5.6-7.8	0.0-2.0	16-25	0
	43-50	6.1-7.8	0.0-1.0	9.0-20	0-5
	50-60	6.1-8.4	0.0-1.0	6.0-20	0-25

Table 19.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Soil reaction	Organic matter	Cation- exchange capacity	Calcium carbonate
	In	pH	Pct	meq/100 g	Pct
7083A:					
Wabash-----	0-15	5.1-7.3	2.0-4.0	30-35	0
	15-60	5.1-7.8	1.0-2.0	28-42	0
7107A:					
Sawmill-----	0-10	6.1-7.8	4.0-5.0	24-31	0
	10-35	6.1-7.8	1.0-3.0	17-27	0
	35-60	6.1-7.8	0.2-1.0	12-23	0-10
7302A:					
Ambraw-----	0-20	5.6-7.3	2.0-3.0	15-27	0
	20-36	5.1-7.3	0.5-2.0	19-29	0
	36-45	5.1-7.3	0.5-1.0	15-23	0
	45-60	5.6-8.4	0.5-1.0	11-19	0
7304A:					
Landes-----	0-19	5.6-8.4	1.0-2.0	6.0-16	0
	19-32	5.6-8.4	0.5-1.0	3.0-15	0-10
	32-60	5.6-8.4	0.0-0.5	3.0-15	0-20
7404A:					
Titus-----	0-22	6.1-7.3	2.0-4.0	25-32	0
	22-52	6.1-7.8	0.2-1.0	21-29	0
	52-60	6.1-7.8	0.2-0.5	12-19	0-5
7415A:					
Orion-----	0-21	5.6-7.8	1.0-3.0	7.0-20	0
	21-27	5.6-7.8	1.0-3.0	7.0-20	0
	27-45	5.6-7.8	3.0-8.0	10-35	0
	45-60	5.6-7.8	0.0-0.5	5.0-15	0
7428A:					
Coffeen-----	0-20	5.6-7.8	2.0-3.0	13-22	0
	20-32	5.6-7.3	0.0-2.0	6.0-15	0
	32-60	5.6-7.3	0.0-2.0	3.0-13	0
9061A:					
Atterberry-----	0-9	5.6-7.3	2.0-4.0	16-24	0
	9-17	5.1-7.3	0.5-1.0	10-18	0
	17-48	5.1-7.3	0.1-0.5	15-22	0
	48-60	5.6-7.8	0.1-0.5	11-17	0-15
9279B:					
Rozetta-----	0-9	5.1-7.3	1.0-3.0	10-22	0
	9-66	4.5-6.0	0.2-0.5	16-22	0
	66-76	5.6-7.8	0.2-0.5	12-17	0-15
9279C2:					
Rozetta-----	0-7	5.1-7.3	1.0-3.0	10-22	0
	7-66	4.5-6.0	0.2-0.5	16-22	0
	66-70	5.6-7.8	0.2-0.5	12-17	0-15

