



United States  
Department of  
Agriculture

In cooperation with Illinois  
Agricultural Experiment  
Station



NRCS

Natural  
Resources  
Conservation  
Service

# Soil Survey of La Salle County, Illinois





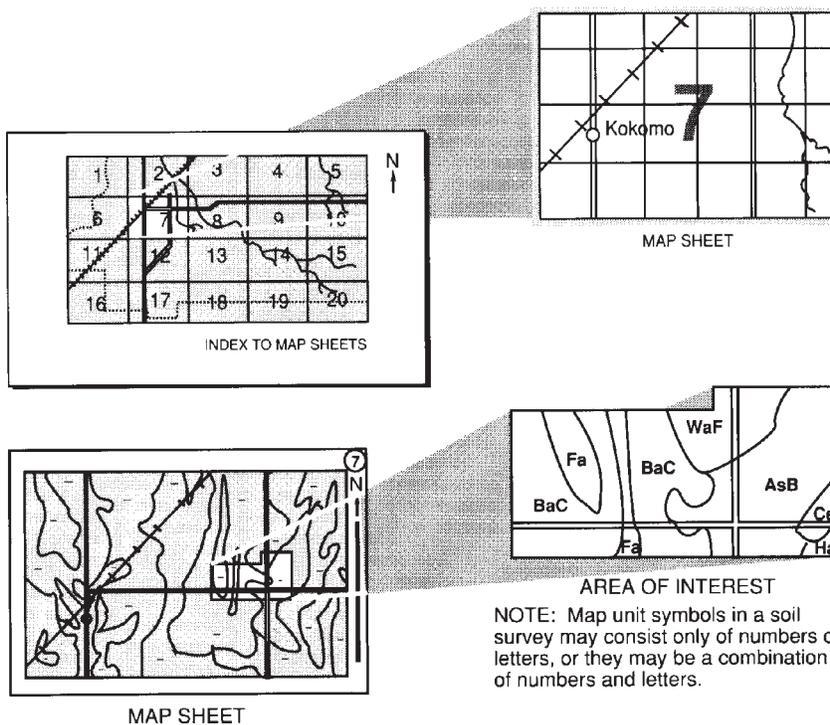
# How To Use This Soil Survey

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 **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

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



## National Cooperative Soil Survey

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. 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 La Salle County Soil and Water Conservation District. Additional funding was provided by the Illinois Department of Agriculture and the La Salle County Board.

Major fieldwork for this soil survey was completed in 2004. Soil names and descriptions were approved in 2006. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2004. The most current official data are available on the Internet.

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 Photo Caption

Historic Starved Rock, in Starved Rock State Park, along the Illinois River in La Salle County, Illinois.

*Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at <http://www.nrcs.usda.gov>.*

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# Foreword

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Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

Soil surveys are designed for many different users. Farmers, foresters, and agronomists can use the surveys 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 surveys 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 surveys 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 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 map unit 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 La Salle County, Illinois

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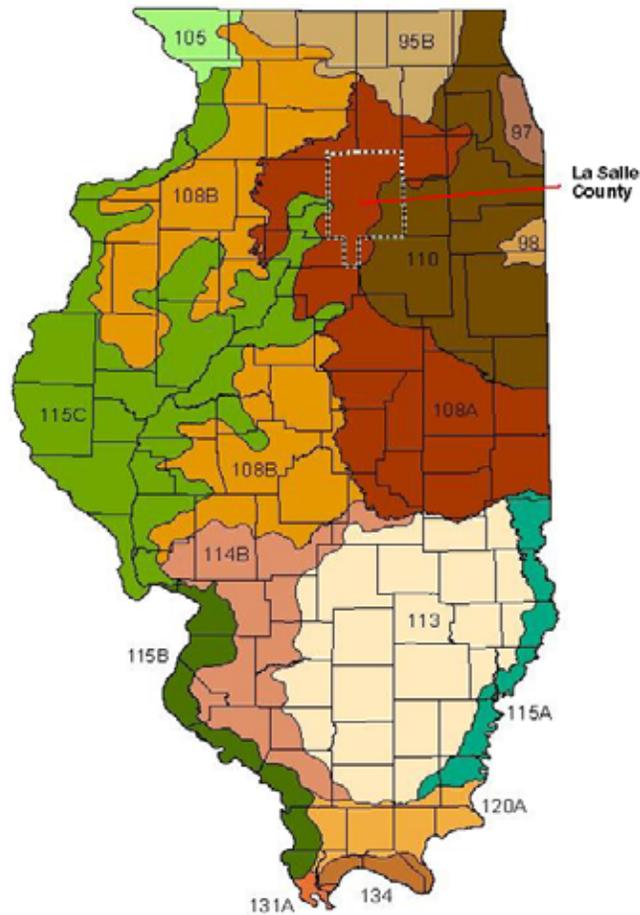
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LA SALLE COUNTY is in northeastern Illinois (fig. 1). It is the second largest county in the State. It has a land area of 735,640 acres, or 1,149 square miles. In 2000, the population of the county was 111,509 (U.S. Department of Commerce, 2000). Ottawa, the county seat and the largest city, is along the Illinois River almost in the center of the county. The county is bordered by Lee and De Kalb Counties to the north, Kendall and Grundy Counties to the east, Livingston and Woodford Counties to the south, and Marshall, Putnam, and Bureau Counties to the west.

The survey area is a subset of Major Land Resource Areas (MLRAs) 110, Northern Illinois and Indiana Heavy Till Plain, and 108A, Illinois and Iowa Deep Loess and Drift, Eastern Part (USDA/NRCS, 2006).



#### LEGEND

- 95B—Southern Wisconsin and Northern Illinois Drift Plain
- 97—Southwestern Michigan Fruit and Truck Crop Belt
- 98—Southern Michigan and Northern Indiana Drift Plain
- 105—Northern Mississippi Valley Loess Hills
- 108A and 108B—Illinois and Iowa Deep Loess and Drift
- 110—Northern Illinois and Indiana Heavy Till Plain
- 113—Central Claypan Areas
- 114B—Southern Illinois and Indiana Thin Loess and Till Plain, Western Part
- 115A, 115B, and 115C—Central Mississippi Valley Wooded Slopes
- 120A—Kentucky and Indiana Sandstone and Shale Hills and Valleys, Southern Part
- 131A—Southern Mississippi River Alluvium
- 134—Southern Mississippi Valley Loess

**Figure 1.—Location of La Salle County and the major land resource areas (MLRAs) in Illinois.**

This survey updates the survey of La Salle County published in 1972 (Alexander, 1972). The updated survey provides additional information and has orthophotographic maps at a slightly larger scale, both in electronic and digital format. Some of the information from the 1972 survey has been incorporated in this publication with little alteration.

## General Nature of the Survey Area

This section provides general information about the survey area. It describes history; physiography, relief, and drainage; natural resources; agriculture; transportation facilities; industry; and climate.

### History

The first Europeans to enter the survey area were the French explorers Marquette and Joliet, who traveled along the Illinois River in 1673. Soon after that, another French explorer, Robert Cavellier, sieur de La Salle, for whom the county was named, sailed down the Mississippi River from Canada to the Gulf of Mexico and claimed the region for France. La Salle and two other French traders returned to the area a few years later. They built Fort Crevecoeur on the Illinois River near Peoria in 1680 and Fort St. Louis on Starved Rock in 1682.

The Illinois Indians were the primary Indians in the survey area, but many tribes inhabited the area at various times. During the time of La Salle's arrival, the Illinois tribe had a large village near Utica. The murder of Pontiac by an Illinois Indian years later set the northern tribes in motion against the Illinois, and in the ensuing wars the latter were reduced to a fraction of their former strength. During these wars, a group of Illinois Indians retreated to the area where Fort St. Louis had stood in search of protection. Unable to secure provisions, they died of starvation or were killed; thus, this location became known as Starved Rock.

La Salle County was originally part of Putnam County, which had been established in 1825. On January 15, 1831, the original Putnam County was reorganized by a legislative act that established Cook, Putnam, and La Salle Counties. At that time La Salle County covered parts of present-day Kendall, Livingston, and Marshall Counties and all of present-day Grundy County. The current boundaries of La Salle County were established in 1843.

The Illinois and Michigan Canal, built between 1836 and 1848, stretched approximately 100 miles from Chicago to La Salle-Peru in La Salle County. Opened in 1848, the canal provided a link between the eastern and western parts of the country. It linked the waters of Lake Michigan with those of the Illinois and Mississippi Rivers and eventually the Gulf of Mexico. Many communities sprang up along the canal's route. In La Salle County, these included Seneca, Marseilles, Ottawa, Utica, and La Salle-Peru. With the opening of the Rock Island Railroad's mainline in 1853, the canal's importance was reduced. Today the Illinois and Michigan Canal is used for recreational purposes.

La Salle County is the birthplace of James Butler "Wild Bill" Hickok. Hickok was born in 1837 in Troy Grove, Illinois. He worked on the family farm until 1856, when he headed for the western territory into fame and folklore.

In August 1858, La Salle County was the site of another historical event, the first of the famous Lincoln-Douglas debates at Ottawa, Illinois (fig. 2). Around 10,000 people heard the two candidates for the U.S. Senate discuss the question of slavery.

### Physiography, Relief, and Drainage

Almost all of La Salle County is in the Bloomington Ridged Plain of the Central Lowland Province (Leighton and others, 1948). A small area in the southwestern part of the county is part of the Kankakee Plain of the Central Lowland Province.

The Bloomington Ridged Plain consists mainly of till of Wisconsinan age. It is characterized by low, broad morainic ridges with intervening wide stretches of



**Figure 2.—Washington Square in Ottawa, Illinois, is the site of the first of the famous debates between Abraham Lincoln and Stephen A. Douglas.**

relatively flat or gently undulating ground moraines. The moraines form a series of curves roughly concentric with the outer boundary of the county. The named moraines in La Salle County, from north to south, include La Molle, Paw Paw, Arlington, Mendota, Farm Ridge, Mt. Palatine, Minonk, Norway, and Ransom (Willman and Frye, 1970).

The Illinois River has cut a relatively deep, narrow valley through the Norway, Ransom, and Farm Ridge moraines and into the underlying bedrock for practically its whole length through the county.

The highest elevation in La Salle County is about 910 feet in the vicinity of Welland in the northwestern part of the county (fig. 3). The lowest elevation is about 445 feet in the Illinois River valley where the river exits the county near the City of La Salle-Peru.

Most of La Salle County is drained by the Illinois River and its tributaries, the Fox, Vermilion, and Little Vermilion Rivers. The Illinois River flows into the Mississippi River, which empties into the Gulf of Mexico.

## **Natural Resources**

La Salle County has significant natural resources, ranging from construction materials to surface water or ground water deposits. As of 1992, La Salle County ranked 8th in the State on the basis of all minerals extracted, processed, and manufactured (Nelson and others, 1997).

Silica sand from the St. Peter sandstone formation is mined near Ottawa along the Illinois and Fox Rivers. St. Peter sandstone, which is nearly pure silica, is used for making glass and molding sand and for a wide variety of silica chemical products (fig. 4).

Sand and gravel deposits occur in many parts of the county, but they are especially numerous in the outwash and terrace areas along major streams and some of the minor streams. The county has several sand and gravel pits, some of which are located along the Fox River near Sheridan.

Dolostone and limestone are prevalent along the Illinois and Vermilion Rivers and are quarried at several places. Much of this rock is crushed for use as aggregate material in concrete, agricultural limestone, or road surfaces.

Clay is mined extensively in the county. La Salle County was the second leading producer of common clay in the State in 1992. The clay is used for the manufacture of bricks, drain tile, dinnerware, and cement.

Coal is no longer mined in the county. At one time, however, coal mining was a major industry, and both surface mines and shaft mines were common. Much of the mining took place in areas on the bluffs along the Illinois River and around Streator.

Surface water and underground water supplies are relatively abundant in La Salle County. The Illinois, Fox, and Vermilion Rivers are continuously flowing streams and important surface water resources in the county. They are used for industry and recreation. The county has an abundant supply of ground water for industrial,

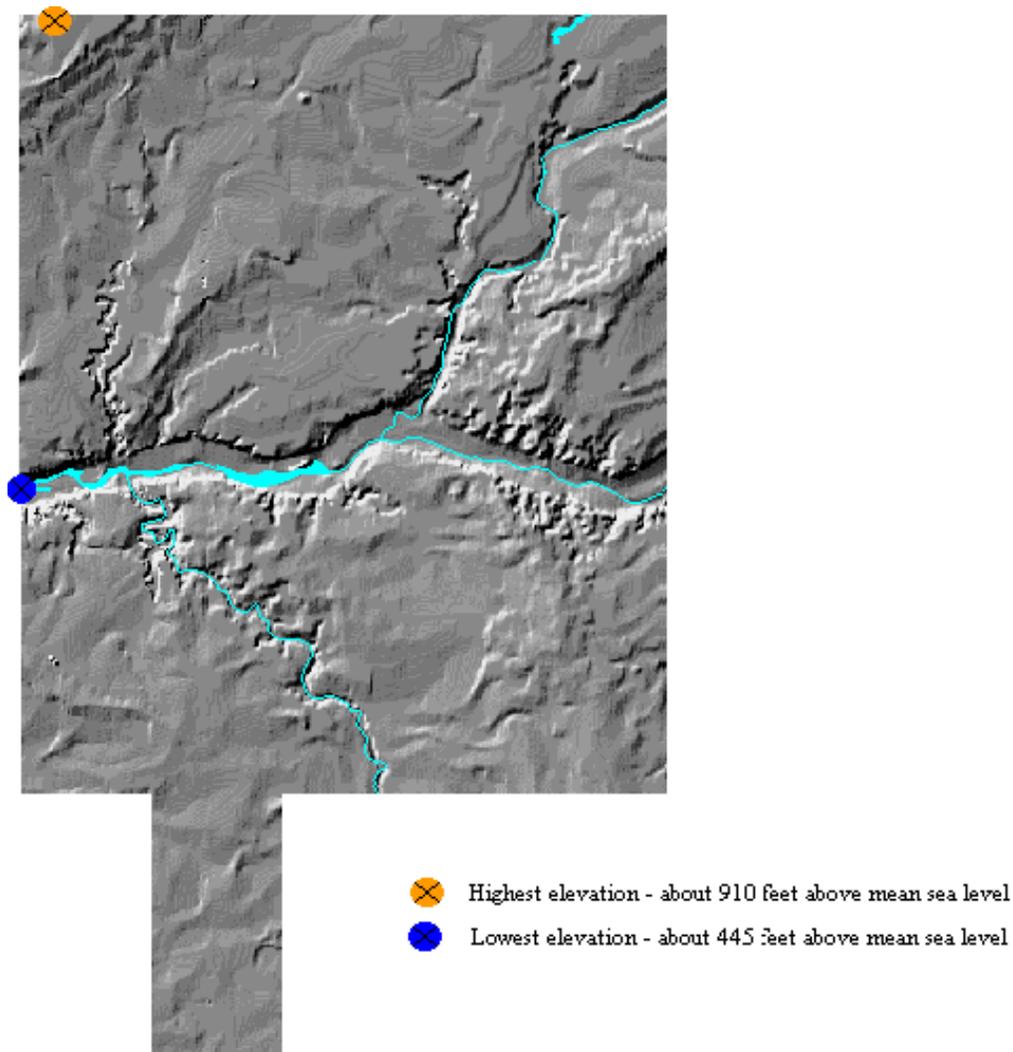


Figure 3.—A generalized relief map of La Salle County, Illinois. (Source: Illinois State Geological Survey, [http://www.isgs.uiuc.edu/hi\\_low/hilow\\_intro.html](http://www.isgs.uiuc.edu/hi_low/hilow_intro.html))



**Figure 4.—The St. Peter sandstone formation viewed from an abandoned silica mine in Buffalo Rock State Park.**

municipal, and domestic purposes. Supplies of water may be obtained from the St. Peter and other deeper sandstone aquifer formations at depths ranging from near the surface to more than 2,000 feet. Smaller amounts of water for domestic purposes can be obtained from wells at depths around 50 to 500 feet.

### **Agriculture**

Like much of Illinois, La Salle County has some very fertile farmland. Agriculture has been the dominant land use for decades; in 2002, 70 percent of the land area was still used for agriculture. Corn, soybeans, small grain crops, and nursery and greenhouse crops accounted for 86 percent of the market value of agricultural products sold in 1997, and livestock, poultry, and related products accounted for 14 percent. Other specialty crops, including sweet corn, peas, and lima beans, are grown on a small acreage (less than 10,000 acres) (U.S. Department of Commerce, 2002).

Although the farm product market value is increasing in the area, the number of farms and the number of acres farmed have been declining. In 1970, there were 2,481 farms totaling 637,617 acres. In 2002, there were 1,478 farms on 579,141 acres. These figures represent about a 40 percent decline in the number of farms and a 9 percent decrease in the number of acres farmed. This decline, however, has been counteracted by a large increase in average farm size. In 1970, there were 2,481 farms averaging 257 acres in size; in 2002, the average size of the remaining 1,478 farms was 392 acres. These figures represent about a 53 percent increase in average farm size (U.S. Department of Commerce, 2002).

### **Transportation Facilities**

La Salle County has a well developed system of roads. The county is served by Illinois State Highways 17, 18, 23, 71, 251, 351, 178, and 170; U.S. Highways 6, 34,

51, and 52; and Interstate Highways 39 and 80. La Salle County also has a well integrated county highway system, mostly hard-surfaced or graveled roads, providing connections between incorporated and unincorporated areas.

La Salle County also has water transportation. The county owes much of its start and early growth to the Illinois and Michigan Canal, built in 1848 and now used for recreation. The Illinois River is suitable for heavy barge traffic and recreational boating. Locks are located at both Marseilles and Starved Rock.

The rail lines of four major railroad companies serve the county and connect it to all parts of the United States. Passenger rail service is available from the survey area to most of the United States.

La Salle County is served by the Illinois Valley Regional Airport in Peru. The county is also within a relatively short distance from Midway and O'Hare International Airports in Chicago. Eight private airports serve local recreational and business flying needs; however, they do not support commercial flights or large jets.

## Industry

La Salle County has a strong traditional economic base that includes manufacturing, health care, retail sales, construction, education, and administrative jobs. The employment trend in the county continues to follow the national averages, with employment moving from manufacturing towards a more service-based economy. Housing construction is very important in nearly all parts of the county. Sand, gravel, and limestone are mined for glass manufacture, concrete, and other purposes. Other businesses and industries have developed in most county municipalities and account for many of the traditional manufacturing jobs. Major industrial development areas are in Marseilles, Ottawa, La Salle-Peru, and Streator (fig. 5).

## Climate

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



Figure 5.—Mining for silica sand from the St. Peter sandstone formation. The sand is used to make glass.

In winter, the average temperature is 26.3 degrees F and the average daily minimum temperature is 17.9 degrees. The lowest temperature on record, which occurred at Peru on January 19, 1985, is -26 degrees. In summer, the average temperature is 73.1 degrees and the average daily maximum temperature is 83.8 degrees. The highest temperature, which occurred at Ottawa on July 14, 1936, is 112 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.

The average annual total precipitation is 35.68 inches. Of this total, about 25.06 inches, or about 70 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest recorded 1-day rainfall was 8.77 inches at Ottawa on July 14, 1958. Thunderstorms occur on about 48 days each year, and most occur from April through September.

The average seasonal snowfall is 24.3 inches. The greatest snow depth at any one time during the period of record was 30 inches recorded on February 1, 1979. On an average, 44 days per year have at least 1 inch of snow on the ground.

The average relative humidity in midafternoon is about 61 percent. Humidity is higher at night, and the average at dawn is about 83 percent. The sun shines 60 percent of the time possible in summer and 53 percent in winter. April has the most sunny days (65 percent). The prevailing wind is from the south. Average windspeed is highest, 12 miles per hour, in March.

## How This Survey Was Made

Soil surveys are updated as part of maintenance projects that are conducted for a major land resource area or other region. Maintaining and coordinating soil survey information within a broad area result in uniformly delineated and joined soil maps and in coordinated interpretations and map unit descriptions for areas that have similar physiography, climate, and land use.

Updated soil survey information is coordinated within the major land resource area or other region and meets the standards established and defined in the memorandum of understanding. Soil surveys that are consistent and uniform within a broad area enable the coordination of soil management recommendations and a uniform program application of soil information.

This survey was made to provide updated information about the soils and miscellaneous areas in the survey area, which is in Major Land Resource Areas 108A and 110 (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/NRCS, 2006). La Salle County is a subset of MLRAs 108A and 110. Map unit design and the detailed soil descriptions are based on the occurrence of each soil throughout the MLRAs. In some cases a soil may be referred to that was not mapped in the La Salle County subset but that is representative of the MLRAs.

The information in this survey includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses.

Soil scientists observed the steepness, length, and shape of the slopes; the degree of erosion; the general pattern of drainage; and the kinds of crops and native plants. They made borings and dug holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is

devoid of roots and other living organisms and has not been changed by other biological activity.

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

Commonly, individual soils on the landform 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. After soil scientists located and identified the significant natural bodies of soil in the survey area, they then drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit.

Fieldwork in the La Salle County soil survey update consisted primarily of soil transects conducted by soil scientists. Soil transects are a systematic method of sampling a specific soil type. Soil borings are taken at regular intervals. Soil scientists then record the characteristics of the soil profiles that they study. They note soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. This information can be used to run statistical analyses for specific soil properties. The results of these analyses, along with other observations, enable the soil scientists to assign the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

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

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

From 2004 through 2005, the original La Salle County field mapping sheets were recompiled using U.S. Geological Survey (USGS) digital aerial black and white orthophotographs taken in 1998, 1999, and 2001 as base maps. The original maps for La Salle County dated from 1939, 1953, 1954, and 1958, and the soil mapping work was done in the late 1950s and early 1960s. Soil scientists used USGS topographic maps and the new orthophotographs to relate land and image features. Adjustments of soil boundary lines from the original field maps were made to coincide with the USGS topographic map contour lines and tonal patterns on aerial photographs. Aerial photographs also show trees, buildings, fields, roads, lakes, and rivers, all of which help in locating soil boundaries accurately. After compilation was completed, the new maps were scanned and digitized and checked for quality and accuracy.

The descriptions, names, and delineations of the soils in this survey may not fully agree with those of the soils in adjacent survey areas. Differences are the result of an improved 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.

## Formation of the Soils

Soil forms through processes that act on deposited geologic material. The major factors of soil formation are the physical and mineralogical composition of the parent material; the climate in which the soil formed; the plant and animal life on and in the soil; the relief; and the length of time the processes of soil formation have acted on the parent material (Jenny, 1941). These factors are all interrelated and work in conjunction with each other to produce soil.

Climate and plant and animal life are the predominant active factors of soil formation. They act directly on the parent material, either in place or after it has been moved from place to place by water, wind, glaciers, or human activity, and slowly change it into a natural body that has genetically related horizons. Relief modifies soil formation and can inhibit soil formation on the steeper, eroded slopes and in wet, depressional or nearly level areas by controlling the moisture status of soils. Finally, time is needed for changing the parent material into a soil that has differentiated horizons.

## Parent Material

Parent material is the unconsolidated organic and mineral material in which soils form. The soils of La Salle County were derived from parent materials that were directly or indirectly impacted by the Pleistocene or Ice Age. Four different glacial stages were responsible for most of the parent material in the county. These are the Nebraskan, Kansan, Illinoian, and Wisconsinan glaciations; the Wisconsinan has had the most impact. The Wisconsinan glaciation produced end moraines and ground moraines that control the nature of the land surface in most of the county. Parent materials in La Salle County include till; glacial outwash; loess, or silty material; lacustrine material; organic deposits; alluvium; and bedrock.

Till is unsorted, ice-deposited sediment composed of a matrix of silt, clay, and sand, in which pebbles, cobbles, and boulders are embedded. La Salle County is made up of two till members of the Lemont Formation of the Wedron Group. The Yorkville till member comprises two-thirds of the county, and the Undivided till member, which is a mix of several types of till, is in the northwestern part of the county (Hansel and Johnson, 1996). The Yorkville till member is dark gray and gray, silty clay to silty clay loam till that oxidizes to olive brown. The Undivided till member is a loam to silty clay loam till that oxidizes to olive brown or yellowish brown, but it can be mixed with the Tiskilwa Formation, which oxidizes to reddish gray or reddish brown.

Tills in La Salle County may be divided into three general groups, according to the proportions of gravel, sand, silt, and clay. Differences in these proportions are reflected in the texture and permeability of the tills, which, in turn, have influenced and continue to influence soil development. Danabrook and Mayville soils formed in loam till that is moderately slowly permeable to air and water. Varna and Elliott soils formed in silty

clay loam till that is slowly permeable to air and water. Plant roots do not readily penetrate more than a few inches into these unleached tills. In silty clay tills, permeability is very slow and plant roots seldom penetrate the unleached till, except in cracks or along cleavage faces. Swygert and Rutland soils formed in silty clay till.

Outwash materials were deposited by water flowing at different rates down streams, across outwash plains, or into lakes. The variation in water flow resulted in strata of different textures and thickness. Outwash materials thus range from coarse, nearly clean gravel to very fine, nearly pure clay. Typically, they are mixtures of two or more particle sizes. In La Salle County the glacial outwash soils have three main textures: silt loam and loam, represented by Plano and Drummer soils; sandy loam and sand, represented by Alvin and Sparta soils; and sand and gravel, represented by Dresden and Lorenzo soils.

Loess is the silty wind-deposited parent material that blankets much of La Salle County. It originated in areas that were barren of vegetation and exposed to wind currents that could separate the fine particles from the coarser fragments. These areas were generally large areas of bottom land and valley trains of glacial rivers. In La Salle County the depth of the loess ranges from as much as 8 feet in the extreme northwestern part of the county to less than 2 feet in the eastern part. Because loess or similar silty material is dominantly at the surface, silt loam and silty clay loam are the most common textures in the surface layer of the soils in La Salle County.

Lacustrine material was deposited in the relatively still water of glacial lakes. After the coarser fragments were deposited as outwash by moving water, the finer particles, such as very fine sand, silt, and clay, settled in still water. Vertical variation is greater than horizontal variation. The strata in lacustrine deposits are commonly thicker than those in glacial outwash. Hartsburg and Rooks soils formed in lacustrine material.

Organic deposits consist of decomposed plant remnants. After the glaciers receded, water was left standing in depressions. As a result, these areas were very wet during the period when soil formation was taking place, and the decaying plant material accumulated more quickly than it decomposed. Most of these plant remains are decomposed to a point that they are unrecognizable. These organic deposits are called sapric material. Houghton and Lena soils are examples of soils that formed in these deposits.

Alluvium is sand, silt, or clay that has been deposited on flood plains or bottom land by flooding streams and rivers. Moundprairie and Sawmill soils are examples of alluvial soils in La Salle County.

Sandstone, shale, dolostone, and limestone bedrock is common along the Illinois, Fox, and Vermilion Rivers and their immediate tributaries. The bedrock varies widely in depth and makes up about 3 percent of the county. Outcrops are visible in stream bottoms and along many of the bluffs, especially in Starved Rock and Matthiessen State Parks and Mitchell Grove Nature Preserve (fig. 6). All of the bedrock types are quarried and are an important source of income in the county. Boone and Marseilles soils are moderately deep to bedrock.

## **Climate**

La Salle County has a temperate, humid continental climate. The general climate has had an important overall influence on the characteristics of the soils; however, the climate is essentially uniform throughout the county and has not caused any major differences among the soils. Climate has very important effects on weathering, vegetation, and erosion.

The weathering of minerals in the soil increases as temperature and rainfall increase. In most years, this region has enough rainfall and melted snowfall to moisten all of the soil and underlying materials to the level of the permanent water table. The



**Figure 6.—An exposure of sandstone bedrock in a stream in the Mitchell Grove Nature Preserve.**

degree of saturation is variable, depending on thickness and permeability of unconsolidated materials, their water-holding capacity, and topography. In general, rainfall either percolates downward to underground outlets, evaporates, is transpired by plants, or moves across the land surface to streams, carrying with it material in solution and suspension. As water moves downward, clay is moved from the surface soil to the subsoil, where it accumulates. Salts of calcium, magnesium, potassium, and other bases, as well as various organic and inorganic colloids, also are formed. Some accumulate where formed, some are carried away in drainage waters, some are moved to other parts of the soil profile to help form soil horizons, and some are taken up by plants in the form of nutrients. The latter tend to be returned to the local soil area unless they are removed by animals or humans. Freezing and thawing help to break down rock fragments to smaller and smaller particles, and the action of sun and wind influences many phases of plant and animal life.

The climate in La Salle County has generally favored prairie grasses and hardwood forests. Spring rains and wind can cause extensive erosion in areas where crop residue, trees, and other vegetative cover have been removed from the surface. More soil will be lost through erosion each year than is formed by natural processes.

### **Living Organisms**

Living organisms, including all associated plant and animal life, are responsible for the accumulation of organic matter in soils. Three major kinds of plants—tall prairie grasses, swamp and marsh grasses, and deciduous trees—were present when La Salle County was settled and presumably had been in the survey area for a long time. All three types of vegetation produced large amounts of organic matter. Forest debris accumulated primarily on the soil surface, where most of it decayed rapidly or was burned or eroded away. A relatively small amount was carried by soil organisms

into the upper 1 to 5 inches of mineral soil, where it was partially preserved. On the other hand, the organic matter that accumulated from the decaying fibrous root systems of prairie and swamp and marsh grasses was within the mineral soil and was well preserved.

In the virgin or uncultivated state, soils that developed under these types of vegetation have a dark surface layer as a result of an accumulation of organic matter. The dark layer is much thicker in prairie soils, typically ranging between 10 and 15 inches. Examples of soils that formed under prairie conditions are Muscatune and Elliott soils. In soils that formed under forest vegetation, the surface layer is generally 1 to 5 inches thick. Camden and Ozaukee soils are examples. Where the two types of vegetation were combined or where forest was encroaching on prairie, the surface layer is 5 to 10 inches thick. Examples of soils that formed in these transition areas are Frankfort and Harvard soils. Mucky soils typically have an accumulation of organic matter several feet deep and are dark throughout. Houghton and Lena soils are examples.

Bacteria, fungi, and other micro-organisms help to break down the organic material and thus provide nutrients for plants and other soil organisms. The stability of soil aggregates, which are structure units made up of sand, silt, and clay, is affected by microbial activity; cellular excretions from these organisms help to bind soil particles together. Stable aggregates help to maintain soil porosity and promote favorable relationships among soil, water, and air. Moreover, earthworms, crayfish, insects, and burrowing animals tend to incorporate organic material into the soil and help to keep soils open and porous.

Human activities also are important factors in La Salle County. Native vegetation was harvested, and the land was plowed. As slopes were cultivated, the soils were vulnerable to erosion and deposition. Wet soils have been drained and dry soils irrigated. Soils that were naturally acid have been altered by applications of crushed limestone, and fertilizer has been applied in areas where plant nutrients were depleted. Excavating, grading, and filling have covered the existing soil profile and caused a new cycle of soil formation to begin.

## **Topography**

Relief, which includes elevation, topography, and water table levels, largely determines the natural drainage of soils. In La Salle County, the slopes range from 0 to 60 percent. Natural soil drainage ranges from excessively drained on the backslopes and summits to very poorly drained in depressions.

Relief affects the depth to the seasonal high water table or natural drainage of the soil by influencing infiltration and runoff rates. The poorly drained Drummer and Ashkum soils occur in low-lying, nearly level areas and have a water table close to the surface for most of the year. The soil pores contain water, which restricts the circulation of air in the soil. Under these conditions, iron and manganese compounds are chemically reduced. As a result, the subsoil is dull gray and mottled. In the more sloping, well drained Harvard and Camden soils, the water table is lower and some of the rainfall runs off the surface. The iron and manganese compounds are well oxidized. As a result, the subsoil is brown. Between these extremes or where the water table fluctuates slowly into and out of the soil profiles, the iron and manganese compounds are moderately well oxidized to imperfectly oxidized and colors are mixed or mottled.

Local relief also influences the severity of erosion. Even though some erosion occurs on all sloping soils, the hazard generally is more severe as the slope increases. The runoff and the removal of soil material on these slopes result in the formation of soils that have a thinner surface layer.

## Time

Time is an important factor in soil formation. The longer the soils are exposed to weathering, the more distinctive are their horizons and profiles. Soil weathering and development cannot always be measured directly in years, however, because other factors determine the degree to which a profile develops within a given time. Because unconsolidated materials weather faster than solid bedrock, a soil profile that formed in till, for example, will reach a certain stage of development sooner than a soil profile that formed in bedrock. Yet the profile of each soil becomes more strongly weathered and developed with the passing of time.

Most of the soils in La Salle County began formation with the retreat of the last glacier about 12,500 years ago. On flood plains, however, material is deposited during each flood. This continual deposition slows development. Earth-moving activities and other human activities also continue to change the soils and thus slow soil development or even stop it completely.

## Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2003). 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 La Salle County. 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; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Endoaquolls (*Endo*, meaning within, plus *aquolls*, 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 subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic 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, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth,

and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, superactive, mesic Typic Endoaquolls.

**SERIES.** The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

# Soil Series and Detailed Soil Map Units

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In this section, arranged in alphabetical order, each major 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 "Soil Taxonomy" (Soil Survey Staff, 1999) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 2003). 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 detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. 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 the principal hazards and limitations to be considered in planning for specific uses.

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Elliott silty clay loam, 2 to 4 percent slopes, eroded, is a phase of the Elliott series.

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

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Casco-Rodman complex, 20 to 30 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Marseilles, Northfield, and Ritchey silt loams, 30 to 60 percent slopes, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits, quarry, is an example.

Table 5 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

## ***Alvin Series***

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

### **Typical Pedon**

Alvin fine sandy loam, 2 to 5 percent slopes; at an elevation of 660 feet; 2,320 feet south and 1,760 feet east of the northwest corner of sec. 32, T. 21 N., R. 11 W.; Vermilion County, Illinois; USGS Danville NE topographic quadrangle; lat. 40 degrees 14 minutes 08 seconds N. and long. 87 degrees 36 minutes 58 seconds W., NAD 27; UTM Zone 16, 447587E and 4454087N, NAD 83:

Ap—0 to 8 inches; brown (10YR 4/3) fine sandy loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; very friable; moderately acid; abrupt smooth boundary.

BE—8 to 11 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine subangular blocky structure; very friable; few distinct grayish brown (10YR 5/2) silt coatings on faces of peds; moderately acid; clear smooth boundary.

Bt1—11 to 15 inches; dark yellowish brown (10YR 4/4) fine sandy loam; moderate fine subangular blocky structure; friable; few distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—15 to 25 inches; dark yellowish brown (10YR 4/4) fine sandy loam; moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; strongly acid; clear smooth boundary.

E and Bt—25 to 74 inches; yellowish brown (10YR 5/4) loamy fine sand (E); weak medium subangular blocky structure; very friable; 3 to 10 percent of volume occurring as common or many thin lamellae of dark yellowish brown (10YR 4/6) fine sandy loam (Bt); moderate medium subangular blocky structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; strongly acid; clear smooth boundary.

C—74 to 80 inches; 80 percent brown (10YR 4/3) and 20 percent yellowish brown (10YR 5/6), stratified fine sandy loam; massive; friable; moderately acid.

### Range in Characteristics

*Depth to the base of soil development:* More than 40 inches

*Ap or A horizon:*

Hue—10YR

Value—3 or 4

Chroma—1 to 4

Texture—fine sandy loam

*E, EB, or BE horizon (where present):*

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—2 to 4

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

*Bt horizon:*

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 to 6

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

*E and Bt horizon:*

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—2 to 6 in the E part; 3 to 6 in the Bt part

Texture—sandy loam, loamy sand, or sand or the fine or very fine analogs of these textures (E); sandy loam, loamy sand, or loam or the fine or very fine analogs of these textures (Bt)

Content of gravel—less than 5 percent

*BC or C horizon:*

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 to 6

Texture—sandy loam, loamy sand, or sand or the fine or very fine analogs of these textures

Content of gravel—less than 5 percent

## 131B—Alvin fine sandy loam, 2 to 5 percent slopes

### *Setting*

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits and backslopes

### *Map Unit Composition*

Alvin and similar soils: 90 percent

Dissimilar soils: 10 percent

### *Soils of Minor Extent*

#### *Similar soils:*

- Soils that have more gravel in the lower part of the profile
- Soils that are moderately eroded
- Soils that have more clay and less sand in the upper part of the profile
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have a seasonal high water table at a depth of less than 6 feet

#### *Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes
- The poorly drained Selma soils on toeslopes

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

*Parent material:* Eolian deposits and/or outwash

*Drainage class:* Well drained

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

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

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.5 to 1.5 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Very low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderately high

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 131C2—Alvin fine sandy loam, 5 to 10 percent slopes, eroded

### *Setting*

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits and backslopes

### *Map Unit Composition*

Alvin and similar soils: 97 percent

Dissimilar soils: 3 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that have more gravel in the lower part of the profile
- Soils that are severely eroded
- Soils that have more clay and less sand in the upper part of the profile
- Soils that have a seasonal high water table at a depth of less than 6 feet

#### *Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Eolian deposits and/or outwash

*Drainage class:* Well drained

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

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

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.9 inches to a depth of 60 inches

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

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Moderately high

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Andres Series**

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

### **Typical Pedon**

Andres silt loam, 0 to 2 percent slopes; at an elevation of 633 feet; 1,525 feet south and 510 feet east of the northwest corner of sec. 27, T. 30 N., R. 8 E.; Livingston County, Illinois; USGS Campus topographic quadrangle; lat. 41 degrees 02 minutes 52 seconds N. and long. 88 degrees 18 minutes 17 seconds W.; UTM Zone 16, 390341E and 4544894N, NAD 83:

Ap—0 to 11 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; few very fine roots; neutral; abrupt smooth boundary.

BA—11 to 14 inches; brown (10YR 4/3) clay loam; moderate medium subangular blocky structure; friable; few very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt1—14 to 19 inches; brown (10YR 4/3) clay loam; moderate fine subangular blocky structure; friable; few very fine roots; common fine distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine strong brown (7.5YR 5/6) weakly

cemented iron and manganese oxide concretions throughout; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.

Bt2—19 to 26 inches; grayish brown (10YR 5/2) clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concretions throughout; common fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; common fine faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

Bt3—26 to 36 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine prismatic structure parting to moderate medium angular blocky; friable; few very fine roots; common faint dark gray (10YR 4/1) clay films on faces of peds; few fine strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation and common fine faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

2Bt4—36 to 50 inches; light olive brown (2.5Y 5/4) silty clay loam; weak medium prismatic structure; firm; few very fine roots; common faint grayish brown (2.5Y 5/2) clay films on faces of peds; few fine strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concretions throughout; many medium prominent gray (N 5/) iron depletions in the matrix; 3 percent gravel; very slightly effervescent; slightly alkaline; clear smooth boundary.

2C—50 to 60 inches; light olive brown (2.5Y 5/4) silty clay loam; massive; firm; few fine strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concretions throughout; many medium prominent gray (N 5/) iron depletions in the matrix; 5 percent gravel; slightly effervescent; slightly alkaline.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* Less than 24 inches

*Depth to till:* 22 to 50 inches

*Depth to carbonates:* 24 to 55 inches

*Depth to the base of soil development:* 36 to 60 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam, loam, or silty clay loam

*Bt or BA horizon:*

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—2 to 4

Texture—clay loam, loam, or sandy clay loam

*2Bt horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—2 to 4

Texture—silty clay loam or silt loam

Content of gravel—less than 10 percent

*2C horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

Texture—silty clay loam or silt loam

Content of gravel—less than 10 percent

**293A—Andres silt loam, 0 to 2 percent slopes*****Setting****Landform:* Ground moraines and lake plains*Position on the landform:* Footslopes and summits***Map Unit Composition***

Andres and similar soils: 88 percent

Dissimilar soils: 12 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have a thinner surface layer

*Dissimilar soils:*

- The poorly drained Ashkum soils on toeslopes

***Properties and Qualities of the Andres Soil****Parent material:* Thin mantle of loess or other silty material and the underlying outwash and till*Drainage class:* Somewhat poorly drained*Slowest permeability within a depth of 40 inches:* Moderately slow*Permeability below a depth of 60 inches:* Slow*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 8.8 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 3.5 to 5.0 percent*Shrink-swell potential:* Moderate*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,

January through May

*Ponding:* None*Flooding:* None*Potential for frost action:* Moderate*Hazard of corrosion:* High for steel and low for concrete*Surface runoff class:* Low*Susceptibility to water erosion:* Low*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* 1*Prime farmland category:* Prime farmland*Hydric soil status:* Not hydric

## 293B—Andres silt loam, 2 to 5 percent slopes

### *Setting*

*Landform:* Lake plains and ground moraines

*Position on the landform:* Backslopes and footslopes

### *Map Unit Composition*

Andres and similar soils: 90 percent

Dissimilar soils: 10 percent

### *Soils of Minor Extent*

*Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that are moderately eroded

*Dissimilar soils:*

- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying outwash and till

*Drainage class:* Somewhat poorly drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet, January through May

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Appleriver Series**

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

### **Typical Pedon**

Appleriver silt loam, 2 to 5 percent slopes; at an elevation of 976 feet; about 1,140 feet east and 2,460 feet north of the southwest corner of sec. 27, T. 29 N., R. 4 E.; Jo Daviess County, Illinois; USGS Elizabeth NE topographic quadrangle; lat. 42 degrees

28 minutes 49 seconds N. and long. 90 degrees 02 minutes 32 seconds W.; UTM Zone 15, 743115E and 4707342N, NAD 83:

- Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate very fine granular structure; friable; many fine roots; common pale brown (10YR 6/3) peds mixed in the lower part; neutral; abrupt smooth boundary.
- E—10 to 14 inches; pale brown (10YR 6/3) silt loam; moderate medium platy structure; friable; many fine roots; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
- BE—14 to 19 inches; yellowish brown (10YR 5/4) silt loam; moderate medium platy structure parting to moderate fine subangular blocky; friable; many fine roots; common faint pale brown (10YR 6/3) silt coatings on faces of peds; few fine distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; strongly acid; gradual smooth boundary.
- Bt1—19 to 26 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to strong fine subangular blocky and angular blocky; friable; common fine roots; many faint brown (10YR 4/3) clay films and many faint pale brown (10YR 6/3) silt coatings on faces of peds; few distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; strongly acid; clear smooth boundary.
- Bt2—26 to 34 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; common fine roots; many distinct grayish brown (10YR 5/2) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; strongly acid; gradual smooth boundary.
- 2Bt3—34 to 44 inches; light olive brown (2.5Y 5/4) silty clay; weak coarse prismatic structure; firm; few very fine roots; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common medium and fine iron and manganese accumulations; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 2 percent rock fragments (dominantly chert); band of reddish brown (5YR 4/4) material at a depth of 38 to 40 inches; moderately acid; clear smooth boundary.
- 2Bt4—44 to 58 inches; light yellowish brown (2.5Y 6/4) silty clay; weak coarse prismatic structure; firm; few very fine roots; common distinct brownish yellow (10YR 6/6) clay films on faces of peds; common fine iron and manganese oxide accumulations throughout; few medium prominent greenish gray (5G 6/1) iron depletions in the matrix; slightly effervescent; slightly alkaline; abrupt smooth boundary.
- 2Cr—58 to 60 inches; variegated light brownish gray (2.5Y 6/2), yellowish brown (10YR 5/6), and greenish gray (5G 6/1) silty clay shale; massive; very firm; many fine lime concretions; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess:* 30 to 50 inches

*Depth to bedrock:* 40 to 60 inches

*Depth to the base of soil development:* 40 to 60 inches

*Ap or A horizon:*

Hue—10YR

Value—4

Chroma—2 or 3

Texture—silt loam

*E horizon:*

Hue—10YR  
 Value—4 to 6  
 Chroma—2 to 4  
 Texture—silt loam

*BE horizon (where present):*

Hue—10YR  
 Value—4 to 6  
 Chroma—2 to 4  
 Texture—silt loam or silty clay loam

*Bt horizon:*

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

*2Bt horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 to 4  
 Texture—silty clay, silty clay loam, or clay  
 Content of gravel—1 to 15 percent

*2Cr horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 to 4  
 Texture—silty clay, silty clay loam, or clay

**732A—Appleriver silt loam, 0 to 2 percent slopes*****Setting***

*Landform:* Ground moraines and stream terraces

*Position on the landform:* Footslopes and summits

***Map Unit Composition***

Appleriver and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that are less than 40 inches deep to bedrock
- Soils that are more than 60 inches deep to bedrock
- Soils that have less than 30 inches of loess over the residuum
- Soils that have more clay and less silt in the lower part of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have a thicker and darker surface layer

*Dissimilar soils:*

- The well drained Marseilles soils on summits and backslopes

***Properties and Qualities of the Appleriver Soil***

*Parent material:* Loess over residuum derived from 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:* About 8.3 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
 January through May  
*Ponding:* None  
*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:* Low  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

## **732B—Appleriver silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Stream terraces and ground moraines  
*Position on the landform:* Backslopes and summits

### ***Map Unit Composition***

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

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that are less than 40 inches deep to bedrock
- Soils that are more than 60 inches deep to bedrock
- Soils that have less than 30 inches of loess over the residuum
- Soils that have more clay and less silt in the lower part of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have a thicker and darker surface layer

#### *Dissimilar soils:*

- The well drained Marseilles soils on summits and backslopes

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

*Parent material:* Loess over residuum derived from 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:* About 10.1 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
 January through May

*Ponding:* None

*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:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Arrowsmith Series**

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

### **Typical Pedon**

Arrowsmith silt loam, 0 to 2 percent slopes; at an elevation of 770 feet; 650 feet south and 1,350 feet east of the northwest corner of sec. 18, T. 22 N., R. 5 E.; McLean County, Illinois; USGS Farmer City North topographic quadrangle; lat. 40 degrees 22 minutes 02.9 seconds N. and long. 88 degrees 40 minutes 59.8 seconds W.; UTM Zone 16, 357085E and 4469697N, NAD 27:

Ap—0 to 8 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak medium subangular blocky structure; very friable; neutral; abrupt smooth boundary.

A—8 to 12 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak medium subangular blocky structure; friable; neutral; abrupt smooth boundary.

Bt1—12 to 17 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; friable; common faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine rounded black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide concretions throughout; neutral; clear smooth boundary.

Bt2—17 to 23 inches; olive brown (2.5Y 4/4) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; friable; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine rounded black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide concretions throughout; neutral; clear smooth boundary.

Bt3—23 to 30 inches; light olive brown (2.5Y 5/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; many fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine rounded black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide concretions throughout; slightly alkaline; abrupt smooth boundary.

Bck—30 to 39 inches; light olive brown (2.5Y 5/4) silt loam; weak coarse subangular blocky structure; friable; very few distinct dark grayish brown (2.5Y 4/2) clay films lining pores; many fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; many fine and medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine rounded black (7.5YR 2.5/1) very weakly

cemented iron and manganese oxide concretions in the matrix; few medium rounded white (10YR 8/1) weakly cemented calcium carbonate concretions throughout; strongly effervescent; moderately alkaline; gradual smooth boundary.  
 Ck—39 to 60 inches; light olive brown (2.5Y 5/4) silt loam; massive; friable; many fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; many medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; few fine rounded black (7.5YR 2.5/1) very weakly cemented iron and manganese concretions in the matrix; few medium rounded white (10YR 8/1) weakly cemented calcium carbonate concretions throughout; strongly effervescent; moderately alkaline.

### Range in Characteristics

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

*Thickness of the loess:* More than 60 inches

*Depth to carbonates:* 25 to 40 inches

*Depth to the base of soil development:* 25 to 40 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Bt or Btg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay loam or silt loam

*BCK or BCkg horizon (where present):*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silt loam

*Ck or Ckg horizon:*

Hue—2.5Y or 10YR

Value—4 to 6

Chroma—2 to 4

Texture—silt loam

## 715A—Arrowsmith silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits and footslopes

### Map Unit Composition

Arrowsmith and similar soils: 90 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have a thinner surface layer
- Soils that have carbonates at a depth of more than 40 inches

- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have loamy drift in the lower part of the profile

*Dissimilar soils:*

- The well drained Elkhart soils on summits and backslopes
- The poorly drained Sable and Spaulding soils on toeslopes

### ***Properties and Qualities of the Arrowsmith 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:* About 12.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## ***Ashkum Series***

**Taxonomic classification:** Fine, mixed, superactive, mesic Typic Endoaquolls

### **Typical Pedon**

Ashkum silty clay loam, 0 to 2 percent slopes; at an elevation of 705 feet; 96 feet south and 2,030 feet east of the northwest corner of sec. 22, T. 34 N., R. 11 E.; Will County, Illinois; USGS Manhattan topographic quadrangle; lat. 41 degrees 25 minutes 30 seconds N. and long. 87 degrees 57 minutes 19 seconds W., NAD 27; UTM Zone 16, 420168E and 4586370N, NAD 83:

Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; many very fine roots; neutral; clear smooth boundary.

A—7 to 12 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; common very fine roots; neutral; clear smooth boundary.

BAg—12 to 18 inches; dark gray (2.5Y 4/1) silty clay loam; moderate very fine and fine subangular blocky structure; firm; common very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; common fine very dark gray (7.5YR 3/1) very weakly cemented iron and manganese oxide concretions throughout; neutral; clear smooth boundary.

Bg1—18 to 29 inches; grayish brown (2.5Y 5/2) silty clay; moderate medium prismatic structure parting to moderate medium angular blocky; firm; common very fine

roots; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine very dark gray (7.5YR 3/1) very weakly cemented iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint gray (2.5Y 5/1) iron depletions in the matrix; neutral; clear wavy boundary.

2Bg2—29 to 49 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to moderate medium angular blocky; firm; few very fine roots; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine very dark gray (10YR 3/1) very weakly cemented iron and manganese oxide concretions throughout; common fine and medium prominent yellowish brown (10YR 5/8) and faint brown (10YR 5/3) masses of iron accumulation in the matrix; common fine and medium faint gray (5Y 5/1) iron depletions in the matrix; 8 percent gravel; neutral; gradual wavy boundary.

2BCg—49 to 54 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to weak coarse angular blocky; firm; few very fine roots; common fine very dark gray (10YR 3/1) very weakly cemented iron and manganese oxide concretions throughout; common fine and medium prominent yellowish brown (10YR 5/6) and faint brown (10YR 5/3) masses of iron accumulation in the matrix; common fine and medium faint gray (2.5Y 5/1) iron depletions in the matrix; 8 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.

2Cg—54 to 60 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; common fine prominent yellowish brown (10YR 5/6) and common fine and medium faint brown (10YR 5/3) masses of iron accumulation in the matrix; common fine faint gray (2.5Y 5/1) iron depletions in the matrix; 8 percent gravel; strongly effervescent; slightly alkaline.

### Range in Characteristics

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

*Thickness of the colluvium:* 15 to 40 inches

*Depth to carbonates:* 24 to 60 inches

*Depth to the base of soil development:* 30 to 60 inches

*Ap or A horizon:*

Hue—10YR, 2.5Y, or N

Value—2 or 3

Chroma—0 or 1

Texture—silty clay loam

*Bg or BA horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silty clay loam or silty clay

*2Bg or 2BCg horizon:*

Hue—2.5Y, 5Y, 5GY, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay loam

*2Cg horizon:*

Hue—2.5Y, 5Y, 5GY, or N

Value—5 or 6

Chroma—0 to 2

Texture—silty clay loam  
Content of gravel—less than 10 percent

## **232A—Ashkum silty clay loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines and end moraines  
*Position on the landform:* Toeslopes

### ***Map Unit Composition***

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

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have a thicker surface layer
- Soils that have more clay and less silt in the profile
- Soils that have 6 to 12 inches of silty overwash

#### *Dissimilar soils:*

- The somewhat poorly drained Elliott soils on summits and footslopes
- The very poorly drained Houghton soils on toeslopes

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

*Parent material:* Colluvium and the underlying till

*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:* About 9.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 7.0 percent

*Shrink-swell potential:* High

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through 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:* Low

*Susceptibility to wind erosion:* Moderate

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## ***Atterberry Series***

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

### **Typical Pedon**

Atterberry silt loam, 0 to 2 percent slopes; at an elevation of 660 feet; 1,650 feet north and 1,120 feet east of the southwest corner of sec. 34, T. 16 N., R. 9 E.; Bureau

County, Illinois; USGS Princeton South topographic quadrangle; lat. 41 degrees 19 minutes 30 seconds N. and long. 89 degrees 33 minutes 15 seconds W.; UTM Zone 16, 286240E and 4577983N, NAD 83:

- 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; moderately acid; abrupt smooth boundary.
- E—9 to 13 inches; light brownish gray (10YR 6/2) silt loam, light gray (10YR 7/2) dry; moderate thin platy structure; friable; few fine roots; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 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 and common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few fine dark brown (7.5YR 3/2) iron and manganese oxide concretions throughout; few fine faint grayish brown (10YR 5/2) iron depletions in the matrix; 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) silt coatings on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 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) silt coatings on faces of peds; common fine dark brown (7.5YR 3/2) iron and manganese oxide concretions throughout; common fine faint light brownish gray (2.5Y 6/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 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) silt coatings on faces of peds; many prominent very dark grayish brown (10YR 3/2) clay films lining pores; common fine dark brown (7.5YR 3/2) iron and manganese oxide concretions throughout; many fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 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) masses of iron accumulation in the matrix; 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) masses of iron accumulation in the matrix; 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) masses of iron accumulation in the matrix; slightly acid.

### Range in Characteristics

*Depth to the base of soil development:* 42 to 72 inches

*Ap or A horizon:*

Value—2 or 3  
 Chroma—1 or 2  
 Texture—silt loam

*E horizon:*

Value—4 to 6  
 Chroma—1 or 2  
 Texture—silt loam

*Bt or Btg horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 to 4  
 Texture—silty clay loam or silt loam

*C or Cg horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 to 4  
 Texture—silt loam

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

*Landform:* Ground moraines

*Position on the landform:* Summits

***Map Unit Composition***

Atterberry and similar soils: 98 percent

Dissimilar soils: 2 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that have a thicker surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of more than 2 percent

*Dissimilar soils:*

- The well drained Greenbush soils on summits and shoulders
- The poorly drained Sable soils on summits and toeslopes

***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:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.5 to 3.5 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot to 2.0 feet, January through May

*Ponding:* None

*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:* Low  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1  
*Prime farmland category:* Prime farmland where drained  
*Hydric soil status:* Not hydric

## **61B—Atterberry silt loam, 2 to 5 percent slopes**

### ***Setting***

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

### ***Map Unit Composition***

Atterberry and similar soils: 98 percent  
 Dissimilar soils: 2 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have a thicker surface layer
- Soils that have a lighter colored surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that are moderately eroded

#### *Dissimilar soils:*

- The well drained Greenbush soils on summits and shoulders
- The poorly drained Sable soils on summits and toeslopes

### ***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:* About 11.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.5 to 3.5 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest apparent seasonal high water table:* 0.5 foot to 2.0 feet, January through May  
*Ponding:* None  
*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:* Moderate  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Barony Series**

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

### **Typical Pedon**

Barony silt loam, 2 to 5 percent slopes; at an elevation of 875 feet; 687 feet north and 1,337 feet east of the southwest corner of sec. 33, T. 41 N., R. 6 E.; Kane County, Illinois; USGS Maple Park topographic quadrangle; lat. 41 degrees 59 minutes 01 second N. and long. 88 degrees 33 minutes 41 seconds W., NAD 27; UTM Zone 16, 370648E and 4649139N, NAD 83:

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

Bt1—8 to 12 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; neutral; clear smooth boundary.

Bt2—12 to 16 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium prismatic structure parting to moderate fine and medium subangular blocky; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; slightly acid; clear wavy boundary.

Bt3—16 to 21 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; few fine black (7.5YR 2.5/1) manganese concretions throughout; moderately acid; clear wavy boundary.

Bt4—21 to 26 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; friable; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; common fine black (7.5YR 2.5/1) manganese concretions throughout; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; slightly acid; gradual wavy boundary.

Bt5—26 to 34 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium and coarse prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; common fine strong brown (7.5YR 5/8) iron oxide concretions throughout; common fine black (7.5YR 2.5/1) manganese concretions throughout; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; slightly acid; clear wavy boundary.

2Bt6—34 to 41 inches; brown (7.5YR 4/4) sandy clay loam; moderate medium and coarse subangular blocky structure; friable; few distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds; few distinct brown (7.5YR 4/3) clay films on faces of peds and in pores; common fine strong brown (7.5YR 5/8) iron oxide concretions throughout; common fine distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; many medium prominent light brownish gray

- (10YR 6/2) iron depletions in the matrix; 5 percent gravel; neutral; clear smooth boundary.
- 2Bt7—41 to 45 inches; yellowish brown (10YR 5/4) and brown (7.5YR 4/4) silt loam and loam; weak medium and coarse subangular blocky structure; friable; few distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds; few distinct brown (7.5YR 4/3) clay films on faces of peds and in pores; common fine strong brown (7.5YR 5/8) iron oxide concretions throughout; common fine distinct brownish yellow (10YR 6/8) masses of iron accumulation in the matrix; many fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 2 percent gravel; neutral; clear wavy boundary.
- 2Bt8—45 to 54 inches; brown (7.5YR 4/4) sandy clay loam; weak medium and coarse subangular blocky structure; friable; few distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds; few distinct brown (7.5YR 4/3) clay films on faces of peds; common fine very pale brown (10YR 8/2) calcium carbonate concretions throughout; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; common fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 14 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- 2C1—54 to 65 inches; yellowish brown (10YR 5/4) and strong brown (7.5YR 4/6), stratified sand and loamy sand; single grain; loose; common fine faint strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; 5 percent gravel; strongly effervescent; slightly alkaline; clear wavy boundary.
- 2C2—65 to 78 inches; brown (7.5YR 4/4 and 5/4) and yellowish brown (10YR 5/4), stratified very fine sandy loam, loamy sand, and sandy loam; massive; very friable; common medium faint strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; 8 percent gravel; strongly effervescent; slightly alkaline; clear wavy boundary.
- 2C3—78 to 85 inches; yellowish brown (10YR 5/6 and 5/8) and brown (7.5YR 5/4), stratified loamy sand, sandy loam, and very fine sandy loam; massive; very friable; common fine distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; 5 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of loess or silty material:* 20 to 40 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 30 to more than 60 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*E horizon (where present):*

Hue—10YR

Value—4 or 5

Chroma—2 to 4

Texture—silt loam

*Bt horizon:*

Hue—10YR

Value—4 or 5

Chroma—3 or 4

Texture—silty clay loam or silt loam

*2Bt horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—2 to 6

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

Content of gravel—less than 15 percent

*2C horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—3 to 6

Chroma—3 to 6

Texture—stratified silt loam, loam, or sandy loam with strata of loamy sand or sand

Content of gravel—less than 15 percent

**662B—Barony silt loam, 2 to 5 percent slopes*****Setting****Landform:* Outwash plains and stream terraces*Position on the landform:* Summits and backslopes***Map Unit Composition***

Barony and similar soils: 92 percent

Dissimilar soils: 8 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have a thicker surface layer
- Soils that are more than 40 inches deep to outwash
- Soils that have till in the lower part of the profile
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet

*Dissimilar soils:*

- The poorly drained Drummer soils on toeslopes

***Properties and Qualities of the Barony Soil****Parent material:* Loess or other silty material and the underlying outwash*Drainage class:* Moderately well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate or moderately rapid*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 10.3 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 2.0 to 4.0 percent*Shrink-swell potential:* Moderate*Depth and months of the highest apparent seasonal high water table:* 2.0 to 3.5 feet,  
February through April*Ponding:* None*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:* Moderate*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

### ***Batavia Series***

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

#### **Typical Pedon**

Batavia silt loam, 2 to 5 percent slopes; at an elevation of 770 feet; 57 feet south and 1,482 feet east of the northwest corner of sec. 8, T. 26 N., R. 8 E.; Stephenson County, Illinois; USGS Freeport East topographic quadrangle; lat. 42 degrees 16 minutes 20 seconds N. and long. 89 degrees 36 minutes 25 seconds W.; UTM Zone 16, 285014E and 4683292N, NAD 83:

- Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam; weak medium and coarse granular structure; friable; many roots; neutral; abrupt smooth boundary.
- E—9 to 12 inches; dark grayish brown (10YR 4/2) silt loam; weak medium granular structure; firm; common roots; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few distinct very dark grayish brown (10YR 3/2) organic stains on wormcasts and surfaces along root channels; neutral; clear smooth boundary.
- BE—12 to 17 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; firm; common roots; few distinct very dark grayish brown (10YR 3/2) organic stains on surfaces along root channels; common distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; moderately acid; clear smooth boundary.
- Bt1—17 to 25 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate and strong fine subangular blocky structure; firm; common roots; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few distinct very dark grayish brown (10YR 3/2) and few faint dark yellowish brown (10YR 3/4) clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt2—25 to 30 inches; brown (10YR 5/3) silty clay loam; moderate and strong fine and medium subangular blocky structure; firm; common roots; few faint light gray (10YR 7/2) (dry) silt coatings on faces of peds; common faint brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt3—30 to 45 inches; brown (10YR 5/3) silty clay loam; moderate medium angular and subangular blocky structure; firm; few roots; many faint light gray (10YR 7/2) (dry) silt coatings on faces of peds; common faint brown (10YR 4/3) clay films on faces of peds; few fine faint very dark brown (10YR 2/2) iron and manganese oxide accumulations in the matrix; few fine faint brown (7.5YR 4/4) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
- 2Bt4—45 to 50 inches; brown (10YR 5/3) and dark yellowish brown (10YR 4/4) clay loam; weak medium and coarse angular blocky structure; firm; few roots; few faint light gray (10YR 7/2) (dry) silt coatings on faces of peds; common faint brown (10YR 4/3) clay films on faces of peds; few medium faint very dark brown (10YR 2/2) iron and manganese oxide accumulations in the matrix; few fine faint brown (7.5YR 4/4) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.
- 2C—50 to 60 inches; stratified yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 3/4) clay loam, and brown (10YR 5/3) and pale brown (10YR 6/3) silt loam; massive; friable; common fine faint brown (7.5YR 4/4) and common fine

distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; slightly acid.

### **Range in Characteristics**

*Depth to the base of soil development:* 42 to 70 inches

*A or Ap horizon:*

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

*E horizon (where present):*

Hue—10YR  
Value—4 to 6  
Chroma—2 or 3  
Texture—silt loam

*Bt horizon:*

Hue—10YR  
Value—4 or 5  
Chroma—3 or 4  
Texture—silty clay loam or silt loam

*2Bt horizon:*

Hue—10YR  
Value—3 to 6  
Chroma—3 to 6  
Texture—stratified sandy loam, loam, sandy clay loam, silt loam, or clay loam  
Content of gravel—less than 10 percent

*2C horizon:*

Hue—10YR  
Value—3 to 6  
Chroma—3 to 6  
Texture—stratified sandy loam, loam, sandy clay loam, silt loam, or clay loam  
Content of gravel—less than 10 percent

## **105A—Batavia silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Summits

### ***Map Unit Composition***

Batavia and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that have less sand and more silt in the lower part of the profile
- Soils that are underlain by gravel
- Soils that have outwash within a depth of 40 inches
- Soils that have slopes of more than 2 percent

*Dissimilar soils:*

- The somewhat poorly drained Virgil soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

***Properties and Qualities of the Batavia Soil****Parent material:* Loess over stratified outwash*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate or moderately rapid*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 9.9 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 2.0 to 3.0 percent*Shrink-swell potential:* Moderate*Ponding:* None*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:* Low*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* 1*Prime farmland category:* Prime farmland*Hydric soil status:* Not hydric**105B—Batavia silt loam, 2 to 5 percent slopes*****Setting****Landform:* Stream terraces and outwash plains*Position on the landform:* Summits and backslopes***Map Unit Composition***

Batavia and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that are underlain by gravel
- Soils that have less sand and more silt in the lower part of the profile
- Soils that have outwash within a depth of 40 inches
- Soils that have slopes of less than 2 percent or more than 5 percent

*Dissimilar soils:*

- The somewhat poorly drained Virgil soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

***Properties and Qualities of the Batavia Soil****Parent material:* Loess over stratified outwash*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Moderate or moderately rapid*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 10.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*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:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **105C2—Batavia silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Batavia and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are severely eroded
- Soils that have less sand and more silt in the lower part of the profile
- Soils that have outwash within a depth of 40 inches
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that are underlain by till

*Dissimilar soils:*

- The somewhat poorly drained Virgil soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess over stratified outwash

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*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:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification: 3e*

*Prime farmland category: Not prime farmland*

*Hydric soil status: Not hydric*

### ***Beecher Series***

**Taxonomic classification:** Fine, illitic, mesic Udollic Epiaqualfs

#### **Typical Pedon**

Beecher silt loam, 0 to 2 percent slopes; at an elevation of 655 feet; 340 feet south and 65 feet west of the northeast corner of sec. 14, T. 31 N., R. 12 E.; Kankakee County, Illinois; USGS Bradley topographic quadrangle; lat. 41 degrees 10 minutes 36 seconds N. and long. 87 degrees 47 minutes 56 seconds W., NAD 27; UTM Zone 16, 432988E and 4558680N, NAD 83:

- Ap—0 to 9 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; weak very fine granular structure; friable; neutral; abrupt smooth boundary.
- BE—9 to 13 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate very fine granular structure; friable; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine faint brown (10YR 5/3) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.
- 2Bt1—13 to 16 inches; brown (10YR 5/3) silty clay loam; moderate very fine subangular blocky structure; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 1 percent gravel; moderately acid; clear smooth boundary.
- 2Bt2—16 to 21 inches; grayish brown (10YR 5/2) silty clay loam; moderate very fine and fine subangular blocky structure; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct dark gray (10YR 4/1) clay films on faces of peds; many fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; moderately acid; clear smooth boundary.
- 2Bt3—21 to 27 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to moderate fine subangular blocky; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct dark gray (10YR 4/1) clay films on faces of peds; few fine dark brown (7.5YR 3/3) and black (10YR 2/1) iron and manganese oxide concretions throughout; few fine prominent yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation in the matrix; 2 percent gravel; slightly alkaline; clear smooth boundary.
- 2Bt4—27 to 32 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/8) and distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; many medium prominent gray (5Y 5/1) iron depletions in the matrix; 2 percent gravel; slightly alkaline; clear smooth boundary.
- 2BCt—32 to 37 inches; yellowish brown (10YR 5/6) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; many coarse

prominent gray (5Y 5/1) iron depletions in the matrix; 2 percent gravel; slightly effervescent; moderately alkaline; clear smooth boundary.

2Cd—37 to 60 inches; yellowish brown (10YR 5/4) silty clay loam; massive; very firm; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/8) and distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine prominent greenish gray (5GY 5/1) iron depletions in the matrix; common medium prominent greenish gray (5G 6/1) iron depletions on cleavage planes; 5 percent gravel; strongly effervescent; moderately alkaline.

### **Range in Characteristics**

*Thickness of the loess or other silty material:* Less than 18 inches

*Depth to carbonates:* 20 to 42 inches

*Depth to the base of soil development:* 24 to 45 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*E horizon (where present):*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—1 or 2

Texture—silt loam

*BE, Bt, or 2Bt horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay loam or silty clay

Content of gravel—less than 5 percent

*2BCt and 2Cd horizons:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam

Content of gravel—1 to 10 percent

## **298B—Beecher silt loam, 2 to 4 percent slopes**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes and footslopes

### ***Map Unit Composition***

Beecher and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have a lighter colored surface layer

- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have a thicker surface layer

*Dissimilar soils:*

- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Somewhat poorly drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 24 to 45 inches to dense material

*Available water capacity:* About 7.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 0.5 foot to 2.0 feet, January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## ***Birkbeck Series***

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

### **Typical Pedon**

Birkbeck silt loam, 2 to 5 percent slopes; at an elevation of 680 feet; 750 feet south and 1,600 feet east of the northwest corner of sec. 25, T. 17 N., R. 3 E.; Macon County, Illinois; USGS Argenta topographic quadrangle; lat. 39 degrees 54 minutes 25.3 seconds N. and long. 88 degrees 48 minutes 59.7 seconds W.; UTM Zone 16, 344720E and 4418800N, NAD 27:

A—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak thin platy structure parting to moderate very fine granular; friable; slightly acid; abrupt smooth boundary.

E—4 to 9 inches; brown (10YR 4/3) silt loam; moderate very thin platy structure; friable; few distinct dark brown (10YR 3/3) organic coatings and gray (10YR 6/1) (dry) clay depletions on faces of peds; very strongly acid; clear smooth boundary.

Bt1—9 to 13 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine subangular blocky structure parting to moderate very fine granular; friable; common distinct dark brown (10YR 3/3) organo-clay films and light gray (10YR 7/1) (dry) clay depletions on faces of peds; few fine weakly cemented iron-manganese nodules throughout; strongly acid; clear smooth boundary.

Bt2—13 to 24 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and very fine subangular blocky structure; friable; many distinct brown (7.5YR 4/4)

- clay films on faces of peds; few fine weakly cemented iron-manganese nodules throughout; strongly acid; clear smooth boundary.
- Bt3—24 to 29 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; common fine weakly cemented iron-manganese nodules throughout; strongly acid; clear smooth boundary.
- Bt4—29 to 42 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; common medium weakly cemented iron-manganese nodules throughout; few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine distinct light yellowish brown (2.5Y 6/4) masses of iron accumulation in the matrix; strongly acid; gradual smooth boundary.
- Bt5—42 to 54 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium and coarse subangular blocky structure; friable; many distinct brown (7.5YR 4/4) clay films on faces of peds; common medium weakly cemented iron-manganese nodules throughout; few fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine distinct light yellowish brown (2.5Y 6/4) masses of iron and manganese accumulation and few medium distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.
- 2Bt6—54 to 60 inches; dark yellowish brown (10YR 4/4) loam; weak coarse subangular blocky structure; friable; few distinct brown (7.5YR 4/4) clay films on face of peds; few distinct very dark grayish brown (10YR 3/2) organo-clay films in pores; few fine weakly cemented iron-manganese nodules throughout; common fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common medium distinct light yellowish brown (2.5Y 6/4) masses of iron and manganese accumulation and fine distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; neutral; gradual smooth boundary.
- 2C—60 to 68 inches; light olive brown (2.5Y 5/4) loam; massive; firm; few distinct very dark grayish brown (10YR 3/2) organo-clay films in pores; few fine weakly cemented iron-manganese nodules throughout; common fine distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; common fine faint light yellowish brown (2.5Y 6/4) and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; strongly effervescent; slightly alkaline.

### Range in Characteristics

*Thickness of the loess:* 40 to 60 inches

*Depth to carbonates:* 40 to 70 inches

*Depth to the base of soil development:* 40 to 70 inches

*Ap or A horizon:*

Hue—10YR

Value—2 to 5

Chroma—1 to 3

Texture—silt loam; less commonly silty clay loam

*E horizon (where present):*

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—silty clay loam or silt loam

*2Bt horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
Value—4 to 6  
Chroma—2 to 8  
Texture—loam, clay loam, silt loam, or silty clay loam  
Content of gravel—less than 15 percent

*2C horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
Value—4 to 6  
Chroma—2 to 4  
Texture—loam, clay loam, or silt loam  
Content of gravel—less than 15 percent

## **233A—Birkbeck silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Summits

### ***Map Unit Composition***

Birkbeck and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a thicker and darker surface layer
- Soils that have a seasonal high water table at a depth of less than 2 feet or more than 3.5 feet
- Soils that have a thinner surface layer
- Soils that have till within a depth of 40 inches
- Soils that have slopes of more than 2 percent

*Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess and the underlying till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 1.5 to 4.5 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **233B—Birkbeck silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Summits, shoulders, and backslopes

### ***Map Unit Composition***

Birkbeck and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a thicker and darker surface layer
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that are moderately eroded
- Soils that have till within a depth of 40 inches
- Soils that have slopes of less than 2 percent or more than 5 percent

*Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess and the underlying till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **233C2—Birkbeck silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Birkbeck and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have till within a depth of 40 inches
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that are severely eroded or only slightly eroded

*Dissimilar soils:*

- The nearly level, somewhat poorly drained Sabina and Sunbury soils on summits and footslopes
- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess and the underlying till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet, February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Blackberry Series***

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

### **Typical Pedon**

Blackberry silt loam, 2 to 5 percent slopes; at an elevation of about 748 feet; 25 feet north and 450 feet west of the southeast corner of sec. 19, T. 21 N., R. 7 E.; Champaign County, Illinois; USGS Foosland topographic quadrangle; lat. 40 degrees 15 minutes 10 seconds N. and long. 88 degrees 26 minutes 36 seconds W., NAD 27; UTM Zone 16, 377259E and 4456799N, NAD 83:

- Ap—0 to 10 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.
- A—10 to 16 inches; dark brown (10YR 3/3) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; neutral; clear smooth boundary.
- BA—16 to 20 inches; brown (10YR 4/3) silty clay loam; weak very fine subangular blocky structure; friable; many faint dark brown (10YR 3/3) organic coatings on faces of peds; slightly acid; clear smooth boundary.
- Bt1—20 to 24 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; many distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt2—24 to 34 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; many distinct brown (10YR 4/3) clay films on faces of peds; few fine black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide nodules throughout; few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.
- Bt3—34 to 47 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium and coarse prismatic structure; friable; common distinct brown (10YR 4/3) clay films on faces of peds; few fine black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide nodules throughout; few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; few fine distinct yellowish brown (10YR 5/6) masses of iron in the matrix; moderately acid; clear smooth boundary.
- 2Bt4—47 to 62 inches; yellowish brown (10YR 5/4), stratified silt loam and loam; weak coarse subangular blocky structure; friable; very few faint brown (10YR 4/3) and grayish brown (10YR 5/2) clay films lining pores and on faces of peds; few fine black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide nodules throughout; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; common medium distinct yellowish brown (10YR 5/6) masses of iron in the matrix; slightly acid; gradual smooth boundary.
- 2C—62 to 70 inches; light olive brown (2.5Y 5/4), stratified silt loam, loam, and sandy loam; massive; friable; few fine black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide nodules throughout; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; common medium distinct yellowish brown (10YR 5/6) masses of iron in the matrix; neutral.

### **Range in Characteristics**

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

*Thickness of the loess:* 40 to 60 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 45 to 70 inches

*Ap or A horizon:*

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

*BA or AB horizon (where present):*

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

*Bt horizon:*

Hue—7.5YR or 10YR  
 Value—4 or 5  
 Chroma—2 to 4  
 Texture—silty clay loam or silt loam

*2Bt or 2BC horizon:*

Hue—7.5YR or 10YR  
 Value—4 to 6  
 Chroma—2 to 6  
 Texture—clay loam, loam, silt loam, sandy loam, or sandy clay loam or the gravelly analogs of these textures  
 Content of gravel—less than 20 percent

*2C horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
 Value—4 to 6  
 Chroma—2 to 6  
 Texture—loam, clay loam, loamy sand, sandy loam, or silt loam or the gravelly analogs of these textures  
 Content of gravel—less than 25 percent

**679B—Blackberry silt loam, 2 to 5 percent slopes*****Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits and backslopes

***Map Unit Composition***

Blackberry and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have outwash at a depth of less than 40 inches or more than 60 inches
- Soils that are moderately eroded
- Soils that have till in the lower part of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 2 percent or more than 5 percent

*Dissimilar soils:*

- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess over outwash

*Drainage class:* Moderately 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:* About 11.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## ***Blount Series***

**Taxonomic classification:** Fine, illitic, mesic Aeric Epiaqualfs

### **Typical Pedon**

Blount silt loam, 2 to 4 percent slopes; at an elevation of 725 feet; 1,850 feet west and 135 feet south of the northeast corner of sec. 5, T. 25 N., R. 6 E.; Livingston County, Illinois; USGS Fairbury topographic quadrangle; lat. 40 degrees 40 minutes 16 seconds N. and long. 88 degrees 32 minutes 38 seconds W.; UTM Zone 16, 369521E and 4503388N, NAD 83:

- Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; moderate fine granular structure; friable; few very fine roots; slightly acid; abrupt smooth boundary.
- E—6 to 10 inches; grayish brown (10YR 5/2) silt loam; moderate fine subangular blocky structure; friable; few very fine roots; few faint dark grayish brown (10YR 4/2) organic coatings on faces of pedis; few fine iron-manganese oxide concretions throughout; common fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; neutral; clear smooth boundary.
- Bt1—10 to 17 inches; brown (10YR 5/3) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; firm; few very fine roots; few faint dark grayish brown (2.5Y 4/2) clay films on faces of pedis; few fine iron-manganese oxide masses throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.
- Bt2—17 to 23 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate fine prismatic structure parting to moderate fine subangular blocky; firm; few very fine roots; common faint dark grayish brown (2.5Y 4/2) clay films on faces of pedis; few fine iron-manganese oxide masses throughout; common fine faint gray (2.5Y 6/1) iron depletions in the matrix; 2 percent gravel; neutral; clear smooth boundary.

- Bt3**—23 to 28 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; firm; few very fine roots; few faint dark grayish brown (2.5Y 4/2) organo-clay coatings on faces of peds; few fine iron-manganese oxide masses throughout; few fine faint light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; many fine faint gray (2.5Y 6/1) iron depletions in the matrix; 3 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- BC**—28 to 34 inches; light olive brown (2.5Y 5/4) silty clay loam; weak fine prismatic structure parting to weak fine subangular blocky; firm; few fine iron-manganese oxide masses throughout; many medium distinct gray (2.5Y 6/1) iron depletions in the matrix; 3 percent gravel; strongly effervescent; slightly alkaline; clear smooth boundary.
- Cd**—34 to 60 inches; light olive brown (2.5Y 5/4) silty clay loam; massive; very firm; few fine iron-manganese oxide masses throughout; many coarse distinct gray (2.5Y 6/1) iron depletions in the matrix; 3 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess or other silty material:* Less than 18 inches

*Depth to carbonates:* 19 to 40 inches

*Depth to the base of soil development:* 30 to 60 inches

*Ap or A horizon:*

Hue—10YR

Value—3 or 4

Chroma—1 to 3

Texture—silt loam, loam, or silty clay loam

*E horizon (where present):*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—1 to 3

Texture—silt loam

*Bt or Btg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 4

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

Content of gravel—2 to 10 percent

*BCg or BC horizon (where present):*

Hue—10YR to 5Y

Value—4 to 6

Chroma—1 to 6

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

Content of gravel—2 to 14 percent

*Cd or Cd horizon:*

Hue—10YR to 5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay loam or clay loam

Content of gravel—2 to 14 percent

## 23B—Blount silt loam, 2 to 4 percent slopes

### *Setting*

*Landform:* Ground moraines and end moraines

*Position on the landform:* Footslopes and backslopes

### *Map Unit Composition*

Blount and similar soils: 92 percent

Dissimilar soils: 8 percent

### *Soils of Minor Extent*

*Similar soils:*

- Soils that are more than 18 inches deep to till
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that are moderately eroded

*Dissimilar soils:*

- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Somewhat poorly drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 30 to 48 inches to dense material

*Available water capacity to a depth of 60 inches:* About 8.1 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 0.5 foot to 2.0 feet, January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Boone Series**

**Taxonomic classification:** Mesic, uncoated Typic Quartzipsamments

### **Typical Pedon**

Boone loamy fine sand, 15 to 35 percent slopes; at an elevation of 738 feet; 2,000 feet north and 2,600 feet west of the southeast corner of sec. 21, T. 22 N., R. 10 E.; Lee County, Illinois; USGS Daysville topographic quadrangle; lat. 41 degrees 52 minutes 46 seconds N. and long. 89 degrees 21 minutes 06 seconds W.; UTM Zone 16, 304856E and 4639057N, NAD 83:

- A—0 to 4 inches; very dark gray (10YR 3/1) loamy fine sand, gray (10YR 5/1) dry; weak medium granular structure; very friable; strongly acid; gradual smooth boundary.
- E—4 to 6 inches; dark gray (10YR 4/1) loamy fine sand; weak medium platy structure; very friable; strongly acid; gradual smooth boundary.
- Bw—6 to 15 inches; yellowish brown (10YR 5/4) loamy fine sand; weak medium subangular blocky structure; very friable; strongly acid; abrupt wavy boundary.
- C—15 to 23 inches; yellowish brown (10YR 5/6) fine sand; single grain; loose; strongly acid; abrupt irregular boundary.
- Cr—23 to 60 inches; yellowish brown (10YR 5/6) sandstone bedrock.

### Range in Characteristics

*Depth to bedrock:* 20 to 40 inches

*A horizon:*

Hue—10YR or 7.5YR

Value—2 to 5

Chroma—1 to 3

Texture—sand, fine sand, loamy sand, or loamy fine sand or the channery analogs of these textures

Content of channers—less than 35 percent

Content of flagstones—less than 5 percent

*E horizon:*

Hue—10YR or 7.5YR

Value—4 or 5

Chroma—1 to 3

Texture—sand, fine sand, loamy sand, or loamy fine sand or the channery analogs of these textures

Content of channers—less than 35 percent

Content of flagstones—less than 5 percent

*Bw horizon:*

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 to 6

Texture—sand, fine sand, loamy sand, or loamy fine sand or the channery analogs of these textures

Content of channers—less than 35 percent

Content of flagstones—less than 5 percent

*C horizon:*

Hue—10YR or 7.5YR

Value—5 to 8

Chroma—1 to 6

Texture—sand, fine sand, channery sand, or channery fine sand

Content of channers—less than 35 percent

Content of flagstones—less than 5 percent

*Cr horizon:*

Hue—10YR or 7.5YR

Value—5 to 8

Chroma—1 to 6

## 397F—Boone loamy fine sand, 15 to 35 percent slopes

### *Setting*

*Landform:* Hillslopes

*Position on the landform:* Backslopes

### *Map Unit Composition*

Boone and similar soils: 95 percent

Dissimilar soils: 5 percent

### *Soils of Minor Extent*

*Similar soils:*

- Soils that have less sand and more clay throughout the profile
- Soils that do not have bedrock within a depth of 40 inches
- Soils that are moderately eroded
- Soils that have slopes of less than 15 percent
- Soils in areas where more than 15 percent of the surface is covered by rock fragments

*Dissimilar soils:*

- Severely eroded soils on shoulders and backslopes

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

*Parent material:* Siliceous sandy residuum derived from sandstone

*Drainage class:* Excessively 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:* 20 to 40 inches to bedrock (paralithic)

*Available water capacity:* About 1.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.0 to 1.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Low

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

*Surface runoff class:* High

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* High

### *Interpretive Groups*

*Land capability classification:* 7s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Bowes Series**

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

### **Typical Pedon**

Bowes silt loam, 0 to 2 percent slopes; at an elevation of 920 feet; 330 feet north and 330 feet west of the center of sec. 19, T. 42 N., R. 8 E.; Kane County, Illinois; USGS Elgin topographic quadrangle; lat. 42 degrees 06 minutes 15 seconds N. and long. 88 degrees 20 minutes 45 seconds W., NAD 27; UTM Zone 16, 388707E and 4662231N, NAD 83:

- Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak very fine and fine granular structure; friable; moderately acid; abrupt smooth boundary.
- E—9 to 13 inches; yellowish brown (10YR 5/4) silt loam, very pale brown (10YR 7/4) dry; weak thick platy structure parting to weak fine granular; friable; slightly acid; clear smooth boundary.
- Bt1—13 to 19 inches; brown (10YR 4/3) silty clay loam; moderate very fine and fine subangular blocky structure; firm; common distinct dark brown (10YR 3/3) clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt2—19 to 28 inches; yellowish brown (10YR 5/4) silty clay loam; weak coarse prismatic structure parting to moderate fine subangular blocky; firm; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; gradual smooth boundary.
- Bt3—28 to 36 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium prismatic structure parting to moderate fine and medium subangular blocky; firm; common distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; gradual smooth boundary.
- Bt4—36 to 43 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate fine and medium subangular blocky; firm; common distinct brown (10YR 4/3) clay films on faces of peds; 2 percent gravel; moderately acid; clear smooth boundary.
- 2Bt5—43 to 46 inches; brown (10YR 4/3) gravelly clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; few distinct dark yellowish brown (10YR 3/4) clay films on faces of peds; 22 percent gravel; 5 percent dolomitic cobbles; slightly alkaline; clear smooth boundary.
- 2Bt6—46 to 51 inches; dark brown (7.5YR 3/2) very gravelly sandy loam; weak medium subangular blocky structure; friable; common distinct very dark brown (7.5YR 2/2) organo-clay films on pebbles and occurring as bridges between sand grains; 40 percent gravel; 10 percent dolomitic cobbles; slightly alkaline; clear smooth boundary.
- 2C—51 to 61 inches; brown (7.5YR 4/4) very gravelly sand; single grain; loose; 45 percent gravel; 10 percent dolomitic cobbles; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess or other silty material:* 28 to 60 inches

*Depth to sandy and gravelly outwash:* 40 to 60 inches

*Depth to carbonates:* 40 to 60 inches

*Depth to the base of soil development:* 40 to 65 inches

*Ap or A horizon:*

Hue—7.5YR or 10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*E horizon (where present):*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 or 4

Texture—silt loam

*Bt horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6  
 Texture—silty clay loam or silt loam  
 Content of gravel—less than 5 percent

*2Bt horizon:*

Hue—7.5YR or 10YR  
 Value—3 to 5  
 Chroma—2 to 6  
 Texture—the gravelly or very gravelly analogs of loam, sandy loam, sandy clay loam, clay loam, or loamy sand  
 Content of gravel—15 to 60 percent  
 Content of cobbles—less than 15 percent

*2C horizon:*

Hue—7.5YR or 10YR  
 Value—4 to 7  
 Chroma—3 to 6  
 Texture—stratified extremely gravelly coarse sand to gravelly sandy loam  
 Content of gravel—15 to 75 percent  
 Content of cobbles—5 to 35 percent

## **792A—Bowes silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits

### ***Map Unit Composition***

Bowes and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have sandy and gravelly deposits at a depth of less than 40 inches or more than 60 inches
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have less gravel in the lower part of the profile
- Soils that have slopes of more than 2 percent
- Soils that have a thicker surface layer

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying loamy and gravelly outwash

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

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

*Land capability classification:* 1  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

### **792B—Bowes silt loam, 2 to 4 percent slopes**

#### ***Setting***

*Landform:* Outwash plains and stream terraces  
*Position on the landform:* Summits and backslopes

#### ***Map Unit Composition***

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

#### ***Soils of Minor Extent***

##### *Similar soils:*

- Soils that have sandy and gravelly deposits at a depth of less than 40 inches or more than 60 inches
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have less gravel in the lower part of the profile
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have a thicker surface layer

##### *Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying loamy and gravelly outwash

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*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:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

### ***Brenton Series***

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

#### **Typical Pedon**

Brenton silt loam, 0 to 2 percent slopes; at an elevation of 612 feet; 60 feet west and 1,760 feet south of the northeast corner of sec. 29, T. 30 N., R. 4 E.; Livingston County, Illinois; USGS Streator South topographic quadrangle; lat. 41 degrees 02 minutes 33 seconds N. and long. 88 degrees 46 minutes 36 seconds W., NAD 27; UTM Zone 16, 350669E and 4545007N, NAD 83:

- Ap—0 to 12 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; few very fine roots; neutral; abrupt smooth boundary.
- Bt1—12 to 18 inches; dark grayish brown (10YR 4/2) silty clay loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bt2—18 to 24 inches; brown (10YR 5/3) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bt3—24 to 28 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.
- 2Bt4—28 to 34 inches; grayish brown (10YR 5/2) clay loam; weak fine prismatic structure parting to weak fine angular blocky; friable; few very fine roots; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide concentrations throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint gray (10YR 5/1) iron depletions; neutral; clear smooth boundary.
- 2Bt5—34 to 44 inches; grayish brown (10YR 5/2) sandy loam; weak fine prismatic structure; friable; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.
- 2C—44 to 60 inches; grayish brown (10YR 5/2), stratified sandy loam and loamy sand; massive; very friable; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 4 percent gravel; neutral.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* 24 to 40 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 40 to more than 60 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Bt horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay loam or silt loam

*2Bt horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 7

Chroma—1 to 8

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

Content of gravel—less than 5 percent

*2C horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 7

Chroma—1 to 8

Texture—stratified loam, sandy loam, sandy clay loam, or loamy sand

Content of gravel—less than 15 percent

## 149A—Brenton silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Footslopes and summits

### Map Unit Composition

Brenton and similar soils: 90 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have slopes of more than 2 percent
- Soils that are underlain by till
- Soils that are more than 40 inches deep to outwash
- Soils that have a seasonal high water table at a depth of more than 2 feet

*Dissimilar soils:*

- The well drained Proctor soils on summits
- The poorly drained Drummer soils on toeslopes

### Properties and Qualities of the Brenton Soil

*Parent material:* Loess or other silty material and the underlying outwash

*Drainage class:* Somewhat poorly drained

*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate or moderately rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.2 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 3.0 to 5.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest apparent seasonal high water table:* 1 to 2 feet,  
 January through May  
*Ponding:* None  
*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:* Low  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 1  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

## **Bryce Series**

**Taxonomic classification:** Fine, mixed, superactive, mesic Vertic Endoaquolls

### **Typical Pedon**

Bryce silty clay, 0 to 2 percent slopes; at an elevation of 675 feet; 2,559 feet north and 45 feet west of the center of sec. 7, T. 25 N., R. 13 W.; Iroquois County, Illinois; USGS Woodworth topographic quadrangle; lat. 40 degrees 38 minutes 39 seconds N. and long. 87 degrees 52 minutes 23 seconds W., NAD 27; UTM Zone 16, 426178E and 4499628N, NAD 83:

- Ap1—0 to 10 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; weak very fine granular structure; friable; few fine black (7.5YR 2.5/1) weakly cemented iron and manganese oxide nodules throughout; slightly acid; abrupt smooth boundary.
- Ap2—10 to 13 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; moderate medium angular blocky structure; friable; moderately acid; abrupt smooth boundary.
- Bg—13 to 19 inches; black (10YR 2/1) silty clay, dark gray (10YR 4/1) dry; moderate fine and medium subangular blocky structure; friable; many distinct black (10YR 2/1) organic coatings on faces of peds; common fine distinct dark grayish brown (2.5Y 4/2) and few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear wavy boundary.
- Btg1—19 to 24 inches; dark grayish brown (2.5Y 4/2) silty clay; weak medium prismatic structure parting to moderate fine and medium subangular blocky; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; many distinct black (N 2.5/) organo-clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear wavy boundary.
- Btg2—24 to 35 inches; olive gray (5Y 5/2) silty clay; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few slickensides on faces of peds; common distinct olive gray (5Y 4/2) clay films on faces of peds; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine black (7.5YR 2.5/1) weakly cemented iron and manganese oxide

nodules throughout; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine faint dark gray (2.5Y 4/1) iron depletions in the matrix; neutral; gradual smooth boundary.

Btg3—35 to 45 inches; gray (5Y 5/1) silty clay; weak coarse prismatic structure parting to weak coarse subangular blocky; firm; few fine roots; common distinct dark gray (5Y 4/1) clay films on faces of ped; few slickensides and pressure faces on ped; common medium prominent light olive brown (2.5Y 5/4) and few medium prominent dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.

2BCg—45 to 58 inches; gray (5Y 5/1) silty clay; weak very coarse prismatic structure; very firm; few fine white (10YR 8/1) very weakly cemented calcium carbonate nodules and weakly cemented calcium carbonate concretions throughout; common coarse prominent brown (10YR 4/3) and common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 1 percent gravel; slightly effervescent; moderately alkaline; clear smooth boundary.

2Cg—58 to 66 inches; gray (5Y 5/1) silty clay; massive; very firm; many medium prominent olive brown (2.5Y 4/4) masses of iron accumulation in the matrix; 3 percent gravel; slightly effervescent; slightly alkaline.

### Range in Characteristics

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

*Thickness of the colluvium:* 15 to 55 inches

*Depth to carbonates:* 24 to 60 inches

*Depth to the base of soil development:* 30 to more than 60 inches

*Ap or A horizon:*

Hue—10YR or N

Value—2 or 3

Chroma—0 or 1

Texture—silty clay or silty clay loam

*Bg, Btg, or BCg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 6

Chroma—0 to 3

Texture—silty clay or clay

Content of gravel—less than 5 percent

*2BCg and 2Cg horizons:*

Hue—2.5Y or 5Y

Value—4 to 6

Chroma—1 to 8

Texture—silty clay or clay; less commonly silty clay loam

Content of gravel—less than 10 percent

## 235A—Bryce silty clay, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines and glacial lakes (relict)

*Position on the landform:* Toeslopes

### Map Unit Composition

Bryce and similar soils: 94 percent

Dissimilar soils: 6 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have less clay and more silt in the control section
- Soils that have a thicker surface layer
- Soils that are more than 30 inches deep to till
- Soils that have 6 to 12 inches of silty overwash

#### *Dissimilar soils:*

- The somewhat poorly drained Swygert and Mokena soils on summits and footslopes
- The very poorly drained Rantoul soils on toeslopes

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

*Parent material:* Colluvium and the underlying till

*Drainage class:* Poorly drained

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

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

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 6.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 7.0 percent

*Shrink-swell potential:* High

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through 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:* Low

*Susceptibility to wind erosion:* Moderate

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Buckhart Series**

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

### **Typical Pedon**

Buckhart silt loam, in an area of Muscatune-Buckhart silt loams, 0 to 3 percent slopes; at an elevation of 679 feet; 327 feet west and 2,481 feet north of the southeast corner of sec. 18, T. 32 N., R. 1 E.; La Salle County, Illinois; USGS McNabb topographic quadrangle; lat. 41 degrees 14 minutes 34 seconds N. and long. 89 degrees 08 minutes 50 seconds W., NAD 27; UTM Zone 16, 320066E and 4567934N, NAD 83:

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

A—8 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure parting to weak fine granular; friable; common very fine roots; moderately acid; clear smooth boundary.