Table 20.--Water Features

(Depths of layers are in feet. 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	Hydro-logic group	Month	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
8D2, 8D3, 8F, 8F3, 8G: Hickory-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
17A: Keomah-----	C	January	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		February	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		March	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		April	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		May	0.5-2.0	>6.0	Apparent	---	---	---	---	---
19D2, 19D3: Sylvan-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
37A: Worthen-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
43A: Ipava-----	B	January	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		February	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		March	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		April	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		May	1.0-2.0	>6.0	Apparent	---	---	---	---	---
45A: Denny-----	D	January	0.0	>6.0	Apparent	0.0-1.0	Brief	Frequent	---	---
		February	0.0	>6.0	Apparent	0.0-1.0	Brief	Frequent	---	---
		March	0.0	>6.0	Apparent	0.0-1.0	Brief	Frequent	---	---
		April	0.0	>6.0	Apparent	0.0-1.0	Brief	Frequent	---	---
		May	0.0	>6.0	Apparent	0.0-1.0	Brief	Frequent	---	---
51A: Muscatune-----	B	January	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		February	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		March	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		April	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		May	1.0-2.0	>6.0	Apparent	---	---	---	---	---
61A: Atterberry-----	B	January	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		February	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		March	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		April	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		May	0.5-2.0	>6.0	Apparent	---	---	---	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
68A: Sable-----	B/D	January	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	---
		February	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	---
		March	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	---
		April	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	---
		May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	---
81A: Littleton-----	B	January	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		February	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		March	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		April	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		May	1.0-2.0	>6.0	Apparent	---	---	---	---	---
86B, 86B2, 86C2: Osco-----	B	February	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		March	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		April	4.0-6.0	>6.0	Apparent	---	---	---	---	---
87B: Dickinson-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
88B: Sparta-----	A	All months	>6.0	>6.0	---	---	---	---	---	---
98B: Ade-----	A	All months	>6.0	>6.0	---	---	---	---	---	---
119D, 119D2: Elco-----	B	February	2.0-3.5	2.8-4.5	Perched	---	---	---	---	---
		March	2.0-3.5	2.8-4.5	Perched	---	---	---	---	---
		April	2.0-3.5	2.8-4.5	Perched	---	---	---	---	---
134C, 134D3: Camden-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
136A: Brooklyn-----	C/D	January	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
		February	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
		March	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
		April	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
		May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
172A: Hoopeston-----	B	January	1.0-2.5	>6.0	Apparent	---	---	---	---	---
		February	1.0-2.5	>6.0	Apparent	---	---	---	---	---
		March	1.0-2.5	>6.0	Apparent	---	---	---	---	---
		April	1.0-2.5	>6.0	Apparent	---	---	---	---	---
		May	1.0-2.5	>6.0	Apparent	---	---	---	---	---
199B, 199C2: Plano-----	B	All months	>6.0	>6.0	---	---	---	---	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
206A: Thorp-----	C	January	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	---
		February	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	---
		March	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	---
		April	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	---
		May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	---	---
212C, 212D3: Thebes-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
250D2: Velma-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
257A: Clarksdale-----	C	January	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		February	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		March	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		April	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		May	0.5-2.0	>6.0	Apparent	---	---	---	---	---
259C2, 259D2: Assumption-----	B	February	2.0-3.5	2.8-4.5	Perched	---	---	---	---	---
		March	2.0-3.5	2.8-4.5	Perched	---	---	---	---	---
		April	2.0-3.5	2.8-4.5	Perched	---	---	---	---	---
261A: Niota-----	D	January	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
		February	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
		March	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
		April	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
		May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
274B, 274C2, 274D: Seaton-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
275A: Joy-----	B	January	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		February	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		March	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		April	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		May	1.0-2.0	>6.0	Apparent	---	---	---	---	---
277B, 277C: Port Byron-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
278A: Stronghurst-----	B	January	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		February	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		March	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		April	0.5-2.0	>6.0	Apparent	---	---	---	---	---
		May	0.5-2.0	>6.0	Apparent	---	---	---	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
279B, 279C3: Rozetta-----	B	February	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		March	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		April	4.0-6.0	>6.0	Apparent	---	---	---	---	---
280C2, 280D, 280D2, 280D3: Fayette-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
430A, 430B: Raddle-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
457A: Booker-----	D	January	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
		February	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
		March	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
		April	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
		May	0.0	>6.0	Apparent	0.0-0.5	Brief	Frequent	---	---
549C2, 549D2, 549D3, 549F: Marseilles-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
567D, 567D2: Elkhart-----	B	February	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		March	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		April	4.0-6.0	>6.0	Apparent	---	---	---	---	---
572B, 572C: Loran-----	B	January	1.0-3.0	2.0-5.5	Perched	---	---	---	---	---
		February	1.0-3.0	2.0-5.5	Perched	---	---	---	---	---
		March	1.0-3.0	2.0-5.5	Perched	---	---	---	---	---
		April	1.0-3.0	2.0-5.5	Perched	---	---	---	---	---
		May	1.0-3.0	2.0-5.5	Perched	---	---	---	---	---
671B, 671C2: Biggsville-----	B	February	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		March	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		April	4.0-6.0	>6.0	Apparent	---	---	---	---	---
672B: Crescent-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
675B, 675C2: Greenbush-----	B	February	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		March	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		April	4.0-6.0	>6.0	Apparent	---	---	---	---	---
678B: Mannon-----	B	February	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		March	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		April	4.0-6.0	>6.0	Apparent	---	---	---	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
684B, 684C2: Broadwell-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
689B, 689D, 689G: Coloma-----	A	All months	>6.0	>6.0	---	---	---	---	---	---
802B: Orthents-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
898F3, 898G: Hickory-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
Sylvan-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
899B: Raddle-----	B	February	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		March	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		April	4.0-6.0	>6.0	Apparent	---	---	---	---	---
Sparta-----	A	All months	>6.0	>6.0	---	---	---	---	---	---
911G: Timula-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
Hickory-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
913F: Marseilles-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
Hickory-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
943D3, 943G: Seaton-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
Timula-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
946D3: Hickory-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
Atlas-----	D	January	0.5-2.0	2.0-4.0	Perched	---	---	---	---	---
		February	0.5-2.0	2.0-4.0	Perched	---	---	---	---	---
		March	0.5-2.0	2.0-4.0	Perched	---	---	---	---	---
		April	0.5-2.0	2.0-4.0	Perched	---	---	---	---	---
		May	0.5-2.0	2.0-4.0	Perched	---	---	---	---	---

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
957D3: Elco-----	B	February	2.0-3.5	2.8-4.5	Perched	---	---	---	---	---
		March	2.0-3.5	2.8-4.5	Perched	---	---	---	---	---
		April	2.0-3.5	2.8-4.5	Perched	---	---	---	---	---
Atlas-----	D	January	0.5-2.0	2.0-4.0	Perched	---	---	---	---	---
		February	0.5-2.0	2.0-4.0	Perched	---	---	---	---	---
		March	0.5-2.0	2.0-4.0	Perched	---	---	---	---	---
		April	0.5-2.0	2.0-4.0	Perched	---	---	---	---	---
		May	0.5-2.0	2.0-4.0	Perched	---	---	---	---	---
960F: Hickory-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
Sylvan-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
Fayette-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
962D3: Sylvan-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
Bold-----	B	All months	>6.0	>6.0	---	---	---	---	---	---
1070A: Beaucoup-----	B/D	January	0.0	>6.0	Apparent	0.0-1.0	Long	Frequent	Brief	Rare
		February	0.0	>6.0	Apparent	0.0-1.0	Long	Frequent	Brief	Rare
		March	0.0	>6.0	Apparent	0.0-1.0	Long	Frequent	Brief	Rare
		April	0.0	>6.0	Apparent	0.0-1.0	Long	Frequent	Brief	Rare
		May	0.0	>6.0	Apparent	0.0-1.0	Long	Frequent	Brief	Rare
		June	0.0	>6.0	Apparent	0.0-1.0	Long	Frequent	Brief	Rare
		November	---	---	---	---	---	---	Brief	Rare
		December	---	---	---	---	---	---	Brief	Rare
3074A: Radford-----	B	January	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		February	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		March	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		April	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		May	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		June	---	---	---	---	---	---	Brief	Frequent
		November	---	---	---	---	---	---	Brief	Frequent
		December	---	---	---	---	---	---	Brief	Frequent
3107A, 3107+: Sawmill-----	B/D	January	0.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		February	0.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		March	0.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		April	0.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		May	0.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		June	---	---	---	---	---	---	Brief	Frequent
		November	---	---	---	---	---	---	Brief	Frequent
		December	---	---	---	---	---	---	Brief	Frequent