Bt1—14 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds and in pores;

- common distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear wavy boundary.
- Bt2—21 to 26 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds and in pores; common distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear wavy boundary.
- Bt3—26 to 32 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; common fine distinct strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; moderately acid; gradual wavy boundary.
- Bt4—32 to 36 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds; common fine distinct strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; common fine distinct light brownish gray (10YR 6/2) and grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; gradual wavy boundary.
- BC—36 to 44 inches; yellowish brown (10YR 5/4) silt loam; weak medium and coarse subangular blocky structure; friable; many fine and medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine and medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; slightly acid; gradual wavy boundary.
- C—44 to 60 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; many medium and coarse distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium and coarse distinct gray (10YR 6/1) iron depletions in the matrix; slightly acid.

### Range in Characteristics

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

*Thickness of the loess:* More than 80 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 45 to 75 inches

*Ap and A horizons:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam or silty clay loam

*Bt or Btg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—3 to 6

Texture—silty clay loam or silt loam

*BC, BCt, or BCg horizon:*

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—2 to 4

Texture—silt loam or silty clay loam

*C or Cg horizon:*

Hue—10YR or 2.5Y

Value—5 or 6

Chroma—2 to 6  
Texture—silt loam

## **814A—Muscatune-Buckhart silt loams, 0 to 3 percent slopes**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Summits, footslopes, and backslopes

### ***Map Unit Composition***

Muscatune and similar soils: 55 percent

Buckhart and similar soils: 35 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils underlain by till or outwash
- Soils that have slopes of more than 3 percent
- Soils that have a thinner surface layer
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have a seasonal high water table at a depth of more than 3.5 feet

*Dissimilar soils:*

- The poorly drained Sable soils on toeslopes

### ***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:* About 12.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

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

*Parent material:* Loess

*Drainage class:* Moderately 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:* About 12.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Muscatune—1; Buckhart—2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Muscatune—not hydric; Buckhart—not hydric

## **Camden Series**

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

### **Typical Pedon**

Camden silt loam, 0 to 2 percent slopes; at an elevation of 560 feet; 1,280 feet west and 1,740 feet south of the northeast corner of sec. 12, T. 15 N., R. 8 E.; Bureau County, Illinois; USGS Wyandot topographic quadrangle; lat. 41 degrees 18 minutes 05 seconds N. and long. 89 degrees 30 minutes 52 seconds W.; UTM Zone 16, 289489E and 4575265N, NAD 83:

Ap—0 to 7 inches; dark 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 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; 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; 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; 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; 5 percent gravel; neutral.

### Range in Characteristics

*Thickness of the loess:* 24 to 40 inches

*Depth to carbonates:* More than 60 inches

*Depth to the base of soil development:* 30 to 65 inches

*Ap or A 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—10YR or 7.5YR

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam or silt loam

*2Bt or 2BC horizon:*

Hue—10YR, 7.5YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

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

Content of gravel—less than 10 percent

*2C horizon:*

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 to 6

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

Content of gravel—less than 13 percent

## 134A—Camden silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Outwash plains

*Position on the landform:* Summits

### Map Unit Composition

Camden and similar soils: 95 percent

Dissimilar soils: 5 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have a thicker and darker surface layer
- Soils that are more than 40 inches deep to outwash

- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that have slopes of more than 2 percent
- Soils that are underlain by gravel

*Dissimilar soils:*

- The somewhat poorly drained Starks soils on summits and footslopes

***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:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

**134B—Camden silt loam, 2 to 5 percent slopes**

***Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Shoulders and backslopes

***Map Unit Composition***

Camden and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that are underlain by gravel
- Soils that are moderately eroded
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that are more than 40 inches deep to outwash

*Dissimilar soils:*

- The somewhat poorly drained Starks soils on summits and footslopes

***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:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 11.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Ponding:* None  
*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:* Low

### ***Interpretive Groups***

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

## **134C2—Camden silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Outwash plains and stream terraces  
*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

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

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that are underlain by gravel
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that are more than 40 inches deep to outwash
- Soils that have slopes of less than 5 percent or more than 10 percent

#### *Dissimilar soils:*

- The somewhat poorly drained Starks soils on summits and footslopes

### ***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:* Moderately rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 9.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.5 percent  
*Shrink-swell potential:* Moderate  
*Ponding:* None  
*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:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **134D2—Camden silt loam, 10 to 18 percent slopes, eroded**

### ***Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Camden and similar soils: 97 percent

Dissimilar soils: 3 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are severely eroded
- Soils that are underlain by till
- Soils that have slopes of less than 10 percent or more than 18 percent
- Soils that are more than 40 inches deep to outwash
- Soils that are underlain by gravel

*Dissimilar soils:*

- The somewhat poorly drained Starks soils on summits and footslopes

### ***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:* Moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.5 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*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:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

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

#### ***Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Backslopes and shoulders

#### ***Map Unit Composition***

Camden and similar soils: 97 percent

Dissimilar soils: 3 percent

#### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are moderately eroded
- Soils that are underlain by till
- Soils that have slopes of less than 10 percent or more than 18 percent
- Soils that are more than 40 inches deep to outwash
- Soils that are underlain by gravel

*Dissimilar soils:*

- The somewhat poorly drained Starks soils on summits and footslopes

#### ***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:* About 9.8 inches to a depth of 60 inches

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

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

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

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

### **134F—Camden silt loam, 18 to 35 percent slopes**

#### ***Setting***

*Landform:* Outwash plains

*Position on the landform:* Backslopes

#### ***Map Unit Composition***

Camden and similar soils: 100 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are underlain by till
- Soils that are moderately eroded
- Soils that have slopes of less than 18 percent or more than 35 percent
- Soils that are more than 40 inches deep to outwash
- Soils that are underlain by gravel

### ***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:* About 8.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Campton Series***

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

### **Typical Pedon**

Campton silt loam, 2 to 5 percent slopes; at an elevation of 870 feet; 1,500 feet south and 2,000 feet west of the northeast corner of sec. 27, T. 40 N., R. 6 E.; Kane County, Illinois; USGS Maple Park topographic quadrangle; lat. 41 degrees 55 minutes 11 seconds N. and long. 88 degrees 32 minutes 04 seconds W., NAD 27; UTM Zone 16, 372794E and 4642017N, NAD 83:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; common very fine roots; neutral; abrupt smooth boundary.

Bt1—8 to 13 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores; few distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; neutral; clear smooth boundary.

Bt2—13 to 19 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; common

- distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds and in pores; neutral; gradual wavy boundary.
- Bt3—19 to 27 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine prismatic structure parting to moderate fine and medium subangular blocky; friable; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; common fine black (7.5YR 2.5/1) very weakly cemented manganese oxide concretions throughout; common fine faint brown (7.5YR 5/4) and common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear wavy boundary.
- Bt4—27 to 33 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; common fine black (7.5YR 2.5/1) very weakly cemented manganese oxide concretions throughout; common fine distinct and prominent strong brown (7.5YR 5/6 and 5/8) masses of iron accumulation in the matrix; common fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; gradual wavy boundary.
- Bt5—33 to 45 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium and coarse prismatic structure parting to weak medium subangular blocky; friable; common very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; common fine black (7.5YR 2.5/1) very weakly cemented manganese oxide concretions throughout; common fine distinct and prominent strong brown (7.5YR 5/6 and 5/8) masses of iron accumulation in the matrix; many fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; strongly acid; gradual wavy boundary.
- 2BC—45 to 51 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; friable; few fine black (7.5YR 2.5/1) very weakly cemented manganese oxide concretions throughout; common fine distinct and prominent strong brown (7.5YR 5/6 and 5/8) masses of iron accumulation in the matrix; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; 4 percent gravel; strongly acid; clear wavy boundary.
- 2C1—51 to 58 inches; yellowish brown (10YR 5/4) loamy sand; single grain; loose; common fine distinct and prominent strong brown (7.5YR 5/6 and 5/8) masses of iron accumulation in the matrix; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; 4 percent gravel; strongly acid; gradual wavy boundary.
- 2C2—58 to 65 inches; dark yellowish brown (10YR 4/4) sandy loam; massive; very friable; common fine distinct and prominent strong brown (7.5YR 5/6 and 5/8) masses of iron accumulation in the matrix; common fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 2 percent gravel; slightly acid; gradual wavy boundary.
- 2Cg—65 to 80 inches; light brownish gray (2.5Y 6/2) loam; massive; friable; common fine black (7.5YR 2.5/1) very weakly cemented manganese oxide concretions throughout; common fine prominent strong brown (7.5YR 5/6 and 5/8) masses of iron accumulation in the matrix; 1 percent gravel; slightly acid.

### Range in Characteristics

*Thickness of the loess:* 40 to 60 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 48 to 70 inches

*Ap or A horizon:*

Hue—10YR

Value—3 to 5

Chroma—1 to 3  
Texture—silt loam

*E horizon (where present):*

Hue—10YR  
Value—4 to 6  
Chroma—2 to 4  
Texture—silt loam

*Bt horizon:*

Hue—7.5YR or 10YR  
Value—4 or 5  
Chroma—3 to 6  
Texture—silty clay loam or silt loam

*2Bt or 2BC horizon:*

Hue—7.5YR or 10YR  
Value—4 to 6  
Chroma—2 to 6  
Texture—silt loam, loam, sandy loam, clay loam, or sandy clay loam  
Content of gravel—less than 15 percent

*2C horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
Value—4 to 6  
Chroma—2 to 6  
Texture—silt loam, loam, sandy loam, or loamy sand or the gravelly analogs of these textures  
Content of gravel—less than 20 percent

## **680B—Campton silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Summits and backslopes

### ***Map Unit Composition***

Campton and similar soils: 93 percent

Dissimilar soils: 7 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a thicker and darker surface layer
- Soils that have outwash at a depth of less than 40 inches or more than 60 inches
- Soils that have till in the lower part of the profile
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet

*Dissimilar soils:*

- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess and the underlying outwash

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.9 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest apparent seasonal high water table:* 2.0 to 3.5 feet,  
 February through April  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

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

## **Casco Series**

**Taxonomic classification:** Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Inceptic Hapludalfs

### **Typical Pedon**

Casco silt loam, in an area of Hennepin-Casco complex, 30 to 60 percent slopes; at an elevation of 660 feet; 2,400 feet south and 2,030 feet east of the northwest corner of sec. 28, T. 17 N., R. 9 E.; Bureau County, Illinois; USGS Princeton North topographic quadrangle; lat. 41 degrees 25 minutes 48 seconds N. and long. 89 degrees 27 minutes 50 seconds W.; UTM Zone 16, 294122E and 4589432N, NAD 83:

- A—0 to 7 inches; dark brown (10YR 3/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; common fine roots; neutral; abrupt smooth boundary.
- Bt—7 to 15 inches; brown (10YR 4/3) gravelly loam; moderate fine and medium subangular blocky structure; friable; few fine roots; common distinct dark brown (10YR 3/3) clay films on faces of peds; 30 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- C1—15 to 31 inches; dark yellowish brown (10YR 4/4), stratified sand and gravel; single grain; loose; 40 percent gravel; violently effervescent; slightly alkaline; clear smooth boundary.
- C2—31 to 60 inches; yellowish brown (10YR 5/4), stratified sand and gravel; single grain; loose; 60 percent gravel; violently effervescent; slightly alkaline.

### **Range in Characteristics**

*Depth to stratified sandy outwash:* 10 to 20 inches  
*Depth to carbonates:* 10 to 20 inches

*Ap or A horizon:*

Hue—10YR or 7.5YR

Value—2 to 4

Chroma—1 to 3

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

Content of gravel—less than 35 percent  
 Content of cobbles—less than 5 percent

*E horizon (where present):*

Hue—10YR or 7.5YR  
 Value—4 or 5  
 Chroma—2 or 3  
 Texture—sandy loam, fine sandy loam, loam, silt loam, gravelly loam, or gravelly sandy loam  
 Content of gravel—less than 35 percent  
 Content of cobbles—less than 5 percent

*Bt horizon:*

Hue—10YR, 7.5YR, or 5YR  
 Value—3 to 5  
 Chroma—3 or 4  
 Texture—sandy clay loam, loam, or clay loam or the gravelly analogs of these textures  
 Content of gravel—less than 35 percent  
 Content of cobbles—less than 5 percent

*2C horizon:*

Hue—10YR or 7.5YR  
 Value—4 to 7  
 Chroma—3 or 4  
 Texture—stratified sand or coarse sand or the gravelly, very gravelly, or extremely gravelly analogs of these textures; or strata of gravel  
 Content of gravel—less than 95 percent  
 Content of cobbles—less than 50 percent

## **820E—Hennepin-Casco complex, 12 to 30 percent slopes**

### ***Setting***

*Landform:* End moraines, outwash plains, and stream terraces

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Hennepin and similar soils: 50 percent

Casco and similar soils: 35 percent

Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are deeper to till or gravelly outwash
- Soils that have slopes of less than 12 percent or more than 30 percent
- Soils that have a thicker subsoil
- Soils that are more than 20 inches deep to carbonates

*Dissimilar soils:*

- The moderately deep Marseilles soils on backslopes

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

*Parent material:* Till

*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:* About 8.8 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Low for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

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

*Parent material:* Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits  
*Drainage class:* Somewhat excessively drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Very rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 4.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Hennepin—6e; Casco—6e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Hennepin—not hydric; Casco—not hydric

## **820G—Hennepin-Casco complex, 30 to 60 percent slopes**

### ***Setting***

*Landform:* End moraines, outwash plains, and stream terraces  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Hennepin and similar soils: 50 percent  
 Casco and similar soils: 35 percent  
 Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

#### ***Similar soils:***

- Soils that have a thicker subsoil
- Soils that are more than 20 inches deep to carbonates
- Soils that are deeper to till or gravelly outwash
- Soils that have slopes of less than 30 percent or more than 60 percent

*Dissimilar soils:*

- The moderately deep Marseilles soils on backslopes

***Properties and Qualities of the Hennepin Soil****Parent material:* Till*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:* About 8.7 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 1.0 to 3.0 percent*Shrink-swell potential:* Low*Ponding:* None*Flooding:* None*Potential for frost action:* Moderate*Hazard of corrosion:* Low for steel and concrete*Surface runoff class:* High*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Low***Properties and Qualities of the Casco Soil****Parent material:* Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits*Drainage class:* Somewhat excessively drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Very rapid*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 4.0 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 1.0 to 3.0 percent*Shrink-swell potential:* Low*Ponding:* None*Flooding:* None*Potential for frost action:* Moderate*Hazard of corrosion:* Moderate for steel and low for concrete*Surface runoff class:* High*Susceptibility to water erosion:* High*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* Hennepin—7e; Casco—7e*Prime farmland category:* Not prime farmland*Hydric soil status:* Hennepin—not hydric; Casco—not hydric**969E2—Casco-Rodman complex, 12 to 20 percent slopes, eroded*****Setting****Landform:* Kames, outwash plains, and end moraines*Position on the landform:* Backslopes***Map Unit Composition***

Casco and similar soils: 50 percent

Rodman and similar soils: 40 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that are severely eroded or only slightly eroded
- Soils that are more than 20 inches deep to sandy and gravelly deposits
- Soils that have carbonates at or near the surface
- Soils that have till in the lower part of the profile
- Soils that have slopes of less than 12 percent or more than 20 percent

#### *Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

*Drainage class:* Somewhat excessively drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

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

*Parent material:* Sandy and gravelly glaciofluvial deposits

*Drainage class:* Excessively drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 2.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Low

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very low

### ***Interpretive Groups***

*Land capability classification:* Casco—6e; Rodman—6s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Casco—not hydric; Rodman—not hydric

## 969F—Casco-Rodman complex, 20 to 30 percent slopes

### **Setting**

*Landform:* Kames, outwash plains, and end moraines

*Position on the landform:* Backslopes

### **Map Unit Composition**

Casco and similar soils: 50 percent

Rodman and similar soils: 40 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

*Similar soils:*

- Soils that are moderately eroded
- Soils that are more than 20 inches deep to sandy and gravelly deposits
- Soils that have carbonates at or near the surface
- Soils that have till in the lower part of the profile
- Soils that have slopes of less than 20 percent or more than 30 percent

*Dissimilar soils:*

- Severely eroded soils on shoulders and backslopes
- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

*Drainage class:* Somewhat excessively drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 3.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

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

*Parent material:* Sandy and gravelly glaciofluvial deposits

*Drainage class:* Excessively drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 2.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Low

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very low

### **Interpretive Groups**

*Land capability classification:* Casco—7e; Rodman—7s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Casco—not hydric; Rodman—not hydric

## **Catlin Series**

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

**Taxadjunct features:** The Catlin soils in map units 171B2, 171C2, and 171C3 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. The Catlin soils in map units 171B2 and 171C2 are classified as fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs. The Catlin soil in map unit 171C3 is classified as a fine-silty, mixed, superactive, mesic Oxyaquic Hapludalf.

### **Typical Pedon**

Catlin silt loam, 0 to 2 percent slopes; at an elevation of 830 feet; 650 feet south and 571 feet east of the northwest corner of sec. 36, T. 42 N., R. 2 E.; Ogle County, Illinois; USGS Fairdale topographic quadrangle; lat. 42 degrees 04 minutes 38 seconds N. and long. 88 degrees 57 minutes 17 seconds W., NAD 27; UTM Zone 16, 338298E and 4660202N, NAD 83:

- Ap—0 to 11 inches; very dark brown (10YR 2/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; neutral; abrupt smooth boundary.
- BA—11 to 18 inches; brown (10YR 4/3) silt loam; weak medium prismatic structure parting to moderate fine and medium subangular blocky; friable; few faint dark brown (10YR 3/3) organic coatings on faces of peds; common distinct light gray (10YR 7/1) (dry) silt coatings on faces of peds; moderately acid; clear smooth boundary.
- Bt1—18 to 23 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to strong fine and medium subangular blocky; friable; many faint brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/1) (dry) silt coatings on faces of peds; strongly acid; clear smooth boundary.
- Bt2—23 to 31 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to strong medium angular and subangular blocky; firm; few distinct very dark brown (10YR 2/2) organo-clay films in root channels; many faint brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/1) (dry) silt coatings on faces of peds; few black (N 2.5/) weakly cemented iron and manganese oxide concretions throughout; few fine distinct brown (7.5YR 4/4) and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
- Bt3—31 to 36 inches; yellowish brown (10YR 5/4) silty clay loam; strong medium prismatic structure parting to strong medium angular and subangular blocky; firm; common prominent grayish brown (2.5Y 5/2) clay films on faces of peds; few distinct light gray (10YR 7/1) (dry) silt coatings on faces of peds; few black (N 2.5/) weakly cemented iron and manganese oxide concretions throughout; few fine distinct brown (7.5YR 4/4) and yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.
- Bt4—36 to 44 inches; yellowish brown (10YR 5/4), brown (7.5YR 4/4), and light brownish gray (2.5Y 6/2) silty clay loam; weak coarse prismatic structure parting to

moderate coarse subangular blocky; firm; many faint grayish brown (2.5Y 5/2) clay films on faces of peds; common distinct light gray (10YR 7/1) (dry) silt coatings on faces of peds; few distinct very dark brown (10YR 2/2) organo-clay films in root channels; slightly acid; abrupt smooth boundary.

2Bt5—44 to 49 inches; dark yellowish brown (10YR 4/4) clay loam; weak coarse subangular blocky structure; firm; few faint brown (10YR 5/3) clay films on vertical faces of peds; few distinct very dark brown (10YR 2/2) organo-clay films in root channels; slightly alkaline; clear smooth boundary.

2C—49 to 60 inches; yellowish brown (10YR 5/4) loam; massive; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 5 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

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

*Thickness of the loess:* 40 to 60 inches

*Depth to carbonates:* 40 to 60 inches

*Depth to the base of soil development:* 45 to 65 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam or silty clay loam

*Bt or BA horizon:*

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—3 or 4

Texture—silty clay loam or silt loam

*2Bt horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 or 5

Chroma—2 to 8

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

Content of gravel—less than 10 percent

*2C horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 or 5

Chroma—2 to 8

Texture—loam, clay loam, or silt loam

Content of gravel—less than 10 percent

## 171A—Catlin silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines and end moraines

*Position on the landform:* Summits

### Map Unit Composition

Catlin and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have till within a depth of 40 inches
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of more than 2 percent
- Soils that have more clay and less sand in the middle and lower parts of the profile

*Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess over loamy till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.5 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet, February through April

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **171B—Catlin silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Summits and shoulders

### ***Map Unit Composition***

Catlin and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are moderately eroded
- Soils that have till within a depth of 40 inches
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have more clay and less sand in the middle and lower parts of the profile

*Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

***Properties and Qualities of the Catlin Soil***

*Parent material:* Loess over loamy till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.5 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*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:* Moderate

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

**171B2—Catlin silt loam, 2 to 5 percent slopes, eroded*****Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Summits and backslopes

***Map Unit Composition***

Catlin and similar soils: 93 percent

Dissimilar soils: 7 percent

***Soils of Minor Extent****Similar soils:*

- Soils that are severely eroded or only slightly eroded
- Soils that have till within a depth of 40 inches
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have more clay and less sand in the middle and lower parts of the profile

*Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

***Properties and Qualities of the Catlin Soil***

*Parent material:* Loess over loamy till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.2 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.5 to 3.5 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
 February through April  
*Ponding:* None  
*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:* Low  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

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

## **171C2—Catlin silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines and end moraines  
*Position on the landform:* Summits and backslopes

### ***Map Unit Composition***

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

### ***Soils of Minor Extent***

#### ***Similar soils:***

- Soils that are severely eroded or only slightly eroded
- Soils that have till within a depth of 40 inches
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that have more clay and less sand in the middle and lower parts of the profile

#### ***Dissimilar soils:***

- The nearly level, somewhat poorly drained Flanagan soils on summits
- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess over loamy till  
*Drainage class:* Moderately well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderately slow  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.8 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.5 to 3.5 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
 February through April

*Ponding:* None

*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:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **171C3—Catlin silty clay loam, 5 to 10 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Catlin and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are moderately eroded
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that have till within a depth of 40 inches
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have more clay and less sand in the middle and lower parts of the profile

*Dissimilar soils:*

- The nearly level, somewhat poorly drained Flanagan soils on summits
- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess over loamy till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 0.8 to 2.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*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:* Moderate  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

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

## **818A—Flanagan-Catlin silt loams, 0 to 3 percent slopes**

### ***Setting***

*Landform:* Ground moraines and end moraines  
*Position on the landform:* Flanagan—summits and footslopes in areas where slopes are generally less than 2 percent; Catlin—knolls and summits in areas where slopes are generally more than 1 percent

### ***Map Unit Composition***

Flanagan and similar soils: 55 percent  
 Catlin and similar soils: 35 percent  
 Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that are less than 40 inches or more than 60 inches deep to till
- Soils that have a thinner surface layer
- Soils that have slopes of more than 3 percent
- Soils that have more clay and less sand in the middle and lower parts of the profile

#### *Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess over loamy till  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderately slow  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.8 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 3.5 to 5.0 percent  
*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet, January through May  
*Ponding:* None  
*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:* Low  
*Susceptibility to wind erosion:* Low

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

*Parent material:* Loess over loamy till  
*Drainage class:* Moderately well drained

*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderately slow  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.5 to 4.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
 February through April  
*Ponding:* None  
*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:* Low  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Flanagan—1; Catlin—1  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Flanagan—not hydric; Catlin—not hydric

## **Channahon Series**

**Taxonomic classification:** Loamy, mixed, superactive, mesic Lithic Argiudolls  
**Taxadjunct features:** The Channahon soils in map units 817A and 817B are underlain by sandstone bedrock instead of limestone or dolostone bedrock. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as coarse-loamy, mixed, superactive, mesic Typic Argiudolls.

### **Typical Pedon**

Channahon silt loam, 2 to 4 percent slopes; at an elevation of 530 feet; 384 feet east and 125 feet south of the northwest corner of sec. 35, T. 34 N., R. 8 E.; Grundy County, Illinois; USGS Minooka topographic quadrangle; lat. 41 degrees 23 minutes 20 seconds N. and long. 88 degrees 17 minutes 12 seconds W., NAD 27; UTM Zone 16, 392422E and 4582730N, NAD 83:

- A1—0 to 5 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine to medium roots; neutral; gradual wavy boundary.
- A2—5 to 11 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine and medium subangular blocky structure; friable; common very fine to medium roots; neutral; gradual wavy boundary.
- Bt1—11 to 15 inches; dark yellowish brown (10YR 3/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; many distinct very dark gray (10YR 3/1) organic coatings in root channels and pores; neutral; gradual wavy boundary.
- Bt2—15 to 18 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; friable; common very fine to medium roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few prominent very dark gray (10YR 3/1) organic coatings in root channels and pores; 2 percent gravel; neutral; clear smooth boundary.
- 2R—18 inches; gray (10YR 6/1) limestone bedrock; strongly effervescent.

### Range in Characteristics

*Thickness of the mollic epipedon:* 7 to 15 inches

*Depth to bedrock:* 10 to 20 inches

*Depth to the base of soil development:* 10 to 20 inches

*A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—loam or silt loam; fine sandy loam in pedons underlain by sandstone

*Bt horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—3 or 4

Texture—loam, silt loam, clay loam, or silty clay loam or the gravelly analogs of these textures; fine sandy loam, sandy loam, loamy fine sand, or sand or the gravelly analogs of these textures in pedons underlain by sandstone

Content of gravel—less than 20 percent

## 315B—Channahon silt loam, 2 to 4 percent slopes

### Setting

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits and backslopes

### Map Unit Composition

Channahon and similar soils: 92 percent

Dissimilar soils: 8 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have bedrock at a depth of less than 10 inches or more than 20 inches
- Soils that have less sand and more clay in the control section
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have sandy residuum over the sandstone
- Soils that are moderately eroded

*Dissimilar soils:*

- Shallow, somewhat poorly drained soils on summits and footslopes
- The poorly drained Faxon soils on toeslopes

### Properties and Qualities of the Channahon Soil

*Parent material:* Drift over dolostone or limestone

*Drainage class:* 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:* 10 to 20 inches to bedrock (lithic)

*Available water capacity:* About 3.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **817A—Channahon-Hesch fine sandy loams, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Outwash plains, flood-plain steps, and stream terraces

*Position on the landform:* Summits

### ***Map Unit Composition***

Channahon and similar soils: 50 percent

Hesch and similar soils: 40 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

#### ***Similar soils:***

- Soils that are less than 10 inches deep to sandstone bedrock
- Soils that are more than 40 inches deep to sandstone bedrock
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have a lighter colored surface layer
- Soils that have a thinner surface layer
- Soils that have more than 15 percent rock fragments in the profile

#### ***Dissimilar soils:***

- Somewhat poorly drained soils on summits and footslopes
- The poorly drained Faxon soils on toeslopes
- The very poorly drained Peotone soils on toeslopes

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

*Parent material:* Drift over sandstone

*Drainage class:* Well 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:* 10 to 20 inches to bedrock (paralithic)

*Available water capacity:* About 2.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderately high

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

*Parent material:* Drift over sandstone

*Drainage class:* Well 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:* 20 to 40 inches to bedrock (paralithic)

*Available water capacity:* About 4.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderately high

### ***Interpretive Groups***

*Land capability classification:* Channahon—3s; Hesch—2s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Channahon—not hydric; Hesch—not hydric

## **817B—Channahon-Hesch fine sandy loams, 2 to 6 percent slopes**

### ***Setting***

*Landform:* Flood-plain steps, outwash plains, and stream terraces

*Position on the landform:* Backslopes and summits

### ***Map Unit Composition***

Channahon and similar soils: 50 percent

Hesch and similar soils: 40 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are less than 10 inches deep to sandstone bedrock
- Soils that are more than 40 inches deep to sandstone bedrock
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have a lighter colored surface layer
- Soils that are moderately eroded
- Soils that have more than 15 percent rock fragments in the profile
- Soils that have slopes of more than 6 percent

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes
- The poorly drained Faxon soils on toeslopes
- The very poorly drained Peotone soils on toeslopes

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

*Parent material:* Drift over sandstone

*Drainage class:* Well 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:* 10 to 20 inches to bedrock (paralithic)

*Available water capacity:* About 2.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderately high

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

*Parent material:* Drift over sandstone

*Drainage class:* Well 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:* 20 to 40 inches to bedrock (paralithic)

*Available water capacity:* About 3.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderately high

### ***Interpretive Groups***

*Land capability classification:* Channahon—3e; Hesch—2e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Channahon—not hydric; Hesch—not hydric

## ***Chatsworth Series***

**Taxonomic classification:** Fine, illitic, mesic Oxyaquic Eutrudepts

### **Typical Pedon**

Chatsworth silty clay, 6 to 12 percent slopes, severely eroded; at an elevation of 735 feet; 148 feet north and 1,870 feet west of the southeast corner of sec. 7, T. 24 N., R. 10 E.; Iroquois County, Illinois; USGS Buckley topographic quadrangle; lat. 40 degrees 32 minutes 48 seconds N. and long. 88 degrees 06 minutes 20 seconds W., NAD 27; UTM Zone 16, 406382E and 4489026N, NAD 83:

Ap—0 to 2 inches; dark grayish brown (2.5Y 4/2) silty clay, light brownish gray (10YR 6/2) dry; moderate medium granular structure; firm; common medium roots; slightly effervescent; moderately alkaline; abrupt smooth boundary.

Bw1—2 to 11 inches; dark grayish brown (2.5Y 4/2) silty clay; moderate very fine and fine subangular blocky structure; firm; few medium and fine roots; few fine white (10YR 8/1) very weakly cemented calcium carbonate nodules throughout; few fine distinct olive brown (2.5Y 4/4) masses of iron accumulation in the matrix; common

fine faint dark gray (5Y 4/1) iron depletions in the matrix; strongly effervescent; moderately alkaline; clear wavy boundary.

**Bw2**—11 to 15 inches; dark grayish brown (2.5Y 4/2) silty clay; weak medium prismatic structure parting to moderate fine and medium angular blocky; very firm; few fine roots between peds; common faint dark gray (5Y 4/1) coatings on faces of peds; common medium white (10YR 8/1) very weakly cemented calcium carbonate nodules throughout; common fine distinct olive brown (2.5Y 4/4) masses of iron accumulation in the matrix; common fine faint dark gray (5Y 4/1) iron depletions in the matrix; strongly effervescent; moderately alkaline; gradual wavy boundary.

**Bw3**—15 to 22 inches; grayish brown (2.5Y 5/2) silty clay; moderate medium prismatic structure parting to weak medium subangular blocky; very firm; few fine roots between peds; common faint dark gray (5Y 4/1) coatings on faces of peds; common medium white (10YR 8/1) very weakly cemented calcium carbonate nodules throughout; common fine distinct olive brown (2.5Y 4/4) masses of iron accumulation in the matrix; common fine faint dark gray (5Y 4/1) iron depletions in the matrix; strongly effervescent; moderately alkaline; gradual wavy boundary.

**Cd1**—22 to 35 inches; dark grayish brown (2.5Y 4/2) silty clay; massive; very firm; few fine roots along cleavage planes; many faint gray (5Y 5/1) coatings along cleavage planes; few medium white (10YR 8/1) very weakly cemented calcium carbonate nodules along cleavage planes; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; many fine faint gray (5Y 5/1) iron depletions in the matrix; strongly effervescent; moderately alkaline; gradual wavy boundary.

**Cd2**—35 to 60 inches; dark gray (5Y 4/1) silty clay; massive; very firm; very few fine roots along widely spaced cleavage planes; many faint gray (5Y 5/1) coatings along cleavage planes; few medium white (10YR 8/1) very weakly cemented calcium carbonate nodules along cleavage planes; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Depth to carbonates:* Less than 20 inches

*Depth to the base of soil development:* 10 to 24 inches

*A or Ap horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—3 or 4

Chroma—1 or 2

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

Content of gravel—less than 3 percent

*Bw horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 or 5

Chroma—2 or 3

Texture—silty clay or clay; less commonly silty clay loam

Content of gravel—less than 3 percent

*Cd horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 or 5

Chroma—1 to 6

Texture—silty clay, clay, or silty clay loam  
 Content of gravel—less than 10 percent

### **241C3—Chatsworth silty clay, 4 to 6 percent slopes, severely eroded**

#### ***Setting***

*Landform:* End moraines and ground moraines

*Position on the landform:* Backslopes

#### ***Map Unit Composition***

Chatsworth and similar soils: 95 percent

Dissimilar soils: 5 percent

#### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have carbonates at a depth of more than 20 inches
- Soils that are moderately eroded
- Soils that have outwash above the till

*Dissimilar soils:*

- The noncalcareous Varna and Ozaukee soils on backslopes and shoulders
- The slightly eroded, noncalcareous, somewhat poorly drained Swygert and Nappanee soils on backslopes and shoulders
- The poorly drained Bryce soils on toeslopes

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

*Parent material:* Till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* 10 to 24 inches to dense material

*Available water capacity:* About 3.0 inches to a depth of 60 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 perched seasonal high water table:* 2.0 to 3.5 feet,  
 February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Moderate

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

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **241D3—Chatsworth silty clay, 6 to 12 percent slopes, severely eroded**

### ***Setting***

*Landform:* End moraines and ground moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Chatsworth and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have carbonates at a depth of more than 20 inches
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that are moderately eroded

#### *Dissimilar soils:*

- The noncalcareous Varna, Ozaukee, and St. Clair soils on backslopes and shoulders
- The slightly eroded, noncalcareous, somewhat poorly drained Swygart and Nappanee soils on backslopes and shoulders
- The poorly drained Bryce soils on toeslopes

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

*Parent material:* Till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* 10 to 24 inches to dense material

*Available water capacity:* About 3.0 inches to a depth of 60 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 perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Moderate

### ***Interpretive Groups***

*Land capability classification:* 7e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **241E3—Chatsworth silty clay, 12 to 20 percent slopes, severely eroded**

### ***Setting***

*Landform:* End moraines and ground moraines

*Position on the landform:* Backslopes

### **Map Unit Composition**

Chatsworth and similar soils: 96 percent

Dissimilar soils: 4 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have carbonates at a depth of more than 20 inches
- Soils that have slopes of less than 12 percent or more than 20 percent
- Soils that are moderately eroded

#### *Dissimilar soils:*

- The noncalcareous St. Clair soils on backslopes and shoulders
- The slightly eroded, noncalcareous, somewhat poorly drained Swygert and Nappanee soils on backslopes and shoulders

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

*Parent material:* Till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* 10 to 24 inches to dense material

*Available water capacity:* About 3.2 inches to a depth of 60 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 perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Moderate

### **Interpretive Groups**

*Land capability classification:* 7e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **241F—Chatsworth silty clay loam, 20 to 30 percent slopes**

### **Setting**

*Landform:* End moraines and ground moraines

*Position on the landform:* Backslopes

### **Map Unit Composition**

Chatsworth and similar soils: 96 percent

Dissimilar soils: 4 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that are moderately eroded

- Soils that have slopes of less than 20 percent or more than 30 percent
- Soils that have carbonates at a depth of more than 20 inches

*Dissimilar soils:*

- Severely eroded soils on backslopes

***Properties and Qualities of the Chatsworth Soil***

*Parent material:* Till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* 10 to 24 inches to dense material

*Available water capacity:* About 3.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Very high

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 7e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

**241G—Chatsworth silty clay loam, 30 to 50 percent slopes**

***Setting***

*Landform:* End moraines

*Position on the landform:* Backslopes

***Map Unit Composition***

Chatsworth and similar soils: 96 percent

Dissimilar soils: 4 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that have carbonates at a depth of more than 20 inches
- Soils that have slopes of less than 30 percent
- Soils that are moderately eroded

*Dissimilar soils:*

- Severely eroded soils on backslopes

***Properties and Qualities of the Chatsworth Soil***

*Parent material:* Till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* 10 to 24 inches to dense material  
*Available water capacity:* About 3.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
 February through April  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Very high  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Not hydric

## **Chenoa Series**

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

### **Typical Pedon**

Chenoa silty clay loam, 0 to 2 percent slopes; at an elevation of 691 feet; 105 feet south and 865 feet west of the northeast corner of sec. 2, T. 27 N., R. 3 E.; Livingston County, Illinois; USGS Flanagan South topographic quadrangle; lat. 40 degrees 50 minutes 31 seconds N. and long. 88 degrees 50 minutes 13 seconds W., NAD 27; UTM Zone 16, 345124E and 4522838N, NAD 83:

- Ap—0 to 12 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; few fine roots; neutral; abrupt smooth boundary.
- BA—12 to 16 inches; brown (10YR 4/3) silty clay loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; many distinct black (10YR 2/1) organic coatings on faces of peds; few fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bt—16 to 21 inches; brown (10YR 4/3) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine distinct gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.
- Btg1—21 to 26 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; many distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common medium black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.
- Btg2—26 to 32 inches; grayish brown (10YR 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium angular blocky; friable; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; common medium black (10YR 2/1) very weakly cemented iron and

manganese oxide concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

2Bt—32 to 36 inches; light olive brown (2.5Y 5/4) silty clay loam; weak medium prismatic structure parting to weak medium angular blocky; firm; few very fine roots; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common medium distinct gray (2.5Y 6/1) iron depletions in the matrix; 3 percent gravel; slightly alkaline; clear smooth boundary.

2C—36 to 60 inches; light olive brown (2.5Y 5/4) silty clay loam; massive; firm; few prominent light brownish gray (10YR 6/2) coatings on vertical cleavage planes; common medium distinct gray (2.5Y 6/1) iron depletions in the matrix; 3 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* 20 to 40 inches

*Depth to carbonates:* 25 to 45 inches

*Depth to the base of soil development:* 25 to 50 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silty clay loam or silt loam

*Bt horizons:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam or silty clay

*2Bt horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam or silt loam

Content of gravel—1 to 10 percent

*2C horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam or silt loam

Content of gravel—2 to 10 percent

## 614A—Chenoa silty clay loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines and end moraines

*Position on the landform:* Summits and footslopes

### Map Unit Composition

Chenoa and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have till at a depth of less than 20 inches or more than 40 inches
- Soils that have more sand and less silt in the upper one-half of the profile
- Soils that have a thinner surface layer
- Soils that have slopes of less than 2 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet

*Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till

*Drainage class:* Somewhat poorly drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **614B—Chenoa silty clay loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* End moraines and ground moraines

*Position on the landform:* Backslopes and footslopes

### ***Map Unit Composition***

Chenoa and similar soils: 88 percent

Dissimilar soils: 12 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have till at a depth of less than 20 inches or more than 40 inches
- Soils that have more sand and less silt in the upper one-half of the profile
- Soils that are moderately eroded
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet

*Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till

*Drainage class:* Somewhat poorly drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## ***Clare Series***

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

### **Typical Pedon**

Clare silt loam, 0 to 2 percent slopes; at an elevation of 750 feet; 1,200 feet north and 2,200 feet east of the southwest corner of sec. 7, T. 42 N., R. 3 E.; De Kalb County, Illinois; USGS Cherry Valley topographic quadrangle; lat. 42 degrees 07 minutes 32 seconds N. and long. 88 degrees 55 minutes 51 seconds W., NAD 27; UTM Zone 16, 340388E and 4665526N, NAD 83:

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

A—5 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine and medium subangular blocky structure; friable; common very fine roots; neutral; clear smooth boundary.

BA—11 to 14 inches; 60 percent dark yellowish brown (10YR 4/4) and 40 percent very dark grayish brown (10YR 3/2) silty clay loam; moderate medium subangular blocky structure; friable; common very fine roots; neutral; gradual wavy boundary.

Bt1—14 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium prismatic structure parting to weak fine and medium subangular blocky; friable; common fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; neutral; gradual wavy boundary.

Bt2—21 to 28 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; common fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; slightly acid; gradual wavy boundary.

- Bt3**—28 to 32 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium and coarse subangular blocky structure; friable; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium prominent grayish brown (2.5Y 5/2) iron depletions in the matrix; slightly acid; gradual wavy boundary.
- 2Bt4**—32 to 37 inches; dark yellowish brown (10YR 4/4) loam; moderate medium and coarse subangular blocky structure; friable; few very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common medium prominent grayish brown (2.5Y 5/2) iron depletions in the matrix; neutral; clear wavy boundary.
- 2Bt5**—37 to 45 inches; brown (7.5YR 4/4) sandy loam; weak medium and coarse angular blocky structure; friable; few very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds; common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common medium prominent dark grayish brown (10YR 4/2) iron depletions in the matrix; 2 percent gravel; neutral; gradual wavy boundary.
- 2Bt6**—45 to 61 inches; brown (7.5YR 4/4) clay loam; weak medium and coarse angular blocky structure; friable; few distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds; few distinct brown (10YR 4/3) clay films on faces of peds; common medium black (10YR 2/1) very weakly cemented manganese oxide concretions throughout; common medium yellowish brown (10YR 5/6) very weakly cemented iron oxide concretions throughout; 5 percent gravel; neutral; clear smooth boundary.
- 2C**—61 to 80 inches; brown (7.5YR 5/4), stratified gravelly sandy loam and loam; massive; friable; 17 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

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

*Thickness of loess or silty material:* 20 to 40 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 40 to 70 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*Bt or BA horizon:*

Hue—7.5YR or 10YR

Value—3 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

Chroma—3 to 6

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

Content of gravel—less than 15 percent

*2C horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

Texture—stratified loam, sandy loam, loam, or silt loam or the gravelly analogs of these textures with thin strata of loamy sand or sand

Content of gravel—2 to 20 percent

## **663B—Clare silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits and backslopes

### ***Map Unit Composition***

Clare and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are moderately eroded
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have outwash at a depth of more than 40 inches
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have till in the lower part of the profile

*Dissimilar soils:*

- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess over outwash

*Drainage class:* Moderately 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:* About 10.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.5 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 2.0 to 3.5 feet,

February through April

*Ponding:* None

*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:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## Clarence Series

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

**Taxadjunct features:** The Clarence soils in this survey area have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine, illitic, mesic Aquollic Hapludalfs.

### Typical Pedon

Clarence silty clay loam, 2 to 4 percent slopes, eroded; at an elevation of 744 feet; 117 feet east and 1,400 feet south of the northwest corner of sec. 12, T. 29 N., R. 5 E.; Livingston County, Illinois; USGS Odell topographic quadrangle; lat. 41 degrees 00 minutes 04 seconds N. and long. 88 degrees 36 minutes 17 seconds W.; UTM Zone 16, 365036E and 4540103N, NAD 83:

- Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silty clay loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.
- Bt1—8 to 12 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; few very fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; clear smooth boundary.
- Bt2—12 to 16 inches; dark grayish brown (2.5Y 4/2) silty clay; moderate fine subangular blocky structure; very firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.
- Bt3—16 to 21 inches; grayish brown (2.5Y 5/2) silty clay; moderate fine subangular blocky structure; very firm; few very fine roots; common fine dark grayish brown (2.5Y 4/2) clay films on faces of peds; common fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; neutral; clear smooth boundary.
- Bt4—21 to 26 inches; grayish brown (2.5Y 5/2) silty clay; weak medium prismatic structure parting to moderate fine angular blocky; very firm; few very fine roots; common fine dark grayish brown (2.5Y 4/2) clay films on faces of peds; moderate medium distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; 2 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- BC—26 to 35 inches; 60 percent light olive brown (2.5Y 5/4) and 40 percent gray (5Y 5/1) silty clay; moderate medium prismatic structure; very firm; common faint gray (5Y 5/1) clay films on vertical faces of peds; few medium calcium carbonate concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.
- Cd—35 to 60 inches; 60 percent light olive brown (2.5Y 5/4) and 40 percent gray (5Y 5/1) silty clay; massive; very firm; common fine black (2.5Y 5/) pressure faces on vertical cleavage planes; common medium calcium carbonate concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; violently effervescent; moderately alkaline.

### Range in Characteristics

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

*Depth to carbonates:* 20 to 38 inches

*Depth to the base of soil development:* 25 to 40 inches

*Ap or A horizon:*

Hue—10YR  
 Value—2 or 3  
 Chroma—1 or 2  
 Texture—silty clay loam, silt loam, or silty clay

*Bt horizon:*

Hue—10YR or 2.5Y  
 Value—4 or 5  
 Chroma—1 to 4 in the upper part; 2 to 6 in the lower part  
 Texture—silty clay loam, silty clay, or clay  
 Content of gravel—less than 5 percent

*BC horizon (where present):*

Hue—2.5Y or 5Y  
 Value—4 or 5  
 Chroma—2 to 4  
 Texture—silty clay or clay  
 Content of gravel—less than 5 percent

*Cd horizon:*

Hue—2.5Y, 5Y, or 5GY  
 Value—4 to 6  
 Chroma—1 to 6  
 Texture—silty clay or clay  
 Content of gravel—less than 5 percent

## **147B2—Clarence silty clay loam, 2 to 4 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes and footslopes

### ***Map Unit Composition***

Clarence and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more silt and less clay in the control section
- Soils that have slopes of more than 4 percent
- Soils that are severely eroded or only slightly eroded

*Dissimilar soils:*

- The poorly drained Bryce soils on toeslopes

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

*Parent material:* Till

*Drainage class:* Somewhat poorly drained

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

*Permeability below a depth of 60 inches:* Impermeable or very slow

*Depth to restrictive feature:* 25 to 40 inches to dense material

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

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Very high

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Danabrook Series**

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

**Taxadjunct features:** The Danabrook soil in map unit 512C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalf.

### **Typical Pedon**

Danabrook silt loam, 2 to 5 percent slopes; at an elevation of 872 feet; 176 feet south and 2,334 feet west of the northeast corner of sec. 5, T. 42 N., R. 5 E.; De Kalb County, Illinois; USGS Riley topographic quadrangle; lat. 42 degrees 09 minutes 09 seconds N. and long. 88 degrees 40 minutes 28 seconds W., NAD 27; UTM Zone 16, 361649E and 4668068N, NAD 83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; weak very fine and fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.

A—8 to 13 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.

Bt1—13 to 21 inches; brown (10YR 4/3) silty clay loam; moderate very fine and fine subangular blocky structure; friable; common very fine roots; few faint dark brown (10YR 3/3) clay films and very dark grayish brown (10YR 3/2) organic coatings on faces of peds and in pores; neutral; clear smooth boundary.

Bt2—21 to 26 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; few very fine roots; common faint brown (10YR 4/3) clay films on faces of peds and in pores; common fine dark brown (7.5YR 3/3) very weakly cemented iron and manganese oxide concretions throughout; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear wavy boundary.

Bt3—26 to 33 inches; brown (10YR 5/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; many faint brown (10YR 4/3) clay films on faces of peds and in pores; common fine dark brown (7.5YR 3/3) very weakly cemented iron and manganese

oxide concretions throughout; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear wavy boundary.

2Bt4—33 to 42 inches; brown (7.5YR 5/4) clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; common faint brown (10YR 4/3) clay films on faces of peds and in pores; common fine dark brown (7.5YR 3/3) very weakly cemented iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 6 percent gravel; slightly alkaline; clear wavy boundary.

2BC—42 to 50 inches; brown (7.5YR 5/4) loam; weak medium prismatic structure parting to weak medium subangular blocky; friable; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 8 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.

2C—50 to 60 inches; brown (7.5YR 5/4) loam; massive; firm; many fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 10 percent gravel; strongly effervescent; slightly alkaline.

### Range in Characteristics

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

*Thickness of the loess or silty material:* 22 to 40 inches

*Depth to carbonates:* 30 to 50 inches

*Depth to the base of soil development:* 30 to 55 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*Bt horizon:*

Hue—10YR

Value—4 to 6

Chroma—3 or 4

Texture—silty clay loam or silt loam

*2Bt or 2BC horizon:*

Hue—7.5YR

Value—4 to 6

Chroma—3 to 6

Texture—loam, clay loam, or sandy clay loam

Content of gravel—2 to 15 percent

*2C horizon:*

Hue—7.5YR

Value—4 to 6

Chroma—3 to 6

Texture—loam or sandy loam

Content of gravel—2 to 15 percent

## 512B—Danabrook silt loam, 2 to 5 percent slopes

### **Setting**

*Landform:* End moraines and ground moraines

*Position on the landform:* Summits and backslopes

### **Map Unit Composition**

Danabrook and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

*Similar soils:*

- Soils that are moderately eroded
- Soils that have more sand and less silt in the upper and middle parts of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 2 percent or more than 5 percent

*Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 4.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 512C2—Danabrook silt loam, 5 to 10 percent slopes, eroded

### **Setting**

*Landform:* End moraines and ground moraines

*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Danabrook and similar soils: 92 percent

Dissimilar soils: 8 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that are severely eroded
- Soils that have more sand and less silt in the upper and middle parts of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 5 percent or more than 10 percent

#### *Dissimilar soils:*

- Nearly level, somewhat poorly drained soils on summits and footslopes
- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet, February through April

*Ponding:* None

*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:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Dickinson Series**

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

**Taxadjunct features:** The Dickinson soil in map unit 87C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a coarse-loamy, mixed, superactive, mesic Dystric Eutrudept.

### **Typical Pedon**

Dickinson sandy loam, 0 to 2 percent slopes; at an elevation of 617 feet; 360 feet north and 1,720 feet west of the center of sec. 17, T. 17 N., R. 6 E.; 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; UTM Zone 16, 263148E and 4593741N, NAD 83:

- 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 faint 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

*Depth to carbonates:* More than 59 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 or 2.5Y

Value—3 to 5

Chroma—2 to 4

Texture—sandy loam or fine sandy loam

*Bt, 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

## 87A—Dickinson sandy loam, 0 to 2 percent slopes

### Setting

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Summits

### **Map Unit Composition**

Dickinson and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have less sand and more clay in the control section
- Soils that have slopes of more than 2 percent

#### *Dissimilar soils:*

- The somewhat poorly drained Ridgeville soils on summits and footslopes

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

*Parent material:* Eolian sands over outwash

*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:* About 5.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Moderately high

### **Interpretive Groups**

*Land capability classification:* 2s

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

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

### **Setting**

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Shoulders and summits

### **Map Unit Composition**

Dickinson and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that are moderately eroded
- Soils that have less sand and more clay in the control section
- Soils that have slopes of less than 2 percent or more than 5 percent

#### *Dissimilar soils:*

- The somewhat poorly drained Ridgeville soils on summits and footslopes

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

*Parent material:* Eolian sands over outwash

*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:* About 5.9 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*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:* Low  
*Susceptibility to wind erosion:* Moderately high

### ***Interpretive Groups***

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

## **87C2—Dickinson sandy loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Dunes  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

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

### ***Soils of Minor Extent***

#### ***Similar soils:***

- Soils that are severely eroded or only slightly eroded
- Soils that have less sand and more clay in the control section
- Soils that have slopes of less than 5 percent or more than 10 percent

#### ***Dissimilar soils:***

- The somewhat poorly drained Ridgeville soils on summits and footslopes

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

*Parent material:* 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:* About 5.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 0.5 to 1.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Low for steel and moderate for concrete

*Surface runoff class:* Low  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Moderately high

### **Interpretive Groups**

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

## **Dresden Series**

**Taxonomic classification:** Fine-loamy over sandy or sandy-skeletal, mixed, active, mesic Mollic Hapludalfs

### **Typical Pedon**

Dresden silt loam, 2 to 4 percent slopes; at an elevation of 580 feet; 1,460 feet south and 140 feet east of the northwest corner of sec. 10, T. 34 N., R. 9 E.; Will County, Illinois; USGS Channahon topographic quadrangle; lat. 41 degrees 26 minutes 42 seconds N. and long. 88 degrees 11 minutes 41 seconds W., NAD 27; UTM Zone 16, 400202E and 4588865N, NAD 83:

- Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine and medium granular structure; friable; common very fine roots; common distinct dark grayish brown (10YR 4/2) silt coatings on horizontal faces of peds; neutral; gradual wavy boundary.
- BE—7 to 10 inches; brown (10YR 4/3) silt loam; weak thin platy structure; friable; common fine roots; common distinct dark grayish brown (10YR 4/2) silt coatings on horizontal faces of peds; neutral; gradual wavy boundary.
- Bt1—10 to 16 inches; brown (7.5YR 4/3) silt loam; moderate fine and medium prismatic structure; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; neutral; gradual wavy boundary.
- 2Bt2—16 to 24 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; firm; common very fine roots; many prominent very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; few fine strong brown (7.5YR 5/6) weakly cemented iron and manganese oxide nodules throughout; 1 percent gravel; neutral; clear smooth boundary.
- 2Bt3—24 to 30 inches; brown (7.5YR 4/3) clay loam; weak medium subangular blocky structure; firm; common fine roots; many prominent very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; common medium brownish yellow (10YR 6/6) and distinct strong brown (7.5YR 4/6) weakly cemented iron and manganese oxide nodules throughout; 7 percent gravel; very slightly effervescent; slightly alkaline; clear smooth boundary.
- 3C—30 to 60 inches; yellowish brown (10YR 5/4) gravelly loamy sand; single grain; loose; 21 percent gravel; strongly effervescent; moderately alkaline.

### **Range in Characteristics**

*Thickness of the loess or other silty material:* Less than 20 inches  
*Depth to sandy and gravelly deposits:* 24 to 40 inches  
*Depth to carbonates:* 24 to 40 inches  
*Depth to the base of soil development:* 24 to 40 inches

*Ap or A horizon:*  
 Hue—10YR  
 Value—2 or 3

Chroma—2 or 3  
Texture—silt loam or loam

*E horizon (where present):*

Hue—10YR  
Value—4 or 5  
Chroma—2 or 3  
Texture—silt loam or loam

*Bt and 2Bt horizons (upper part):*

Hue—10YR  
Value—4 or 5  
Chroma—3 or 4  
Texture—silty clay loam, clay loam, or loam  
Content of gravel—less than 10 percent

*Bt, BC, 2Bt, and/or 2BC horizons (lower part):*

Hue—7.5YR or 10YR  
Value—3 or 4  
Chroma—2 or 3  
Texture—sandy loam, clay loam, loam, or sandy clay loam or the gravelly or very gravelly analogs of these textures  
Content of gravel—less than 45 percent

*2C or 3C horizon:*

Hue—7.5YR or 10YR  
Value—4 to 7  
Chroma—2 to 6  
Texture—the gravelly, very gravelly, or extremely gravelly analogs of sand, loamy sand, coarse sand, or loamy coarse sand  
Content of gravel—20 to 75 percent

## **325B—Dresden silt loam, 2 to 4 percent slopes**

### ***Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Summits and backslopes

### ***Map Unit Composition***

Dresden and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have sandy and gravelly deposits at a depth of less than 24 inches or more than 40 inches
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have a thicker surface layer

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Loess and/or loamy outwash over sandy and gravelly outwash

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **325C2—Dresden silt loam, 4 to 6 percent slopes, eroded**

### ***Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Dresden and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are severely eroded
- Soils that have a thicker surface layer
- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have sandy and gravelly deposits at a depth of less than 24 inches or more than 40 inches
- Soils that have slopes of less than 4 percent or more than 6 percent

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Loess and/or loamy outwash over sandy and gravelly outwash

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 6.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Drummer Series**

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

### **Typical Pedon**

Drummer silty clay loam, 0 to 2 percent slopes; at an elevation of 715 feet; 300 feet north and 1,600 feet east of the southwest corner of sec. 19, T. 19 N., R. 9 E.; Champaign County, Illinois; USGS Urbana topographic quadrangle; lat. 40 degrees 05 minutes 04 seconds N. and long. 88 degrees 13 minutes 58 seconds W.; UTM Zone 16, 394896E and 4437648N, NAD 27:

- Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; firm; many fine roots; moderately acid; clear smooth boundary.
- A—7 to 14 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine subangular blocky structure parting to weak fine granular; firm; many fine and medium roots; slightly acid; clear smooth boundary.
- BA—14 to 19 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate fine and medium subangular blocky structure; firm; many fine and medium roots; few fine faint very dark grayish brown (2.5Y 3/2) masses of manganese accumulation in the matrix; slightly acid; gradual smooth boundary.
- Bg—19 to 25 inches; dark gray (10YR 4/1) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; firm; many fine roots; common fine distinct and prominent yellowish brown (10YR 5/4 and 5/6) masses of iron accumulation in the matrix; many wormholes; neutral; gradual smooth boundary.
- Btg1—25 to 32 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine and medium prismatic structure parting to moderate fine angular blocky; firm; many fine roots; common distinct dark gray (N 4/) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.
- Btg2—32 to 41 inches; gray (N 5/) silty clay loam; weak medium prismatic structure parting to weak medium angular blocky; firm; few fine roots; few distinct dark gray (N 4/) clay films on faces of peds; many medium prominent yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; neutral; clear wavy boundary.
- 2Btg3—41 to 47 inches; gray (N 5/) loam; weak coarse subangular blocky structure; friable; few fine roots; few distinct dark gray (10YR 4/1) clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 4 percent gravel; neutral; abrupt wavy boundary.
- 2Cg—47 to 60 inches; dark gray (10YR 4/1), stratified loam and sandy loam; massive; friable; many medium prominent olive brown (2.5Y 4/4) masses of iron

accumulation in the matrix; many medium distinct gray (N 5/) iron depletions in the matrix; slightly alkaline.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* 40 to 60 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 40 to 65 inches

*Ap or A horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 or 3

Chroma—0 to 2

Texture—silty clay loam; less commonly silt loam

*Btg, Bg, and/or BA horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 4

Texture—silty clay loam or silt loam

*2Btg horizon:*

Hue—10YR, 7.5YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—loam or silt loam with strata of clay loam, silty clay loam, sandy clay loam, or sandy loam

Content of gravel—less than 7 percent

*2Cg horizon:*

Hue—10YR, 7.5YR, 2.5Y, 5Y, or N

Value—4 to 7

Chroma—0 to 8

Texture—stratified loam, silt loam, clay loam, or sandy loam with thin strata of loamy sand

Content of gravel—less than 15 percent

## 152A—Drummer silty clay loam, 0 to 2 percent slopes

### Setting

*Landform:* Outwash plains and ground moraines

*Position on the landform:* Toeslopes

### Map Unit Composition

Drummer and similar soils: 90 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that are less than 40 inches deep to outwash
- Soils that are more than 60 inches deep to outwash
- Soils that are underlain by till
- Soils that have carbonates within a depth of 40 inches

*Dissimilar soils:*

- The somewhat poorly drained Brenton and Elburn soils on summits and footslopes

- Soils that are subject to flooding
- The poorly drained Harpster soils on toeslopes
- The very poorly drained Houghton soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying outwash

*Drainage class:* Poorly drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 7.0 percent

*Shrink-swell potential:* Moderate

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through May

*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:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## ***Du Page Series***

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

### **Typical Pedon**

Du Page silt loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 593 feet; 1,160 feet east and 1,820 feet south of the northwest corner of sec. 36, T. 20 N., R. 4 E.; Whiteside County, Illinois; USGS Prophetstown topographic quadrangle; lat. 41 degrees 40 minutes 47 seconds N. and long. 89 degrees 59 minutes 35 seconds W., NAD 27; UTM Zone 16, 250860E and 4618550N, NAD 83:

Ap—0 to 9 inches; very dark gray (10YR 3/1) silt loam, dark gray (10YR 4/1) dry; weak medium and fine subangular blocky structure parting to weak medium granular; friable; few snail-shell fragments; strongly effervescent; slightly alkaline; abrupt smooth boundary.

A1—9 to 17 inches; very dark grayish brown (10YR 3/2) silt loam, dark gray (10YR 4/1) dry; weak medium and fine subangular blocky structure parting to weak medium granular; friable; many faint very dark gray (10YR 3/1) organic coatings on faces of peds; few snail-shell fragments; strongly effervescent; slightly alkaline; clear smooth boundary.

A2—17 to 27 inches; very dark grayish brown (10YR 3/2) loam, dark grayish brown (10YR 4/2) dry; moderate medium and fine subangular blocky structure; friable; few faint very dark gray (10YR 3/1) organic coatings on faces of peds; few snail-shell fragments; violently effervescent; slightly alkaline; clear smooth boundary.

A3—27 to 34 inches; dark brown (10YR 3/3) loam, grayish brown (10YR 5/2) dry; weak medium and fine subangular blocky structure; friable; few faint very dark

grayish brown (10YR 3/2) organic coatings on faces of peds; few very dark gray (10YR 3/1) wormcasts; few snail-shell fragments; violently effervescent; moderately alkaline; clear smooth boundary.

C—34 to 60 inches; dark grayish brown (10YR 4/2) loam; thin strata of brown (10YR 5/3) sandy loam; massive; friable; few very dark grayish brown (10YR 3/2) wormcasts; few fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; few snail-shell fragments; violently effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 24 to 40 inches

*Depth to the base of soil development:* 24 to 50 inches

*Ap or A horizon (upper part):*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—loam or silt loam

Content of gravel—less than 5 percent

*A, Bw, or AC horizon (middle part):*

Hue—10YR

Value—2 or 3

Chroma—2 or 3

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

Content of gravel—less than 25 percent

*C horizon:*

Hue—10YR

Value—3 or 4

Chroma—1 to 4

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

Content of gravel—less than 25 percent

## 3321A—Du Page silt loam, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains

### Map Unit Composition

Du Page and similar soils: 85 percent

Dissimilar soils: 15 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that are overlain by light-colored, recent deposits
- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have carbonates at a depth of more than 10 inches
- Soils that have a thinner subsurface layer
- Soils that have a seasonal high water table at a depth of less than 4 feet

*Dissimilar soils:*

- The poorly drained, calcareous Millington soils on flood plains

***Properties and Qualities of the Du Page 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:* About 9.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4 to 6 feet,  
February through April

*Ponding:* None

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* Moderate

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where protected from flooding or not  
frequently flooded during the growing season

*Hydric soil status:* Not hydric

***Elburn Series***

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

**Typical Pedon**

Elburn silt loam, 0 to 2 percent slopes; at an elevation of 617 feet; 2,716 feet north and 1,300 feet west of the southeast corner of sec. 36, T. 14 N., R. 1 E.; Christian County, Illinois; USGS Assumption topographic quadrangle; lat. 39 degrees 37 minutes 04.7 seconds N. and long. 89 degrees 01 minute 45.8 seconds W., NAD 27; UTM Zone 16, 325796E and 4387328N, NAD 83:

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; few very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; slightly acid; abrupt smooth boundary.

A—6 to 16 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; few very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; neutral; clear smooth boundary.

Bt1—16 to 21 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; friable; few very fine roots; many distinct very dark gray (10YR 3/1) organo-clay films and dark gray (10YR 4/1) clay films on faces of peds; few fine iron and manganese oxide concretions throughout; few fine faint brown (10YR 5/3) soft masses of iron and manganese in the matrix; few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

- Bt2—21 to 28 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organo-clay films and common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine iron and manganese oxide concretions throughout; few fine faint grayish brown (10YR 5/2) iron depletions and few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.
- Bt3—28 to 36 inches; brown (10YR 5/3) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organo-clay films and dark gray (10YR 4/1) clay films on faces of peds; few fine iron and manganese oxide concretions throughout; common fine faint grayish brown (10YR 5/2) iron depletions and common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.
- Bt4—36 to 43 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots; few prominent very dark gray (10YR 3/1) organo-clay films and few distinct brown (10YR 5/3) clay films on faces of peds; few fine iron and manganese oxide concretions throughout; common medium distinct yellowish brown (10YR 5/6) and brownish yellow (10YR 6/6) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.
- Btg—43 to 49 inches; grayish brown (2.5Y 5/2) silty clay loam; weak coarse subangular blocky structure; friable; few very fine roots; few distinct very dark gray (10YR 3/1) organo-clay films and dark grayish brown (10YR 4/2) clay films on faces of peds; few fine iron and manganese oxide concretions throughout; many medium prominent brownish yellow (10YR 6/8) and few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.
- 2BCtg—49 to 58 inches; grayish brown (2.5Y 5/2), stratified silt loam, loam, and sandy loam; weak coarse subangular blocky structure; friable; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films and dark grayish brown (10YR 4/2) clay films lining pores; few very fine iron and manganese oxide concretions throughout; common medium prominent brownish yellow (10YR 6/8) and few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.
- 2Cg—58 to 62 inches; grayish brown (2.5Y 5/2), stratified sandy loam and loamy sand; massive; very friable; common medium prominent yellowish brown (10YR 5/8) and brownish yellow (10YR 6/8) masses of iron accumulation in the matrix; slightly alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 19 inches

*Thickness of the loess or other silty material:* 40 to 60 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 40 to 70 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Bt or Btg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 or 5

Chroma—2 to 4  
Texture—silty clay loam or silt loam

*2Btg, 2Bt, 2BC, 2BCtg, or 2BCg horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y  
Value—4 to 6  
Chroma—2 to 8  
Texture—sandy loam, clay loam, loam, silty clay loam, or silt loam  
Content of gravel—less than 15 percent

*2C or 2Cg horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y  
Value—4 to 6  
Chroma—2 to 8  
Texture—stratified sandy loam, loam, loamy sand, sand, or silt loam  
Content of gravel—less than 15 percent

## **198A—Elburn silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits and footslopes

### ***Map Unit Composition***

Elburn and similar soils: 93 percent

Dissimilar soils: 7 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more sand and less clay within a depth of 40 inches
- Soils that have less sand and more silt in the lower part of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet

*Dissimilar soils:*

- The well drained Plano and Batavia soils on summits
- The poorly drained Drummer and Thorp soils on toeslopes

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

*Parent material:* Loess over stratified loamy outwash

*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:* About 11.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

### ***Elkhart Series***

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

#### **Typical Pedon**

Elkhart silt loam, 2 to 5 percent slopes; at an elevation of 745 feet; 540 feet south and 114 feet west of the northeast corner of sec. 19, T. 28 N., R. 1 W.; Woodford County, Illinois; USGS Washburn topographic quadrangle; lat. 40 degrees 52 minutes 47 seconds N. and long. 89 degrees 15 minutes 24 seconds W.; UTM Zone 16, 309860E and 4527842N, NAD 83:

- Ap—0 to 9 inches; black (10YR 2/1) silt loam, very dark grayish brown (10YR 3/2) dry; moderate medium granular structure; friable; few very fine roots; neutral; abrupt smooth boundary.
- A—9 to 13 inches; very dark brown (10YR 2/2) silty clay loam, very dark grayish brown (10YR 3/2) dry; moderate medium granular structure; very friable; few very fine roots; neutral; clear smooth boundary.
- Bt1—13 to 22 inches; dark yellowish brown (10YR 3/4) silty clay loam; moderate fine and medium prismatic structure parting to moderate fine subangular blocky; friable; few very fine roots; common distinct black (10YR 2/1) organic coatings on faces of peds; neutral; gradual wavy boundary.
- Bt2—22 to 37 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure; friable; few very fine roots; common distinct dark brown (10YR 3/3) clay films on faces of peds; few fine faint light yellowish brown (10YR 6/4) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.
- Bt3—37 to 52 inches; yellowish brown (10YR 5/6) silt loam; weak coarse prismatic structure; friable; few very fine roots; few distinct brown (10YR 5/3) clay films on faces of peds; few fine prominent light brownish gray (10YR 6/2) iron depletions in the matrix; strongly effervescent; slightly alkaline; diffuse wavy boundary.
- C—52 to 60 inches; yellowish brown (10YR 5/6) silt loam; massive; friable; few fine distinct yellowish brown (10YR 5/8) masses of iron accumulation and common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; strongly effervescent; slightly alkaline.

#### **Range in Characteristics**

*Thickness of the mollic epipedon:* 10 to 20 inches  
*Depth to carbonates:* 20 to 40 inches

*Ap, A, or AB horizon:*

Hue—10YR or 7.5YR  
 Value—2 or 3  
 Chroma—1 to 3  
 Texture—silt loam or silty clay loam

*BA and/or Bt horizon:*

Hue—10YR or 7.5YR  
 Value—3 to 5  
 Chroma—3 to 6  
 Texture—silty clay loam or silt loam

*BC or BCk horizon:*

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

*C horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 to 6  
 Texture—silt loam

**567B—Elkhart silt loam, 2 to 5 percent slopes*****Setting***

*Landform:* Ground moraines

*Position on the landform:* Summits and backslopes

***Map Unit Composition***

Elkhart and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have more clay and less silt in the profile
- Soils that are moderately eroded
- Soils that have a seasonal high water table at a depth of less than 4 feet

*Dissimilar soils:*

- The somewhat poorly drained Arrowsmith soils on summits and footslopes

***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:* About 12.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.5 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4 to 6 feet,  
 February through April

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## ***Elliott Series***

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

**Taxadjunct features:** The Elliott soil in map unit 146B2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine, illitic, mesic Aquollic Hapludalf.

### **Typical Pedon**

Elliott silt loam, 0 to 2 percent slopes; at an elevation of 704 feet; 690 feet south and 2,436 feet west of the center of sec. 21, T. 29 N., R. 8 E.; Livingston County, Illinois; USGS Cullom topographic quadrangle; lat. 40 degrees 58 minutes 12 seconds N. and long. 88 degrees 19 minutes 19 seconds W., NAD 27; UTM Zone 16, 388762E and 4536262N, NAD 83:

- Ap—0 to 6 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common fine roots; moderately acid; abrupt smooth boundary.
- A—6 to 11 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common fine roots; slightly acid; clear smooth boundary.
- Bt1—11 to 16 inches; light olive brown (2.5Y 5/4) silty clay; moderate fine subangular blocky structure; friable; common fine roots; few distinct black (10YR 2/1) organic coatings on faces of peds; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; neutral; clear smooth boundary.
- 2Bt2—16 to 23 inches; light olive brown (2.5Y 5/4) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; 1 percent gravel; neutral; clear smooth boundary.
- 2Bt3—23 to 28 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 1 percent gravel; neutral; clear smooth boundary.
- 2Bt4—28 to 35 inches; olive brown (2.5Y 4/4) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; firm; few fine roots; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; few medium white (10YR 8/1) moderately cemented calcium carbonate concretions throughout; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 1 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- 2Bt5—35 to 41 inches; olive brown (2.5Y 4/4) silty clay loam; weak fine prismatic structure parting to moderate medium angular blocky; firm; few fine roots; common distinct gray (5Y 6/1) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; strongly effervescent; slightly alkaline; clear smooth boundary.
- 2Cd—41 to 60 inches; olive brown (2.5Y 4/4) silty clay loam; massive; firm; common fine prominent gray (5Y 5/1) iron depletions in the matrix; 3 percent gravel; strongly effervescent; moderately alkaline.

### **Range in Characteristics**

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

*Thickness of the loess or other silty material:* Less than 20 inches

*Depth to carbonates:* 17 to 40 inches

*Depth to the base of soil development:* 20 to 45 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or silty clay loam

*Bt or 2Bt horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay loam or silty clay

Content of gravel—less than 10 percent

*2Cd horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam

Content of gravel—less than 15 percent

## **146A—Elliott silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Summits and footslopes

### ***Map Unit Composition***

Elliott and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have more than 20 inches of loess or other silty material
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet

*Dissimilar soils:*

- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Somewhat poorly drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 20 to 45 inches to dense material

*Available water capacity:* About 8.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,

January through May

*Ponding:* None

*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

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

## **146B—Elliott silt loam, 2 to 4 percent slopes**

### ***Setting***

*Landform:* End moraines and ground moraines  
*Position on the landform:* Backslopes and footslopes

### ***Map Unit Composition***

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

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have more than 20 inches of loess or other silty material
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that are moderately eroded

#### *Dissimilar soils:*

- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till  
*Drainage class:* Somewhat poorly drained  
*Slowest permeability within a depth of 40 inches:* Slow  
*Permeability below a depth of 60 inches:* Slow  
*Depth to restrictive feature:* 20 to 45 inches to dense material  
*Available water capacity:* About 8.0 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 3.5 to 5.0 percent  
*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
 January through May  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

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

## **146B2—Elliott silty clay loam, 2 to 4 percent slopes, eroded**

### ***Setting***

*Landform:* End moraines and ground moraines  
*Position on the landform:* Backslopes and footslopes

### ***Map Unit Composition***

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

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have more than 20 inches of loess or other silty material
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that are severely eroded or only slightly eroded

#### *Dissimilar soils:*

- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Somewhat poorly drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 20 to 45 inches to dense material

*Available water capacity:* About 6.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.5 to 4.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
 January through May

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

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

## ***Elpaso Series***

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

### **Typical Pedon**

Elpaso silty clay loam, 0 to 2 percent slopes; at an elevation of 715 feet; 210 feet north and 320 feet west of the southeast corner of sec. 30, T. 27 N., R. 2 E.; Woodford County, Illinois; USGS Benson topographic quadrangle; lat. 40 degrees 45 minutes 59.7 seconds N. and long. 89 degrees 01 minute 34 seconds W., NAD 27; UTM Zone 16, 328989E and 4514825N, NAD 83:

- Ap—0 to 7 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak very fine granular structure; firm; many very fine and fine roots; moderately acid; abrupt smooth boundary.
- A—7 to 21 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine and medium subangular blocky structure; firm; many very fine and fine roots; moderately acid; gradual wavy boundary.
- Bg—21 to 35 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate fine prismatic structure parting to moderate medium subangular blocky; friable; many fine roots; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; few fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.
- Btg1—35 to 44 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate fine prismatic structure parting to moderate medium subangular blocky; friable; common fine roots; common distinct dark gray (10YR 4/1) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/6) and few fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.
- 2Btg2—44 to 53 inches; dark grayish brown (2.5Y 4/2) silt loam; weak medium and coarse subangular blocky structure; friable; few fine roots; common distinct dark gray (10YR 4/1) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; common medium prominent yellowish brown (10YR 5/6) and common fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; 5 percent gravel; slightly alkaline; clear wavy boundary.
- 2Btg3—53 to 69 inches; dark grayish brown (2.5Y 4/2) and olive brown (2.5Y 4/4) silty clay loam; weak medium and coarse prismatic structure; firm; few distinct dark gray (10YR 4/1) clay films on faces of peds; few fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine distinct olive gray (5Y 5/2) iron depletions throughout; 4 percent gravel; slightly effervescent starting at a depth of 63 inches; slightly alkaline; diffuse wavy boundary.
- 2C—69 to 80 inches; olive brown (2.5Y 4/4) silty clay loam; massive; firm; few fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine prominent olive gray (5Y 5/2) iron depletions throughout; 4 percent gravel; strongly effervescent; moderately alkaline.

### **Range in Characteristics**

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

*Thickness of the loess or other silty material:* 40 to 60 inches

*Depth to carbonates:* 35 to 65 inches

*Depth to the base of soil development:* 45 to 75 inches

*Ap and A horizons:*

Hue—10YR, 2.5Y, or N

Value—2 or 3

Chroma—0 to 2

Texture—silty clay loam

*Bg and Btg horizons:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay loam or silt loam

*2Btg and/or 2BCg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 4

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

Content of gravel—1 to 10 percent

*2C horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

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

Content of gravel—1 to 10 percent

## **356A—Elpaso silty clay loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Toeslopes

### ***Map Unit Composition***

Elpaso and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have carbonates at a depth of less than 35 inches
- Soils that have till at a depth of less than 40 inches or more than 60 inches
- Soils that are overlain by light-colored, recent deposits
- Soils that have more clay and less silt in the control section
- Soils that have carbonates within a depth of 35 inches

*Dissimilar soils:*

- The somewhat poorly drained Chenoa and Flanagan soils on summits and footslopes
- The poorly drained Harpster soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till

*Drainage class:* Poorly drained

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

*Permeability below a depth of 60 inches:* Moderately slow or moderate  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 13.1 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 4.0 to 7.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest apparent seasonal high water table:* At the surface to 1 foot below the surface, January through May  
*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through 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:* Low  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

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

## **Faxon Series**

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

### **Typical Pedon**

Faxon loam, 0 to 2 percent slopes; at an elevation of 503 feet; 1,150 feet south and 1,300 feet east of the northwest corner of sec. 26, T. 33 N., R. 5 E.; La Salle County, Illinois; lat. 41 degrees 18 minutes 28 seconds N. and long. 88 degrees 37 minutes 28 seconds W.; UTM Zone 16, 364016E and 4574212N, NAD 83:

Ap—0 to 5 inches; very dark gray (10YR 3/1) loam, gray (10YR 5/1) dry; weak medium subangular blocky structure parting to weak medium granular; friable; common very fine and fine roots; slightly acid; clear smooth boundary.

A—5 to 12 inches; very dark gray (10YR 3/1) loam, gray (10YR 5/1) dry; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots and few medium roots; slightly acid; clear smooth boundary.

Bg—12 to 16 inches; dark gray (10YR 4/1) loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots and few medium roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine prominent dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Btg1—16 to 23 inches; gray (2.5Y 5/1) clay loam; weak medium prismatic structure parting to moderate fine and medium subangular blocky; friable; common very fine roots; few distinct dark gray (2.5Y 4/1) clay films on faces of peds; common fine and medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; strongly acid; clear wavy boundary.

Btg2—23 to 28 inches; gray (2.5Y 5/1) loam; moderate medium prismatic structure parting to weak medium subangular blocky; firm; few very fine, fine, and medium roots; few distinct dark gray (2.5Y 4/1) clay films on faces of peds and in pores; many medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; strongly acid; clear wavy boundary.

BCg—28 to 36 inches; gray (2.5Y 5/1) loam; weak medium and coarse subangular blocky structure; friable; few very fine roots; very few distinct dark gray (2.5Y 4/1) clay films in root channels and/or pores; many medium and coarse prominent

yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; 3 percent channers; strongly acid; clear wavy boundary.  
2R—36 inches; gray (2.5Y 5/1) sandstone bedrock.

### **Range in Characteristics**

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

*Depth to bedrock:* 20 to 40 inches

*Depth to the base of soil development:* 20 to 40 inches

*Ap or A horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 or 3

Chroma—0 or 1

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

*Bg, Btg, or BCg horizon:*

Hue—10YR, 2.5Y, 5Y, or 5GY

Value—4 or 5

Chroma—1 or 2 in the upper part; 1 to 4 in the lower part

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

Content of gravel—less than 10 percent; as much as 35 percent in the horizon adjacent to the bedrock in some pedons

## **516A—Faxon loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Toeslopes

### ***Map Unit Composition***

Faxon and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less sand and more silt throughout the profile
- Soils that have a thinner surface layer
- Soils that have a lighter colored surface layer
- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches

*Dissimilar soils:*

- The well drained Hesch and Channahon soils on summits and footslopes
- Somewhat poorly drained soils on summits and footslopes
- Soils that are subject to flooding
- The very poorly drained Peotone soils on toeslopes

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

*Parent material:* Drift over sandstone

*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:* 20 to 40 inches to bedrock (lithic)

*Available water capacity:* About 6.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 6.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest perched seasonal high water table:* At the surface to 1 foot below the surface, January through May

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through May

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **8516A—Faxon loam, 0 to 2 percent slopes, occasionally flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Faxon and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches
- Soils that have less sand and more silt throughout the profile
- Soils that have a thinner surface layer
- Soils that have a lighter colored surface layer

*Dissimilar soils:*

- Soils that are not subject to flooding
- The poorly drained Titus soils on flood plains

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

*Parent material:* Drift over sandstone

*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:* 20 to 40 inches to bedrock (lithic)

*Available water capacity:* About 6.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 6.0 percent

*Shrink-swell potential:* Low

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through May

*Frequency and most likely period of flooding:* Occasional, November through June

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Fayette Series**

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

### **Typical Pedon**

Fayette silt loam, 5 to 10 percent slopes, eroded; at an elevation of 645 feet; 1,640 feet north and 1,800 feet west of the southeast corner of sec. 35, T. 3 N., R. 2 E.; Fulton County, Illinois; USGS Bath topographic quadrangle; lat. 40 degrees 11 minutes 23 seconds N. and long. 90 degrees 14 minutes 52 seconds W.; UTM Zone 16, 734279E and 4452430N, NAD 83:

- Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, brown (10YR 4/3) dry; weak very fine subangular blocky structure parting to weak very fine and fine granular; friable; common very fine roots; slightly acid; clear smooth boundary.
- Bt1—8 to 11 inches; yellowish brown (10YR 5/4) silty clay loam; moderate very fine subangular blocky structure; firm; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few fine very weakly cemented iron-manganese oxide concretions throughout; moderately acid; clear smooth boundary.
- Bt2—11 to 24 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few fine very weakly cemented iron-manganese oxide concretions throughout; strongly acid; gradual smooth boundary.
- Bt3—24 to 38 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few fine very weakly cemented iron-manganese oxide concretions throughout; strongly acid; gradual smooth boundary.
- Bt4—38 to 49 inches; yellowish brown (10YR 5/4) silty clay loam; moderate coarse subangular blocky structure; firm; few very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few fine very weakly cemented iron-manganese oxide concretions throughout; strongly acid; gradual smooth boundary.
- BC—49 to 64 inches; yellowish brown (10YR 5/4) silty clay loam; firm; very few distinct brown (10YR 4/3) clay films on faces of peds; few fine very weakly cemented iron-manganese oxide concretions throughout; strongly acid; gradual smooth boundary.
- C—64 to 80 inches; yellowish brown (10YR 5/4) silt loam; friable; few fine very weakly cemented iron-manganese oxide concretions throughout; strongly acid.

### **Range in Characteristics**

*Thickness of the loess:* More than 60 inches

*Depth to carbonates:* More than 40 inches

*A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2  
Texture—silt loam

*Ap horizon (where present):*

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

*E horizon (where present):*

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

*BE horizon (where present):*

Hue—10YR  
Value—4 or 5  
Chroma—3 or 4  
Texture—silt loam or silty clay loam

*Bt horizon:*

Hue—10YR  
Value—4 or 5  
Chroma—3 to 6  
Texture—silty clay loam or silt loam

*BC and/or C horizon:*

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

### ***Map Unit Composition***

Fayette and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have till within a depth of 60 inches
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that are severely eroded or only slightly eroded

*Dissimilar soils:*

- The somewhat poorly drained Stronghurst soils on 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:* About 11.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Moderate  
*Ponding:* None  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and high for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

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

## **Flanagan Series**

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

### **Typical Pedon**

Flanagan silt loam, 0 to 2 percent slopes; at an elevation of 730 feet; 1,607 feet east and 1,405 feet north of the southwest corner of sec. 19, T. 19 N., R. 9 E.; Champaign County, Illinois; USGS Urbana topographic quadrangle; lat. 40 degrees 05 minutes 14 seconds N. and long. 88 degrees 13 minutes 57 seconds W., NAD 27; UTM Zone 16, 394922E and 4438169N, NAD 83:

- A1—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; slightly alkaline; gradual smooth boundary.
- A2—8 to 15 inches; very dark brown (10YR 2/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; slightly acid; clear smooth boundary.
- A3—15 to 18 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; slightly acid; clear smooth boundary.
- Bt1—18 to 23 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine subangular blocky structure; firm; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine faint brown (10YR 4/3) masses of iron and manganese oxide accumulation in the matrix; moderately acid; clear smooth boundary.
- Bt2—23 to 32 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate medium subangular blocky structure; firm; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine faint brown (10YR 5/3 and 4/3) masses of iron and manganese oxide accumulation in the matrix; moderately acid; clear smooth boundary.
- Bt3—32 to 38 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine faint light yellowish brown (10YR 6/4) and distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

**Bt4**—38 to 45 inches; 40 percent yellowish brown (10YR 5/6), 30 percent light brownish gray (10YR 6/2), and 30 percent brown (10YR 5/3) silt loam; weak medium subangular blocky structure; friable; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; slightly acid; gradual smooth boundary.

**2Bt5**—45 to 49 inches; 35 percent yellowish brown (10YR 5/4), 35 percent light olive brown (2.5Y 5/4), and 30 percent light brownish gray (10YR 6/2) silt loam; weak coarse subangular blocky structure; firm; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; 5 percent gravel; neutral; abrupt smooth boundary.

**2C**—49 to 60 inches; yellowish brown (10YR 5/4) loam; massive; firm; common medium white (10YR 8/1) weakly cemented calcium carbonate nodules throughout; common fine and medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 5 percent gravel; slightly effervescent; slightly alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 18 inches

*Thickness of the loess or other silty material:* 40 to 60 inches

*Depth to carbonates:* 45 to 65 inches

*Depth to the base of soil development:* 45 to 65 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Bt horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 6

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

*2Bt, 2Btg, 2BCg, or 2BC horizon:*

Hue—7.5YR to 2.5Y

Value—4 to 6

Chroma—1 to 6

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

Content of gravel—1 to 14 percent

*2C horizon:*

Hue—7.5YR to 5Y

Value—4 to 6

Chroma—2 to 6

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

Content of gravel—1 to 14 percent

## 154A—Flanagan silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines

*Position on the landform:* Summits

### Map Unit Composition

Flanagan and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more clay and less sand in the middle and lower parts of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of more than 2 percent
- Soils that have till within a depth of 40 inches

*Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess over till

*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:* About 9.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **818A—Flanagan-Catlin silt loams, 0 to 3 percent slopes**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Flanagan—summits and footslopes in areas where slopes are generally less than 2 percent; Catlin—knolls and summits in areas where slopes are generally more than 1 percent

### ***Map Unit Composition***

Flanagan and similar soils: 55 percent

Catlin and similar soils: 35 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are less than 40 inches or more than 60 inches deep to till
- Soils that have a thinner surface layer
- Soils that have slopes of more than 3 percent
- Soils that have more clay and less sand in the middle and lower parts of the profile

*Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

***Properties and Qualities of the Flanagan Soil***

*Parent material:* Loess over loamy till

*Drainage class:* Somewhat poorly drained

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

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

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

***Properties and Qualities of the Catlin Soil***

*Parent material:* Loess over loamy till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.5 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* Flanagan—1; Catlin—1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Flanagan—not hydric; Catlin—not hydric

***Fox Series***

**Taxonomic classification:** Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Hapludalfs

**Typical Pedon**

Fox silt loam, 2 to 4 percent slopes; at an elevation of 602 feet; 760 feet north and 2,120 feet east of the southwest corner of sec. 21, T. 36 N., R. 9 E.; Will County, Illinois;

USGS Plainfield topographic quadrangle; lat. 41 degrees 34 minutes 56 seconds N. and long. 88 degrees 12 minutes 43 seconds W., NAD 27; UTM Zone 16, 398970E and 4604104N, NAD 83:

- Ap—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; common fine roots; neutral; clear smooth boundary.
- BE—4 to 7 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; common very fine and fine roots; few prominent light brownish gray (10YR 6/2) (dry) silt coatings on horizontal faces of peds; neutral; gradual smooth boundary.
- Bt1—7 to 13 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common fine roots; common faint brown (10YR 4/3) clay films on faces of peds; neutral; clear smooth boundary.
- 2Bt2—13 to 24 inches; brown (7.5YR 4/3) clay loam; moderate medium and coarse subangular blocky structure; firm; common fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; common fine yellowish brown (10YR 5/6) weakly cemented iron and manganese oxide concretions throughout; 7 percent gravel; very slightly effervescent; slightly alkaline; gradual wavy boundary.
- 2BC—24 to 28 inches; dark yellowish brown (10YR 4/4) gravelly loam; weak medium and coarse subangular blocky structure; firm; few distinct brown (10YR 4/3) clay films on vertical faces of peds; common fine yellowish brown (10YR 5/8) weakly cemented iron and manganese oxide concretions throughout; 15 percent gravel; strongly effervescent; moderately alkaline; gradual wavy boundary.
- 3C—28 to 60 inches; 80 percent brownish yellow (10YR 6/6) and 20 percent yellowish brown (10YR 5/4) gravelly coarse sand; single grain; loose; 20 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess or other silty material:* Less than 24 inches

*Depth to sandy and gravelly deposits:* 20 to 40 inches

*Depth to carbonates:* 20 to 40 inches

*Depth to the base of soil development:* 20 to 40 inches

*Ap or A horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—1 to 3

Texture—silt loam or loam

*E horizon (where present):*

Hue—10YR

Value—4 or 5

Chroma—2 or 3

Texture—silt loam or loam

*Bt horizon:*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—4

Texture—silty clay loam or silt loam

*2Bt horizon:*

Hue—5YR, 7.5YR, or 10YR

Value—3 or 4

Chroma—3 or 4

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

Content of gravel—less than 35 percent

*3C horizon:*

Hue—7.5YR or 10YR

Value—4 to 7

Chroma—3 or 4

Texture—the gravelly, very gravelly, or extremely gravelly analogs of sand or coarse sand

Content of gravel—15 to 70 percent

## **327B—Fox silt loam, 2 to 4 percent slopes**

### ***Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Backslopes and summits

### ***Map Unit Composition***

Fox and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a thicker and darker surface layer
- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have sandy and gravelly deposits at a depth of less than 24 inches or more than 40 inches
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that are moderately eroded

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 6.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **327C2—Fox silt loam, 4 to 6 percent slopes, eroded**

### ***Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Backslopes and shoulders

### ***Map Unit Composition***

Fox and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have sandy and gravelly deposits at a depth of less than 24 inches or more than 40 inches
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that are severely eroded

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 5.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **327D2—Fox loam, 6 to 12 percent slopes, eroded**

### ***Setting***

*Landform:* Kames, end moraines, and outwash plains

*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Fox and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have sandy and gravelly deposits at a depth of less than 24 inches or more than 40 inches
- Soils that are severely eroded
- Soils that have slopes of less than 6 percent or more than 12 percent

#### *Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 6.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Frankfort Series**

**Taxonomic classification:** Fine, illitic, mesic Udollic Epiaqualfs

### **Typical Pedon**

Frankfort silt loam, 2 to 4 percent slopes; at an elevation of 675 feet; 2,300 feet south and 300 feet east of the northwest corner of sec. 26, T. 44 N., R. 11 E.; Lake County, Illinois; USGS Libertyville topographic quadrangle; lat. 42 degrees 15 minutes 46 seconds N. and long. 87 degrees 55 minutes 25 seconds W., NAD 27; UTM Zone 16, 423811E and 4679374N, NAD 83:

A—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; many very fine and fine roots; neutral; abrupt smooth boundary.

EB—8 to 12 inches; dark grayish brown (10YR 4/2) silty clay loam, light brownish gray (10YR 6/2) dry; weak thick platy structure parting to weak fine subangular blocky;

friable; common very fine and fine roots; many prominent very dark gray (10YR 3/1) organic coatings on faces of peds and in pores; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

- Bt—12 to 18 inches; brown (10YR 4/3) silty clay; moderate fine and medium subangular blocky structure; friable; common very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on surfaces along pores; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds and in pores; common fine and medium strong brown (7.5YR 5/6) weakly cemented iron oxide concretions throughout; few fine black (7.5YR 2.5/1) strongly cemented manganese oxide concretions throughout; common fine and medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly acid; gradual wavy boundary.
- Btg1—18 to 24 inches; dark grayish brown (10YR 4/2) silty clay; moderate fine and medium prismatic structure parting to moderate fine and medium subangular blocky; firm; common very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on surfaces along pores; many distinct dark gray (10YR 4/1) clay films on faces of peds and in pores; common medium strong brown (7.5YR 5/6) weakly cemented iron oxide concretions throughout; few fine black (7.5YR 2.5/1) strongly cemented manganese oxide concretions throughout; common fine and medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; 1 percent gravel; neutral; gradual wavy boundary.
- Btg2—24 to 32 inches; grayish brown (10YR 5/2) silty clay; moderate medium and coarse prismatic structure parting to weak medium and coarse subangular blocky; firm; common prominent very dark brown (10YR 2/2) organo-clay films on faces of peds and in pores; common fine and medium reddish yellow (7.5YR 6/8) weakly cemented iron oxide concretions throughout; common fine black (7.5YR 2.5/1) strongly cemented manganese oxide concretions throughout; few fine prominent reddish yellow (7.5YR 7/6) masses of iron accumulation in the matrix; many medium faint gray (2.5Y 6/1) iron depletions in the matrix; 2 percent gravel; neutral; clear wavy boundary.
- BCg—32 to 37 inches; 60 percent gray (10YR 6/1) and 40 percent brown (10YR 5/3) silty clay; weak coarse prismatic structure parting to weak coarse angular blocky; very firm; few distinct very dark gray (10YR 3/1) organic coatings on surfaces along pores; common fine dark yellowish brown (10YR 4/6) weakly cemented iron oxide concretions throughout; common medium distinct white (10YR 8/1) carbonate masses throughout; 2 percent gravel; strongly effervescent; moderately alkaline; gradual wavy boundary.
- Cdg—37 to 60 inches; 60 percent gray (2.5Y 5/1) and 40 percent dark yellowish brown (10YR 4/4) silty clay loam; massive; very firm; few prominent very dark gray (10YR 3/1) organic coatings on surfaces along pores; common medium brown (10YR 5/3) weakly cemented iron oxide concretions throughout; common coarse prominent white (10YR 8/1) carbonate masses throughout; 1 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess or other silty material:* Less than 20 inches

*Depth to carbonates:* 18 to 40 inches

*Depth to the base of soil development:* 24 to 42 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or silty clay loam

*E or EB horizon (where present):*

Hue—10YR  
 Value—4 or 5  
 Chroma—1 or 2  
 Texture—silt loam or silty clay loam

*Bt or Btg horizon:*

Hue—10YR or 2.5Y  
 Value—4 to 6  
 Chroma—1 to 4  
 Texture—silty clay or clay  
 Content of gravel—less than 7 percent

*BC or BCg horizon (where present):*

Hue—10YR  
 Value—4 to 6  
 Chroma—2 to 6  
 Texture—silty clay or clay  
 Content of gravel—less than 10 percent

*Cdg horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—2 to 6  
 Texture—silty clay, silty clay loam, or clay  
 Content of gravel—less than 10 percent

**320B—Frankfort silt loam, 2 to 4 percent slopes*****Setting***

*Landform:* End moraines and ground moraines

*Position on the landform:* Backslopes and footslopes

***Map Unit Composition***

Frankfort and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that are moderately eroded
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have less clay and more silt in the control section
- Soils that have a thicker surface layer
- Soils that have slopes of less than 2 percent or more than 4 percent

*Dissimilar soils:*

- The poorly drained Bryce soils on toeslopes

***Properties and Qualities of the Frankfort Soil***

*Parent material:* Thin mantle of loess or other silty material and the underlying 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:* 24 to 42 inches to dense material

*Available water capacity:* About 6.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 0.5 foot to 2.0 feet, January through May  
*Ponding:* None  
*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:* Low  
*Susceptibility to wind erosion:* Low

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

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

### **320C2—Frankfort silty clay loam, 4 to 6 percent slopes, eroded**

#### ***Setting***

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

#### ***Map Unit Composition***

Frankfort and similar soils: 92 percent  
 Dissimilar soils: 8 percent

#### ***Soils of Minor Extent***

##### *Similar soils:*

- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have a thicker surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that are severely eroded or only slightly eroded
- Soils that have less clay and more silt in the control section

##### *Dissimilar soils:*

- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Bryce soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying 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:* 24 to 42 inches to dense material  
*Available water capacity:* About 5.0 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 0.5 foot to 2.0 feet, January through May  
*Ponding:* None  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High

*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Very high  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

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

## **Gale Series**

**Taxonomic classification:** Fine-silty over sandy or sandy-skeletal, mixed, superactive, mesic Typic Hapludalfs

### **Typical Pedon**

Gale silt loam, 2 to 4 percent slopes; at an elevation of 562 feet; 1,285 feet north and 975 feet west of the southeast corner of sec. 17, T. 33 N., R. 4 E.; La Salle County, Illinois; lat. 41 degrees 19 minutes 43 seconds N. and long. 88 degrees 47 minutes 08 seconds W.; UTM Zone 16, 350575E and 4576772N, NAD 83:

- Ap—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; common very fine roots; moderately acid; abrupt smooth boundary.
- E—4 to 7 inches; brown (10YR 4/3) silt loam; moderate thin platy structure; friable; common very fine roots; few distinct dark grayish brown (10YR 4/2) organic coatings on faces of peds; very strongly acid; clear smooth boundary.
- Bt1—7 to 13 inches; dark yellowish brown (10YR 4/4) silt loam; weak very fine and fine subangular blocky structure; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few distinct brown (10YR 4/3) clay films on faces of peds; very strongly acid; clear smooth boundary.
- Bt2—13 to 20 inches; yellowish brown (10YR 5/6) silt loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; very strongly acid; gradual smooth boundary.
- Bt3—20 to 30 inches; yellowish brown (10YR 5/6) silty clay loam; strong fine and medium subangular blocky structure; firm; common very fine and fine roots; common distinct strong brown (7.5YR 4/6) clay films on faces of peds; very strongly acid; gradual wavy boundary.
- 2Bt4—30 to 34 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; friable; common very fine and fine roots; few distinct yellowish brown (10YR 5/4) clay films on faces of peds; 3 percent channers; very strongly acid; gradual wavy boundary.
- 2C—34 to 37 inches; yellowish brown (10YR 5/4) loamy fine sand; single grain; very friable; few very fine roots; 6 percent channers; very strongly acid; clear wavy boundary.
- 2Cr—37 inches; yellowish brown (10YR 5/4) sandstone bedrock.