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
3415A: Orion-----	C	January	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		February	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		March	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		April	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		May	1.0-2.0	>6.0	Apparent	---	---	---	Brief	Frequent
		June	---	---	---	---	---	---	Brief	Frequent
		November	---	---	---	---	---	---	Brief	Frequent
		December	---	---	---	---	---	---	Brief	Frequent
3646L: Fluvaquents-----	C	January	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	Long	Frequent
		February	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	Long	Frequent
		March	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	Long	Frequent
		April	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	Long	Frequent
		May	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	Long	Frequent
		June	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	Long	Frequent
		July	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	---
		August	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	---
		September	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	---
		October	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	---	---
		November	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	Long	Frequent
		December	0.0-1.0	>6.0	Apparent	0.0-0.5	Long	Frequent	Long	Frequent
3870L: Blake-----	B	January	2.0-4.0	>6.0	Apparent	---	---	---	Long	Frequent
		February	2.0-4.0	>6.0	Apparent	---	---	---	Long	Frequent
		March	2.0-4.0	>6.0	Apparent	---	---	---	Long	Frequent
		April	2.0-4.0	>6.0	Apparent	---	---	---	Long	Frequent
		May	2.0-4.0	>6.0	Apparent	---	---	---	Long	Frequent
		June	2.0-4.0	>6.0	Apparent	---	---	---	Long	Frequent
		July	2.0-4.0	>6.0	Apparent	---	---	---	Long	Frequent
		November	---	---	---	---	---	---	Long	Frequent
		December	---	---	---	---	---	---	Long	Frequent
Beaucoup-----	B/D	January	0.0-2.0	>6.0	Apparent	---	---	---	Long	Frequent
		February	0.0-2.0	>6.0	Apparent	---	---	---	Long	Frequent
		March	0.0-2.0	>6.0	Apparent	---	---	---	Long	Frequent
		April	0.0-2.0	>6.0	Apparent	---	---	---	Long	Frequent
		May	0.0-2.0	>6.0	Apparent	---	---	---	Long	Frequent
		June	0.0-2.0	>6.0	Apparent	---	---	---	Long	Frequent
		July	---	---	---	---	---	---	Long	Frequent
		November	---	---	---	---	---	---	Long	Frequent
		December	---	---	---	---	---	---	Long	Frequent
7070A: Beaucoup-----	B/D	January	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		February	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		March	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		April	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		June	---	---	---	---	---	None	Very brief	Rare
		November	---	---	---	---	---	None	Very brief	Rare
		December	---	---	---	---	---	None	Very brief	Rare

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
7083A: Wabash-----	D	January	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Brief	Rare
		February	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Brief	Rare
		March	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Brief	Rare
		April	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Brief	Rare
		May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Brief	Rare
		June	---	---	---	---	---	---	Brief	Rare
		November	---	---	---	---	---	---	Brief	Rare
		December	---	---	---	---	---	---	Brief	Rare
7107A: Sawmill-----	B/D	January	0.0-2.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		February	0.0-2.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		March	0.0-2.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		April	0.0-2.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		May	0.0-2.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		June	---	---	---	---	---	None	Very brief	Rare
		November	---	---	---	---	---	None	Very brief	Rare
		December	---	---	---	---	---	None	Very brief	Rare
7302A: Ambraw-----	B/D	January	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		February	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		March	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		April	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		June	---	---	---	---	---	None	Very brief	Rare
		November	---	---	---	---	---	None	Very brief	Rare
		December	---	---	---	---	---	None	Very brief	Rare
7304A: Landes-----	B	January	---	---	---	---	---	None	Very brief	Rare
		February	4.0-6.0	>6.0	Apparent	---	---	None	Very brief	Rare
		March	4.0-6.0	>6.0	Apparent	---	---	None	Very brief	Rare
		April	4.0-6.0	>6.0	Apparent	---	---	None	Very brief	Rare
		May	---	---	---	---	---	None	Very brief	Rare
		June	---	---	---	---	---	None	Very brief	Rare
		November	---	---	---	---	---	None	Very brief	Rare
		December	---	---	---	---	---	None	Very brief	Rare
7404A: Titus-----	B/D	January	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		February	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		March	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		April	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		May	0.0-1.0	>6.0	Apparent	0.0-0.5	Brief	Occasional	Very brief	Rare
		June	---	---	---	---	---	None	Very brief	Rare
		November	---	---	---	---	---	None	Very brief	Rare
		December	---	---	---	---	---	None	Very brief	Rare