### **Range in Characteristics**

*Thickness of the loess or other silty material:* 15 to 39 inches  
*Depth to bedrock:* 20 to 40 inches

*Ap or A horizon:*  
 Hue—10YR

Value—2 to 4  
 Chroma—1 to 3  
 Texture—silt loam

*E horizon (where present):*

Hue—10YR  
 Value—4 or 5  
 Chroma—2 or 3  
 Texture—silt loam

*Bt horizon:*

Hue—7.5YR or 10YR  
 Value—3 to 5  
 Chroma—4 to 6  
 Texture—silt loam or silty clay loam

*2Bt horizon:*

Hue—7.5YR or 10YR  
 Value—4 to 6  
 Chroma—4 to 6  
 Texture—sandy loam, fine sandy loam, or loam or the channery analogs of these textures  
 Content of channers—less than 35 percent

*2BC horizon (where present):*

Hue—7.5YR or 10YR  
 Value—4 to 7  
 Chroma—3 to 8  
 Texture—loamy sand, loamy fine sand, sand, or fine sand or the channery analogs of these textures  
 Content of channers—less than 35 percent

*2C horizon:*

Hue—7.5YR or 10YR  
 Value—4 to 7  
 Chroma—3 to 8  
 Texture—sand, fine sand, or loamy fine sand or the channery analogs of these textures  
 Content of channers—less than 35 percent

*2Cr horizon:*

Hue—7.5YR or 10YR  
 Value—4 to 7  
 Chroma—3 to 8

## **413B—Gale silt loam, 2 to 4 percent slopes**

### ***Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Backslopes and summits

### ***Map Unit Composition***

Gale and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that do not have contrasting layers
- Soils that are more than 39 inches deep to residuum
- Soils that do not have bedrock
- Soils that have slopes of less than 2 percent or more than 4 percent

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Loess over siliceous sandy residuum over sandstone

*Drainage class:* Well 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:* 20 to 40 inches to bedrock (paralithic)

*Available water capacity:* About 6.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **413C2—Gale silt loam, 4 to 6 percent slopes, eroded**

### ***Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Backslopes and shoulders

### ***Map Unit Composition***

Gale and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that do not have contrasting layers
- Soils that are more than 39 inches deep to residuum
- Soils that do not have bedrock
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that are severely eroded or only slightly eroded

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Loess over siliceous sandy residuum over sandstone

*Drainage class:* Well 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:* 20 to 40 inches to bedrock (paralithic)

*Available water capacity:* About 7.0 inches to a depth of 60 inches

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

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* High

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## ***Graymont Series***

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

**Taxadjunct features:** The Graymont soils in map units 541B2 and 541C2 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs.

### ***Typical Pedon***

Graymont silt loam, 2 to 5 percent slopes; at an elevation of 704 feet; 2,100 feet north and 100 feet east of the southwest corner of sec. 28, T. 28 N., R. 3 E.; Livingston County, Illinois; USGS Flanagan SW topographic quadrangle; lat. 40 degrees 51 minutes 41 seconds N. and long. 88 degrees 53 minutes 30 seconds W., NAD 27; UTM Zone 16, 340565E and 4525111N, NAD 83:

Ap—0 to 7 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; few very fine roots; slightly acid; abrupt smooth boundary.

AB—7 to 12 inches; very dark brown (10YR 2/2) silt loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to moderate fine granular; friable; few very fine roots; slightly acid; clear smooth boundary.

Bt1—12 to 19 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine angular blocky structure; friable; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—19 to 24 inches; yellowish brown (10YR 5/4 and 5/6) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.

- Bt3**—24 to 28 inches; yellowish brown (10YR 5/4 and 5/6) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide concretions throughout; common fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.
- Bt4**—28 to 33 inches; brown (10YR 5/3) silt loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; few distinct grayish brown (10YR 5/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide concretions throughout; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint light brownish gray (10YR 6/2) iron depletions in the matrix; neutral; clear smooth boundary.
- 2Btg**—33 to 38 inches; grayish brown (2.5Y 5/2) silty clay loam; weak fine prismatic structure; firm; few very fine roots; few distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide concretions throughout; common fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; 3 percent gravel; neutral; clear smooth boundary.
- 2Cg**—38 to 60 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; few fine black (7.5YR 2.5/1) very weakly cemented iron and manganese oxide concretions throughout; few fine white (10YR 8/1) calcium carbonate concretions throughout; few fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; few fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 3 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* 20 to 40 inches

*Depth to carbonates:* 24 to 40 inches

*Depth to the base of soil development:* 24 to 45 inches

*Ap, A, or AB horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam or silty clay loam

*Bt horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—3 or 4

Texture—silty clay loam or silt loam

*2Bt, 2Btg, 2BC, or 2BCg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam or silt loam

Content of gravel—1 to 14 percent

*2Cg or 2C horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6  
 Texture—silty clay loam or silt loam  
 Content of gravel—2 to 14 percent

## **541B—Graymont silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Ground moraines and end moraines  
*Position on the landform:* Backslopes and summits

### ***Map Unit Composition***

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

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have till at a depth of less than 20 inches or more than 40 inches
- Soils that have more sand and less silt in the upper one-half of the profile
- Soils that are moderately eroded
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have more clay and less silt in the control section

#### *Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
 February through April

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 541B2—Graymont silt loam, 2 to 5 percent slopes, eroded

### *Setting*

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes and summits

### *Map Unit Composition*

Graymont and similar soils: 90 percent

Dissimilar soils: 10 percent

### *Soils of Minor Extent*

*Similar soils:*

- Soils that have till at a depth of less than 20 inches or more than 40 inches
- Soils that have more sand and less silt in the upper one-half of the profile
- Soils that are slightly eroded
- Soils that have more clay and less silt in the control section
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet

*Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet, February through April

*Ponding:* None

*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:* Moderate

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 541C2—Graymont silt loam, 5 to 10 percent slopes, eroded

### *Setting*

*Landform:* End moraines and ground moraines

*Position on the landform:* Backslopes and shoulders

### **Map Unit Composition**

Graymont and similar soils: 92 percent

Dissimilar soils: 8 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have till at a depth of less than 20 inches or more than 40 inches
- Soils that have more sand and less silt in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that are severely eroded
- Soils that have more clay and less silt in the control section

#### *Dissimilar soils:*

- The nearly level, somewhat poorly drained Chenoa soils on summits and footslopes
- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*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:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Greenbush Series**

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

### **Typical Pedon**

Greenbush silt loam, 2 to 5 percent slopes; at an elevation of 700 feet; 1,430 feet west and 1,400 feet north of the southeast corner of sec. 18, T. 8 N., R. 1 W.; Warren County, Illinois; USGS Greenbush topographic quadrangle; lat. 40 degrees 40 minutes 40 seconds N. and long. 90 degrees 32 minutes 47 seconds W., NAD 27; UTM Zone 15, 707351E and 4505886N, NAD 83:

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 fine subangular blocky; friable; few distinct very dark gray (10YR 3/1) organic coatings and common distinct gray (10YR 6/1) (dry) 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) (dry) 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) (dry) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium prominent gray (5Y 6/1) iron depletions within peds; common prominent black (7.5YR 2/) manganese oxide stains in the matrix; 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) (dry) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium prominent gray (5Y 6/1) iron depletions within peds; common prominent black (7.5YR 2/) manganese oxide stains in the matrix; strongly acid; gradual wavy boundary.
- BCt—53 to 75 inches; 60 percent brown (10YR 5/3) and 40 percent 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) (dry) silt coatings on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common prominent black (7.5YR 2/) manganese oxide stains in the matrix; moderately acid; gradual wavy boundary.
- C—75 to 100 inches; 55 percent yellowish brown (10YR 5/4) and 45 percent 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/) manganese oxide stains in the matrix; 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

Texture—silt loam or silty clay loam

*E or BE horizon:*

Hue—10YR

Value—3 to 5

Chroma—2 or 3

Texture—silt loam

*Bt horizon:*

Hue—10YR

Value—4 or 5  
 Chroma—3 to 6  
 Texture—silty clay loam or silt loam

*C horizon:*

Hue—10YR, 2.5Y, or 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:* Shoulders and summits

### ***Map Unit Composition***

Greenbush and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that have a thicker surface layer
- Soils that have carbonates within a depth of 40 inches
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have a seasonal high water table at a depth of less than 4 feet

*Dissimilar soils:*

- The somewhat poorly drained Atterberry soils on summits
- The poorly drained Sable soils on toeslopes

### ***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:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4 to 6 feet,  
 February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* 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 and backslopes

### ***Map Unit Composition***

Greenbush and similar soils: 91 percent

Dissimilar soils: 9 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that have carbonates within a depth of 40 inches
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that have a seasonal high water table at a depth of less than 4 feet

*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:* About 11.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4 to 6 feet,  
February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* High

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Harpster Series***

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

### **Typical Pedon**

Harpster silty clay loam, 0 to 2 percent slopes; at an elevation of 722 feet; 855 feet south and 70 feet west of the northeast corner of sec. 20, T. 23 N., R. 7 E.; Ford County, Illinois; USGS Gibson City West topographic quadrangle; lat. 40 degrees 26

minutes 24 seconds N. and long. 88 degrees 25 minutes 23 seconds W., NAD 27;  
UTM Zone 16, 379305E and 4477570N, NAD 83:

- Apk—0 to 9 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; common very fine roots; many snail shells; strongly effervescent (20 percent calcium carbonate equivalent); moderately alkaline; abrupt smooth boundary.
- Ak—9 to 18 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak fine and medium granular structure; firm; common very fine roots; many snail shells; strongly effervescent (18 percent calcium carbonate equivalent); moderately alkaline; clear smooth boundary.
- Bg1—18 to 25 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak fine and medium angular blocky structure; firm; common very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; few snail shells; slightly effervescent (7 percent calcium carbonate equivalent); moderately alkaline; gradual smooth boundary.
- Bg2—25 to 31 inches; dark gray (5Y 4/1) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium angular blocky; firm; few very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine prominent dark yellowish brown (10YR 4/4) and few fine distinct olive (5Y 4/4) masses of iron accumulation in the matrix; few snail shells; slightly effervescent (5 percent calcium carbonate equivalent); slightly alkaline; gradual smooth boundary.
- Bg3—31 to 36 inches; dark gray (5Y 4/1) silty clay loam; weak coarse prismatic structure parting to weak medium angular blocky; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common medium distinct olive (5Y 4/4) and few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; slightly effervescent (2 percent calcium carbonate equivalent); slightly alkaline; gradual smooth boundary.
- Bg4—36 to 41 inches; 40 percent olive brown (2.5Y 4/4), 35 percent olive yellow (2.5Y 6/6), and 25 percent gray (5Y 5/1) silty clay loam; weak coarse angular blocky structure; firm; few very fine roots; 2 percent gravel; slightly effervescent (2 percent calcium carbonate equivalent); slightly alkaline; gradual smooth boundary.
- Cg1—41 to 56 inches; 55 percent gray (5Y 5/1), 40 percent light olive brown (2.5Y 5/6), and 5 percent dark yellowish brown (10YR 4/4) silt loam; massive; firm; 1 percent gravel; strongly effervescent (16 percent calcium carbonate equivalent); moderately alkaline; clear smooth boundary.
- Cg2—56 to 60 inches; gray (10YR 5/1) loam; massive; friable; 5 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* 36 to 60 inches

*Depth to carbonates:* Less than 16 inches

*Depth to the base of soil development:* 22 to 46 inches

*Apk or Ak horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 or 3

Chroma—0 or 1

Texture—silty clay loam or silt loam

*Bg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6  
 Chroma—0 to 2  
 Texture—silty clay loam or silt loam; loam or clay loam included in the range in the lower part  
 Content of gravel—less than 3 percent

*Cg or 2Cg horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 to 8  
 Texture—silt loam or loam with strata of sandy loam or clay loam  
 Content of gravel—less than 7 percent

## **67A—Harpster silty clay loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Depressions, stream terraces, lake plains, ground moraines, and outwash plains

*Position on the landform:* Toeslopes

### ***Map Unit Composition***

Harpster and similar soils: 97 percent

Dissimilar soils: 3 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have till in the lower part of the profile
- Soils that have a surface layer of silt loam
- Soils that have 6 to 12 inches of silty overwash
- Soils that do not have carbonates in the surface layer

*Dissimilar soils:*

- The very poorly drained Houghton soils on toeslopes

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

*Parent material:* Loess or other silty material over glacial drift

*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:* About 12.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 6.0 percent

*Shrink-swell potential:* Moderate

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through 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:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Hartsburg Series**

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

### **Typical Pedon**

Hartsburg silty clay loam, 0 to 2 percent slopes; at an elevation of 562 feet; 660 feet west and 40 feet north of the southeast corner of sec. 23, T. 21 N., R. 4 W.; Logan County, Illinois; USGS New Holland topographic quadrangle; lat. 40 degrees 14 minutes 58 seconds N. and long. 89 degrees 31 minutes 28 seconds W., NAD 27; UTM Zone 16, 285279E and 4458507N, NAD 83:

- Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; slightly acid; abrupt smooth boundary.
- A1—7 to 12 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; few very fine roots; slightly acid; clear smooth boundary.
- A2—12 to 17 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate medium granular structure; firm; few very fine roots; few fine black (7.5YR 2.5/1) weakly cemented iron and manganese oxide concretions throughout; few fine faint dark grayish brown (2.5Y 4/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bg—17 to 21 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak fine and medium subangular blocky structure; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common very dark gray (10YR 3/1) krotovinas; few fine black (7.5YR 2.5/1) weakly cemented iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.
- Bkg—21 to 30 inches; gray (5Y 5/1) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) and grayish brown (2.5Y 5/2) pressure faces on peds; common very dark gray (10YR 3/1) krotovinas; few fine black (7.5YR 2.5/1) weakly cemented iron and manganese oxide concretions throughout; few fine and medium white (10YR 8/1) weakly cemented calcium carbonate concretions throughout; common medium prominent yellowish brown (10YR 5/8) and strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline; abrupt wavy boundary.
- BCKg—30 to 34 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse subangular blocky structure; firm; many distinct gray (N 5/) and grayish brown (2.5Y 5/2) linings in pores and root channels; common very dark gray (10YR 3/1) krotovinas; few fine black (7.5YR 2.5/1) weakly cemented iron and manganese oxide concretions throughout; many medium and coarse white (10YR 8/1) weakly cemented calcium carbonate concretions throughout; many medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; violently effervescent among concretions, slightly effervescent in the matrix; slightly alkaline; clear wavy boundary.
- Cg—34 to 60 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; common very dark gray (10YR 3/1) krotovinas; few medium white (10YR 8/1) weakly cemented calcium carbonate concretions throughout; many medium prominent

strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; strongly effervescent; moderately alkaline.

### **Range in Characteristics**

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

*Depth to carbonates:* 15 to 35 inches

*Depth to the base of the cambic horizon:* 24 to 50 inches

*Ap, A, or AB horizon:*

Hue—10YR or N

Value—2 or 3

Chroma—0 to 2

Texture—silty clay loam

*BA, Bg, Bkg, Btg, BCk, BCkg, or BCg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 or 2

Texture—silty clay loam or silt loam

*Cg or 2Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—5 or 6

Chroma—1 or 2

Texture—silt loam or loam

Content of gravel—less than 7 percent

## **244A—Hartsburg silty clay loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Outwash plains and ground moraines

*Position on the landform:* Toeslopes

### ***Map Unit Composition***

Hartsburg and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have till or outwash in the lower part of the profile
- Soils that are more than 40 inches deep to carbonates
- Soils that have carbonates within a depth of 15 inches
- Soils that have more clay and less silt in the control section

*Dissimilar soils:*

- Somewhat poorly drained soils on summits

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

*Parent material:* Loess over silty lacustrine deposits

*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:* About 10.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.5 to 6.0 percent

*Shrink-swell potential:* Moderate

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through 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:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Harvard Series**

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

### **Typical Pedon**

Harvard silt loam, 2 to 5 percent slopes; at an elevation of 827 feet; 1,458 feet north and 756 feet east of the southwest corner of sec. 12, T. 42 N., R. 5 E.; De Kalb County, Illinois; USGS Marengo South topographic quadrangle; lat. 42 degrees 07 minutes 42 seconds N. and long. 88 degrees 36 minutes 17 seconds W., NAD 27; UTM Zone 16, 367355E and 4665263N, NAD 83:

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

Bt1—9 to 16 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common very fine roots; few distinct brown (10YR 4/3) clay films and very dark grayish brown (10YR 3/2) organic coatings on faces of peds and in pores; neutral; clear wavy boundary.

Bt2—16 to 23 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; friable; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; very few very dark grayish brown (10YR 3/2) organic coatings in root channels and in pores; moderately acid; clear wavy boundary.

Bt3—23 to 30 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; friable; common very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; slightly acid; clear wavy boundary.

2Bt4—30 to 43 inches; dark yellowish brown (10YR 4/4) sandy clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; moderately acid; clear wavy boundary.

2Bt5—43 to 56 inches; dark yellowish brown (10YR 4/4) loam; weak fine and medium subangular blocky structure; friable; few very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; moderately acid; clear smooth boundary.

2C—56 to 69 inches; yellowish brown (10YR 5/4), stratified silt loam and loam; massive; friable; few very fine roots; common fine distinct grayish brown (10YR 5/2) and light olive brown (2.5Y 5/3) iron depletions in the matrix; slightly acid.

### Range in Characteristics

*Thickness of the loess or other silty material:* 20 to 40 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 33 to more than 60 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*E horizon (where present):*

Hue—10YR

Value—4 or 5

Chroma—2 to 4

Texture—silt loam

*Bt horizon:*

Hue—10YR

Value—4 or 5

Chroma—3 or 4

Texture—silty clay loam or silt loam

*2Bt and/or 2BC horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—2 to 6

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

Content of gravel—less than 10 percent

*2C horizon:*

Hue—10YR or 2.5Y

Value—3 to 6

Chroma—3 to 6

Texture—loam, silt loam, sandy loam, or clay loam with strata of loamy sand or sand

Content of gravel—less than 15 percent

## 344A—Harvard silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits

### Map Unit Composition

Harvard and similar soils: 90 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

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

- Soils that are more than 40 inches deep to loamy outwash
  - Soils that have sandy and gravelly deposits in the lower part of the profile
- Dissimilar soils:*
- The somewhat poorly drained Millbrook soils on summits and footslopes
  - The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying outwash  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate or moderately rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.5 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* Moderate  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

## **344B—Harvard silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Outwash plains and stream terraces  
*Position on the landform:* Summits and backslopes

### ***Map Unit Composition***

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

### ***Soils of Minor Extent***

- Similar soils:*
- Soils that have a lighter colored surface layer
  - Soils that have a thicker surface layer
  - Soils that are more than 40 inches deep to loamy outwash
  - Soils that have sandy and gravelly deposits in the lower part of the profile
  - Soils that are moderately eroded
- Dissimilar soils:*
- The somewhat poorly drained Millbrook soils on summits and footslopes
  - The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying outwash  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Moderate or moderately rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 10.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* Moderate  
*Ponding:* None  
*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:* Low

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

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

### **344C2—Harvard silt loam, 5 to 10 percent slopes, eroded**

#### ***Setting***

*Landform:* Stream terraces and outwash plains  
*Position on the landform:* Backslopes and shoulders

#### ***Map Unit Composition***

Harvard and similar soils: 92 percent  
 Dissimilar soils: 8 percent

#### ***Soils of Minor Extent***

##### *Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that are more than 40 inches deep to loamy outwash
- Soils that have sandy and gravelly deposits in the lower part of the profile
- Soils that are severely eroded or only slightly eroded

##### *Dissimilar soils:*

- The somewhat poorly drained Millbrook soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying outwash  
*Drainage class:* Well drained  
*Slowest permeability within a depth of 40 inches:* Moderate  
*Permeability below a depth of 60 inches:* Moderate or moderately rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 9.4 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Ponding:* None  
*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:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Hennepin Series**

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

### **Typical Pedon**

Hennepin loam, in an area of Hennepin-Casco complex, 30 to 60 percent slopes; at an elevation of 670 feet; 2,400 feet south and 2,010 feet east of the northwest corner of sec. 28, T. 17 N., R. 9 E.; Bureau County, Illinois; USGS Princeton North topographic quadrangle; lat. 41 degrees 24 minutes 48 seconds N. and long. 89 degrees 27 minutes 51 seconds W.; UTM Zone 16, 294114E and 4589432N, NAD 83:

A—0 to 5 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many medium roots; neutral; abrupt smooth boundary.

Bt—5 to 10 inches; yellowish brown (10YR 5/4) loam; moderate fine subangular blocky structure; friable; many medium roots; common medium very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; neutral; clear smooth boundary.

BC—10 to 16 inches; weak red (2.5YR 5/4) loam; weak fine subangular blocky structure; friable; many medium roots; violently effervescent; slightly alkaline; clear smooth boundary.

C—16 to 60 inches; brown (7.5YR 5/4) loam; massive; firm; violently effervescent; slightly alkaline.

### **Range in Characteristics**

*Depth to carbonates:* Less than 15 inches

*Depth to the base of soil development:* 10 to 20 inches

*A or Ap horizon:*

Hue—10YR or 7.5YR

Value—3 to 5

Chroma—1 to 4

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

Content of gravel—less than 35 percent

*Bw horizon:*

Hue—10YR or 7.5YR

Value—4 or 5

Chroma—3 or 4

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

Content of gravel—less than 35 percent

*C horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—5 or 6

Chroma—2 to 4

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

Content of gravel—less than 35 percent

## **820E—Hennepin-Casco complex, 12 to 30 percent slopes**

### ***Setting***

*Landform:* End moraines, outwash plains, and stream terraces

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Hennepin and similar soils: 50 percent

Casco and similar soils: 35 percent

Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are deeper to till or gravelly outwash
- Soils that have slopes of less than 12 percent or more than 30 percent
- Soils that have a thicker subsoil
- Soils that are more than 20 inches deep to carbonates

*Dissimilar soils:*

- The moderately deep Marseilles soils on backslopes

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

*Parent material:* Till

*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:* About 8.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

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

*Parent material:* Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

*Drainage class:* Somewhat excessively drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Hennepin—6e; Casco—6e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Hennepin—not hydric; Casco—not hydric

## **820G—Hennepin-Casco complex, 30 to 60 percent slopes**

### ***Setting***

*Landform:* End moraines, outwash plains, and stream terraces  
*Position on the landform:* Backslopes

### ***Map Unit Composition***

Hennepin and similar soils: 50 percent  
 Casco and similar soils: 35 percent  
 Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have a thicker subsoil
- Soils that are more than 20 inches deep to carbonates
- Soils that are deeper to till or gravelly outwash
- Soils that have slopes of less than 30 percent or more than 60 percent

#### *Dissimilar soils:*

- The moderately deep Marseilles soils on backslopes

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

*Parent material:* Till  
*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:* About 8.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Low for steel and concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

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

*Parent material:* Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits  
*Drainage class:* Somewhat excessively drained  
*Slowest permeability within a depth of 40 inches:* Moderate

*Permeability below a depth of 60 inches:* Very rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 4.0 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Hennepin—7e; Casco—7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Hennepin—not hydric; Casco—not hydric

## **Hesch Series**

**Taxonomic classification:** Coarse-loamy, mixed, active, mesic Typic Argiudolls

### **Typical Pedon**

Hesch fine sandy loam, in an area of Channahon-Hesch fine sandy loams, 2 to 6 percent slopes; at an elevation of 505 feet; 470 feet south and 1,730 feet east of the northwest corner of sec. 26, T. 33 N., R. 5 E.; La Salle County, Illinois; USGS Seneca topographic quadrangle; lat. 41 degrees 18 minutes 36 seconds N. and long. 88 degrees 37 minutes 22 seconds W.; UTM Zone 16, 364161E and 4574431N, NAD 83:

- Ap—0 to 6 inches; very dark gray (10YR 3/1) fine sandy loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; common very fine roots; 1 percent channers; slightly acid; clear smooth boundary.
- A—6 to 11 inches; 94 percent very dark gray (10YR 3/1) fine sandy loam, gray (10YR 5/1) dry; mixed with 6 percent brown (7.5YR 4/4) subsoil material; weak fine and medium subangular blocky structure parting to weak fine granular; friable; common very fine roots; 1 percent channers; neutral; clear wavy boundary.
- Bt1—11 to 18 inches; brown (7.5YR 4/4) fine sandy loam; moderate medium subangular blocky structure; friable; common very fine roots; few distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few distinct brown (10YR 4/3) clay films on faces of peds; 1 percent channers; neutral; clear wavy boundary.
- Bt2—18 to 23 inches; strong brown (7.5YR 4/6) sandy loam; weak medium subangular blocky structure; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine and medium distinct strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; 12 percent channers; moderately acid; clear wavy boundary.
- 2Cr—23 inches; light olive brown (2.5Y 5/3) sandstone bedrock.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 10 to 16 inches  
*Depth to bedrock:* 20 to 40 inches  
*Depth to the base of soil development:* 20 to 40 inches

*Ap or A horizon:*  
 Hue—10YR or 7.5YR

Value—2 or 3  
 Chroma—1 to 3  
 Texture—sandy loam, fine sandy loam, or loam  
 Content of channers—less than 12 percent

*BA horizon (where present):*

Hue—10YR or 7.5YR  
 Value—3 to 5  
 Chroma—3 to 5  
 Texture—sandy loam, fine sandy loam, or loam  
 Content of channers—less than 12 percent

*Bt horizon:*

Hue—10YR or 7.5YR  
 Value—3 to 6  
 Chroma—3 to 6  
 Texture—fine sandy loam, sandy loam, or loam  
 Content of channers—less than 12 percent

*BC or C horizon (where present):*

Hue—10YR or 7.5YR  
 Value—3 to 6  
 Chroma—3 to 6  
 Texture—sand, loamy sand, fine sand, or loamy fine sand  
 Content of channers—less than 12 percent

## **817A—Channahon-Hesch fine sandy loams, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Outwash plains, flood-plain steps, and stream terraces

*Position on the landform:* Summits

### ***Map Unit Composition***

Channahon and similar soils: 50 percent

Hesch and similar soils: 40 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are less than 10 inches deep to sandstone bedrock
- Soils that are more than 40 inches deep to sandstone bedrock
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have a lighter colored surface layer
- Soils that have a thinner surface layer
- Soils that have more than 15 percent rock fragments in the profile

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes
- The poorly drained Faxon soils on toeslopes
- The very poorly drained Peotone soils on toeslopes

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

*Parent material:* Drift over sandstone

*Drainage class:* Well 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:* 10 to 20 inches to bedrock (paralithic)  
*Available water capacity:* About 2.8 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Low for steel and moderate for concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Moderately high

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

*Parent material:* Drift over sandstone  
*Drainage class:* Well 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:* 20 to 40 inches to bedrock (paralithic)  
*Available water capacity:* About 4.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Low for steel and high for concrete  
*Surface runoff class:* Low  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Moderately high

### ***Interpretive Groups***

*Land capability classification:* Channahon—3s; Hesch—2s  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Channahon—not hydric; Hesch—not hydric

## **817B—Channahon-Hesch fine sandy loams, 2 to 6 percent slopes**

### ***Setting***

*Landform:* Flood-plain steps, outwash plains, and stream terraces  
*Position on the landform:* Backslopes and summits

### ***Map Unit Composition***

Channahon and similar soils: 50 percent  
 Hesch and similar soils: 40 percent  
 Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are less than 10 inches deep to sandstone bedrock
- Soils that are more than 40 inches deep to sandstone bedrock
- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have a lighter colored surface layer

- Soils that are moderately eroded
- Soils that have more than 15 percent rock fragments in the profile
- Soils that have slopes of more than 6 percent

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes
- The poorly drained Faxon soils on toeslopes
- The very poorly drained Peotone soils on toeslopes

***Properties and Qualities of the Channahon Soil***

*Parent material:* Drift over sandstone

*Drainage class:* Well 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:* 10 to 20 inches to bedrock (paralithic)

*Available water capacity:* About 2.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderately high

***Properties and Qualities of the Hesch Soil***

*Parent material:* Drift over sandstone

*Drainage class:* Well 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:* 20 to 40 inches to bedrock (paralithic)

*Available water capacity:* About 3.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderately high

***Interpretive Groups***

*Land capability classification:* Channahon—3e; Hesch—2e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Channahon—not hydric; Hesch—not hydric

***Houghton Series***

**Taxonomic classification:** Euic, mesic Typic Haplosaprists

**Typical Pedon**

Houghton muck, 0 to 2 percent slopes; at an elevation of 960 feet; 465 feet south and 1,248 feet west of the northeast corner of sec. 5, T. 45 N., R. 6 E.; McHenry County,

Illinois; USGS Harvard topographic quadrangle; lat. 42 degrees 24 minutes 48 seconds N. and long. 88 degrees 33 minutes 17 seconds W., NAD 27; UTM Zone 16, 372066E and 4696848N, NAD 83:

- Oap—0 to 11 inches; muck (sapric material), black (N 2.5/) broken face and rubbed, dark gray (5Y 2.5/1) dry; about 10 percent fiber, 1 percent rubbed; moderate fine subangular blocky structure; very friable; common very fine roots; neutral; abrupt smooth boundary.
- Oa1—11 to 26 inches; muck (sapric material), 95 percent black (N 2.5/) and 5 percent dark reddish brown (5YR 3/3) broken face and rubbed; about 10 percent fiber, 1 percent rubbed; moderate fine and medium subangular blocky structure; very friable; common very fine roots; neutral; clear wavy boundary.
- Oa2—26 to 44 inches; muck (sapric material), black (N 2.5/) broken face and rubbed; about 10 percent fiber, 1 percent rubbed; weak fine subangular blocky structure; very friable; common very fine roots; slightly acid; clear wavy boundary.
- Oa3—44 to 60 inches; 95 percent muck (sapric material), black (N 2.5/) broken face and rubbed; about 10 percent fiber, 1 percent rubbed; 5 percent light brownish gray (2.5Y 6/2) very fine sandy loam; massive; very friable; common very fine roots; slightly acid.

### Range in Characteristics

*Thickness of the organic deposits:* More than 51 inches

*Surface tier:*

Hue—10YR or N

Value—2 to 3

Chroma—0 or 1

*Subsurface tier:*

Hue—7.5YR, 10YR, 5YR, or N

Value—2 to 3

Chroma—0 to 2

## 103A—Houghton muck, 0 to 2 percent slopes

### Setting

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

*Position on the landform:* Toeslopes

### Map Unit Composition

Houghton and similar soils: 90 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have carbonates in the upper one-third of the profile
- Soils that have sandy material in the lower one-third of the profile
- Soils that have organic deposits less than 51 inches thick
- Soils in which the surface layer contains less organic matter

*Dissimilar soils:*

- The poorly drained Drummer soils on toeslopes

### Properties and Qualities of the Houghton Soil

*Parent material:* Herbaceous organic material

*Drainage class:* Very poorly drained

*Slowest permeability within a depth of 40 inches:* Moderately slow  
*Permeability below a depth of 60 inches:* Moderately slow to moderately rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 23.9 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 70.0 to 99.0 percent  
*Shrink-swell potential:* Not rated  
*Depth and months of the highest apparent seasonal high water table:* At the surface to 1 foot below the surface, November through June  
*Depth and most likely period of ponding:* 0 to 1 foot, November through June  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and concrete  
*Surface runoff class:* Negligible  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* High

### ***Interpretive Groups***

*Land capability classification:* 3w  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Hydric

## **1103A—Houghton muck, undrained, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Outwash plains and ground moraines  
*Position on the landform:* Toeslopes

### ***Map Unit Composition***

Houghton and similar soils: 92 percent  
 Dissimilar components: 8 percent

### ***Components of Minor Extent***

#### *Similar soils:*

- Soils that have carbonates in the upper one-third of the profile
- Soils that have sandy material in the lower one-third of the profile
- Soils that have organic deposits less than 51 inches thick
- Soils in which the surface layer contains less organic matter

#### *Dissimilar components:*

- Soils that are subject to flooding
- Areas of water
- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Herbaceous organic material  
*Drainage class:* Very poorly drained  
*Slowest permeability within a depth of 40 inches:* Moderately slow  
*Permeability below a depth of 60 inches:* Moderately slow to moderately rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 23.9 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 70.0 to 99.0 percent  
*Shrink-swell potential:* Not rated  
*Depth and months of the highest apparent seasonal high water table:* At the surface to 0.5 foot below the surface, all year

*Depth and most likely period of ponding:* 0 to 1 foot, all year

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* High for steel and concrete

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* High

### **Interpretive Groups**

*Land capability classification:* 5w

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Hydric

## **Joliet Series**

**Taxonomic classification:** Loamy, mixed, superactive, mesic Lithic Endoaquolls

### **Typical Pedon**

Joliet silt loam, 0 to 2 percent slopes; at an elevation of 530 feet; 680 feet south and 1,484 feet east of the northwest corner of sec. 33, T. 34 N., R. 9 E.; Will County, Illinois; USGS Channahon topographic quadrangle; lat. 41 degrees 23 minutes 20 seconds N. and long. 88 degrees 12 minutes 23 seconds W., NAD 27; UTM Zone 16, 399131E and 4582649N, NAD 83:

A1—0 to 7 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; common very fine to medium roots; 1 percent gravel; slightly alkaline; gradual wavy boundary.

A2—7 to 12 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate medium subangular blocky structure; friable; common very fine to medium roots; 2 percent gravel; moderately alkaline; clear smooth boundary.

A3—12 to 15 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine and medium subangular blocky structure; friable; common very fine and fine roots; 5 percent gravel; strongly effervescent; moderately alkaline; abrupt wavy boundary.

Bg—15 to 19 inches; dark gray (2.5Y 4/1) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 5 percent gravel; strongly effervescent; moderately alkaline; abrupt smooth boundary.

2R—19 inches; unweathered limestone bedrock.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 7 to 16 inches

*Depth to bedrock:* 10 to 20 inches

*Depth to the base of soil development:* 10 to 20 inches

*A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—loam, silt loam, or silty clay loam

Content of gravel—less than 15 percent

*Bg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 5

Chroma—0 to 2

Texture—loam, clay loam, silt loam, or silty clay loam  
 Content of gravel—less than 15 percent

## **314A—Joliet silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Stream terraces

*Position on the landform:* Toeslopes

### ***Map Unit Composition***

Joliet and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have bedrock at a depth of less than 10 inches or more than 20 inches
- Soils that have less sand and more clay in the control section

*Dissimilar soils:*

- Shallow, somewhat poorly drained soils on summits and footslopes
- Soils that are subject to flooding

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

*Parent material:* Drift over dolostone or limestone

*Drainage class:* Poorly 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:* 10 to 20 inches to bedrock (lithic)

*Available water capacity:* About 3.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* At the surface to 1 foot below the surface, January through May

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through 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:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Hydric

## ***Kaneville Series***

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

### **Typical Pedon**

Kaneville silt loam, 2 to 5 percent slopes; at an elevation of 875 feet; 1,025 feet north and 1,750 feet west of the southeast corner of sec. 28, T. 40 N., R. 4 E.; De Kalb

County, Illinois; USGS De Kalb topographic quadrangle; lat. 41 degrees 54 minutes 35 seconds N. and long. 88 degrees 46 minutes 43 seconds W.; UTM Zone 16, 352493E and 4641268N, NAD 83:

- Ap—0 to 9 inches; very dark gray (10YR 3/1) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; many very fine to medium roots; slightly acid; clear smooth boundary.
- Bt1—9 to 16 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; friable; common very fine and fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; slightly acid; gradual wavy boundary.
- Bt2—16 to 20 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; friable; common very fine and fine roots; common distinct dark brown (10YR 3/3) organo-clay films on faces of peds and in pores; neutral; gradual wavy boundary.
- Bt3—20 to 27 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine and fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; very few distinct light gray (10YR 7/2) (dry) silt coatings on vertical faces of peds; few fine black (10YR 2/1) manganese oxide concretions throughout; common fine strong brown (7.5YR 4/6) iron oxide concretions throughout; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; neutral; gradual wavy boundary.
- Bt4—27 to 33 inches; yellowish brown (10YR 5/4) silt loam; moderate medium prismatic structure; friable; common very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; very few distinct light gray (10YR 7/2) (dry) silt coatings on vertical faces of peds; common medium black (10YR 2/1) manganese oxide concretions throughout; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium distinct light brownish gray (10YR 6/2) iron depletions in the matrix; neutral; gradual wavy boundary.
- Bt5—33 to 44 inches; yellowish brown (10YR 5/4) silt loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds and in pores; common fine black (10YR 2/1) manganese oxide concretions throughout; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common coarse distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; neutral; clear wavy boundary.
- 2BC—44 to 52 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; very few distinct brown (10YR 4/3) clay films in root channels and/or pores; common coarse distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common coarse prominent light gray (2.5Y 7/2) iron depletions in the matrix; neutral; clear smooth boundary.
- 2C1—52 to 69 inches; brown (7.5YR 4/4), stratified loam and sandy loam; common coarse distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; massive; friable; 2 percent gravel; neutral; gradual wavy boundary.
- 2C2—69 to 80 inches; 70 percent brown (7.5YR 5/3) and 30 percent yellowish brown (10YR 5/6), stratified loam and sandy loam; common coarse distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; massive; friable; strongly effervescent; slightly alkaline.

### Range in Characteristics

*Thickness of the loess:* 40 to 60 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 40 to 70 inches

*Ap or A horizon:*

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

*E horizon (where present):*

Hue—10YR  
 Value—4 to 6  
 Chroma—2 or 3  
 Texture—silt loam

*Bt horizon:*

Hue—10YR  
 Value—4 or 5  
 Chroma—3 or 4  
 Texture—silty clay loam or silt loam

*2Bt and/or 2BCt horizon:*

Hue—10YR  
 Value—4 or 5  
 Chroma—3 to 6  
 Texture—loam, clay loam, silt loam, or sandy loam  
 Content of gravel—less than 10 percent

*2C horizon:*

Hue—10YR or 2.5Y  
 Value—4 to 6  
 Chroma—3 to 6  
 Texture—stratified loam, silt loam, sandy clay loam, sandy loam, loamy sand, or clay loam  
 Content of gravel—less than 15 percent

**667B—Kaneville silt loam, 2 to 5 percent slopes*****Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Summits and backslopes

***Map Unit Composition***

Kaneville and similar soils: 92 percent

Dissimilar soils: 8 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have a thicker surface layer
- Soils that have outwash at a depth of less than 40 inches or more than 60 inches
- Soils that have till in the lower part of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 2 percent or more than 5 percent

*Dissimilar soils:*

- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess and the underlying outwash

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*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:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## ***Kendall Series***

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

### **Typical Pedon**

Kendall silt loam, 0 to 2 percent slopes; at an elevation of about 650 feet; 1,160 feet north and 400 feet west of the center of sec. 36, T. 15 N., R. 10 E.; Douglas County, Illinois; USGS Oakland topographic quadrangle; lat. 39 degrees 42 minutes 24 seconds N. and long. 88 degrees 02 minutes 17 seconds W., NAD 27; UTM Zone 16, 411010E and 4395719N, NAD 83:

- Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light grayish brown (10YR 6/2) dry; weak medium granular structure; friable; many very fine and fine roots; few fine and medium black (7.5YR 2.5/1) weakly cemented nodules of iron and manganese oxide throughout; neutral; abrupt smooth boundary.
- E—7 to 11 inches; grayish brown (10YR 5/2) silt loam; moderate fine and medium granular structure; friable; many very fine and fine roots; common fine and medium black (7.5YR 2.5/1) weakly cemented nodules of iron and manganese oxide throughout; slightly acid; clear smooth boundary.
- BE—11 to 14 inches; brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; many very fine and fine roots; common fine and medium black (7.5YR 2.5/1) weakly cemented nodules of iron and manganese oxide throughout; slightly acid; clear smooth boundary.
- Btg1—14 to 25 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium prismatic structure parting to moderate fine and medium subangular blocky; firm; few very fine and fine roots; common distinct brown (10YR 4/3) clay films on faces of pedis; few medium black (7.5YR 2.5/1) weakly cemented nodules of iron and manganese oxide throughout; common fine faint brown (10YR 5/3) masses of iron accumulation in the matrix; strongly acid; clear smooth boundary.

- Btg2—25 to 41 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium and coarse subangular blocky; firm; few very fine and fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few medium black (7.5YR 2.5/1) weakly cemented nodules of iron and manganese oxide throughout; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
- Btg3—41 to 51 inches; 55 percent yellowish brown (10YR 5/6) and 45 percent gray (5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak coarse subangular blocky; firm; few very fine and fine roots; common distinct gray (10YR 5/1) clay films on faces of peds; few medium black (7.5YR 2.5/1) weakly cemented nodules of iron and manganese oxide throughout; slightly acid; clear smooth boundary.
- 2Btg4—51 to 58 inches; 40 percent strong brown (7.5YR 5/6), 30 percent yellowish brown (10YR 5/6), and 30 percent gray (5Y 5/1) loam; weak coarse subangular blocky structure; friable; few distinct dark gray (10YR 4/1) clay films on faces of peds; common fine and medium black (7.5YR 2.5/1) weakly cemented nodules of iron and manganese oxide throughout; 5 percent gravel; neutral; clear smooth boundary.
- 2Cg1—58 to 74 inches; 45 percent yellowish brown (10YR 5/6), 45 percent gray (5Y 5/1), and 10 percent strong brown (7.5YR 5/6), stratified loam, sandy loam, and silt loam; massive; friable; 5 percent gravel; slightly alkaline; abrupt smooth boundary.
- 2Cg2—74 to 80 inches; 60 percent grayish brown (10YR 5/2), 30 percent gray (10YR 5/1), and 10 percent yellowish brown (10YR 5/6), stratified gravelly loam, gravelly sandy loam, and silt loam; massive; friable; 16 percent gravel; slightly effervescent; slightly alkaline.

### Range in Characteristics

*Thickness of the loess:* 40 to 60 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of the diagnostic horizon:* 40 to more than 60 inches

*Ap or A horizon:*

Hue—10YR

Value—2 to 5

Chroma—1 to 3

Texture—silt loam

*E or Eg horizon:*

Hue—10YR or 2.5Y

Value—4 to 7

Chroma—2 or 3

Texture—silt loam

*BE horizon (where present):*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silt loam or silty clay loam

*Btg or Bt horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

Texture—silty clay loam

*2Btg, 2Bt, 2BCg, or 2BC horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

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

Content of gravel—less than 15 percent

*2Cg or 2C horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

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

Content of gravel—less than 15 percent

**242A—Kendall silt loam, 0 to 2 percent slopes*****Setting****Landform:* Stream terraces and outwash plains*Position on the landform:* Summits and footslopes***Map Unit Composition***

Kendall and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have a thicker and darker surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of more than 2 percent
- Soils that are less than 40 inches deep to outwash
- Soils that are more than 60 inches deep to outwash
- Soils that are underlain by till

*Dissimilar soils:*

- The well drained St. Charles soils on summits
- The poorly drained Drummer soils on toeslopes

***Properties and Qualities of the Kendall Soil****Parent material:* Loess over outwash*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:* About 10.0 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 1.0 to 3.0 percent*Shrink-swell potential:* Moderate*Depth and months of the highest apparent seasonal high water table:* 0.5 foot to 2.0 feet, January through May*Ponding:* None*Flooding:* None*Potential for frost action:* High*Hazard of corrosion:* High for steel and concrete*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Not hydric

## **Kernan Series**

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

### **Typical Pedon**

Kernan silt loam, 2 to 4 percent slopes; at an elevation of 632 feet; 1,240 feet north and 110 feet west of the southeast corner of sec. 21, T. 33 N., R. 2 E.; La Salle County, Illinois; USGS Starved Rock topographic quadrangle; lat. 41 degrees 18 minutes 45 seconds N. and long. 88 degrees 59 minutes 29 seconds W., NAD 27; UTM Zone 16, 333303E and 4575364N, NAD 83:

Ap—0 to 5 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak medium granular structure; friable; common very fine and fine roots; neutral; abrupt smooth boundary.

E—5 to 12 inches; light brownish gray (10YR 6/2) silt loam, very pale brown (10YR 8/2) dry; moderate medium platy structure; friable; common very fine and fine roots; neutral; abrupt wavy boundary.

Btg—12 to 20 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium angular blocky structure; friable; common fine roots; few faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; very few faint light brownish gray (10YR 6/2) (dry) silt coatings on faces of peds; few fine black (10YR 2/1) very weakly cemented manganese oxide concretions throughout; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; strongly acid; gradual wavy boundary.

Bt1—20 to 29 inches; brown (10YR 5/3) silty clay loam; moderate fine and medium prismatic structure; friable; common very fine and fine roots; very few faint very dark grayish brown (10YR 3/2) organic coatings along root channels and pores; common faint dark grayish brown (10YR 4/2) clay films on faces of peds and in pores; common medium brown (7.5YR 4/4) and few fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; common medium and coarse distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium faint grayish brown (10YR 5/2) iron depletions in the matrix; strongly acid; gradual wavy boundary.

Bt2—29 to 36 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; friable; common very fine and fine roots; very few distinct very dark gray (10YR 3/1) organic coatings along root channels and pores; common faint dark grayish brown (10YR 4/2) clay films on faces of peds and in pores; common medium brown (7.5YR 4/4) and black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; many medium distinct brownish yellow (10YR 6/6) masses of iron accumulation in the matrix; common medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; moderately acid; clear wavy boundary.

2Btg—36 to 40 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium subangular blocky structure; firm; few very fine and fine roots; few distinct very dark gray (10YR 3/1) organic coatings along root channels and pores; common faint dark gray (10YR 4/1) clay films on faces of peds; common medium brown

(7.5YR 4/4) and black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 4 percent gravel; neutral; gradual wavy boundary.

2BC—40 to 43 inches; 60 percent light olive brown (2.5Y 5/3) and 40 percent olive gray (5Y 5/2) silty clay loam; weak medium and coarse subangular blocky structure; firm; few medium strong brown (7.5YR 5/6) and few fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; common medium prominent brownish yellow (10YR 6/6) masses of iron accumulation in the matrix; 2 percent gravel; slightly alkaline; clear wavy boundary.

2Cd—43 to 60 inches; 90 percent brown (10YR 5/3) and 10 percent olive gray (5Y 5/2) silty clay; massive; very firm; few fine black (10YR 2/1) very weakly cemented manganese oxide concretions throughout; common medium very pale brown (10YR 8/2) carbonate masses throughout; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 1 percent gravel; violently effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess or other silty material:* 35 to 55 inches

*Depth to the base of soil development:* 40 to 60 inches

*Ap or A horizon:*

Hue—10YR

Value—4 or 5

Chroma—1 to 3

Texture—silt loam

*E horizon (where present):*

Hue—10YR

Value—4 to 6

Chroma—2

Texture—silt loam

*Btg or Bt horizon:*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 to 4

Texture—silty clay loam or silty clay

*2Bt, 2Btg, 2BC, or 2BCg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 or 5

Chroma—2 to 4

Texture—silty clay loam or silty clay

*2Cd or 2Cdg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 or 5

Chroma—2 to 4

Texture—silty clay or clay

## 554B—Kernan silt loam, 2 to 4 percent slopes

### Setting

*Landform:* Lake plains and ground moraines (fig. 7)

*Position on the landform:* Backslopes and footslopes



Figure 7.—An area of Kernan silt loam, 2 to 4 percent slopes, in Starved Rock State Park.

### ***Map Unit Composition***

Kernan and similar soils: 93 percent

Dissimilar soils: 7 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have less clay and more silt in the control section
- Soils that have a thicker and darker surface layer
- Soils that are less than 35 inches deep to till
- Soils that are more than 55 inches deep to till
- Soils that have slopes of more than 4 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet

#### *Dissimilar soils:*

- The poorly drained Streator soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till or lacustrine deposits

*Drainage class:* Somewhat poorly drained

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

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

*Depth to restrictive feature:* 40 to 60 inches to dense material

*Available water capacity:* About 8.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 0.5 foot to 2.0 feet, January through May

*Ponding:* None

*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:* Low  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

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

## **Kidami Series**

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

### **Typical Pedon**

Kidami loam, 4 to 6 percent slopes, eroded; at an elevation of 925 feet; 885 feet south and 1,455 feet west of the northeast corner of sec. 7, T. 43 N., R. 6 E.; McHenry County, Illinois; USGS Marengo South topographic quadrangle; lat. 42 degrees 13 minutes 22 seconds N. and long. 88 degrees 34 minutes 33 seconds W., NAD 27; UTM Zone 16, 369940E and 4675716N, NAD 83:

- Ap—0 to 3 inches; dark grayish brown (10YR 4/2) loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; many very fine and fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly acid; abrupt smooth boundary.
- A—3 to 9 inches; 70 percent dark grayish brown (10YR 4/2) and 30 percent brown (10YR 4/3) loam; weak fine subangular blocky structure parting to weak fine and medium granular; friable; common very fine and fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few prominent light gray (10YR 7/2) (dry) silt coatings on faces of peds; 1 percent gravel; slightly acid; abrupt smooth boundary.
- BE—9 to 13 inches; 55 percent brown (10YR 4/3) and 45 percent dark yellowish brown (10YR 4/4) loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; few distinct dark brown (10YR 3/3) organic coatings on faces of peds; 1 percent gravel; moderately acid; abrupt smooth boundary.
- Bt1—13 to 21 inches; brown (7.5YR 4/4) clay loam; moderate medium prismatic structure parting to moderate fine and medium subangular blocky; firm; common very fine roots; common distinct brown (7.5YR 4/3) clay films on faces of peds; 2 percent gravel; slightly acid; clear smooth boundary.
- Bt2—21 to 30 inches; brown (7.5YR 4/4) clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; common distinct brown (7.5YR 4/3) clay films on faces of peds; 3 percent gravel; neutral; clear smooth boundary.
- BC—30 to 40 inches; 70 percent strong brown (7.5YR 4/6) and 30 percent brown (7.5YR 4/4) loam; weak medium prismatic structure parting to weak medium and coarse subangular blocky; firm; common very fine roots; few distinct brown (7.5YR 4/3) clay films on faces of peds and in pores; 5 percent gravel; slightly effervescent; slightly alkaline; gradual smooth boundary.
- C1—40 to 52 inches; brown (7.5YR 5/4) loam; massive; firm; common very fine roots; very few distinct brown (7.5YR 4/3) pressure faces; 5 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.

C2—52 to 60 inches; brown (7.5YR 5/4) loam; massive; firm; common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine and medium prominent gray (10YR 6/1) iron depletions in the matrix; 4 percent gravel; violently effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess or silty material:* Less than 18 inches

*Depth to carbonates:* 20 to 48 inches

*Depth to the base of soil development:* 24 to 55 inches

*Ap or A horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—1 to 3

Texture—silt loam or loam

Content of gravel—less than 10 percent

*E horizon (where present):*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—2 to 4

Texture—silt loam, loam, or sandy loam

Content of gravel—less than 10 percent

*BE or EB horizon (where present):*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—silt loam, loam, or sandy loam

Content of gravel—less than 10 percent

*Bt or 2Bt horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—clay loam, loam, or silty clay loam

Content of gravel—2 to 15 percent

*Bt, 2Bt, BC, 2BC, Bk, and/or 2Bk horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—loam

Content of gravel—2 to 15 percent

*C or 2C horizon:*

Hue—5YR or 7.5YR

Value—4 to 6

Chroma—3 to 6

Texture—loam or sandy loam

Content of gravel—5 to 15 percent

## 527C2—Kidami loam, 4 to 6 percent slopes, eroded

### *Setting*

*Landform:* End moraines and ground moraines

*Position on the landform:* Shoulders and backslopes

### *Map Unit Composition*

Kidami and similar soils: 90 percent

Dissimilar soils: 10 percent

### *Soils of Minor Extent*

#### *Similar soils:*

- Soils that are more than 18 inches deep to till
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have more sand and less silt in the till
- Soils that have a surface layer of clay loam

#### *Dissimilar soils:*

- Nearly level, somewhat poorly drained soils on summits and footslopes
- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 527D2—Kidami loam, 6 to 12 percent slopes, eroded

### *Setting*

*Landform:* End moraines and ground moraines

*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Kidami and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that are more than 18 inches deep to till
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have a surface layer of clay loam
- Soils that have more sand and less silt in the till
- Soils that have slopes of less than 6 percent or more than 12 percent

#### *Dissimilar soils:*

- Nearly level, somewhat poorly drained soils on summits and footslopes
- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* 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

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **La Rose Series**

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

### **Typical Pedon**

La Rose loam, 5 to 10 percent slopes, eroded; at an elevation of 852 feet; 2,440 feet north and 2,200 feet west of the southeast corner of sec. 23, T. 44 N., R. 6 E.; McHenry County, Illinois; USGS Woodstock topographic quadrangle; lat. 42 degrees 16 minutes 34 seconds N. and long. 88 degrees 29 minutes 58 seconds W., NAD 27; UTM Zone 16, 376349E and 4681524N, NAD 83:

Ap—0 to 7 inches; 97 percent very dark grayish brown (10YR 3/2) and 3 percent dark brown (7.5YR 3/4) loam, brown (10YR 5/3) dry; weak medium subangular blocky

structure parting to weak fine and medium granular; friable; common very fine roots; 2 percent gravel; neutral; abrupt smooth boundary.

BA—7 to 11 inches; 75 percent dark brown (7.5YR 3/4) and 25 percent very dark grayish brown (10YR 3/2) clay loam; weak medium subangular blocky structure; firm; common very fine roots; 2 percent gravel; neutral; abrupt smooth boundary.

Bt1—11 to 15 inches; brown (7.5YR 4/4) clay loam; moderate medium subangular blocky structure; friable; common very fine roots; very few distinct dark brown (7.5YR 3/2) organic coatings in root channels and in pores; common distinct dark brown (7.5YR 3/4) clay films on faces of peds; 2 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

Bt2—15 to 21 inches; brown (7.5YR 4/4) clay loam; weak medium subangular blocky structure; friable; common very fine roots; very few distinct dark brown (7.5YR 3/2) organic coatings in root channels and in pores; few distinct dark brown (7.5YR 3/4) clay films on faces of peds; 3 percent gravel; strongly effervescent; slightly alkaline; gradual smooth boundary.

C—21 to 60 inches; brown (7.5YR 5/4) loam; massive; friable; common very fine roots; 4 percent gravel; violently effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 7 to 12 inches

*Depth to carbonates:* 10 to 24 inches

*Depth to the base of soil development:* 12 to 24 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

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

Content of gravel—less than 7 percent

*Bt and/or BC horizon:*

Hue—10YR, 7.5YR, or 5YR

Value—4 or 5

Chroma—3 or 4

Texture—clay loam

Content of gravel—less than 7 percent

*C horizon:*

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 or 4

Texture—loam or silt loam

Content of gravel—2 to 10 percent

## 60C2—La Rose loam, 5 to 10 percent slopes, eroded

### Setting

*Landform:* Ground moraines and end moraines

*Position on the landform:* Shoulders and backslopes

### Map Unit Composition

La Rose and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a surface layer of clay loam
- Soils that are more than 24 inches deep to till
- Soils that have slopes of less than 5 percent or more than 10 percent

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes
- The poorly drained Elpaso soils on toeslopes

### ***Properties and Qualities of the La Rose Soil***

*Parent material:* Till

*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:* About 7.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **60D2—La Rose loam, 10 to 18 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes and shoulders

### ***Map Unit Composition***

La Rose and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a surface layer of clay loam
- Soils that are more than 24 inches deep to till
- Soils that have slopes of less than 10 percent or more than 18 percent

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes
- The poorly drained Elpaso soils on toeslopes

### ***Properties and Qualities of the La Rose Soil***

*Parent material:* Till

*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:* About 7.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **830—Landfills**

- This map unit consists of accumulations of garbage and other refuse and rubble resulting from the demolition of buildings and pavement. The accumulations are typically covered by a layer of compacted earth. Some of the landfills are active, but some have been abandoned.

### ***Map Unit Composition***

Landfills: 90 percent

Dissimilar components: 10 percent

### ***Components of Minor Extent***

*Dissimilar components:*

- The well drained, loamy Orthents on summits and backslopes
- The moderately well drained, clayey Orthents on summits and backslopes

## ***Lawson Series***

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

### ***Typical Pedon***

Lawson silt loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 490 feet; 1,460 feet north and 2,440 feet east of the southwest corner of sec. 9, T. 33 N., R. 7 E.; Grundy County, Illinois; USGS Morris topographic quadrangle; lat. 41 degrees 21 minutes 04 seconds N. and long. 88 degrees 25 minutes 56 seconds W., NAD 27; UTM Zone 16, 380192E and 4578738N, NAD 83:

- Ap—0 to 14 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; weak fine granular structure; friable; slightly alkaline; gradual smooth boundary.
- A1—14 to 26 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; slightly alkaline; gradual smooth boundary.
- A2—26 to 33 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; friable; slightly alkaline; gradual smooth boundary.
- Cg1—33 to 60 inches; dark grayish brown (10YR 4/2) silty clay loam; massive; friable; few fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; slightly alkaline; gradual smooth boundary.
- Cg2—60 to 80 inches; 80 percent gray (10YR 6/1) and 20 percent dark gray (10YR 4/1), stratified loam and silt loam; massive; friable; common fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly alkaline.

### Range in Characteristics

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

*Ap and A horizons:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or silty clay loam

*Cg or C horizon:*

Hue—10YR or 2.5Y

Value—3 to 6

Chroma—1 to 3

Texture—silt loam, silty clay loam, or loam

## 3451A—Lawson silt loam, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains

### Map Unit Composition

Lawson and similar soils: 90 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that are overlain by light-colored, recent deposits
- Soils that have a thinner subsurface layer
- Soils that have less silt and more clay in the upper one-half of the profile
- Soils that have more gravel in the lower part of the profile
- Soils that have a seasonal high water table at a depth of less than 1 foot or more than 2 feet

*Dissimilar soils:*

- The poorly drained Sawmill soils on flood plains

### ***Properties and Qualities of the Lawson 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:* About 12.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*Months in which flooding does not occur:* July, August, September, October

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where protected from flooding or not  
frequently flooded during the growing season

*Hydric soil status:* Not hydric

## **8451A—Lawson silt loam, 0 to 2 percent slopes, occasionally flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Lawson and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are overlain by light-colored, recent deposits
- Soils that have a thinner subsurface layer
- Soils that have less silt and more clay in the upper one-half of the profile
- Soils that have more gravel in the lower part of the profile
- Soils that have a seasonal high water table at a depth of less than 1 foot or more than 2 feet

*Dissimilar soils:*

- The poorly drained Sawmill soils on flood plains

### ***Properties and Qualities of the Lawson 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:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*Frequency and most likely period of flooding:* Occasional, November through June

*Potential for frost action:* High

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Lena Series**

**Taxonomic classification:** Euic, mesic Typic Haplosaprists

### **Typical Pedon**

Lena muck, 0 to 2 percent slopes; at an elevation of 642 feet; 900 feet south and 2,100 feet west of the northeast corner of sec. 3, T. 31 N., R. 14 E.; Kankakee County, Illinois; USGS Illiana Heights topographic quadrangle; lat. 41 degrees 12 minutes 22 seconds N. and long. 87 degrees 35 minutes 37 seconds W., NAD 27; UTM Zone 16, 450217E and 4561803N, NAD 83:

- Oa1—0 to 8 inches; muck (sapric material), black (10YR 2/1) broken face and rubbed; about 5 percent fiber, 1 percent rubbed; moderate fine and medium subangular blocky structure; friable; many very fine to coarse roots; common snail shells; violently effervescent; moderately alkaline; clear wavy boundary.
- Oa2—8 to 24 inches; muck (sapric material), very dark gray (N 3/) broken face and rubbed; about 5 percent fiber, 1 percent rubbed; weak fine and medium subangular blocky structure; friable; many very fine to coarse roots; 1 percent fine sand grains; common snail shells; violently effervescent; moderately alkaline; gradual wavy boundary.
- Oa3—24 to 36 inches; muck (sapric material), very dark gray (N 3/) broken face and rubbed; about 8 percent fiber, 2 percent rubbed; massive; friable; common very fine and fine roots; 3 percent fine sand grains; common snail shells; violently effervescent; moderately alkaline; gradual wavy boundary.
- Oa4—36 to 60 inches; muck (sapric material), black (N 2.5/) broken face and rubbed; about 3 percent fiber, a trace rubbed; massive; very friable; common very fine and fine roots; 5 percent fine sand grains; common snail shells; violently effervescent; moderately alkaline.

### **Range in Characteristics**

*Thickness of the organic material:* More than 51 inches

*Surface tier:*

Hue—10YR or N

Value—2 to 3

Chroma—0 or 1

*Subsurface tier:*

Hue—7.5YR, 10YR, or N

Value—2 to 3

Chroma—0 to 3

**210A—Lena muck, 0 to 2 percent slopes*****Setting****Landform:* Ground moraines and outwash plains*Position on the landform:* Toeslopes***Map Unit Composition***

Lena and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have organic deposits less than 51 inches thick
- Soils that have sandy material in the lower one-half of the profile
- Soils in which the surface layer contains less organic material
- Soils that have a thin overwash of silt loam
- Soils that do not have carbonates in the surface layer

*Dissimilar soils:*

- Poorly drained, noncalcareous mineral soils on toeslopes

***Properties and Qualities of the Lena Soil****Parent material:* Herbaceous organic material*Drainage class:* Very poorly drained*Slowest permeability within a depth of 40 inches:* Moderately rapid*Permeability below a depth of 60 inches:* Moderately rapid*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 23.9 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 60.0 to 99.0 percent*Shrink-swell potential:* Not rated*Depth and months of the highest apparent seasonal high water table:* At the surface to 1 foot below the surface, November through June*Depth and most likely period of ponding:* 0 to 1 foot, November through June*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:* Low*Susceptibility to wind erosion:* High***Interpretive Groups****Land capability classification:* 3w*Prime farmland category:* Not prime farmland*Hydric soil status:* Hydric***Loran Series*****Taxonomic classification:** Fine-silty, mixed, superactive, mesic Aquic Argiudolls**Taxadjunct features:** The Loran soil in map unit 572C2 has a thinner dark surface

layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-silty, mixed, superactive, mesic Aquollic Hapludalf.

### Typical Pedon

Loran silt loam, 2 to 5 percent slopes; at an elevation of 610 feet; 2,200 feet south and 1,560 feet east of the northwest corner of sec. 17, T. 33 N., R. 1 E.; La Salle County, Illinois; USGS Spring Valley topographic quadrangle; lat. 41 degrees 20 minutes 02 seconds N. and long. 89 degrees 08 minutes 20 seconds W.; UTM Zone 16, 321019E and 4578043N, NAD 83:

- Ap—0 to 10 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine and fine roots; neutral; clear smooth boundary.
- AB—10 to 15 inches; 70 percent black (10YR 2/1) and 30 percent dark grayish brown (10YR 4/2) silt loam, dark gray (10YR 4/1) dry; weak fine and medium subangular blocky structure; friable; common very fine and fine roots; neutral; clear wavy boundary.
- Bt1—15 to 23 inches; olive brown (2.5Y 4/3) silty clay loam; moderate medium subangular blocky structure; friable; few very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine black (10YR 2/1) manganese oxide concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium faint dark grayish brown (2.5Y 4/2) iron depletions in the matrix; neutral; gradual wavy boundary.
- Bt2—23 to 32 inches; light olive brown (2.5Y 5/3) silt loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores; common faint dark grayish brown (2.5Y 4/2) clay films on faces of peds; common fine black (10YR 2/1) manganese oxide concretions throughout; common medium yellowish brown (10YR 5/6) iron oxide concretions throughout; common medium prominent brownish yellow (10YR 6/6) masses of iron accumulation in the matrix; common medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; slightly alkaline; gradual wavy boundary.
- Bt3—32 to 41 inches; light olive brown (2.5Y 5/3) silty clay loam; moderate medium and coarse subangular blocky structure; firm; few very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings in root channels and pores; common faint dark grayish brown (2.5Y 4/2) clay films on faces of peds; common fine black (10YR 2/1) manganese oxide concretions throughout; common medium yellowish brown (10YR 5/6) iron oxide concretions throughout; common medium prominent brownish yellow (10YR 6/6) masses of iron accumulation in the matrix; common medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; slightly alkaline; clear wavy boundary.
- 2BC—41 to 46 inches; 90 percent olive brown (2.5Y 4/3) and 10 percent dark grayish brown (2.5Y 4/2) silty clay; weak coarse prismatic structure; very firm; few very fine roots; common medium prominent brownish yellow (10YR 6/6) masses of iron accumulation in the matrix; strongly effervescent; moderately alkaline; clear smooth boundary.
- 2Cr—46 to 70 inches; 60 percent grayish brown (2.5Y 5/2) and 40 percent olive brown (2.5Y 4/3) clayey shale; massive; extremely firm; violently effervescent; moderately alkaline.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* 30 to 50 inches

*Depth to bedrock:* 40 to 60 inches

*Depth to the base of soil development:* 40 to 55 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Bt horizon:*

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—2 or 3

Texture—silty clay loam or silt loam

*2Bt horizon that formed in till (where present):*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—4 to 6

Texture—clay loam, loam, or silt loam

*2BCg, 2Bg, 3BCg, or 3Bg horizon that formed in residuum:*

Hue—2.5Y, 5Y, 5GY, or 5G

Value—4 to 6

Chroma—1 to 4

Texture—silty clay, clay, channery silty clay, or channery clay

*2Cr or 3Cr horizon:*

Hue—2.5Y, 5Y, 5GY, or 5G

Value—4 to 6

Chroma—1 to 4

## **572A—Loran silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Summits

### ***Map Unit Composition***

Loran and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have slopes of more than 2 percent
- Soils that have bedrock at a depth of less than 40 inches or more than 60 inches
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have a lighter colored surface layer

*Dissimilar soils:*

- The well drained Marseilles soils on summits and backslopes
- The poorly drained Drummer soils on toeslopes

### ***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:* About 8.9 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 4.0 to 5.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
 January through May  
*Ponding:* None  
*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:* Low  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1  
*Prime farmland category:* Prime farmland  
*Hydric soil status:* Not hydric

## **572B—Loran silt loam, 2 to 5 percent slopes**

### ***Setting***

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

### ***Map Unit Composition***

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

### ***Soils of Minor Extent***

#### ***Similar soils:***

- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have bedrock at a depth of less than 40 inches or more than 60 inches
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have a lighter colored surface layer

#### ***Dissimilar soils:***

- The well drained Marseilles soils on summits and backslopes
- The poorly drained Drummer soils on toeslopes

### ***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:* About 9.1 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 4.0 to 5.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
 January through May  
*Ponding:* None  
*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:* Low  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

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

## **572C2—Loran silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

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

### ***Map Unit Composition***

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

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that have bedrock at a depth of less than 40 inches or more than 60 inches
- Soils that have a seasonal high water table at a depth of more than 2 feet

#### *Dissimilar soils:*

- The well drained Marseilles soils on summits and backslopes
- The poorly drained Drummer soils on toeslopes

### ***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:* Slow  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Available water capacity:* About 9.3 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
 January through May  
*Ponding:* None  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Lorenzo Series**

**Taxonomic classification:** Fine-loamy over sandy or sandy-skeletal, mixed, active, mesic Typic Argiudolls

### **Typical Pedon**

Lorenzo loam, 2 to 4 percent slopes; at an elevation of 510 feet; 320 feet south and 1,720 feet west of the northeast corner of sec. 35, T. 33 N., R. 5 E.; La Salle County, Illinois; USGS Seneca topographic quadrangle; lat. 41 degrees 17 minutes 44 seconds N. and long. 88 degrees 36 minutes 58 seconds W., NAD 27; UTM Zone 16, 364686E and 4572840N, NAD 83:

Ap—0 to 6 inches; very dark brown (10YR 2/2) loam, dark grayish brown (10YR 4/2) dry; moderate fine and medium granular structure; friable; neutral; common very fine roots; clear smooth boundary.

AB—6 to 9 inches; dark brown (7.5YR 3/2) loam, brown (7.5YR 5/2) dry; weak medium angular blocky structure; friable; neutral; clear smooth boundary.

Bt1—9 to 16 inches; brown (7.5YR 4/4) clay loam; weak medium and coarse angular blocky structure; firm; common distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds; 3 percent gravel; slightly acid; abrupt smooth boundary.

2Bt2—16 to 18 inches; brown (7.5YR 4/4) gravelly loam; weak coarse subangular blocky structure; very friable; few distinct dark brown (7.5YR 3/2) organo-clay films on faces of peds; 20 percent gravel; slightly alkaline; abrupt smooth boundary.

2C—18 to 60 inches; yellowish brown (10YR 5/4) extremely gravelly sand; single grain; loose; 70 percent gravel; strongly effervescent; moderately alkaline.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 5 to 15 inches

*Depth to sandy and gravelly deposits:* 12 to 24 inches

*Depth to carbonates:* 12 to 24 inches

*Depth to the base of soil development:* 12 to 24 inches

*A, Ap, or AB horizon:*

Hue—7.5YR or 10YR

Value—2 or 3

Chroma—1 or 2

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

*Bt, 2Bt, or 2BC horizon:*

Hue—7.5YR, 10YR, or 5YR

Value—4 or 5

Chroma—3 to 6

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

Content of gravel—2 to 35 percent

*2C horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—3 to 6

Texture—the gravelly, very gravelly, or extremely gravelly analogs of sand, loamy sand, coarse sand, or loamy coarse sand

Content of gravel—20 to 85 percent

## 318B—Lorenzo loam, 2 to 4 percent slopes

### **Setting**

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Backslopes and summits

### **Map Unit Composition**

Lorenzo and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that have sandy and gravelly deposits at a depth of less than 12 inches or more than 24 inches
- Soils that have carbonates at a depth of less than 12 inches or more than 24 inches
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that are moderately eroded

#### *Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Loamy outwash over calcareous sand and gravel

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## 318C2—Lorenzo loam, 4 to 6 percent slopes, eroded

### **Setting**

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Lorenzo and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that have sandy and gravelly deposits at a depth of less than 12 inches or more than 24 inches
- Soils that have carbonates at a depth of less than 12 inches or more than 24 inches
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that are severely eroded or only slightly eroded

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Loamy outwash over calcareous sand and gravel

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Marseilles Series***

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

### **Typical Pedon**

Marseilles silt loam, 35 to 60 percent slopes; at an elevation of 669 feet; 2,200 feet west and 1,180 feet south of the northeast corner of sec. 14, T. 15 N., R. 8 E.; Bureau County, Illinois; USGS Wyandot topographic quadrangle; lat. 41 degrees 17 minutes 20 seconds N. and long. 89 degrees 32 minutes 13 seconds W., NAD 27; UTM Zone 16, 287557E and 4573935N, NAD 83:

A—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate medium granular structure; friable; many very fine and few fine roots; slightly acid; abrupt smooth boundary.

BE—4 to 9 inches; yellowish brown (10YR 5/4) silt loam; moderate medium platy structure parting to weak very fine subangular blocky; friable; many very fine roots; common distinct light gray (10YR 7/2) (dry) clay depletions on faces of ped; few fine iron and manganese oxide accumulations; neutral; clear smooth boundary.

Bt1—9 to 15 inches; yellowish brown (10YR 5/4) silty clay loam; moderate very fine and fine subangular blocky structure; friable; many very fine and few fine roots;

common distinct light gray (10YR 7/2) (dry) clay depletions and common distinct dark brown (10YR 4/3) clay films on faces of peds; few fine iron and manganese oxide accumulations; slightly acid; clear smooth boundary.

Bt2—15 to 23 inches; brown (10YR 5/3) silty clay loam; strong fine and medium subangular blocky structure; friable; many very fine and few fine roots; few distinct light gray (10YR 7/2) (dry) clay depletions and many distinct dark brown (10YR 4/3) clay films on faces of peds; few fine iron and manganese oxide accumulations; slightly acid; clear smooth boundary.

2Bt3—23 to 36 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; common very fine and few medium roots; many prominent dark brown (10YR 4/3) clay films on faces of peds; few fine iron and manganese oxide accumulations; few medium prominent yellowish red (5YR 5/8) masses of iron accumulation in the matrix; slightly acid; gradual wavy boundary.

2Cr1—36 to 51 inches; olive gray (5Y 5/2), soft shale; firm; common very fine and few fine roots; common prominent dark brown (10YR 4/3) clay films on shale fragments; few fine iron and manganese oxide accumulations; few medium prominent yellowish red (5YR 5/8) masses of iron accumulation in the matrix; slightly acid; gradual wavy boundary.

2Cr2—51 to 60 inches; olive (5Y 5/3), soft shale; very firm; few very fine roots; few prominent dark brown (10YR 4/3) clay films on shale fragments; few fine iron and manganese oxide accumulations; neutral.

### Range in Characteristics

*Depth to residuum:* 0 to 30 inches

*Depth to bedrock:* 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

*BE or E horizon (where present):*

Hue—10YR

Value—4 or 5

Chroma—2 to 4

Texture—silt loam or silty clay loam

*Bt horizon:*

Hue—10YR

Value—4 or 5

Chroma—2 to 6

Texture—silt loam or silty clay loam

*2Bt horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—2 to 4

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

Content of gravel—less than 15 percent

*2Cr horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 4

Texture—soft, noncalcareous shale with a variable amount of hard fragments of shale; fragments of sandstone in some pedons

## **549B—Marseilles silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Ground moraines and stream terraces

*Position on the landform:* Summits and backslopes

### ***Map Unit Composition***

Marseilles and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more clay and less silt in the lower part of the profile
- Soils that are moderately eroded
- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches

*Dissimilar soils:*

- The somewhat poorly drained Appleriver soils on summits and footslopes

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

*Parent material:* Loess over residuum derived from shale

*Drainage class:* Well 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:* 20 to 40 inches to bedrock (paralithic)

*Available water capacity:* About 7.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4 to 6 feet,  
February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **549C2—Marseilles silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders

### **Map Unit Composition**

Marseilles and similar soils: 98 percent

Dissimilar soils: 2 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have more clay and less silt in the lower part of the profile
- Soils that have a surface layer of silty clay loam
- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches

#### *Dissimilar soils:*

- The somewhat poorly drained Appleriver soils on summits and footslopes

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

*Parent material:* 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:* About 4.7 inches to a depth of 60 inches

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

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* High

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

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* 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

### **Map Unit Composition**

Marseilles and similar soils: 94 percent

Dissimilar soils: 6 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have more clay and less silt in the lower part of the profile
- Soils that have a surface layer of silty clay loam
- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches

*Dissimilar soils:*

- The somewhat poorly drained Appleriver soils on summits and footslopes

***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:* About 4.4 inches to a depth of 60 inches

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

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* High

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

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* 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

***Map Unit Composition***

Marseilles and similar soils: 100 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have more clay and less silt in the lower part of the profile
- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches
- Soils that are moderately eroded

***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:* About 5.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and high for concrete  
*Surface runoff class:* Very high  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Not hydric

## **549G—Marseilles silt loam, 35 to 60 percent slopes**

### ***Setting***

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

### ***Map Unit Composition***

Marseilles and similar soils: 100 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches
- Soils that have more clay and less silt in the lower part of the profile
- Soils that are moderately eroded

### ***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:* About 5.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and high for concrete  
*Surface runoff class:* Very high  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 7e  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Not hydric

## 794G—Marseilles, Northfield, and Ritchey silt loams, 30 to 60 percent slopes

### **Setting**

*Landform:* Stream terraces

*Position on the landform:* Backslopes

### **Map Unit Composition**

Marseilles and similar soils: 30 percent

Northfield and similar soils: 30 percent

Ritchey and similar soils: 30 percent

Dissimilar components: 10 percent

### **Components of Minor Extent**

*Similar soils:*

- Soils that are moderately eroded
- Soils that have bedrock at various depths
- Soils that have carbonates in the surface layer
- Soils that have slopes of less than 30 percent or more than 60 percent

*Dissimilar components:*

- Strongly sloping soils on backslopes
- Areas of rock outcrop
- Areas that have extreme vertical slopes

### **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:* About 5.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

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

*Surface runoff class:* Very high

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

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

*Parent material:* Drift over sandstone

*Drainage class:* Well 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:* 10 to 20 inches to bedrock (lithic)

*Available water capacity:* About 2.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

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

*Parent material:* Till over dolostone or limestone

*Drainage class:* 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:* 10 to 20 inches to bedrock (lithic)

*Available water capacity:* About 3.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Very high

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Marseilles—8; Northfield—8; Ritchey—8

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Marseilles—not hydric; Northfield—not hydric; Ritchey—not hydric

## ***Mayville Series***

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

### **Typical Pedon**

Mayville silt loam, 2 to 5 percent slopes; at an elevation of 1,040 feet; 1,450 feet south and 210 feet east of the northwest corner of sec. 8, T. 10 N., R. 18 E.; Washington County, Wisconsin; USGS Hartford West topographic quadrangle; lat. 43 degrees 21 minutes 00 seconds N. and long. 88 degrees 23 minutes 51 seconds W., NAD 27; UTM Zone 16, 386731E and 4800631N, NAD 83:

Ap—0 to 6 inches; very dark gray (10YR 3/1) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; neutral; abrupt wavy boundary.

E—6 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium platy structure; very friable; neutral; abrupt smooth boundary.

BE—8 to 12 inches; brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; neutral; clear smooth boundary.

Bt1—12 to 24 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; firm; common faint dark brown (10YR 3/3) clay films on faces of peds; few fine distinct yellowish brown (10YR 5/4 and 5/6) masses of iron accumulation in the matrix in the lower part of the horizon; neutral; clear smooth boundary.

Bt2—24 to 28 inches; brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; firm; common faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few medium faint dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

2Bt3—28 to 32 inches; brown (10YR 4/3) clay loam grading to yellowish brown (10YR 5/4) loam in the lower part; moderate coarse subangular blocky structure; firm; few faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few medium faint dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; 3 percent gravel; slightly effervescent in the lower part; neutral; clear smooth boundary.

2C—32 to 60 inches; light yellowish brown (10YR 6/4) gravelly sandy loam; massive; friable; few medium prominent brownish yellow (10YR 6/8) masses of iron accumulation in the matrix; few medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; 17 percent gravel and 1 percent cobbles; violently effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess or other silty material:* 20 to 40 inches

*Depth to carbonates:* 20 to 40 inches

*Depth to the base of soil development:* 24 to 48 inches

*Ap or A horizon:*

Hue—10YR

Value—3 to 5

Chroma—1 to 3

Texture—silt loam

*E horizon (where present):*

Hue—10YR

Value—4 or 5

Chroma—2 or 3

Texture—silt loam

*BE horizon (where present):*

Hue—10YR

Value—4 or 5

Chroma—3 or 4

Texture—silt loam

*Bt horizon:*

Hue—10YR

Value—3 or 4

Chroma—3 or 4

Texture—silty clay loam or silt loam

*2Bt horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

Texture—loam, clay loam, or sandy clay loam

Content of gravel—3 to 12 percent

*2C horizon:*

Hue—7.5YR or 10YR

Value—5 or 6

Chroma—3 or 4

Texture—loam, sandy loam, gravelly loam, or gravelly sandy loam

Content of gravel—5 to 20 percent

## 193C2—Mayville silt loam, 5 to 10 percent slopes, eroded

### *Setting*

*Landform:* Ground moraines and end moraines

*Position on the landform:* Shoulders and backslopes

### *Map Unit Composition*

Mayville and similar soils: 92 percent

Dissimilar soils: 8 percent

### *Soils of Minor Extent*

#### *Similar soils:*

- Soils that are less than 20 inches deep to till
- Soils that are more than 40 inches deep to till
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have slopes of less than 5 percent or more than 10 percent

#### *Dissimilar soils:*

- Nearly level, somewhat poorly drained soils on summits and footslopes
- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying 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

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*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:* Low

### *Interpretive Groups*

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Millbrook Series**

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

### **Typical Pedon**

Millbrook silt loam, 0 to 2 percent slopes; at an elevation of 595 feet; 2,440 feet south and 1,800 feet west of the northeast corner of sec. 31, T. 33 N., R. 10 E.; Will County, Illinois; USGS Symerton topographic quadrangle; lat. 41 degrees 17 minutes 56

seconds N. and long. 88 degrees 07 minutes 06 seconds W., NAD 27; UTM Zone 16, 406367E and 4572543N, NAD 83:

- Ap—0 to 7 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine and fine roots; neutral; clear smooth boundary.
- BE—7 to 11 inches; 55 percent brown (10YR 5/3) and 45 percent dark grayish brown (10YR 4/2) silty clay loam, light brownish gray (10YR 6/2) dry; weak very thin platy structure parting to weak fine granular; friable; common very fine and fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds and in pores; few fine distinct dark gray (10YR 4/1) iron depletions in the matrix; neutral; clear smooth boundary.
- Bt1—11 to 24 inches; brown (10YR 5/3) silty clay loam; moderate medium and coarse prismatic structure parting to weak fine and medium subangular blocky; friable; common very fine and fine roots; many prominent dark gray (10YR 4/1) clay films on faces of peds and in pores; many prominent very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine black (7.5YR 2.5/1) weakly cemented manganese oxide nodules throughout; common fine prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.
- 2Bt2—24 to 35 inches; yellowish brown (10YR 5/6) clay loam; weak medium and coarse prismatic structure parting to weak fine and medium subangular blocky; friable; common very fine roots; many prominent dark gray (10YR 4/1) clay films on faces of peds and in pores; common prominent very dark grayish brown (10YR 3/2) organic coatings on faces of peds; common fine distinct yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; common fine and medium prominent grayish brown (10YR 5/2) iron depletions in the matrix; 1 percent gravel; slightly alkaline; gradual wavy boundary.
- 2Bt3—35 to 46 inches; yellowish brown (10YR 5/6) loam; weak medium and coarse subangular blocky structure; friable; common very fine roots; common prominent brown (10YR 4/3) clay films on faces of peds; common fine and medium faint brownish yellow (10YR 6/6) masses of iron accumulation in the matrix; common medium prominent grayish brown (10YR 5/2) iron depletions in the matrix; 3 percent gravel; slightly alkaline; clear wavy boundary.
- 2BC—46 to 53 inches; brownish yellow (10YR 6/6) loam; weak medium and coarse subangular blocky structure; very friable; common medium faint yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; 14 percent gravel; strongly effervescent; slightly alkaline; clear wavy boundary.
- 2C1—53 to 65 inches; 80 percent yellowish brown (10YR 5/4) and 20 percent dark grayish brown (10YR 4/2) sandy loam; massive; very friable; common medium and coarse distinct dark yellowish brown (10YR 4/6) and common coarse prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; 8 percent gravel; slightly effervescent; slightly alkaline; clear wavy boundary.
- 2C2—65 to 80 inches; brown (10YR 5/3), stratified sandy loam and loamy sand with thin lenses of coarse sand; massive; very friable; 9 percent gravel; slightly effervescent; slightly alkaline.

### Range in Characteristics

*Thickness of the loess or other silty material:* 24 to 40 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 40 to 65 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3  
 Chroma—1 to 3  
 Texture—silt loam

*E, EB, or BE horizon:*

Hue—10YR  
 Value—4 to 6  
 Chroma—2 or 3  
 Texture—silt loam

*Bt or Btg horizon:*

Hue—10YR or 2.5Y  
 Value—4 to 6  
 Chroma—1 to 6  
 Texture—silty clay loam or silt loam

*2Bt, 2Btg, 2BC, or 2BCg horizon:*

Hue—10YR or 2.5Y  
 Value—4 to 6  
 Chroma—1 to 8  
 Texture—sandy loam, loam, silt loam, clay loam, or sandy clay loam  
 Content of gravel—less than 15 percent

*2C or 2Cg horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 to 8  
 Texture—stratified sandy loam, loam, silt loam, clay loam, or loamy sand  
 Content of gravel—less than 15 percent

## **219A—Millbrook silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Footslopes and summits

### ***Map Unit Composition***

Millbrook and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that are deeper to outwash
- Soils that have a seasonal high water table at a depth of more than 2 feet

*Dissimilar soils:*

- The well drained Harvard soils on summits
- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying outwash

*Drainage class:* Somewhat poorly drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot to 2.0 feet, January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 1

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Not hydric

## **Millington Series**

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

### **Typical Pedon**

Millington silt loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 720 feet; 800 feet north and 2,500 feet west of the southeast corner of sec. 14, T. 46 N., R. 1 E.; Winnebago County, Illinois; USGS South Beloit topographic quadrangle; lat. 42 degrees 27 minutes 27 seconds N. and long. 89 degrees 05 minutes 19 seconds W., NAD 27; UTM Zone 16, 328258E and 4702690N, NAD 83:

Ap—0 to 8 inches; black (10YR 2/1) silt loam (containing about 15 percent sand), dark gray (10YR 4/1) dry; moderate fine granular structure; friable; many very fine and fine roots; few snail shells; slightly effervescent; slightly alkaline; abrupt smooth boundary.

A1—8 to 15 inches; black (10YR 2/1) silt loam (containing about 20 percent sand), dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to moderate fine granular; friable; many very fine and fine roots; few snail shells; slightly effervescent; slightly alkaline; clear smooth boundary.

A2—15 to 26 inches; black (10YR 2/1) silt loam (containing about 20 percent sand), dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to moderate fine granular; friable; many very fine and fine roots; common snail shells; strongly effervescent; moderately alkaline; clear smooth boundary.

Bg1—26 to 34 inches; variegated black (10YR 2/1) and dark grayish brown {10YR 4/2} silt loam (containing about 25 percent sand); moderate fine subangular blocky structure parting to moderate fine granular; friable; common very fine and fine roots; many snail shells; strongly effervescent; moderately alkaline; clear smooth boundary.

Bg2—34 to 53 inches; dark grayish brown (2.5Y 4/2) loam; weak medium prismatic structure; friable; few very fine and fine roots; few fine prominent dark reddish brown (5YR 3/3) masses of iron accumulation in the matrix; many medium faint grayish brown (2.5Y 5/2) iron depletions in the matrix; 5 percent gravel; violently effervescent; moderately alkaline; clear smooth boundary.

Cg—53 to 60 inches; light grayish brown (2.5Y 6/2) loamy sand; single grain; loose; violently effervescent; moderately alkaline.

### Range in Characteristics

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

*Depth to carbonates:* Less than 10 inches

*Depth to the base of soil development:* 24 to 48 inches

*Ap, A, or AB horizon:*

Hue—10YR, 2.5Y, or N

Value—2 or 3

Chroma—0 to 2

Texture—dominantly silt loam; loam in the lower part in some pedons

Content of gravel—less than 5 percent

*Bg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 5

Chroma—0 to 2

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

Content of gravel—less than 15 percent

*Cg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 6

Chroma—0 to 2

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

Content of gravel—less than 15 percent

## 3082A—Millington silt loam, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains

### Map Unit Composition

Millington and similar soils: 90 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have less sand and more silt in the upper and middle parts of the profile
- Soils that have more gravel in the lower part of the profile
- Soils that have a thinner subsurface layer and are lighter colored in the upper part of the profile
- Soils that do not have carbonates in the surface layer

*Dissimilar soils:*

- The poorly drained Sawmill soils on flood plains

### Properties and Qualities of the Millington Soil

*Parent material:* Calcareous 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:* About 12.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 6.0 percent

*Shrink-swell potential:* Moderate

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

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

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Hydric

## **Millsdale Series**

**Taxonomic classification:** Fine, mixed, active, mesic Typic Argiaquolls

### **Typical Pedon**

Millsdale silty clay loam, 0 to 2 percent slopes; at an elevation of 545 feet; 2,360 feet north and 2,440 feet west of the southeast corner of sec. 27, T. 35 N., R. 9 E.; Will County, Illinois; USGS Channahon topographic quadrangle; lat. 41 degrees 29 minutes 05 seconds N. and long. 88 degrees 11 minutes 11 seconds W., NAD 27; UTM Zone 16, 400951E and 4593250N, NAD 83:

- A1—0 to 5 inches; black (N 2.5/) silty clay loam, dark gray (N 4/) dry; moderate fine and medium granular structure; friable; common very fine to medium roots; neutral; gradual wavy boundary.
- A2—5 to 10 inches; black (N 2.5/) silty clay loam, dark gray (N 4/) dry; weak medium subangular blocky structure; friable; common very fine to medium roots; neutral; gradual wavy boundary.
- A3—10 to 18 inches; very dark gray (N 3/) silty clay loam, gray (N 5/) dry; moderate medium subangular blocky structure; firm; common very fine roots; common fine prominent dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; common medium prominent dark gray (2.5Y 4/1) iron depletions in the matrix; slightly alkaline; gradual wavy boundary.
- Btg1—18 to 25 inches; dark gray (2.5Y 4/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; common prominent very dark gray (N 3/) organo-clay films on faces of peds and in pores; common medium dark yellowish brown (10YR 4/4) weakly cemented iron and manganese oxide nodules throughout; common fine prominent yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; 1 percent gravel; slightly alkaline; gradual wavy boundary.
- Btg2—25 to 36 inches; gray (2.5Y 5/1) silty clay loam; moderate medium prismatic structure parting to weak medium subangular blocky; firm; common very fine roots; few prominent black (2.5Y 2.5/1) organo-clay films on surfaces along root channels; common medium dark yellowish brown (10YR 4/4) weakly cemented iron and manganese oxide nodules throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 4 percent gravel; slightly alkaline; clear smooth boundary.
- 2R—36 inches; very pale brown (10YR 7/3) limestone bedrock.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 23 inches

*Depth to bedrock:* 20 to 40 inches

*Depth to the base of soil development:* 20 to 40 inches

*A, Ap, or AB horizon:*

Hue—10YR, 2.5Y, or N

Value—2 or 3

Chroma—0 to 2

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

*Btg or Bt horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 4

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

Content of gravel—1 to 14 percent

*2Btg, 2Bt, 2BCg, or 2BC horizon (where present):*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 7

Chroma—1 to 4

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

Content of gravel—2 to 14 percent

*2C or 2Cg horizon (where present):*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 7

Chroma—1 to 4

Texture—clay loam or loam

Content of gravel—2 to 14 percent

## 317A—Millsdale silty clay loam, 0 to 2 percent slopes

### Setting

*Landform:* Stream terraces

*Position on the landform:* Toeslopes

### Map Unit Composition

Millsdale and similar soils: 94 percent

Dissimilar soils: 6 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have bedrock at a depth of less than 20 inches or more than 40 inches
- Soils that have more sand and less clay in the control section

*Dissimilar soils:*

- Moderately deep, somewhat poorly drained soils on summits and footslopes
- Soils that are subject to flooding

### Properties and Qualities of the Millsdale Soil

*Parent material:* Drift over dolostone or limestone

*Drainage class:* Very poorly 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:* 20 to 40 inches to bedrock (lithic)

*Available water capacity:* About 6.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 7.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* At the surface to 1 foot below the surface, January through June

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through June

*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:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Mokena Series**

**Taxonomic classification:** Fine-loamy, mixed, active, mesic Aquic Argiudolls

### **Typical Pedon**

Mokena silt loam, 0 to 2 percent slopes; at an elevation of 636 feet; 1,980 feet south and 194 feet east of the northwest corner of sec. 7, T. 29 N., R. 12 W.; Kankakee County, Illinois; USGS Kankakee topographic quadrangle; lat. 41 degrees 00 minutes 53 seconds N. and long. 87 degrees 46 minutes 15 seconds W., NAD 27; UTM Zone 16, 435183E and 4540680N, NAD 83:

Ap—0 to 5 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine and fine roots; neutral; clear smooth boundary.

A—5 to 12 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to weak fine and medium granular; friable; common very fine and fine roots; neutral; gradual wavy boundary.

AB—12 to 15 inches; 70 percent black (10YR 2/1) and 30 percent very dark grayish brown (10YR 3/2) loam, dark gray (10YR 4/1) dry; weak fine and medium subangular blocky structure parting to weak fine and medium granular; friable; few very fine and fine roots; neutral; gradual wavy boundary.

Bt1—15 to 20 inches; olive brown (2.5Y 4/3) loam; moderate medium subangular blocky structure; firm; few very fine and fine roots; many distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common prominent black (10YR 2/1) organic coatings in root channels; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.