Table 20.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Month	Water table depth		Kind of water table	Ponding			Flooding	
			Upper limit	Lower limit		Surface water depth	Duration	Frequency	Duration	Frequency
7415A: Orion-----	C	January	1.0-3.0	>6.0	Apparent	---	---	---	Very brief	Rare
		February	1.0-3.0	>6.0	Apparent	---	---	---	Very brief	Rare
		March	1.0-3.0	>6.0	Apparent	---	---	---	Very brief	Rare
		April	1.0-3.0	>6.0	Apparent	---	---	---	Very brief	Rare
		May	1.0-3.0	>6.0	Apparent	---	---	---	Very brief	Rare
		June	---	---	---	---	---	---	Very brief	Rare
		November	---	---	---	---	---	---	Very brief	Rare
		December	---	---	---	---	---	---	Very brief	Rare
7428A: Coffeen-----	B	January	1.0-2.0	>6.0	Apparent	---	---	---	Very brief	Rare
		February	1.0-2.0	>6.0	Apparent	---	---	---	Very brief	Rare
		March	1.0-2.0	>6.0	Apparent	---	---	---	Very brief	Rare
		April	1.0-2.0	>6.0	Apparent	---	---	---	Very brief	Rare
		May	1.0-2.0	>6.0	Apparent	---	---	---	Very brief	Rare
		June	---	---	---	---	---	---	Very brief	Rare
		November	---	---	---	---	---	---	Very brief	Rare
		December	---	---	---	---	---	---	Very brief	Rare
9061A: Atterberry-----	B	January	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		February	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		March	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		April	1.0-2.0	>6.0	Apparent	---	---	---	---	---
		May	1.0-2.0	>6.0	Apparent	---	---	---	---	---
9279B: Rozetta-----	B	February	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		March	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		April	4.0-6.0	>6.0	Apparent	---	---	---	---	---
9279C2: Rozetta-----	B	February	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		March	4.0-6.0	>6.0	Apparent	---	---	---	---	---
		April	4.0-6.0	>6.0	Apparent	---	---	---	---	---

Table 21.--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		Uncoated steel	Concrete
		In			
8D2, 8D3, 8F, 8F3, 8G: Hickory-----	---	---	Moderate	Moderate	Moderate
17A: Keomah-----	---	---	High	High	Moderate
19D2, 19D3: Sylvan-----	---	---	High	Moderate	Moderate
37A: Worthen-----	---	---	High	Low	Low
43A: Ipava-----	---	---	High	High	Moderate
45A: Denny-----	---	---	High	High	Moderate
51A: Muscatune-----	---	---	High	High	Moderate
61A: Atterberry-----	---	---	High	High	Moderate
68A: Sable-----	---	---	High	High	Low
81A: Littleton-----	---	---	High	High	Low
86B, 86B2, 86C2: Osco-----	---	---	High	Moderate	Moderate
87B: Dickinson-----	---	---	Moderate	Low	Moderate
88B: Sparta-----	---	---	Low	Low	Moderate
98B: Ade-----	---	---	Low	Low	High
119D, 119D2: Elco-----	---	---	High	High	Moderate
134C, 134D3: Camden-----	---	---	High	Moderate	Moderate
136A: Brooklyn-----	---	---	High	High	Moderate
172A: Hoopeston-----	---	---	High	Low	Moderate
199B: Plano-----	---	---	High	Moderate	Low
199C2: Plano-----	---	---	High	Moderate	Low

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
206A: Thorp-----	---	---	High	High	Moderate
212C, 212D3: Thebes-----	---	---	High	Moderate	Moderate
250D2: Velma-----	---	---	Moderate	High	High
257A: Clarksdale-----	---	---	High	High	Moderate
259C2: Assumption-----	---	---	High	High	Moderate
259D2: Assumption-----	---	---	High	High	Moderate
261A: Niota-----	---	---	High	High	High
274B, 274C2, 274D: Seaton-----	---	---	High	Low	Moderate
275A: Joy-----	---	---	High	High	Moderate
277B, 277C: Port Byron-----	---	---	High	Low	Moderate
278A: Stronghurst-----	---	---	High	High	Moderate
279B, 279C3: Rozetta-----	---	---	High	Moderate	Moderate
280C2, 280D, 280D2, 280D3: Fayette-----	---	---	High	Moderate	Moderate
430A, 430B: Raddle-----	---	---	High	Moderate	Moderate
457A: Booker-----	---	---	Moderate	High	Moderate
549C2, 549D2, 549D3, 549F: Marseilles-----	Bedrock (paralithic)	20-40	High	High	Moderate
567D, 567D2: Elkhart-----	---	---	High	Moderate	Moderate
572B, 572C: Loran-----	Bedrock (paralithic)	40-60	High	High	Low
671B, 671C2: Biggsville-----	---	---	High	Low	Moderate
672B: Crescent-----	---	---	Moderate	Moderate	Moderate