Bt2—20 to 25 inches; light olive brown (2.5Y 5/3) loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct dark grayish brown (2.5Y 4/2) clay films on faces of peds; common prominent black (10YR 2/1) organic coatings in root channels; common medium black (N 2.5/) manganese oxide nodules throughout; common fine faint grayish brown (2.5Y 5/2) iron depletions in the matrix; neutral; gradual wavy boundary.

Bt3—25 to 32 inches; dark yellowish brown (10YR 4/4) clay loam; moderate medium prismatic structure; firm; few very fine roots; common distinct very dark grayish

brown (10YR 3/2) organo-clay films on faces of peds; common medium black (N 2.5/) manganese oxide nodules throughout; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium distinct light brownish gray (2.5Y 6/2) iron depletions in the matrix; slightly alkaline; gradual smooth boundary.

**Bt4**—32 to 38 inches; 50 percent yellowish brown (10YR 5/4) and 50 percent dark grayish brown (2.5Y 4/2) clay loam; weak medium and coarse angular blocky structure; firm; few very fine roots; few fine distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common medium black (N 2.5/) manganese oxide nodules throughout; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 1 percent gravel; slightly alkaline; clear smooth boundary.

**2Bt5**—38 to 42 inches; gray (5Y 5/1) silty clay; weak fine and medium subangular blocky structure; very firm; few very fine and fine roots; few prominent dark grayish brown (2.5Y 4/2) clay films on faces of peds; common medium black (N 2.5/) manganese oxide nodules throughout; many medium prominent yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; 1 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.

**2Cd**—42 to 60 inches; 80 percent gray (5Y 5/1) and 20 percent yellowish brown (10YR 5/4) silty clay; massive; very firm; few fine black (N 2.5/) manganese oxide nodules throughout; common medium light gray (2.5Y 7/1) calcium carbonate concretions throughout; 2 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

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

*Depth to till or lacustrine deposits:* 30 to 50 inches

*Depth to carbonates:* 30 to 50 inches

*Depth to the base of soil development:* 30 to 60 inches

*Ap and A horizons:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam or loam

*Bt horizon:*

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—2 to 4

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

*2Bt horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay or clay

Content of gravel—less than 7 percent

*2Cd horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 4

Texture—silty clay or clay

Content of gravel—less than 10 percent

**295A—Mokena silt loam, 0 to 2 percent slopes*****Setting***

*Landform:* Ground moraines and lake plains

*Position on the landform:* Summits and footslopes

***Map Unit Composition***

Mokena and similar soils: 92 percent

Dissimilar soils: 8 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet

*Dissimilar soils:*

- The poorly drained Bryce soils on toeslopes

***Properties and Qualities of the Mokena Soil***

*Parent material:* Thin mantle of loess or other silty material and the underlying outwash and till or lacustrine deposits

*Drainage class:* Somewhat poorly drained

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

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

*Depth to restrictive feature:* 30 to 60 inches to dense material

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

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet, January through May

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

**295B—Mokena silt loam, 2 to 4 percent slopes*****Setting***

*Landform:* Ground moraines and lake plains

*Position on the landform:* Backslopes and footslopes

***Map Unit Composition***

Mokena and similar soils: 92 percent

Dissimilar soils: 8 percent

### **Soils of Minor Extent**

*Similar soils:*

- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet

*Dissimilar soils:*

- The poorly drained Bryce soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying outwash and till or lacustrine deposits

*Drainage class:* Somewhat poorly drained

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

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

*Depth to restrictive feature:* 30 to 60 inches to dense material

*Available water capacity:* About 7.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet, January through May

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

#### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

### **Mona Series**

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

**Taxadjunct features:** The Mona soil in map unit 448C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-loamy, mixed, superactive, mesic Mollic Oxyaquic Hapludalf.

#### **Typical Pedon**

Mona silt loam, 2 to 5 percent slopes; at an elevation of 718 feet; 130 feet south and 600 feet west of the northeast corner of sec. 20, T. 23 N., R. 13 W.; Vermilion County, Illinois; USGS East Lynn topographic quadrangle; lat. 40 degrees 26 minutes 36 seconds N. and long. 87 degrees 50 minutes 21 seconds W., NAD 27; UTM Zone 16, 428819E and 4477307N, NAD 83:

Ap—0 to 11 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; common fine and medium roots; slightly acid; clear smooth boundary.

Bt1—11 to 15 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; friable; common fine and medium roots; common faint brown (10YR 4/3) clay films on faces of peds; common distinct very dark gray

- (10YR 3/1) organo-clay films on faces of peds; slightly acid; clear smooth boundary.
- 2Bt2—15 to 22 inches; yellowish brown (10YR 5/4) clay loam; moderate fine subangular blocky structure; friable; common medium to very fine roots; common faint brown (10YR 4/3) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; neutral; clear smooth boundary.
- 2Bt3—22 to 31 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; firm; few fine roots; common faint brown (10YR 4/3) clay films on faces of peds; few faint very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; neutral; clear smooth boundary.
- 2Bt4—31 to 39 inches; light olive brown (2.5Y 5/4) clay loam; weak medium subangular blocky structure; firm; few fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine white (10YR 8/1) weakly cemented calcium carbonate nodules throughout; few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; neutral; clear smooth boundary.
- 3BC—39 to 44 inches; grayish brown (2.5Y 5/2) silty clay; weak coarse subangular blocky structure; very firm; few fine white (10YR 8/1) weakly cemented calcium carbonate nodules throughout; few fine strong brown (7.5YR 5/8) weakly cemented iron oxide nodules throughout; few fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; 3 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- 3Cd—44 to 60 inches; grayish brown (2.5Y 5/2) silty clay; massive; very firm; few fine white (10YR 8/1) weakly cemented calcium carbonate nodules throughout; few fine strong brown (7.5YR 5/8) weakly cemented iron oxide nodules throughout; common medium faint gray (10YR 5/1) iron depletions in the matrix; few fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; 3 percent gravel; strongly effervescent; slightly alkaline.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* Less than 24 inches

*Depth to dense till:* 36 to 54 inches

*Depth to carbonates:* 30 to 54 inches

*Ap, A, or AB horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Part of the Bt horizon that formed in loess (where present):*

Hue—10YR

Value—4 to 6

Chroma—3 or 4

Texture—silty clay loam

*Part of the Bt, BC, 2Bt, or 2BC horizon that formed in outwash:*

Hue—10YR

Value—4 to 6

Chroma—3 or 4

Texture—clay loam, silty clay loam that contains more than 15 percent sand, or sandy clay loam

Content of gravel—less than 10 percent

*2BC, 2Cd, 3BC, or 3Cd horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay or clay

Content of gravel—less than 10 percent

## **448B—Mona silt loam, 2 to 5 percent slopes**

### ***Setting***

*Landform:* Ground moraines and glacial lakes (relict)

*Position on the landform:* Summits and backslopes

### ***Map Unit Composition***

Mona and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are more than 50 inches deep to till
- Soils that have less sand and more clay in the profile
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet

*Dissimilar soils:*

- The poorly drained Bryce soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying outwash and lacustrine deposits or till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* 36 to 54 inches to dense material

*Available water capacity:* About 8.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.5 to 4.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet, February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

**448C2—Mona silt loam, 5 to 10 percent slopes, eroded*****Setting***

*Landform:* Ground moraines

*Position on the landform:* Shoulders and backslopes

***Map Unit Composition***

Mona and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent******Similar soils:***

- Soils that are more than 50 inches deep to till
- Soils that have less sand and more clay in the profile
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that are severely eroded or only slightly eroded
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet

***Dissimilar soils:***

- The nearly level, somewhat poorly drained Mokena soils on summits and footslopes
- The poorly drained Bryce soils on toeslopes

***Properties and Qualities of the Mona Soil***

*Parent material:* Thin mantle of loess or other silty material and the underlying outwash and lacustrine deposits or till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* 36 to 54 inches to dense material

*Available water capacity:* About 7.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet, February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

***Moundprairie Series***

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

### Typical Pedon

Moundprairie silty clay loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 447 feet; 560 feet east and 1,100 feet south of the northwest corner of sec. 2, T. 15 N., R. 11 E.; Bureau County, Illinois; USGS Spring Valley topographic quadrangle; lat. 41 degrees 19 minutes 03 seconds N. and long. 89 degrees 11 minutes 52 seconds W.; UTM Zone 16, 316053E and 4576344N, NAD 83:

- Ap—0 to 9 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; slightly effervescent; slightly alkaline; abrupt smooth boundary.
- C1—9 to 20 inches; stratified very dark gray (10YR 3/1) and dark grayish brown (10YR 4/2) silty clay loam and loam; massive; friable; many prominent black (7.5YR 2.5/1) iron and manganese oxide accumulations throughout; slightly effervescent; slightly alkaline; clear smooth boundary.
- C2—20 to 31 inches; stratified very dark gray (10YR 3/1), grayish brown (10YR 5/2), and dark grayish brown (10YR 4/2) silty clay loam, loam, and sandy loam; massive; friable; many prominent black (7.5YR 2.5/1) iron and manganese oxide accumulations throughout; slightly effervescent; moderately alkaline; clear smooth boundary.
- C3—31 to 43 inches; stratified very dark gray (10YR 3/1) and dark grayish brown (10YR 4/2) silty clay loam and loam; massive; friable; many prominent black (7.5YR 2.5/1) iron and manganese oxide accumulations throughout; slightly effervescent; moderately alkaline; clear wavy boundary.
- Ab—43 to 60 inches; black (N 2/) silty clay loam; moderate medium subangular blocky structure; friable; many prominent black (7.5YR 2.5/1) iron and manganese oxide accumulations; slightly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the recent silty alluvial sediments:* 20 to 60 inches

*Depth to the buried soil:* 20 to 60 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1

Texture—silt loam or silty clay loam

*C or Cg horizon:*

Hue—10YR or 2.5Y

Value—3 to 5

Chroma—1 or 2

Texture—silt loam or silty clay loam; commonly stratified

*Ab horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 or 3

Chroma—0 or 1

Texture—silt loam or silty clay loam

## 1480A—Moundprairie silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains

### **Map Unit Composition**

Moundprairie and similar soils: 94 percent

Dissimilar components: 6 percent

### **Components of Minor Extent**

#### *Similar soils:*

- Soils that have more sand and less silt in the control section
- Soils that do not have carbonates in the surface layer
- Soils that do not have a buried soil within a depth of 60 inches

#### *Dissimilar components:*

- Areas of water

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

*Parent material:* Alluvium

*Drainage class:* Very 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:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* At the surface to 0.5 foot below the surface, all year

*Depth and most likely period of ponding:* 0 to 1 foot, all year

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

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

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 5w

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Hydric

## **3480A—Moundprairie silty clay loam, 0 to 2 percent slopes, frequently flooded**

### **Setting**

*Landform:* Flood plains

### **Map Unit Composition**

Moundprairie and similar soils: 85 percent

Dissimilar soils: 15 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have more sand and less silt in the control section
- Soils that do not have carbonates in the surface layer
- Soils that do not have a buried soil within a depth of 60 inches

*Dissimilar soils:*

- The poorly drained Millington soils on flood plains

***Properties and Qualities of the Moundprairie 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:* About 11.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

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

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Hydric

***Muscature Series***

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

**Typical Pedon**

Muscature silt loam, 0 to 2 percent slopes; at an elevation of 879 feet; 450 feet east and 222 feet south of the northwest corner of sec. 36, T. 26 N., R. 10 E.; Winnebago County, Illinois; USGS Seward topographic quadrangle; lat. 42 degrees 12 minutes 58 seconds N. and long. 89 degrees 17 minutes 57 seconds W., NAD 27; UTM Zone 16, 310220E and 4676333N, NAD 83:

Ap—0 to 6 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate medium granular structure; friable; common very fine and fine roots; moderately acid; abrupt smooth boundary.

A1—6 to 11 inches; black (10YR 2/1) silt loam, dark gray (10YR 4/1) dry; moderate fine and medium granular structure; friable; common very fine and fine roots; moderately acid; clear smooth boundary.

A2—11 to 16 inches; very dark brown (10YR 2/2) silt loam, dark grayish brown (10YR 4/2) dry; moderate fine subangular blocky structure; friable; common very fine and fine roots; few fine black (5YR 2.5/1) iron and manganese oxide concretions throughout; moderately acid; clear smooth boundary.

BA—16 to 22 inches; dark brown (10YR 3/3) silty clay loam; moderate fine subangular blocky structure; friable; common very fine and fine roots; common prominent very pale brown (10YR 8/2) (dry) clay depletions on faces of peds; few fine dark reddish brown (5YR 3/2) iron and manganese oxide concretions throughout; moderately acid; gradual smooth boundary.

- Btg1—22 to 28 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine subangular blocky structure; firm; few very fine roots; common distinct very pale brown (10YR 8/2) (dry) clay depletions on faces of peds; common fine dark reddish brown (5YR 3/2) iron and manganese oxide concretions throughout; moderately acid; clear smooth boundary.
- Btg2—28 to 33 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine subangular blocky structure; firm; few very fine roots; few distinct very pale brown (10YR 8/2) (dry) clay depletions on faces of peds; few fine dark reddish brown (5YR 3/2) iron and manganese oxide concretions throughout; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
- Btg3—33 to 40 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; few very fine roots; common faint grayish brown (10YR 5/2) clay films on faces of peds; many fine dark reddish brown (5YR 3/2) iron and manganese oxide concretions throughout; many fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; moderately acid; gradual smooth boundary.
- Btg4—40 to 46 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate coarse angular blocky structure; firm; few very fine roots; common faint dark grayish brown (2.5Y 4/2) clay films on faces of peds; many fine dark reddish brown (5YR 3/2) iron and manganese oxide concretions throughout; many fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; moderately acid; clear wavy boundary.
- Cg—46 to 60 inches; light brownish gray (10YR 6/2), grayish brown (10YR 5/2), and yellowish brown (10YR 5/6) silt loam; massive; friable; very dark brown (10YR 2/2) fillings in numerous threadlike channels and some larger burrows; slightly acid.

### Range in Characteristics

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

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 40 to 64 inches

*Ap, A, or AB horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam or silty clay loam

*Bt or Btg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silt loam or 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

### **Map Unit Composition**

Muscatune and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have a thinner surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of more than 2 percent
- Soils that have carbonates below a depth of 40 inches

#### *Dissimilar soils:*

- The well drained Osco and Greenbush soils on summits and shoulders
- The poorly drained Sable soils on summits and toeslopes

### **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:* About 12.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **814A—Muscatune-Buckhart silt loams, 0 to 3 percent slopes**

### **Setting**

*Landform:* Ground moraines

*Position on the landform:* Summits, footslopes, and backslopes

### **Map Unit Composition**

Muscatune and similar soils: 55 percent

Buckhart and similar soils: 35 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils underlain by till or outwash
- Soils that have slopes of more than 3 percent
- Soils that have a thinner surface layer
- Soils that have carbonates at a depth of less than 40 inches
- Soils that have a seasonal high water table at a depth of more than 3.5 feet

#### *Dissimilar soils:*

- The poorly drained Sable soils on toeslopes

### **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:* About 12.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.5 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

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

*Parent material:* Loess

*Drainage class:* Moderately 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:* About 12.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* Muscatune—1; Buckhart—2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Muscatune—not hydric; Buckhart—not hydric

## MW—Miscellaneous water

- This map unit consists of bodies of water used primarily as municipal or agricultural waste treatment lagoons. Included in mapping are established earth berms around the lagoons.

## *Nappanee Series*

**Taxonomic classification:** Fine, illitic, mesic Aeric Epiaqualfs

**Taxadjunct features:** The Nappanee soil in map unit 228C3 is deeper to redoximorphic depletions than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine, illitic, mesic Aquic Hapludalf.

### Typical Pedon

Nappanee silt loam, 2 to 4 percent slopes; at an elevation of 665 feet; 1,220 feet south and 500 feet east of the northwest corner of sec. 10, T. 44 N., R. 11 E.; Lake County, Illinois; USGS Libertyville topographic quadrangle; lat. 42 degrees 18 minutes 35 seconds N. and long. 87 degrees 56 minutes 33 seconds W., NAD 27; UTM Zone 16, 422327E and 4684589N, NAD 83:

- A—0 to 4 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 6/1) dry; weak very fine and fine granular structure; friable; many very fine and fine roots; neutral; abrupt smooth boundary.
- E—4 to 9 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; weak thick platy structure; friable; many very fine and fine roots; neutral; clear smooth boundary.
- Bt1—9 to 19 inches; dark grayish brown (10YR 4/2) silty clay; moderate fine and medium subangular blocky structure; firm; common very fine roots; common prominent very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; common fine and medium dark yellowish brown (10YR 4/6) weakly cemented iron oxide concretions throughout; common fine black (10YR 2/1) strongly cemented manganese oxide nodules throughout; 1 percent gravel; slightly alkaline; clear smooth boundary.
- Bt2—19 to 23 inches; brown (10YR 4/3) silty clay; moderate medium subangular blocky structure; firm; common very fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds and in pores; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine distinct gray (10YR 5/1) iron depletions in the matrix; 3 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- Bt3—23 to 28 inches; brown (10YR 5/3) silty clay; weak medium prismatic structure parting to moderate medium subangular blocky; very firm; common very fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common medium faint grayish brown (10YR 5/2) iron depletions in the matrix; 3 percent gravel; slightly effervescent; moderately alkaline; gradual smooth boundary.
- Btk1—28 to 36 inches; brown (10YR 5/3) silty clay; weak medium prismatic structure parting to weak medium subangular blocky; very firm; common very fine roots; common distinct dark grayish brown (2.5Y 4/2) and grayish brown (2.5Y 5/2) clay films on faces of peds and in pores; common distinct dark brown (7.5YR 3/2) organo-clay films on surfaces along pores; many fine and medium pale yellow (2.5Y 8/2) calcium carbonate concretions throughout; common medium and coarse prominent strong brown (7.5YR 5/6) and common medium and coarse faint

yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; common medium faint grayish brown (10YR 5/2) iron depletions in the matrix; 2 percent gravel; strongly effervescent; moderately alkaline; gradual smooth boundary.

Btk<sub>2</sub>—36 to 46 inches; yellowish brown (10YR 5/4) silty clay; weak medium prismatic structure parting to weak coarse subangular blocky; very firm; common very fine roots; common prominent pale yellow (2.5Y 8/2) calcium carbonate coatings on horizontal faces of peds; many prominent dark gray (2.5Y 4/1) and gray (2.5Y 5/1) clay films on all faces of peds; common prominent dark brown (7.5YR 3/2) organo-clay films on surfaces along pores; common fine and medium strong brown (7.5YR 5/8) weakly cemented iron oxide concretions throughout; few fine black (7.5YR 2.5/1) strongly cemented manganese oxide concretions throughout; common fine and medium pale yellow (2.5Y 8/2) calcium carbonate concretions throughout; common fine and medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; 2 percent gravel; strongly effervescent; moderately alkaline; gradual wavy boundary.

Cd—46 to 60 inches; yellowish brown (10YR 5/4) silty clay loam; massive; very firm; few fine black (7.5YR 2.5/1) strongly cemented manganese oxide concretions throughout; common medium pale yellow (2.5Y 8/2) calcium carbonate concretions throughout; common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess or other silty material:* Less than 20 inches

*Depth to carbonates:* 18 to 40 inches

*Depth to dense till:* 30 to 60 inches; ranges to 20 inches in pedons in severely eroded areas

*Depth to the base of soil development:* 24 to 60 inches

*A or Ap horizon:*

Hue—10YR

Value—3 to 5

Chroma—1 to 3

Texture—silt loam or silty clay loam

Content of gravel—less than 5 percent

*E horizon (where present):*

Hue—10YR

Value—4 or 5

Chroma—1 or 2

Texture—silt loam

Content of gravel—less than 5 percent

*Bt or Btg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay or clay

Content of gravel—1 to 10 percent

*Btk or Bk horizon (where present):*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay or clay

Content of gravel—1 to 10 percent

*BC or BCg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay, clay, or silty clay loam

Content of gravel—2 to 10 percent

*Cd horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay, clay, or silty clay loam

Content of gravel—2 to 10 percent

**228B—Nappanee silt loam, 2 to 4 percent slopes*****Setting****Landform:* Ground moraines and end moraines*Position on the landform:* Backslopes and footslopes***Map Unit Composition***

Nappanee and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have less clay and more silt in the upper part of the profile
- Soils that are moderately eroded
- Soils that have a thicker and darker surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of less than 2 percent or more than 4 percent

*Dissimilar soils:*

- The poorly drained Bryce soils on toeslopes

***Properties and Qualities of the Nappanee Soil****Parent material:* Thin mantle of loess or other silty material and the underlying 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:* 30 to 60 inches to dense material*Available water capacity:* About 6.0 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 1.0 to 3.0 percent*Shrink-swell potential:* Moderate*Depth and months of the highest perched seasonal high water table:* 0.5 foot to 2.0 feet, January through May*Ponding:* None*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:* Low*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **228C2—Nappanee silty clay loam, 4 to 6 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes and shoulders

### ***Map Unit Composition***

Nappanee and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less clay and more silt in the upper part of the profile
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of less than 4 percent or more than 6 percent

*Dissimilar soils:*

- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Bryce soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying 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:* 24 to 60 inches to dense material

*Available water capacity:* About 4.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.5 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 0.5 foot to 2.0 feet, January through May

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* High

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

*Surface runoff class:* Very high

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## 228C3—Nappanee silty clay loam, 4 to 6 percent slopes, severely eroded

### *Setting*

*Landform:* Ground moraines and end moraines (fig. 8)

*Position on the landform:* Shoulders and backslopes

### *Map Unit Composition*

Nappanee and similar soils: 90 percent

Dissimilar soils: 10 percent

### *Soils of Minor Extent*

#### *Similar soils:*

- Soils that have less clay and more silt in the upper part of the profile
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that are moderately eroded
- Soils that have slopes of less than 4 percent or more than 6 percent

#### *Dissimilar soils:*

- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Bryce soils on toeslopes

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

*Parent material:* 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:* 20 to 50 inches to dense material

*Available water capacity:* About 3.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.2 to 1.5 percent



Figure 8.—An area of Nappanee silty clay loam, 4 to 6 percent slopes, severely eroded.

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 0.5 foot to 2.0 feet, January through May

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* High

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

*Surface runoff class:* Very high

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Northfield Series**

**Taxonomic classification:** Loamy, mixed, active, mesic Lithic Hapludalfs

### **Typical Pedon**

Northfield silt loam, in an area of Marseilles, Northfield, and Ritchey silt loams, 30 to 60 percent slopes; at an elevation of 560 feet; 1,345 feet west and 2,320 feet north of the southeast corner of sec. 18, T. 33 N., R. 4 E.; La Salle County, Illinois; USGS Ottawa topographic quadrangle; lat. 41 degrees 19 minutes 15 seconds N. and long. 88 degrees 48 minutes 23 seconds W.; UTM Zone 16, 348844E and 4577052N, NAD 83:

A—0 to 3 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate fine granular structure; friable; common very fine roots; slightly acid; abrupt smooth boundary.

Bt1—3 to 10 inches; dark yellowish brown (10YR 4/4) loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; few distinct dark grayish brown (10YR 4/2) organic coatings throughout; few distinct brown (10YR 4/3) clay films throughout; common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; 1 percent gravel (sandstone fragments); neutral; gradual wavy boundary.

Bt2—10 to 16 inches; yellowish brown (10YR 5/4) loam; moderate medium subangular blocky structure; friable; common very fine roots; few distinct dark grayish brown (10YR 4/2) organic coatings throughout; few distinct dark yellowish brown (10YR 4/4) clay films throughout; common medium prominent strong brown (7.5YR 4/6) masses of iron accumulation in the matrix; 3 percent gravel (sandstone fragments); strongly acid; gradual wavy boundary.

R—16 inches; yellowish brown (10YR 5/4) sandstone bedrock.

### **Range in Characteristics**

*Depth to bedrock:* 10 to 20 inches

*Depth to the base of soil development:* 10 to 20 inches

*A horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—1 to 4

Texture—silt loam, loam, or sandy loam  
 Content of gravel and channers—less than 15 percent

*E horizon (where present):*

Hue—7.5YR or 10YR  
 Value—4 or 5  
 Chroma—2 or 3  
 Texture—silt loam, loam, or sandy loam  
 Content of gravel and channers—less than 15 percent

*Bt horizon:*

Hue—7.5YR or 10YR  
 Value—3 to 5  
 Chroma—3 or 4  
 Texture—loam or silt loam  
 Content of gravel and channers—less than 15 percent  
 Content of cobbles and flagstones—less than 10 percent

*2BC horizon (where present):*

Hue—7.5YR or 10YR  
 Value—3 to 6  
 Chroma—3 to 6  
 Texture—sand, fine sand, loamy sand, or loamy fine sand or the channery analogs of these textures  
 Content of gravel and channers—less than 15 percent  
 Content of cobbles and flagstones—less than 10 percent

## **794G—Marseilles, Northfield, and Ritchey silt loams, 30 to 60 percent slopes**

### ***Setting***

*Landform:* Stream terraces

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Marseilles and similar soils: 30 percent

Northfield and similar soils: 30 percent

Ritchey and similar soils: 30 percent

Dissimilar components: 10 percent

### ***Components of Minor Extent***

*Similar soils:*

- Soils that are moderately eroded
- Soils that have bedrock at various depths
- Soils that have carbonates in the surface layer
- Soils that have slopes of less than 30 percent or more than 60 percent

*Dissimilar components:*

- Strongly sloping soils on backslopes
- Areas of rock outcrop
- Areas that have extreme vertical slopes

### ***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:* About 5.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and high for concrete  
*Surface runoff class:* Very high  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

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

*Parent material:* Drift over sandstone  
*Drainage class:* Well 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:* 10 to 20 inches to bedrock (lithic)  
*Available water capacity:* About 2.9 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Low for steel and high for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

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

*Parent material:* Till over dolostone or limestone  
*Drainage class:* 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:* 10 to 20 inches to bedrock (lithic)  
*Available water capacity:* About 3.5 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and low for concrete  
*Surface runoff class:* Very high  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

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

*Land capability classification:* Marseilles—8; Northfield—8; Ritchey—8  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Marseilles—not hydric; Northfield—not hydric; Ritchey—not hydric

## 802B—Orthents, loamy, undulating

### *Setting*

*Landform:* Outwash plains, ground moraines, leveled land, and fill areas

*Position on the landform:* Summits and backslopes

### *Map Unit Composition*

Orthents, loamy, and similar soils: 92 percent

Dissimilar soils: 8 percent

### *Soils of Minor Extent*

#### *Similar soils:*

- Soils that have more silt and less sand in the profile
- Soils that have a seasonal high water table at a depth of less than 3.5 feet
- Soils that have carbonates at or near the surface
- Soils that have more clay and less silt in the profile
- Soils that have slopes of less than 1 percent or more than 6 percent

#### *Dissimilar soils:*

- Areas of undisturbed soils
- The poorly drained Drummer and Elpaso soils on toeslopes

### *Properties and Qualities of the Loamy Orthents*

*Parent material:* 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:* About 9.8 inches to a depth of 60 inches

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

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 3.5 to 5.0 feet,  
February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## 802D—Orthents, loamy, rolling

### *Setting*

*Landform:* Outwash plains and ground moraines

*Position on the landform:* Backslopes

### **Map Unit Composition**

Orthents, loamy, and similar soils: 92 percent

Dissimilar components: 8 percent

### **Components of Minor Extent**

#### *Similar soils:*

- Soils that have more sand and less clay in the profile
- Soils that have a seasonal high water table at a depth of less than 3.5 feet
- Soils that have carbonates at or near the surface
- Soils that have more clay and less silt in the profile
- Soils that have slopes of less than 6 percent or more than 12 percent

#### *Dissimilar components:*

- Areas of undisturbed soils
- Areas of gravel, cobbles, and boulders
- The poorly drained Drummer and Elpaso soils on toeslopes

### **Properties and Qualities of the Loamy Orthents**

*Parent material:* 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:* About 9.8 inches to a depth of 60 inches

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

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 3.5 to 5.0 feet,  
February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **804D—Orthents, acid, undulating and rolling**

### **Setting**

*Landform:* Leveled land, spoil piles, and stream terraces

*Position on the landform:* Backslopes and summits

### **Map Unit Composition**

Orthents, acid, and similar soils: 92 percent

Dissimilar soils: 8 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have more sand and less clay in the profile

- Soils that have a seasonal high water table at a depth of less than 3.5 feet
- Soils that have slopes of less than 1 percent or more than 16 percent

*Dissimilar soils:*

- Areas of undisturbed soils

***Properties and Qualities of the Acid Orthents***

*Parent material:* Earthy fill

*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:* More than 80 inches

*Available water capacity:* About 7.8 inches to a depth of 60 inches

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

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 3.5 to 5.0 feet,  
February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* High for steel and concrete

*Surface runoff class:* Very high

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Moderate

***Interpretive Groups***

*Land capability classification:* 7s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

**804G—Orthents, acid, steep**

***Setting***

*Landform:* Leveled land, spoil piles, and stream terraces (fig. 9)

*Position on the landform:* Backslopes and summits

***Map Unit Composition***

Orthents, acid, and similar soils: 92 percent

Dissimilar soils: 8 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that have more sand and less clay in the profile
- Soils that have a seasonal high water table at a depth of less than 3.5 feet
- Soils that have slopes of less than 20 percent or more than 60 percent

*Dissimilar soils:*

- Areas of undisturbed soils

***Properties and Qualities of the Acid Orthents***

*Parent material:* Earthy fill

*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:* More than 80 inches



**Figure 9.**—An area of Orthents, acid, steep, along the bluffs of the Illinois River. The lack of vegetation on the spoil piles is a result of the very low pH of these soils.

*Available water capacity:* About 7.8 inches to a depth of 60 inches

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

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 3.5 to 5.0 feet,  
February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* High for steel and concrete

*Surface runoff class:* Very high

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Moderate

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

*Land capability classification:* 7s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

### **805B—Orthents, clayey, undulating**

#### ***Setting***

*Landform:* Outwash plains, lake plains, leveled land, and fill areas

*Position on the landform:* Summits and backslopes

#### ***Map Unit Composition***

Orthents, clayey, and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more silt and less clay in the profile
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have carbonates at or near the surface
- Soils that have more sand and less clay in the profile
- Soils that have slopes of less than 1 percent or more than 6 percent

*Dissimilar soils:*

- Areas of undisturbed soils
- The poorly drained Ashkum and Bryce soils on toeslopes
- The very poorly drained Houghton and Peotone soils on toeslopes

### ***Properties and Qualities of the Clayey Orthents***

*Parent material:* Earthy fill

*Drainage class:* Moderately well 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:* About 4.4 inches to a depth of 60 inches

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

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Very high

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Moderate

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Osco Series***

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

**Taxadjunct features:** The Osco soil in map unit 86C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-silty, mixed, superactive, mesic Mollic Hapludalf.

### **Typical Pedon**

Osco silt loam, 2 to 5 percent slopes; at an elevation of 855 feet; 316 feet north and 88 feet west of the southeast corner of sec. 23, T. 24 N., R. 6 E.; Carroll County, Illinois; USGS Lanark topographic quadrangle; lat. 42 degrees 03 minutes 13.4 seconds N. and long. 89 degrees 45 minutes 48.2 seconds W., NAD 27; UTM Zone 16, 271316E and 4659439N, NAD 83:

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) masses of iron accumulation in the matrix; many prominent very dark gray (N 3/) and dark brown (7.5YR 3/2) iron and manganese oxide concretions in the matrix; 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; few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; common fine distinct light brownish gray (10YR 6/2) iron depletions in the matrix; 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) iron depletions in the matrix; 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) masses of iron accumulation in the matrix; common medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 18 inches

*Depth to carbonates:* More than 48 inches

*Depth to the base of soil development:* 40 to more than 60 inches

*Ap, A, or AB 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

*BC, C, or Cg horizon:*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 to 6

Texture—silt loam or silty clay loam

## 86B—Osco silt loam, 2 to 5 percent slopes

### *Setting*

*Landform:* Ground moraines

*Position on the landform:* Summits and shoulders

### *Map Unit Composition*

Osco and similar soils: 90 percent

Dissimilar soils: 10 percent

### *Soils of Minor Extent*

*Similar soils:*

- Soils that are moderately eroded
- Soils that have a seasonal high water table at a depth of less than 4 feet
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have till in the lower part of the profile

*Dissimilar soils:*

- The somewhat poorly drained Muscatune soils on summits
- The poorly drained Sable soils on toeslopes

### *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:* About 11.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4 to 6 feet,  
February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* 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:* Shoulders and backslopes

### *Map Unit Composition*

Osco and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are severely eroded or only slightly eroded
- Soils that have a seasonal high water table at a depth of less than 4 feet
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that have till in the lower part of the profile

*Dissimilar soils:*

- The somewhat poorly drained Muscatune soils on summits
- The poorly drained Sable soils on toeslopes

### ***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:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4 to 6 feet,  
February through April

*Ponding:* None

*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:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Otter Series***

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

### **Typical Pedon**

Otter silt loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 795 feet; 1,275 feet south and 800 feet east of the northwest corner of sec. 25, T. 42 N., R. 4 E.; De Kalb County, Illinois; USGS Genoa topographic quadrangle; lat. 42 degrees 05 minutes 31 seconds N. and long. 88 degrees 43 minutes 22 seconds W., NAD 27; UTM Zone 16, 357520E and 4661424N, NAD 83:

A1—0 to 11 inches; black (N 2.5/) silt loam, dark gray (N 4/) dry; moderate fine granular structure; friable; common very fine to medium roots; neutral; clear smooth boundary.

A2—11 to 16 inches; black (N 2.5/) silt loam, dark gray (N 4/) dry; moderate fine and medium subangular blocky structure; friable; common very fine to medium roots; neutral; clear smooth boundary.

- A3—16 to 21 inches; black (2.5Y 2.5/1) silt loam, dark gray (2.5Y 4/1) dry; moderate medium subangular blocky structure; friable; common very fine and fine roots; neutral; clear wavy boundary.
- A4—21 to 27 inches; black (2.5Y 2.5/1) silt loam, dark grayish brown (2.5Y 4/2) dry; moderate medium subangular blocky structure; friable; common very fine and fine roots; common fine prominent yellowish brown (10YR 5/4) masses of iron accumulation throughout; neutral; clear wavy boundary.
- Bg—27 to 34 inches; black (5Y 2.5/1) silty clay loam, dark gray (5Y 4/1) dry; moderate medium angular blocky structure; friable; common very fine to medium roots; few faint very dark gray (N 3/) organic coatings on faces of peds; common fine prominent yellowish brown (10YR 5/4) masses of iron accumulation throughout; neutral; clear smooth boundary.
- BCg—34 to 41 inches; grayish brown (2.5Y 5/2) silt loam; weak medium angular blocky structure; friable; common very fine and fine roots; few faint very dark gray (N 3/) organic coatings in root channels and in pores; many medium prominent yellowish brown (10YR 5/8 and 5/6) masses of iron accumulation throughout; slightly effervescent; slightly alkaline; gradual wavy boundary.
- Cg—41 to 65 inches; gray (2.5Y 5/1), stratified loam and silt loam; massive; friable; many medium prominent brownish yellow (10YR 6/8) and yellowish brown (10YR 5/8) masses of iron accumulation throughout; 1 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 24 to 50 inches

*Depth to carbonates:* More than 24 inches

*Depth to the base of soil development:* 24 to 50 inches

*A horizon:*

Hue—7.5YR, 10YR, 2.5Y, or N

Value—2 to 3

Chroma—0 to 2

Texture—silt loam, loam, or silty clay loam

*Bg or BCg horizon:*

Hue—7.5YR, 10YR, 2.5Y, or N

Value—2 to 6

Chroma—0 to 4

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

*Cg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 6

Chroma—0 to 4

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

Content of gravel—less than 15 percent

## 3076A—Otter silt loam, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains

### Map Unit Composition

Otter and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a thinner subsurface layer and are lighter colored in the upper part of the profile
- Soils that have less silt and more clay in the upper one-half of the profile
- Soils that have more gravel in the lower part of the profile

*Dissimilar soils:*

- The somewhat poorly drained Lawson soils in the slightly higher positions on flood plains
- The very poorly drained Houghton soils on toeslopes
- The poorly drained Millington soils on flood plains

### ***Properties and Qualities of the Otter 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:* About 12.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 7.0 percent

*Shrink-swell potential:* Moderate

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through May

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* High

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

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Hydric

## ***Ozaukee Series***

**Taxonomic classification:** Fine, illitic, mesic Oxyaquic Hapludalfs

### **Typical Pedon**

Ozaukee silt loam, 2 to 4 percent slopes; at an elevation of 780 feet; 2,540 feet north and 2,200 feet east of the southwest corner of sec. 31, T. 39 N., R. 10 E.; Du Page County, Illinois; USGS Naperville topographic quadrangle; lat. 41 degrees 49 minutes 14 seconds N. and long. 88 degrees 08 minutes 18 seconds W., NAD 27; UTM Zone 16, 405455E and 4630483N, NAD 83:

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam, yellowish brown (10YR 5/4) dry; moderate very fine and fine granular structure; friable; many very fine and fine roots; neutral; clear smooth boundary.

BE—4 to 10 inches; brown (10YR 4/3) silt loam; weak thick platy structure parting to moderate fine subangular blocky; friable; many very fine roots; few distinct dark

- grayish brown (10YR 4/2) coatings on faces of peds; moderately acid; clear smooth boundary.
- 2Bt1—10 to 16 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine prismatic structure parting to moderate fine subangular blocky; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; many distinct brown (10YR 4/3) clay films on faces of peds; 1 percent gravel; slightly acid; abrupt smooth boundary.
- 2Bt2—16 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films and brown (10YR 4/3) clay films on faces of peds; common fine strong brown (7.5YR 5/8) very weakly cemented iron oxide concretions throughout; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 5 percent gravel; neutral; clear smooth boundary.
- 2Bt3—21 to 27 inches; light olive brown (2.5Y 5/3) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine strong brown (7.5YR 5/8) very weakly cemented iron oxide concretions throughout; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 8 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- 2Bt4—27 to 33 inches; light olive brown (2.5Y 5/3) silty clay loam; weak fine prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine strong brown (7.5YR 5/8) very weakly cemented iron oxide concretions throughout; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concentrations throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 8 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.
- 2BCt—33 to 39 inches; light olive brown (2.5Y 5/3) silty clay loam; weak fine and medium subangular blocky structure; firm; common very fine roots; few distinct grayish brown (2.5Y 5/2) clay films on faces of peds; common fine strong brown (7.5YR 5/8) very weakly cemented iron oxide concretions throughout; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concentrations throughout; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 6 percent gravel; strongly effervescent; moderately alkaline; abrupt smooth boundary.
- 2Cd—39 to 60 inches; grayish brown (2.5Y 5/2) silty clay loam; massive; firm; few very fine roots; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; many medium white (10YR 8/1) calcium carbonate concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint light brownish gray (2.5Y 6/2) iron depletions in the matrix; 6 percent gravel; violently effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess or other silty material:* Less than 18 inches

*Depth to carbonates:* 15 to 40 inches

*Depth to the base of soil development:* 20 to 45 inches

*Ap or A horizon:*

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

*E horizon (where present):*

Hue—10YR  
 Value—4 or 5  
 Chroma—2 or 3  
 Texture—silt loam

*Bt horizon:*

Hue—10YR or 7.5YR  
 Value—4 or 5  
 Chroma—3 or 4  
 Texture—silt loam or silty clay loam  
 Content of gravel—1 to 10 percent

*2Bt horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
 Value—4 or 5  
 Chroma—3 or 4  
 Texture—silty clay loam, silty clay, or clay  
 Content of gravel—1 to 15 percent

*2Cd horizon:*

Hue—7.5YR, 10YR, or 2.5Y  
 Value—4 to 6  
 Chroma—2 to 4  
 Texture—silty clay loam or clay loam  
 Content of gravel—1 to 15 percent

**530B—Ozaukee silt loam, 2 to 4 percent slopes*****Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes and summits

***Map Unit Composition***

Ozaukee and similar soils: 92 percent

Dissimilar soils: 8 percent

***Soils of Minor Extent****Similar soils:*

- Soils that are moderately eroded
- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have more sand and less silt in the lower part of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 2 percent or more than 4 percent

*Dissimilar soils:*

- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 20 to 45 inches to dense material

*Available water capacity:* About 8.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **530C2—Ozaukee silt loam, 4 to 6 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes and shoulders

### ***Map Unit Composition***

Ozaukee and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have a surface layer of silty clay loam
- Soils that have more sand and less silt in the lower part of the profile
- Soils that have slopes of less than 4 percent or more than 6 percent

*Dissimilar soils:*

- The nearly level, somewhat poorly drained Blount and Beecher soils on footslopes and backslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 20 to 45 inches to dense material  
*Available water capacity:* About 7.2 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
 February through April  
*Ponding:* None  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

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

## **530C3—Ozaukee silty clay loam, 4 to 6 percent slopes, severely eroded**

### ***Setting***

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

### ***Map Unit Composition***

Ozaukee and similar soils: 92 percent  
 Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

#### ***Similar soils:***

- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that are moderately eroded
- Soils that have more sand and less silt in the lower part of the profile
- Soils that have slopes of less than 4 percent or more than 6 percent

#### ***Dissimilar soils:***

- The nearly level, somewhat poorly drained Blount and Beecher soils on footslopes and backslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till  
*Drainage class:* Moderately well drained  
*Slowest permeability within a depth of 40 inches:* Slow  
*Permeability below a depth of 60 inches:* Slow  
*Depth to restrictive feature:* 20 to 45 inches to dense material  
*Available water capacity:* About 6.8 inches to a depth of 60 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 perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **530D2—Ozaukee silt loam, 6 to 12 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Ozaukee and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have a surface layer of silty clay loam
- Soils that have more sand and less silt in the lower part of the profile
- Soils that have slopes of less than 6 percent or more than 12 percent

*Dissimilar soils:*

- The nearly level, somewhat poorly drained Blount and Beecher soils on footslopes and backslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 20 to 45 inches to dense material

*Available water capacity:* About 7.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **530D3—Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Ozaukee and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that are moderately eroded
- Soils that have more sand and less silt in the lower part of the profile
- Soils that have slopes of less than 6 percent or more than 12 percent

*Dissimilar soils:*

- The nearly level, somewhat poorly drained Blount and Beecher soils on footslopes and backslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 20 to 45 inches to dense material

*Available water capacity:* About 6.6 inches to a depth of 60 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 perched seasonal high water table:* 2.0 to 3.5 feet, February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **530E2—Ozaukee silt loam, 12 to 20 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Ozaukee and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that have a surface layer of silty clay loam
- Soils that have more sand and less silt in the lower part of the profile
- Soils that have slopes of less than 12 percent or more than 20 percent

#### *Dissimilar soils:*

- The nearly level, somewhat poorly drained Blount and Beecher soils on footslopes and backslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 20 to 45 inches to dense material

*Available water capacity:* About 7.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **530F—Ozaukee silt loam, 20 to 30 percent slopes**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Ozaukee and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more sand and less clay in the upper one-half of the profile
- Soils that have a seasonal high water table at a depth of more than 3.5 feet
- Soils that are moderately eroded
- Soils that have more sand and less silt in the lower part of the profile
- Soils that have slopes of less than 20 percent or more than 30 percent

*Dissimilar soils:*

- Severely eroded soils on shoulders and backslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 20 to 45 inches to dense material

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

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Very high

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Peotone Series***

**Taxonomic classification:** Fine, smectitic, mesic Cumulic Vertic Endoaquolls

### **Typical Pedon**

Peotone silty clay loam, 0 to 2 percent slopes; at an elevation of 707 feet; 315 feet south and 2,233 feet east of the northwest corner of sec. 21, T. 29 N., R. 9 E.; Ford County, Illinois; USGS Cabery topographic quadrangle; lat. 40 degrees 58 minutes 49 seconds N. and long. 88 degrees 12 minutes 00 seconds W., NAD 27; UTM Zone 16, 399043E and 4537265N, NAD 83:

- Ap—0 to 7 inches; black (N 2.5/) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.
- A—7 to 13 inches; black (N 2.5/) silty clay loam, dark gray (10YR 4/1) dry; weak fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.
- Bg1—13 to 27 inches; black (N 2.5/) silty clay loam, dark gray (10YR 4/1) dry; moderate medium angular blocky structure; friable; common very fine roots; neutral; clear smooth boundary.
- Bg2—27 to 41 inches; dark gray (10YR 4/1) silty clay; moderate fine prismatic structure; firm; common very fine roots; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; slightly alkaline; clear smooth boundary.
- Bg3—41 to 50 inches; dark gray (10YR 4/1) silty clay; moderate medium prismatic structure; firm; few very fine roots; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; slightly alkaline; clear smooth boundary.
- Cg—50 to 60 inches; dark gray (10YR 4/1) silty clay loam; massive; firm; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; slightly effervescent; slightly alkaline.

### **Range in Characteristics**

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

*Depth to carbonates:* More than 30 inches

*Depth to the base of soil development:* 38 to 60 inches

*Ap or A horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 3

Chroma—0 or 1

Texture—silty clay loam

*AB or BA horizon (where present):*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 3

Chroma—0 or 1

Texture—silty clay loam

*Bg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 6

Chroma—0 to 2

Texture—silty clay loam or silty clay

*Cg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

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

**330A—Peotone silty clay loam, 0 to 2 percent slopes*****Setting****Landform:* Ground moraines*Position on the landform:* Toeslopes***Map Unit Composition***

Peotone and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have a thicker surface layer
- Soils that have a thinner surface layer
- Soils that have less clay and more silt in the lower part of the profile
- Soils that have silty overwash

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes
- The very poorly drained Houghton soils on toeslopes

***Properties and Qualities of the Peotone Soil****Parent material:* Colluvium*Drainage class:* Very 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:* About 10.3 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 5.0 to 7.0 percent*Shrink-swell potential:* High*Depth and months of the highest apparent seasonal high water table:* At the surface to 1 foot below the surface, January through June*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through June*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:* Low*Susceptibility to wind erosion:* Moderate***Interpretive Groups****Land capability classification:* 2w*Prime farmland category:* Prime farmland where drained*Hydric soil status:* Hydric

## 864—Pits, quarry

- This map unit consists of nearly level to gently sloping areas from which limestone has been extracted. The pits have nearly vertical sidewalls. Some pits are active, and others have been abandoned. Some contain water.

### ***Map Unit Composition***

Pits, quarry: 92 percent  
Dissimilar components: 8 percent

### ***Components of Minor Extent***

#### *Dissimilar components:*

- The well drained, loamy Orthents on summits and backslopes
- The poorly drained Faxon soils on toeslopes
- Bodies of water

## 865—Pits, gravel

- This map unit consists of nearly level to gently sloping areas from which gravel has been extracted. The pits have nearly vertical sidewalls. Some pits are active, and others have been abandoned. Some contain water.

### ***Map Unit Composition***

Pits, gravel: 92 percent  
Dissimilar components: 8 percent

### ***Components of Minor Extent***

#### *Dissimilar components:*

- The well drained, loamy Orthents on summits and backslopes
- The poorly drained Drummer soils on toeslopes

## ***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. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-silty, mixed, superactive, mesic Mollic Hapludalf.