Table 21.--Soil Features--Continued

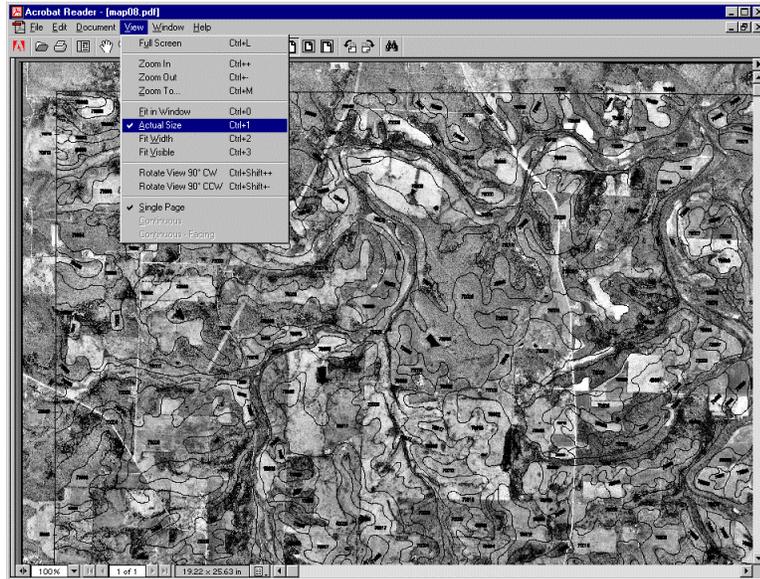
Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		In			
675B, 675C2: Greenbush-----	---	---	High	Moderate	Moderate
678B: Mannon-----	---	---	High	Moderate	Moderate
684B, 684C2: Broadwell-----	---	---	High	Moderate	Moderate
689B, 689D, 689G: Coloma-----	---	---	Low	Low	Moderate
802B: Orthents-----	---	---	Moderate	Moderate	Moderate
898F3, 898G: Hickory-----	---	---	Moderate	Moderate	Moderate
Sylvan-----	---	---	High	Moderate	Moderate
899B: Raddle-----	---	---	High	Moderate	Moderate
Sparta-----	---	---	Low	Low	Moderate
911G: Timula-----	---	---	High	Low	Low
Hickory-----	---	---	Moderate	Moderate	Moderate
913F: Marseilles-----	Bedrock (paralithic)	20-40	High	High	Moderate
Hickory-----	---	---	Moderate	Moderate	Moderate
943D3, 943G: Seaton-----	---	---	High	Low	Moderate
Timula-----	---	---	High	Low	Low
946D3: Hickory-----	---	---	Moderate	Moderate	Moderate
Atlas-----	---	---	High	High	Moderate
957D3: Elco-----	---	---	High	High	Moderate
Atlas-----	---	---	High	High	Moderate
960F: Hickory-----	---	---	Moderate	Moderate	Moderate
Sylvan-----	---	---	High	Moderate	Moderate
Fayette-----	---	---	High	Moderate	Moderate
962D3: Sylvan-----	---	---	High	Moderate	Moderate
Bold-----	---	---	High	Low	Low

Table 21.--Soil Features--Continued

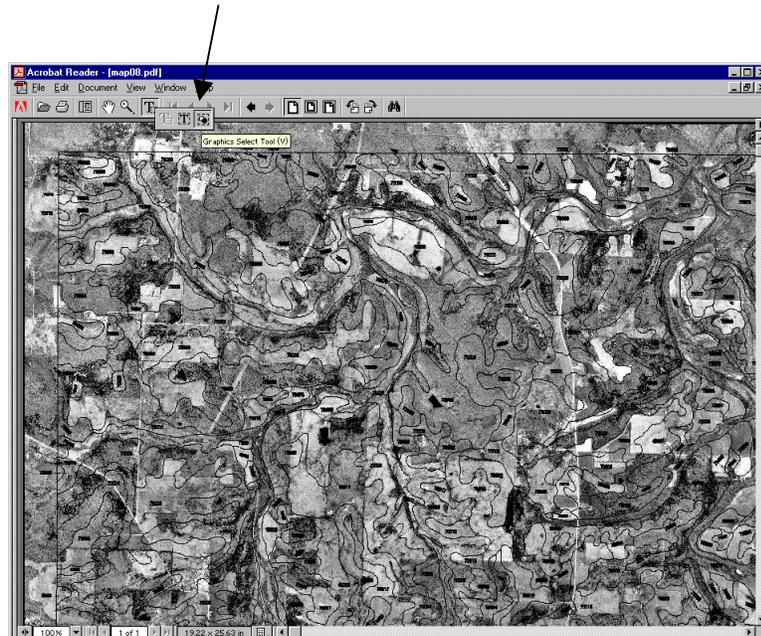
Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth		Uncoated steel	Concrete
		to top			
		In			
1070A: Beaucoup-----	---	---	High	High	Low
3074A: Radford-----	---	---	High	High	Moderate
3107A, 3107+: Sawmill-----	---	---	High	High	Low
3415A: Orion-----	---	---	High	High	Low
3646L: Fluvaquents-----	---	---	High	Moderate	Low
3870L: Blake-----	---	---	High	High	Low
Beaucoup-----	---	---	High	High	Low
7070A: Beaucoup-----	---	---	High	High	Low
7083A: Wabash-----	---	---	Moderate	High	Moderate
7107A: Sawmill-----	---	---	High	High	Low
7302A: Ambraw-----	---	---	High	High	Moderate
7304A: Landes-----	---	---	Moderate	Low	Low
7404A: Titus-----	---	---	High	High	Low
7415A: Orion-----	---	---	High	High	Low
7428A: Coffeen-----	---	---	High	High	Moderate
9061A: Atterberry-----	---	---	High	High	Moderate
9279B: Rozetta-----	---	---	High	Moderate	Moderate
9279C2: Rozetta-----	---	---	High	Moderate	Moderate

## Printing Soil Survey Maps

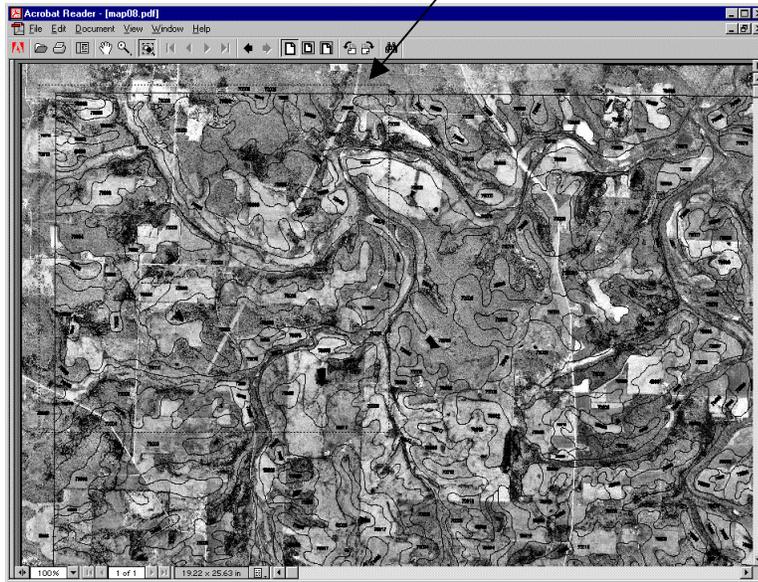
The soil survey maps were made at a scale of 1:12000 and were designed to be used at that scale. To print the maps at 1:12000 scale, set the view to Actual Size from the View pull down menu.



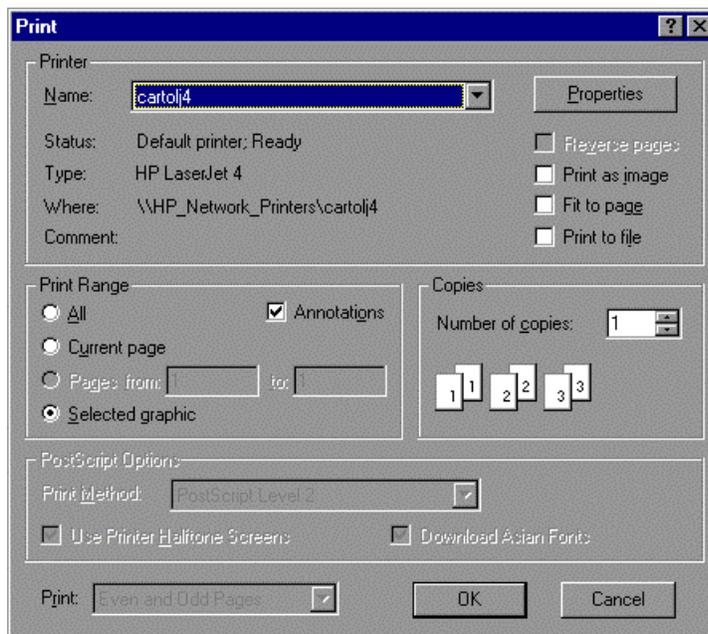
Using the pan tool, go to the area you would like to print. Select the Graphic Selection Tool by holding down the Text Selection Tool button and clicking on the Graphic Selection Tool button.



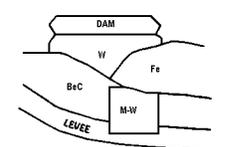
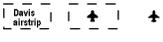
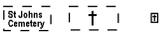
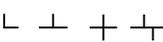
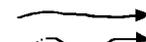
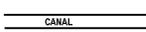
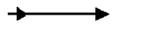
Then using the Graphic Selection Tool drag a box around the area you would like to print. Note dashed lines forming a box around area to print.



Select File Print. The Print Range will be set to Selected graphic. Click OK and the map will be sent to the printer.



# CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL																																																																																										
<b>CULTURAL FEATURES</b>		<b>CULTURAL FEATURES (cont.)</b>		<b>SPECIAL SYMBOLS FOR SOIL SURVEY AND SSURGO</b>																																																																																											
<b>BOUNDARIES</b>		<b>MISCELLANEOUS CULTURAL FEATURES</b>																																																																																													
• National, state, or province	---	Farmland, house (omit in urban areas)	■																																																																																												
• County or parish	- - - -	Church	✙																																																																																												
Minor civil division	— — — —	School	✙																																																																																												
Reservation, (national forest or park, state forest or park)	— — — —	Other Religion (label)	▲ Mt ▲ Carmel																																																																																												
Land grant	- - - -	Located object (label)	○ Ranger ○ Station																																																																																												
Limit of soil survey (label) and/or denied access areas	— — — —	Tank (label)	● Petroleum																																																																																												
• Field sheet matchline & neatline	— — — —	Lookout Tower	▲																																																																																												
Previously published survey	— — — —	Oil and / or Natural Gas Wells	▲																																																																																												
OTHER BOUNDARY (label)		Windmill	⊠																																																																																												
Airport, airfield		Lighthouse	⊠																																																																																												
• Cemetery		<b>HYDROGRAPHIC FEATURES</b>																																																																																													
City / county Park		<b>STREAMS</b>																																																																																													
STATE COORDINATE TICK	— — — —	Perennial, double line																																																																																													
• LAND DIVISION CORNERS (section and land grants)		Perennial, single line																																																																																													
• GEOGRAPHIC COORDINATE TICK	+	Intermittent																																																																																													
TRANSPORTATION		Drainage end																																																																																													
Divided roads	==	<b>DRAINAGE AND IRRIGATION</b>																																																																																													
Other roads	— — — —	Double line canal (label)																																																																																													
# Trails	- - - -	Perennial drainage and/or irrigation ditch																																																																																													
ROAD EMBLEMS & DESIGNATIONS		Intermittent drainage and/or irrigation ditch																																																																																													
• Interstate		<b>SMALL LAKES, PONDS, AND RESERVOIRS</b>																																																																																													
• Federal		Perennial water	⊙																																																																																												
• State		Miscellaneous water	⊙																																																																																												
County, farm, or ranch		Flood pool line																																																																																													
RAILROAD	— — — —	<b>MISCELLANEOUS WATER FEATURES</b>																																																																																													
POWER TRANSMISSION LINE (normally not shown)	— — — —	Spring	○																																																																																												
PIPELINE (normally not shown)	— — — —	Well, artesian	⊕																																																																																												
FENCE (normally not shown)	— — — —	Well, irrigation	⊕																																																																																												
LEVEES		<b>RECOMMENDED AD HOC SOIL SYMBOLS</b>																																																																																													
Without road		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>SYMBOL_ID</th> <th></th> <th>SYMBOL_ID</th> <th></th> </tr> </thead> <tbody> <tr><td>1</td><td>✙</td><td>23</td><td>⊙</td></tr> <tr><td>2</td><td>⊠</td><td>24</td><td>⊙</td></tr> <tr><td>3</td><td>□</td><td>25</td><td>⊙</td></tr> <tr><td>4</td><td>✙ Gray spot</td><td>26 GSP</td><td>⊙</td></tr> <tr><td>5</td><td>⊠</td><td>27</td><td>⊙</td></tr> <tr><td>6</td><td>✙</td><td>28</td><td>⊙</td></tr> <tr><td>7</td><td>⊠ Calcareous spot</td><td>29 CSP</td><td>⊙</td></tr> <tr><td>8</td><td>⊠ Muck spot</td><td>30 MUC</td><td>⊙</td></tr> <tr><td>9</td><td>⊠</td><td>31</td><td>⊙</td></tr> <tr><td>10</td><td>⊠</td><td>32</td><td>⊙</td></tr> <tr><td>11</td><td>✙</td><td>33</td><td>⊙</td></tr> <tr><td>12 DMP</td><td>⊠</td><td>34</td><td>⊙</td></tr> <tr><td>13</td><td>⊠ Mine subsided Area</td><td>35 MSA</td><td>⊙</td></tr> <tr><td>14</td><td>⊠</td><td>36</td><td>⊙</td></tr> <tr><td>15 OBS</td><td>✙</td><td>37</td><td>✙</td></tr> <tr><td>16</td><td>⊠</td><td>38</td><td>⊠</td></tr> <tr><td>17</td><td>⊠</td><td>39</td><td>⊠</td></tr> <tr><td>18</td><td>✙ Glacial Till spot</td><td>40 GLA</td><td>✙</td></tr> <tr><td>19</td><td>✙</td><td>41</td><td>✙</td></tr> <tr><td>20 BSS</td><td>✙</td><td>42</td><td>✙</td></tr> <tr><td>21</td><td>⊠</td><td>43</td><td>⊠</td></tr> <tr><td>22</td><td>⊠</td><td>44</td><td>⊙</td></tr> </tbody> </table>		SYMBOL_ID		SYMBOL_ID		1	✙	23	⊙	2	⊠	24	⊙	3	□	25	⊙	4	✙ Gray spot	26 GSP	⊙	5	⊠	27	⊙	6	✙	28	⊙	7	⊠ Calcareous spot	29 CSP	⊙	8	⊠ Muck spot	30 MUC	⊙	9	⊠	31	⊙	10	⊠	32	⊙	11	✙	33	⊙	12 DMP	⊠	34	⊙	13	⊠ Mine subsided Area	35 MSA	⊙	14	⊠	36	⊙	15 OBS	✙	37	✙	16	⊠	38	⊠	17	⊠	39	⊠	18	✙ Glacial Till spot	40 GLA	✙	19	✙	41	✙	20 BSS	✙	42	✙	21	⊠	43	⊠	22	⊠	44	⊙
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15 OBS	✙	37	✙																																																																																												
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DAMS																																																																																															
Medium or small																																																																																															
LANDFORM FEATURES																																																																																															
Prominent Hill or Peak	✙																																																																																														
Soil Sample Site	⊙																																																																																														

\* Cultural features for use in Illinois

### Descriptions of Special Features

Name	Description	Label
Blowout	A small saucer-, cup-, or trough-shaped hollow or depression formed by wind erosion on a preexisting sand deposit. Typically 0.2 acre to 2.0 acres.	BLO
Borrow pit	An open excavation from which soil and underlying material have been removed, usually for construction purposes. Typically 0.2 acre to 2.0 acres.	BPI
Calcareous spot	An area in which the soil contains carbonates in the surface layer. The surface layer of the named soils in the surrounding map unit is noncalcareous. Typically 0.5 acre to 2.0 acres.	CSP
Clay spot	A spot where the surface layer is silty clay or clay in areas where the surface layer of the soils in the surrounding map unit is sandy loam, loam, silt loam, or coarser. Typically 0.2 acre to 2.0 acres.	CLA
Depression, closed	A shallow, saucer-shaped area that is slightly lower on the landscape than the surrounding area and that does not have a natural outlet for surface drainage. Typically 0.2 acre to 2.0 acres.	DEP
Disturbed soil spot	An area in which the soil has been removed and materials redeposited as a result of human activity. Typically 0.25 acre to 2.0 acres.	DSS
Dumps	Areas of nonsoil material that support little or no vegetation. Typically 0.5 acre to 2.0 acres.	DMP
Escarpment, bedrock	A relatively continuous and steep slope or cliff, produced by erosion or faulting, that breaks the general continuity of more gently sloping land surfaces. Exposed material is hard or soft bedrock.	ESB
Escarpment, nonbedrock	A relatively continuous and steep slope or cliff, generally produced by erosion but in some places produced by faulting, that breaks the continuity of more gently sloping land surfaces. Exposed earthy material is nonsoil or very shallow soil.	ESO
Glacial till spot	An exposure of glacial till at the surface of the earth. Typically 0.25 acre to 2.0 acres.	GLA
Gravel pit	An open excavation from which soil and underlying material have been removed and used, without crushing, as a source of sand or gravel. Typically 0.2 acre to 2.0 acres.	GPI
Gravelly spot	A spot where the surface layer has more than 35 percent, by volume, rock fragments that are mostly less than 3 inches in diameter in an area that has less than 15 percent rock fragments. Typically 0.2 acre to 2.0 acres.	GRA

<b>Name</b>	<b>Description</b>	<b>Label</b>
Gray spot	A spot in which the surface layer is gray in areas where the subsurface layer of the named soils in the surrounding map unit are darker. Typically 0.25 acre to 2.0 acres.	GSP
Gully	A small channel with steep sides cut by running water through which water ordinarily runs only after a rain or after melting of snow or ice. It generally is an obstacle to wheeled vehicles and is too deep to be obliterated by ordinary tillage.	GUL
Iron bog	An accumulation of iron in the form of nodules, concretions, or soft masses on the surface or near the surface of soils. Typically 0.2 acre to 2.0 acres.	BFE
Landfill	An area of accumulated waste products of human habitation, either above or below natural ground level. Typically 0.2 acre to 2.0 acres.	LDF
Levee	An embankment that confines or controls water, especially one built along the banks of a river to prevent overflow onto lowlands.	LVS
Marsh or swamp	A water-saturated, very poorly drained area that is intermittently or permanently covered by water. Sedges, cattails, and rushes are the dominant vegetation in marshes, and trees or shrubs are the dominant vegetation in swamps. Typically 0.2 acre to 2.0 acres.	MAR
Mine or quarry	An open excavation from which soil and underlying material have been removed and in which bedrock is exposed. Also denotes surface openings to underground mines. Typically 0.2 acre to 2.0 acres.	MPI
Mine subsided area	An area that is lower than the soils in the surrounding map unit because of subsurface coal mining. Typically 0.25 acre to 3.0 acres.	MSA
Miscellaneous water	A small, constructed body of water that is used for industrial, sanitary, or mining applications and that contains water most of the year. Typically 0.2 acre to 2.0 acres.	MIS
Muck spot	An area that occurs within an area of poorly drained or very poorly drained soil and that has a histic epipedon or an organic surface layer. The symbol is used only in map units consisting of mineral soil. Typically 0.2 acre to 2.0 acres.	MUC
Oil brine spot	An area of soil that has been severely damaged by the accumulation of oil brine, with or without liquid oily wastes. The area is typically barren but may have a vegetative cover of salt-tolerant plants. Typically 0.2 acre to 2.0 acres.	OBS
Perennial water	A small, natural or constructed lake, pond, or pit that contains water most of the year. Typically 0.2 acre to 2.0 acres.	WAT

Name	Description	Label
Rock outcrop	An exposure of bedrock at the surface of the earth. Not used where the named soils of the surrounding map unit are shallow over bedrock or where “Rock outcrop” is a named component of the map unit. Typically 0.2 acre to 2.0 acres.	ROC
Saline spot	An area where the surface layer has an electrical conductivity of 8 mmhos/cm-1 more than the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has an electrical conductivity of 2 mmhos/cm-1 or less. Typically 0.2 acre to 2.0 acres.	SAL
Sandy spot	A spot where the surface layer is loamy fine sand or coarser in areas where the surface layer of the named soils in the surrounding map unit is very fine sandy loam or finer. Typically 0.2 acre to 2.0 acres.	SAN
Severely eroded spot	An area where, on the average, 75 percent or more of the original surface layer has been lost because of accelerated erosion. Not used in map units in which “severely eroded,” “very severely eroded,” or “gullied” is part of the map unit name. Typically 0.2 acre to 2.0 acres.	ERO
Short steep slope	A narrow area of soil having slopes that are at least two slope classes steeper than the slope class of the surrounding map unit.	SLP
Sinkhole	A closed depression formed either by solution of the surficial rock or by collapse of underlying caves. Typically 0.2 acre to 2.0 acres.	SNK
Slide or slip	A prominent landform scar or ridge caused by fairly recent mass movement or descent of earthy material resulting from failure of earth or rock under shear stress along one or several surfaces. Typically 0.2 acre to 2.0 acres.	SLI
Sodic spot	An area where the surface layer has a sodium adsorption ratio that is at least 10 more than that of the surface layer of the named soils in the surrounding map unit. The surface layer of the surrounding soils has a sodium adsorption ratio of 5 or less. Typically 0.2 acre to 2.0 acres.	SOD
Spoil area	A pile of earthy materials, either smoothed or uneven, resulting from human activity. Typically 0.2 acre to 2.0 acres.	SPO
Stony spot	A spot where 0.01 to 0.1 percent of the surface cover is rock fragments that are more than 10 inches in diameter in areas where the surrounding soil has no surface stones. Typically 0.2 acre to 2.0 acres.	STN
Unclassified water	A small, natural or manmade lake, pond, or pit that contains water, of an unspecified nature, most of the year. Typically 0.2 acre to 2.0 acres.	UWT

<b>Name</b>	<b>Description</b>	<b>Label</b>
Very stony spot	A spot where 0.1 to 3.0 percent of the surface cover is rock fragments that are more than 10 inches in diameter in areas where the surface cover of the surrounding soil is less than 0.01 percent stones. Typically 0.2 acre to 2.0 acres.	STV
Wet depression	A shallow, concave area within an area of poorly drained or very poorly drained soils in which water is ponded for intermittent periods. The concave area is saturated for appreciably longer periods of time than the surrounding soil. Typically 0.2 acre to 2.0 acres.	WDP
Wet spot	A somewhat poorly drained to very poorly drained area that is at least two drainage classes wetter than the named soils in the surrounding map unit. Typically 0.2 acres to 2.0 acres.	WET