### **Typical Pedon**

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.; 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; UTM Zone 16, 277208E and 4545381N, NAD 83:

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) silt coatings on faces of peds; few fine faint yellowish brown (10YR 5/4) masses of iron and manganese oxide accumulation 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) silt coatings 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 bridges; 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; 12 percent gravel; neutral.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* 40 to 60 inches

*Depth to carbonates:* More than 60 inches

*Ap or A horizon:*

Value—2 or 3

Chroma—1 to 3

Texture—silt loam

*AB or BA horizon (where present):*

Hue—10YR

Value—3 or 4

Chroma—2 to 4

Texture—silt loam or silty clay loam

*Bt horizon (upper and middle parts):*

Value—4 or 5

Chroma—3 or 4

Texture—silt loam or silty clay loam

*Bt horizon (lower part):*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—2 to 4

Texture—silt loam or silty clay loam

*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  
 Content of gravel—2 to 14 percent

*2C horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—3 to 5

Chroma—3 to 6

Texture—stratified loam, loamy sand, sandy loam, or silt loam or the gravelly analogs of these textures

Content of gravel—3 to 25 percent

## **199A—Plano silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits

### ***Map Unit Composition***

Plano and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are less than 40 inches deep to outwash
- Soils that are more than 60 inches deep to outwash
- Soils that have slopes of more than 2 percent
- Soils that are underlain by till
- Soils that have a thinner surface layer
- Soils that are underlain by gravel

*Dissimilar soils:*

- The somewhat poorly drained Elburn soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess over stratified loamy outwash

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 199B—Plano silt loam, 2 to 5 percent slopes

### **Setting**

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits and shoulders

### **Map Unit Composition**

Plano and similar soils: 91 percent

Dissimilar soils: 9 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that are moderately eroded
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that are less than 40 inches deep to outwash
- Soils that are more than 60 inches deep to outwash
- Soils that are underlain by till
- Soils that are underlain by gravel

#### *Dissimilar soils:*

- The somewhat poorly drained Elburn soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

### **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:* About 10.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 199C2—Plano silt loam, 5 to 10 percent slopes, eroded

### **Setting**

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Plano and similar soils: 91 percent

Dissimilar soils: 9 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that are underlain by till
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that are severely eroded or only slightly eroded
- Soils that are less than 40 inches deep to outwash
- Soils that are more than 60 inches deep to outwash
- Soils that are underlain by gravel

#### *Dissimilar soils:*

- The somewhat poorly drained Elburn soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

### ***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:* About 10.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*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:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Proctor Series***

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

**Taxadjunct features:** The Proctor soil in map unit 148C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-silty, mixed, superactive, mesic Mollic Hapludalf.

### ***Typical Pedon***

Proctor silt loam, 2 to 5 percent slopes; at an elevation of 705 feet; 204 feet north and 2,460 feet west of the southeast corner of sec. 3, T. 11 N., R. 6 E.; Peoria County, Illinois; USGS Princeville topographic quadrangle; lat. 40 degrees 57 minutes 37 seconds N. and long. 89 degrees 48 minutes 07 seconds W., NAD 27; UTM Zone 16, 264189E and 4538133N, NAD 83:

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

- A—8 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.
- Bt1—11 to 16 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine subangular blocky structure; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt2—16 to 23 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine and fine subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt3—23 to 28 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
- 2Bt4—28 to 33 inches; yellowish brown (10YR 5/4) loam; moderate medium subangular blocky structure; friable; few very fine roots; common faint dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.
- 2Bt5—33 to 46 inches; strong brown (7.5YR 5/6), stratified loam and sandy loam; weak coarse subangular blocky structure; very friable; few very fine roots; common faint brown (7.5YR 4/4) clay films on faces of peds; slightly acid; gradual smooth boundary.
- 2C—46 to 60 inches; strong brown (7.5YR 5/6), stratified sandy loam and loamy sand; massive; very friable; slightly acid.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* 20 to 40 inches

*Depth to the base of soil development:* More than 65 inches

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

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam or silty clay loam

*Bt and/or BA horizon:*

Hue—7.5YR or 10YR

Value—3 to 6

Chroma—3 to 6

Texture—silty clay loam or silt loam

*2Bt and/or 2BC horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

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

Content of gravel—less than 10 percent

*2C horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—3 to 6

Texture—sandy loam, loam, or silt loam with thin strata of loamy sand or sand

Content of gravel—less than 15 percent

## 148A—Proctor silt loam, 0 to 2 percent slopes

### *Setting*

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits

### *Map Unit Composition*

Proctor and similar soils: 90 percent

Dissimilar soils: 10 percent

### *Soils of Minor Extent*

#### *Similar soils:*

- Soils that have slopes of more than 2 percent
- Soils that are more than 40 inches deep to outwash
- Soils that are underlain by till
- Soils that have a seasonal high water table within a depth of 6 feet
- Soils that contain more gravel in the lower part of the profile

#### *Dissimilar soils:*

- The somewhat poorly drained Brenton soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

### *Properties and Qualities of the Proctor 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:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 148B—Proctor silt loam, 2 to 5 percent slopes

### *Setting*

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits and shoulders

### *Map Unit Composition*

Proctor and similar soils: 85 percent

Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that are more than 40 inches deep to outwash
- Soils that are underlain by till
- Soils that contain more gravel in the lower part of the profile
- Soils that have a seasonal high water table within a depth of 6 feet

*Dissimilar soils:*

- The somewhat poorly drained Brenton soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

### ***Properties and Qualities of the Proctor 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:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **148C2—Proctor silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Backslopes and shoulders

### ***Map Unit Composition***

Proctor and similar soils: 85 percent

Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that are more than 40 inches deep to outwash
- Soils that are underlain by till
- Soils that are severely eroded or only slightly eroded
- Soils that have a seasonal high water table within a depth of 6 feet

*Dissimilar soils:*

- The somewhat poorly drained Brenton soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

### ***Properties and Qualities of the Proctor 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:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*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:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **3800A—Psamments, nearly level, frequently flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Psamments and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less sand and more silt and clay in the profile
- Soils that have a seasonal high water table at a depth of less than 4 feet
- Soils that have more gravel throughout the profile

*Dissimilar soils:*

- Poorly drained soils on flood plains

### ***Properties and Qualities of the Psamments***

*Parent material:* Sandy alluvium

*Drainage class:* Well 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:* About 4.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 0.0 to 0.5 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 4 to 6 feet,

February through April

*Ponding:* None

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* Low

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

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Very high

### **Interpretive Groups**

*Land capability classification:* 4s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Rantoul Series**

**Taxonomic classification:** Fine, smectitic, mesic Cumulic Vertic Endoaquolls

### **Typical Pedon**

Rantoul silty clay, 0 to 2 percent slopes; at an elevation of 653 feet; 111 feet south and 1,612 feet east of the northwest corner of sec. 29, T. 30 N., R. 7 E.; Livingston County, Illinois; USGS Dwight topographic quadrangle; lat. 41 degrees 02 minutes 59 seconds N. and long. 88 degrees 27 minutes 04 seconds W., NAD 27; UTM Zone 16, 378046E and 4545293N, NAD 83:

- Ap—0 to 8 inches; black (N 2.5/) silty clay, dark gray (10YR 4/1) dry; moderate fine granular structure; firm; few very fine roots; neutral; abrupt smooth boundary.
- A—8 to 17 inches; black (N 2.5/) silty clay, dark gray (10YR 4/1) dry; moderate medium granular structure; firm; few very fine roots; few fine very dark brown (7.5YR 2/2) very weakly cemented iron and manganese oxide nodules throughout; neutral; clear smooth boundary.
- Bg1—17 to 26 inches; very dark gray (10YR 3/1) silty clay, gray (10YR 5/1) dry; strong medium prismatic structure parting to strong fine and medium subangular blocky; firm; few very fine roots; many distinct black (N 2.5/) organic coatings on faces of peds; few fine very dark brown (7.5YR 2/2) very weakly cemented iron and manganese oxide nodules throughout; few coarse prominent olive (5Y 4/3) and common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; neutral; clear smooth boundary.
- Bg2—26 to 31 inches; dark gray (5Y 4/1) silty clay; strong medium prismatic structure parting to strong medium subangular blocky; firm; few very fine roots; many distinct very dark gray (5Y 3/1) organic coatings on faces of peds; few fine very dark brown (7.5YR 2/2) very weakly cemented iron and manganese oxide nodules throughout; common fine and medium prominent light olive brown (2.5Y 5/6) and yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 2 percent gravel; neutral; clear smooth boundary.
- Bg3—31 to 40 inches; gray (5Y 5/1) silty clay; strong medium prismatic structure parting to strong medium angular blocky; firm; few very fine roots; common distinct dark gray (5Y 4/1) slickensides on faces of peds; few fine very dark brown (7.5YR 2/2) very weakly cemented iron and manganese oxide nodules throughout; few fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; 2 percent gravel; neutral; clear smooth boundary.
- Bg4—40 to 47 inches; 60 percent gray (5Y 5/1) and 40 percent dark gray (5Y 4/1) silty clay; moderate medium and coarse prismatic structure parting to moderate medium and coarse angular blocky; firm; few very fine roots; common faint dark gray (5Y 4/1) slickensides on faces of peds; few fine very dark brown (7.5YR 2/2) very weakly cemented iron and manganese oxide nodules throughout; common

fine prominent yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation in the matrix; 3 percent gravel; slightly alkaline; abrupt smooth boundary.  
 BCg—47 to 60 inches; 75 percent gray (5Y 5/1) and 25 percent yellowish brown (10YR 5/6) silty clay; weak coarse prismatic structure parting to weak coarse angular blocky; very firm; common faint dark gray (5Y 4/1) slickensides on vertical faces of peds; few fine very dark brown (7.5YR 2/2) very weakly cemented iron and manganese oxide nodules throughout; 3 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

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

*Depth to carbonates:* 34 to 60 inches

*Depth to the base of soil development:* 36 to 70 inches

*Ap and A horizons:*

Hue—10YR or N

Value—2 or 3

Chroma—0 or 1

Texture—silty clay or silty clay loam

*Bg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 to 5

Chroma—0 to 2

Texture—silty clay or clay

Content of gravel—less than 7 percent

*BCg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay, silty clay loam, or clay

Content of gravel—less than 7 percent

*Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

Texture—silty clay, silty clay loam, or clay

Content of gravel—less than 7 percent

## 238A—Rantoul silty clay, 0 to 2 percent slopes

### Setting

*Landform:* Lake plains and ground moraines

*Position on the landform:* Toeslopes

### Map Unit Composition

Rantoul and similar soils: 94 percent

Dissimilar soils: 6 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that have less clay and more silt in the control section

- Soils that are more than 20 inches deep to till
  - Soils that have 6 to 12 inches of silty overwash
- Dissimilar soils:*
- The very poorly drained Houghton soils on toeslopes

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

*Parent material:* Colluvium

*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:* About 8.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 7.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest apparent seasonal high water table:* At the surface to 1 foot below the surface, January through June

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through June

*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:* Low

*Susceptibility to wind erosion:* Moderate

### ***Interpretive Groups***

*Land capability classification:* 3w

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Hydric

## ***Ridgeville Series***

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

### **Typical Pedon**

Ridgeville fine sandy loam, 0 to 2 percent slopes; at an elevation of 653 feet; 2,084 feet south and 30 feet east of the northwest corner of sec. 19, T. 26 N., R. 12 W.; Iroquois County, Illinois; USGS Woodworth topographic quadrangle; lat. 40 degrees 43 minutes 22 seconds N. and long. 87 degrees 45 minutes 55 seconds W., NAD 27; UTM Zone 16, 435373E and 4508331N, NAD 83:

Ap—0 to 8 inches; very dark brown (10YR 2/2) fine sandy loam, dark grayish brown (10YR 4/2) dry; weak fine and medium granular structure; very friable; slightly acid; gradual smooth boundary.

A—8 to 16 inches; very dark gray (10YR 3/1) fine sandy loam, dark grayish brown (10YR 4/2) dry; weak fine and medium granular structure; very friable; moderately acid; clear wavy boundary.

BA—16 to 25 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak medium granular structure in the upper 4 inches grading to weak very fine and fine subangular blocky in the lower part; friable; common fine faint brown (10YR 5/3) masses of iron accumulation and dark gray (10YR 4/1) iron depletions in the matrix; moderately acid; clear smooth boundary.

Bt1—25 to 32 inches; grayish brown (10YR 5/2) sandy clay loam; moderate fine and medium subangular blocky structure; firm; few distinct gray (10YR 5/1) clay films

- on faces of peds; few fine dark brown (7.5YR 3/2) iron and manganese oxide concretions throughout; many fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
- Bt2—32 to 40 inches; grayish brown (10YR 5/2) fine sandy loam; weak medium subangular blocky structure; friable; common distinct gray (10YR 5/1) clay films on faces of peds; many fine dark brown (7.5YR 3/2) iron and manganese oxide concretions throughout; many medium prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; slightly acid; clear wavy boundary.
- BC—40 to 47 inches; yellowish brown (10YR 5/8) loamy fine sand; weak medium subangular blocky structure; very friable; few fine dark brown (7.5YR 3/2) iron and manganese oxide concretions throughout; many medium prominent light brownish gray (10YR 6/2) iron depletions in the matrix; neutral; clear wavy boundary.
- Cg—47 to 60 inches; light brownish gray (10YR 6/2) fine sand; single grain; loose; common fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 18 inches

*Depth to the base of soil development:* 35 to 55 inches

*Ap and A horizons:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—fine sandy loam or loam

*BA horizon (where present):*

Hue—10YR

Value—3 or 4

Chroma—2 or 3

Texture—fine sandy loam or loam

*Bt horizon:*

Hue—10YR

Value—4 or 5

Chroma—2 to 4

Texture—sandy loam, loam, sandy clay loam, or fine sandy loam

*BC horizon (where present):*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—2 to 8

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

Content of gravel—less than 7 percent

*Cg or C horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—2 to 8

Texture—fine sand or sand; thin strata of loamy fine sand, sandy loam, loam, coarse sand, and fine gravel in some pedons

Content of gravel—less than 7 percent

## 151A—Ridgeville fine sandy loam, 0 to 2 percent slopes

### **Setting**

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits and footslopes

### **Map Unit Composition**

Ridgeville and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have more clay and less sand in the profile
- Soils that have a thinner surface layer
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet

#### *Dissimilar soils:*

- The well drained Dickinson soils on summits
- Soils that are subject to flooding

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

*Parent material:* Eolian deposits and/or outwash

*Drainage class:* Somewhat poorly drained

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

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

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderately high

### **Interpretive Groups**

*Land capability classification:* 2s

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 151B—Ridgeville fine sandy loam, 2 to 4 percent slopes

### **Setting**

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Backslopes and footslopes

### **Map Unit Composition**

Ridgeville and similar soils: 85 percent

Dissimilar soils: 15 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more clay and less sand in the profile
- Soils that are moderately eroded
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet

*Dissimilar soils:*

- The well drained Dickinson soils on summits
- Soils that are subject to flooding

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

*Parent material:* Eolian deposits and/or outwash

*Drainage class:* Somewhat poorly drained

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

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

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderately high

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **8151A—Ridgeville fine sandy loam, 0 to 2 percent slopes, occasionally flooded**

### ***Setting***

*Landform:* Flood plains

### ***Map Unit Composition***

Ridgeville and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have more clay and less sand in the profile
- Soils that have a thinner surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of more than 2 percent

*Dissimilar soils:*

- The well drained, occasionally flooded Ross soils in the higher positions on flood plains
- Soils that are not subject to flooding

***Properties and Qualities of the Ridgeville Soil***

*Parent material:* Outwash and/or alluvium

*Drainage class:* Somewhat poorly drained

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

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

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 8.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 1 to 2 feet,  
January through May

*Ponding:* None

*Frequency and most likely period of flooding:* Occasional, November through June

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderately high

***Interpretive Groups***

*Land capability classification:* 2s

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

***Ritchey Series***

**Taxonomic classification:** Loamy, mixed, superactive, mesic Lithic Hapludalfs

**Typical Pedon**

Ritchey silt loam, 2 to 4 percent slopes; at an elevation of 595 feet; Shaw-Waw-Nas-See Reservation, T. 31 N., R. 11 E.; Kankakee County, Illinois; USGS Bourbonnais topographic quadrangle; lat. 41 degrees 12 minutes 14 seconds N. and long. 87 degrees 58 minutes 49 seconds W., NAD 27; UTM Zone 16, 417813E and 4561873N, NAD 83:

- A—0 to 5 inches; very dark grayish brown (10YR 3/2) silt loam, gray (10YR 5/1) dry; weak fine granular structure; friable; many very fine roots; neutral; abrupt smooth boundary.
- E—5 to 9 inches; brown (10YR 5/3) silt loam, very pale brown (10YR 7/3) dry; moderate medium platy structure; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on horizontal faces of peds; neutral; clear smooth boundary.
- Bt1—9 to 12 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; few distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few faint brown (10YR 4/3) clay films on faces of peds and in pores; common fine faint yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; neutral; clear smooth boundary.

Bt2—12 to 17 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; very few very fine roots; common faint brown (10YR 4/3) clay films on faces of peds; common fine faint yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; 1 percent gravel; slightly alkaline; clear smooth boundary.

2R—17 to 60 inches; very pale brown (10YR 8/4) limestone bedrock.

### **Range in Characteristics**

*Depth to bedrock:* 10 to 20 inches

*Depth to the base of soil development:* 10 to 20 inches

*A or Ap horizon:*

Hue—10YR

Value—2 to 4

Chroma—2 or 3

Texture—silt loam, loam, or silty clay loam

Content of gravel—less than 10 percent

*E horizon (where present):*

Hue—10YR

Value—4 or 5

Chroma—2 to 4

Texture—silt loam or loam

Content of gravel—less than 10 percent

*Bt horizon:*

Hue—10YR, 7.5YR, or 5YR

Value—3 to 6

Chroma—3 to 5

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

Content of gravel—less than 10 percent

*BC horizon (where present):*

Hue—10YR, 7.5YR, or 5YR

Value—4 to 6

Chroma—3 to 5

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

Content of gravel—less than 35 percent

## **311B—Ritchey silt loam, 2 to 4 percent slopes**

### ***Setting***

*Landform:* Stream terraces

*Position on the landform:* Backslopes and summits

### ***Map Unit Composition***

Ritchey and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have bedrock at a depth of less than 10 inches or more than 20 inches
- Soils that have slopes of less than 2 percent or more than 4 percent

*Dissimilar soils:*

- Shallow, somewhat poorly drained soils on summits and footslopes

***Properties and Qualities of the Ritchey Soil***

*Parent material:* Till over dolostone or limestone

*Drainage class:* 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:* 10 to 20 inches to bedrock (lithic)

*Available water capacity:* About 3.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

**794G—Marseilles, Northfield, and Ritchey silt loams, 30 to 60 percent slopes*****Setting***

*Landform:* Stream terraces

*Position on the landform:* Backslopes

***Map Unit Composition***

Marseilles and similar soils: 30 percent

Northfield and similar soils: 30 percent

Ritchey and similar soils: 30 percent

Dissimilar components: 10 percent

***Components of Minor Extent****Similar soils:*

- Soils that are moderately eroded
- Soils that have bedrock at various depths
- Soils that have carbonates in the surface layer
- Soils that have slopes of less than 30 percent or more than 60 percent

*Dissimilar components:*

- Strongly sloping soils on backslopes
- Areas of rock outcrop
- Areas that have extreme vertical slopes

***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:* About 5.7 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Moderate  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* High  
*Hazard of corrosion:* Moderate for steel and high for concrete  
*Surface runoff class:* Very high  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

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

*Parent material:* Drift over sandstone  
*Drainage class:* Well 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:* 10 to 20 inches to bedrock (lithic)  
*Available water capacity:* About 2.9 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Low for steel and high for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

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

*Parent material:* Till over dolostone or limestone  
*Drainage class:* 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:* 10 to 20 inches to bedrock (lithic)  
*Available water capacity:* About 3.5 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 3.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* Moderate for steel and low for concrete  
*Surface runoff class:* Very high  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* Marseilles—8; Northfield—8; Ritchey—8  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Marseilles—not hydric; Northfield—not hydric; Ritchey—not hydric

## ***Rodman Series***

**Taxonomic classification:** Sandy-skeletal, mixed, mesic Typic Hapludolls

### **Typical Pedon**

Rodman gravelly loam, in an area of Casco-Rodman complex, 20 to 30 percent slopes; at an elevation of 750 feet; 500 feet south and 2,600 feet east of the northwest corner of sec. 7, T. 44 N., R. 9 E.; McHenry County, Illinois; USGS Wauconda topographic quadrangle; lat. 42 degrees 18 minutes 45 seconds N. and long. 88 degrees 13 minutes 43 seconds W., NAD 27; UTM Zone 16, 398741E and 4685207N, NAD 83:

- A—0 to 11 inches; very dark gray (10YR 3/1) gravelly loam, dark grayish brown (10YR 4/2) dry; strong fine and medium granular structure; friable; many very fine and fine roots; 17 percent gravel; neutral; clear wavy boundary.
- Bw—11 to 14 inches; 50 percent dark brown (10YR 3/3) and 50 percent brown (10YR 4/3) gravelly loam; weak fine granular structure; friable; common very fine roots; common distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; 25 percent gravel; strongly effervescent; slightly alkaline; abrupt wavy boundary.
- C—14 to 60 inches; dark yellowish brown (10YR 4/4) very gravelly sand and very gravelly loamy sand; single grain; loose; common very fine roots; 50 percent gravel; strongly effervescent; moderately alkaline.

### **Range in Characteristics**

*Thickness of the mollic epipedon:* 6 to 15 inches

*Depth to carbonates:* 10 to 20 inches

*Depth to the base of soil development:* 10 to 20 inches

#### *A horizon:*

Hue—7.5YR or 10YR

Value—2 or 3

Chroma—1 or 2

Texture—loam, sandy loam, gravelly loam, or gravelly sandy loam

Content of gravel—10 to 30 percent

#### *Bw horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—1 to 3

Texture—loam or sandy loam or the gravelly or very gravelly analogs of these textures

Content of gravel—10 to 40 percent

#### *C horizon:*

Hue—10YR

Value—3 to 6

Chroma—1 to 4

Texture—the very gravelly or extremely gravelly analogs of loamy sand, sand, loamy coarse sand, or coarse sand

Content of gravel—35 to 78 percent

## 969E2—Casco-Rodman complex, 12 to 20 percent slopes, eroded

### **Setting**

*Landform:* Kames, outwash plains, and end moraines

*Position on the landform:* Backslopes

### **Map Unit Composition**

Casco and similar soils: 50 percent

Rodman and similar soils: 40 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

*Similar soils:*

- Soils that are severely eroded or only slightly eroded
- Soils that are more than 20 inches deep to sandy and gravelly deposits
- Soils that have carbonates at or near the surface
- Soils that have till in the lower part of the profile
- Soils that have slopes of less than 12 percent or more than 20 percent

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

*Drainage class:* Somewhat excessively drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 4.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

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

*Parent material:* Sandy and gravelly glaciofluvial deposits

*Drainage class:* Excessively drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 2.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Low

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Low

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Very low

### ***Interpretive Groups***

*Land capability classification:* Casco—6e; Rodman—6s

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Casco—not hydric; Rodman—not hydric

## **969F—Casco-Rodman complex, 20 to 30 percent slopes**

### ***Setting***

*Landform:* Kames, outwash plains, and end moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Casco and similar soils: 50 percent

Rodman and similar soils: 40 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are moderately eroded
- Soils that are more than 20 inches deep to sandy and gravelly deposits
- Soils that have carbonates at or near the surface
- Soils that have till in the lower part of the profile
- Soils that have slopes of less than 20 percent or more than 30 percent

*Dissimilar soils:*

- Severely eroded soils on shoulders and backslopes
- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

*Drainage class:* Somewhat excessively drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 3.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

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

*Parent material:* Sandy and gravelly glaciofluvial deposits  
*Drainage class:* Excessively drained  
*Slowest permeability within a depth of 40 inches:* Moderately rapid  
*Permeability below a depth of 60 inches:* Very rapid  
*Depth to restrictive feature:* More than 80 inches  
*Available water capacity:* About 2.9 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Low  
*Hazard of corrosion:* Low for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* High  
*Susceptibility to wind erosion:* Very low

### ***Interpretive Groups***

*Land capability classification:* Casco—7e; Rodman—7s  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Casco—not hydric; Rodman—not hydric

## ***Rooks Series***

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

### **Typical Pedon**

Rooks silty clay loam, 0 to 2 percent slopes; at an elevation of 655 feet; 390 feet east and 2,350 feet south of the northwest corner of sec. 18, T. 29 N., R. 3 E.; Livingston County, Illinois; USGS Dana topographic quadrangle; lat. 40 degrees 58 minutes 47 seconds N. and long. 88 degrees 55 minutes 46 seconds W., UTM Zone 16, 337675E and 4538315N, NAD 83:

- Ap—0 to 9 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; common fine roots; neutral; abrupt smooth boundary.
- AB—9 to 15 inches; very dark grayish brown (10YR 3/2) silty clay loam, gray (10YR 5/1) dry; weak fine subangular blocky structure parting to moderate fine granular; friable; few very fine roots; many faint black (10YR 2/1) organic coatings on faces of peds; neutral; clear smooth boundary.
- Bt1—15 to 22 inches; brown (10YR 4/3) silty clay loam; moderate fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; many faint very dark gray (10YR 3/1) organic coatings on faces of peds; few faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bt2—22 to 30 inches; grayish brown (10YR 5/2) silty clay loam; weak medium prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint very dark gray (10YR 3/1) organic coatings on faces of peds; few faint very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix;

common fine faint gray (10YR 5/1) iron depletions in the matrix; neutral; clear smooth boundary.

- 2Btk1—30 to 38 inches; grayish brown (10YR 5/2) silt loam; weak medium prismatic structure parting to weak fine angular blocky; friable; few very fine roots; few faint gray (10YR 5/1) clay films on faces of peds; few fine black (7.5YR 2.5/1) soft masses of iron and manganese oxide accumulations throughout; common fine light gray (10YR 7/2) moderately cemented calcium carbonate concretions throughout; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline; clear smooth boundary.
- 2Btk2—38 to 45 inches; gray (10YR 6/1) and yellowish brown (10YR 5/6) silty clay loam; weak medium prismatic structure; friable; common faint gray (10YR 5/1) clay films on faces of peds; few fine black (7.5YR 2.5/1) soft masses of iron and manganese oxide accumulations throughout; common fine gray (10YR 7/2) moderately cemented calcium carbonate concretions throughout; strongly effervescent; moderately alkaline; clear smooth boundary.
- 3BCk—45 to 51 inches; grayish brown (2.5Y 5/2) and light olive brown (2.5Y 5/4) silty clay loam; weak medium prismatic structure; firm; common faint gray (10YR 5/1) pressure faces on vertical faces of peds; common medium gray (10YR 7/2) moderately cemented calcium carbonate concretions throughout; 1 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.
- 3C—51 to 70 inches; grayish brown (2.5Y 5/2) and light olive brown (2.5Y 5/4) silty clay loam; massive; firm; many faint gray (2.5Y 5/1) pressure faces on vertical cleavage planes; 3 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* 25 to 40 inches

*Depth to carbonates:* 25 to 40 inches

*Depth to the base of soil development:* 40 to 55 inches

*Ap, A, or AB horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silty clay loam or silt loam

*Bt horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 6

Texture—silty clay loam or silty clay

*2Btk horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 6

Texture—silt loam, silty clay loam, or loam

*3BCk or 3C horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay loam or silty clay

Content of gravel—1 to 5 percent

## 542A—Rooks silty clay loam, 0 to 2 percent slopes

### *Setting*

*Landform:* Ground moraines

*Position on the landform:* Summits and footslopes

### *Map Unit Composition*

Rooks and similar soils: 93 percent

Dissimilar soils: 7 percent

### *Soils of Minor Extent*

#### *Similar soils:*

- Soils that do not contain till within a depth of 60 inches
- Soils that have more clay and less silt in the profile
- Soils that are less calcareous in the subsoil
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet

#### *Dissimilar soils:*

- The poorly drained Hartsburg soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying lacustrine deposits and till

*Drainage class:* Somewhat poorly drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet, January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 542B—Rooks silty clay loam, 2 to 5 percent slopes

### *Setting*

*Landform:* Ground moraines

*Position on the landform:* Footslopes and backslopes

### **Map Unit Composition**

Rooks and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that do not contain till within a depth of 60 inches
- Soils that have more clay and less silt in the profile
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that are less calcareous in the subsoil
- Soils that have a seasonal high water table at a depth of more than 2 feet

#### *Dissimilar soils:*

- The poorly drained Hartsburg soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying lacustrine deposits and till

*Drainage class:* Somewhat poorly drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet, January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Ross Series**

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

### **Typical Pedon**

Ross loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 584 feet; 2,030 feet east and 550 feet north of the southwest corner of sec. 7, T. 30 N., R. 4 E.; Livingston County, Illinois; USGS Streator South topographic quadrangle; lat. 41 degrees 04 minutes 40 seconds N. and long. 88 degrees 48 minutes 21 seconds W., NAD 27; UTM Zone 16, 348290E and 4548953N, NAD 83:

Ap—0 to 8 inches; very dark brown (10YR 2/2) loam, dark grayish brown (10YR 4/2) dry; moderate medium granular structure; friable; few very fine roots; neutral; abrupt smooth boundary.

- A1—8 to 14 inches; very dark brown (10YR 2/2) loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to moderate medium granular; friable; few very fine roots; neutral; clear smooth boundary.
- A2—14 to 23 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; friable; few very fine roots; many faint very dark brown (10YR 2/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.
- BA—23 to 33 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak fine prismatic structure parting to weak medium angular blocky; friable; few very fine roots; common faint very dark brown (10YR 2/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.
- Bw1—33 to 41 inches; dark brown (10YR 4/3) loam; weak fine prismatic structure; friable; few very fine roots; common faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; slightly acid; clear smooth boundary.
- Bw2—41 to 54 inches; dark brown (10YR 4/3) loam; weak medium prismatic structure; friable; few faint very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine black (7.5YR 2.5/1) iron and manganese oxide accumulations throughout; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few medium faint grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.
- C—54 to 60 inches; dark yellowish brown (10YR 4/4) sandy loam; massive; friable; few fine black (7.5YR 2.5/1) iron and manganese oxide accumulations throughout; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid.

### Range in Characteristics

*Thickness of the mollic epipedon:* 24 to 40 inches

*Depth to carbonates:* 24 to 45 inches

*Depth to the base of soil development:* 24 to 45 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—loam, silt loam, or sandy loam

Content of gravel—less than 5 percent

*B horizon:*

Hue—10YR

Value—2 to 5

Chroma—1 to 4

Texture—loam, silt loam, or sandy loam

Content of gravel—less than 10 percent

*C horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—1 to 4

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

Content of gravel—less than 35 percent

### **3073A—Ross loam, 0 to 2 percent slopes, frequently flooded**

#### ***Setting***

*Landform:* Flood plains

#### ***Map Unit Composition***

Ross and similar soils: 91 percent

Dissimilar soils: 9 percent

#### ***Soils of Minor Extent***

##### *Similar soils:*

- Soils that have a thinner or lighter colored surface layer
- Soils that have more clay and less sand in the surface layer
- Soils that have more sand and less clay throughout
- Soils that have a seasonal high water table at a depth of less than 4 feet

##### *Dissimilar soils:*

- Somewhat poorly drained and poorly drained soils on flood plains
- Soils that are not subject to flooding

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

*Parent material:* Loamy alluvium

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 4 to 6 feet,  
February through April

*Ponding:* None

*Frequency and most likely period of flooding:* Frequent, November through June

*Potential for frost action:* Moderate

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

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

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where protected from flooding or not frequently flooded during the growing season

*Hydric soil status:* Not hydric

### **7073A—Ross silt loam, 0 to 2 percent slopes, rarely flooded**

#### ***Setting***

*Landform:* Flood plains

### **Map Unit Composition**

Ross and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have a thinner or lighter colored surface layer
- Soils that have more clay and less sand in the surface layer
- Soils that have more sand and less clay throughout
- Soils that have a seasonal high water table at a depth of less than 4 feet

#### *Dissimilar soils:*

- Somewhat poorly drained and poorly drained soils on flood plains
- Soils that are not subject to flooding

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

*Parent material:* Loamy alluvium

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Low

*Depth and months of the highest apparent seasonal high water table:* 4 to 6 feet,  
February through April

*Ponding:* None

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

*Potential for frost action:* Moderate

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **8073A—Ross loam, 0 to 2 percent slopes, occasionally flooded**

### **Setting**

*Landform:* Flood plains

### **Map Unit Composition**

Ross and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have a thinner or lighter colored surface layer
- Soils that have more clay and less sand in the surface layer

- Soils that have more sand and less clay throughout
- Soils that have a seasonal high water table at a depth of less than 4 feet

*Dissimilar soils:*

- The somewhat poorly drained, occasionally flooded Ridgeville soils on flood plains
- Poorly drained soils on flood plains
- Soils that are not subject to flooding

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

*Parent material:* Loamy alluvium

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4 to 6 feet,  
February through April

*Ponding:* None

*Frequency and most likely period of flooding:* Occasional, November through June

*Potential for frost action:* Moderate

*Hazard of corrosion:* Low for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## ***Rozetta Series***

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

### **Typical Pedon**

Rozetta silt loam, 2 to 5 percent slopes; at an elevation of 605 feet; 2,574 feet west and 429 feet north of the southeast corner of sec. 15, T. 4 N., R. 2 E.; Fulton County, Illinois; USGS Ipava topographic quadrangle; lat. 40 degrees 19 minutes 14 seconds N. and long. 90 degrees 15 minutes 59 seconds W., NAD 27; UTM Zone 15, 732250E and 4466929N, NAD 83:

Ap—0 to 7 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; weak very fine granular structure; friable; common very fine and few fine roots; neutral; clear smooth boundary.

E—7 to 11 inches; brown (10YR 4/3) silt loam; weak medium platy structure parting to weak very fine subangular blocky; friable; common very fine roots; few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; neutral; clear smooth boundary.

Bt1—11 to 19 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; common very fine roots; common distinct dark yellowish brown (10YR 4/4) clay films and few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few fine black (10YR 2/1) manganese oxide

concretions with sharp boundaries in ped interiors; moderately acid; clear smooth boundary.

- Bt2—19 to 29 inches; yellowish brown (10YR 5/4) silty clay loam; moderate 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 few distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few fine black (10YR 2/1) manganese oxide concretions with sharp boundaries in ped interiors; few fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; moderately acid; gradual smooth boundary.
- Bt3—29 to 39 inches; 80 percent yellowish brown (10YR 5/4), 15 percent yellowish brown (10YR 5/6), and 5 percent pale brown (10YR 6/3) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; common fine black (10YR 2/1) manganese oxide concretions with sharp boundaries in ped interiors; few fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; strongly acid; gradual smooth boundary.
- Bt4—39 to 45 inches; 60 percent yellowish brown (10YR 5/4), 20 percent yellowish brown (10YR 5/6), and 20 percent pale brown (10YR 6/3) silty clay loam; weak coarse prismatic structure parting to moderate coarse subangular blocky; friable; few very fine roots; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine black (10YR 2/1) manganese oxide concretions with sharp boundaries in ped interiors; few fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; moderately acid; gradual smooth boundary.
- BC—45 to 55 inches; 70 percent yellowish brown (10YR 5/4) and 30 percent yellowish brown (10YR 5/6) silty clay loam; weak coarse prismatic structure; friable; few very fine roots; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine black (10YR 2/1) manganese oxide concretions with sharp boundaries in ped interiors; common fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; common fine distinct light brownish gray (10YR 6/2) iron depletions along root channels and pores; moderately acid; gradual smooth boundary.
- C—55 to 60 inches; yellowish brown (10YR 5/6) silt loam; massive; friable; few very fine roots; few fine black (10YR 2/1) manganese oxide concretions with sharp boundaries in ped interiors; common fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; light brownish gray (10YR 6/2) iron depletions along pores; moderately acid.

### Range in Characteristics

*Depth to carbonates:* 42 to more than 72 inches

*Ap or A horizon:*

Hue—10YR

Value—3 to 5

Chroma—1 to 3

Texture—silt loam or silty clay loam

*E horizon:*

Hue—10YR

Value—4 to 6

Chroma—2 or 3

Texture—silt loam

*Bt horizon:*

Hue—10YR or 7.5YR

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

*Position on the landform:* Shoulders and summits

### ***Map Unit Composition***

Rozetta and similar soils: 91 percent

Dissimilar soils: 9 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have till within a depth of 60 inches
- Soils that have a seasonal high water table at a depth of less than 4 feet
- Soils that have a thicker and darker surface layer
- Soils that are moderately eroded

*Dissimilar soils:*

- The somewhat poorly drained Stronghurst soils on summits
- The poorly drained Sable soils on toeslopes

### ***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:* About 12.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 4 to 6 feet,  
 February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## ***Rush Series***

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

### **Typical Pedon**

Rush silt loam, 0 to 2 percent slopes; at an elevation of 712 feet; 175 feet south and 470 feet west of the northeast corner of sec. 15, T. 39 N., R. 8 E.; Kane County, Illinois; USGS Aurora North topographic quadrangle; lat. 41 degrees 52 minutes 08 seconds N. and long. 88 degrees 18 minutes 13 seconds W., NAD 27; UTM Zone 16, 391822E and 4636036N, NAD 83:

- A—0 to 4 inches; very dark gray (10YR 3/1) silt loam, brown (10YR 5/3) dry; weak very fine granular structure; friable; common very fine roots; slightly acid; abrupt smooth boundary.
- E—4 to 11 inches; 60 percent dark grayish brown (10YR 4/2) and 40 percent brown (10YR 4/3) silt loam, light brownish gray (10YR 6/2) dry; weak thick platy structure; friable; common very fine roots; strongly acid; abrupt smooth boundary.
- Bt1—11 to 18 inches; 55 percent brown (10YR 4/3) and 45 percent dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine subangular blocky structure; friable; common very fine roots; few distinct dark brown (10YR 3/3) clay films on faces of peds; strongly acid; clear smooth boundary.
- Bt2—18 to 24 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate fine subangular blocky structure; firm; common very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt3—24 to 32 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; slightly acid; clear smooth boundary.
- Bt4—32 to 38 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate coarse subangular blocky structure; firm; few very fine roots; few distinct brown (10YR 4/3) and dark brown (10YR 3/3) clay films on faces of peds; slightly acid; abrupt smooth boundary.
- 2Bt5—38 to 45 inches; dark yellowish brown (10YR 4/4) clay loam; weak coarse subangular blocky structure; firm; few very fine roots; common distinct dark brown (10YR 3/3) clay films on faces of peds; 12 percent gravel; slightly acid; abrupt smooth boundary.
- 3C—45 to 60 inches; yellowish brown (10YR 5/4) gravelly sand; single grain; loose; 25 percent gravel; strongly effervescent; moderately alkaline.

### **Range in Characteristics**

*Thickness of the loess or other silty material:* 24 to 40 inches

*Depth to sandy and gravelly deposits:* 40 to 60 inches

*Depth to carbonates:* 40 to 60 inches

*Depth to the base of soil development:* 40 to 80 inches

*Ap or A horizon:*

Hue—7.5YR or 10YR

Value—2 to 5

Chroma—1 to 3

Texture—silt loam

*E horizon (where present):*

Hue—10YR

Value—4 or 5

Chroma—2 to 4

Texture—silt loam

*Bt horizon:*

Hue—7.5YR or 10YR  
 Value—4 or 5  
 Chroma—3 to 6  
 Texture—silty clay loam or silt loam

*2Bt horizon:*

Hue—5YR, 7.5YR, or 10YR  
 Value—4 or 5  
 Chroma—3 to 6  
 Texture—clay loam, loam, or sandy clay loam or the gravelly analogs of these textures  
 Content of gravel—less than 20 percent

*3Bt horizon (where present):*

Hue—5YR, 7.5YR, or 10YR  
 Value—4 or 5  
 Chroma—3 to 6  
 Texture—the gravelly or very gravelly analogs of loam, sandy clay loam, or sandy loam  
 Content of gravel—15 to 25 percent

*3BC horizon (where present):*

Hue—7.5YR or 10YR  
 Value—4 or 5  
 Chroma—4 to 6  
 Texture—the gravelly, very gravelly, or extremely gravelly analogs of sandy loam, coarse sandy loam, or loamy coarse sand  
 Content of gravel—15 to 75 percent

*3C horizon:*

Hue—10YR  
 Value—5 or 6  
 Chroma—2 to 4  
 Texture—the gravelly, very gravelly, or extremely gravelly analogs of sand, loamy sand, coarse sand, or loamy coarse sand  
 Content of gravel—15 to 75 percent

**791A—Rush silt loam, 0 to 2 percent slopes*****Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits

***Map Unit Composition***

Rush and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have a thicker and darker surface layer
- Soils that have less gravel in the lower part of the profile

- Soils that have sandy or gravelly deposits at a depth of less than 40 inches or more than 60 inches
- Soils that have slopes of more than 2 percent

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

***Properties and Qualities of the Rush Soil***

*Parent material:* Loess or other silty material and the underlying loamy and gravelly outwash

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

**791B—Rush silt loam, 2 to 4 percent slopes**

***Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits and backslopes

***Map Unit Composition***

Rush and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of less than 6 feet
- Soils that have sandy or gravelly deposits at a depth of less than 40 inches or more than 60 inches
- Soils that have a thicker and darker surface layer
- Soils that have less gravel in the lower part of the profile
- Soils that have slopes of less than 2 percent or more than 4 percent

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying loamy and gravelly outwash

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

### ***Rutland Series***

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

**Taxadjunct features:** The Rutland soil in map unit 375B2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine, smectitic, mesic Aquollic Hapludalf.

### ***Typical Pedon***

Rutland silty clay loam, 0 to 2 percent slopes; at an elevation of 730 feet; 168 feet north and 480 feet east of the southwest corner of sec. 34, T. 28 N., R. 2 E.; Woodford County, Illinois; USGS Flanagan SW topographic quadrangle; lat. 40 degrees 50 minutes 23 seconds N. and long. 88 degrees 59 minutes 10 seconds W., NAD 27; UTM Zone 16, 332550E and 4522867N, NAD 83:

Ap—0 to 8 inches; black (10YR 2/1) silty clay loam, very dark grayish brown (10YR 3/2) dry; weak very fine granular structure; friable; common fine roots; moderately acid; abrupt smooth boundary.

A—8 to 14 inches; black (10YR 2/1) silty clay loam, very dark grayish brown (10YR 3/2) dry; moderate fine granular structure; friable; common fine roots; moderately acid; clear wavy boundary.

Bt1—14 to 20 inches; brown (10YR 4/3) silty clay; strong fine subangular blocky structure; friable; common fine roots; many distinct very dark grayish brown (10YR 3/2) organic coatings and common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct dark yellowish brown (10YR 4/6) masses of iron accumulation in the matrix; few fine faint grayish brown (2.5Y 5/2) iron depletions in the matrix; moderately acid; gradual wavy boundary.

Bt2—20 to 28 inches; olive brown (2.5Y 4/4) silty clay loam; moderate fine prismatic structure parting to strong fine subangular blocky; firm; common fine roots; many

distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; slightly acid; gradual wavy boundary.

Bt3—28 to 36 inches; olive brown (2.5Y 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine distinct grayish brown (2.5Y 5/2) iron depletions in the matrix; slightly acid; gradual wavy boundary.

Bt4—36 to 44 inches; yellowish brown (10YR 5/6) and light brownish gray (2.5Y 6/2) silt loam; moderate medium and coarse prismatic structure; firm; few very fine roots; many distinct grayish brown (2.5Y 5/2) clay films on faces of peds; neutral; clear wavy boundary.

2Bk—44 to 52 inches; olive brown (2.5Y 4/4) silty clay; moderate coarse prismatic structure; very firm; many distinct light brownish gray (2.5Y 6/2) calcium carbonate coatings along vertical faces of peds; common medium light gray (10YR 7/2) soft masses of calcium carbonate throughout; 1 percent gravel; strongly effervescent; moderately alkaline; diffuse wavy boundary.

2Cd—52 to 60 inches; olive brown (2.5Y 4/4) clay; massive; very firm; many distinct light brownish gray (2.5Y 6/2) calcium carbonate coatings along vertical cleavage planes; 1 percent gravel; violently effervescent; moderately alkaline.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* 35 to 55 inches

*Depth to carbonates:* 30 to 50 inches

*Depth to the base of soil development:* 40 to 60 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silty clay loam or silt loam

*Bt horizon:*

Hue—10YR or 2.5Y

Value—3 to 6

Chroma—1 to 4

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

*2Bt, 2BC, or 2Bk horizon:*

Hue—10YR to 5G

Value—4 to 6

Chroma—1 to 6

Texture—silty clay or clay

*2Cd horizon:*

Hue—10YR to 5G

Value—4 to 6

Chroma—1 to 6

Texture—silty clay or clay

## 375A—Rutland silty clay loam, 0 to 2 percent slopes

### *Setting*

*Landform:* Ground moraines and lake plains

*Position on the landform:* Summits and footslopes

### *Map Unit Composition*

Rutland and similar soils: 94 percent

Dissimilar soils: 6 percent

### *Soils of Minor Extent*

#### *Similar soils:*

- Soils that have less clay and more silt in the control section
- Soils that are less than 35 inches deep to till
- Soils that are more than 60 inches deep to till
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet

#### *Dissimilar soils:*

- The poorly drained Streator soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till or lacustrine deposits

*Drainage class:* Somewhat poorly drained

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

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

*Depth to restrictive feature:* 40 to 60 inches to dense material

*Available water capacity:* About 10.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet, January through May

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 375B—Rutland silty clay loam, 2 to 5 percent slopes

### *Setting*

*Landform:* Ground moraines and lake plains

*Position on the landform:* Backslopes and footslopes

### **Map Unit Composition**

Rutland and similar soils: 94 percent

Dissimilar soils: 6 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have less clay and more silt in the control section
- Soils that are less than 35 inches deep to till
- Soils that are more than 60 inches deep to till
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that are moderately eroded
- Soils that have a seasonal high water table at a depth of more than 2 feet

#### *Dissimilar soils:*

- The poorly drained Streator soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till or lacustrine deposits

*Drainage class:* Somewhat poorly drained

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

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

*Depth to restrictive feature:* 40 to 60 inches to dense material

*Available water capacity:* About 9.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 4.5 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet, January through May

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **375B2—Rutland silty clay loam, 2 to 5 percent slopes, eroded**

### **Setting**

*Landform:* Ground moraines and lake plains

*Position on the landform:* Backslopes and footslopes

### **Map Unit Composition**

Rutland and similar soils: 94 percent

Dissimilar soils: 6 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have less clay and more silt in the control section
- Soils that are less than 35 inches deep to till
- Soils that are more than 60 inches deep to till
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that are severely eroded or only slightly eroded
- Soils that have a seasonal high water table at a depth of more than 2 feet

#### *Dissimilar soils:*

- The poorly drained Streator soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till or lacustrine deposits

*Drainage class:* Somewhat poorly drained

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

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

*Depth to restrictive feature:* 40 to 60 inches to dense material

*Available water capacity:* About 8.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet, January through May

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Sabina Series**

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

### **Typical Pedon**

Sabina silt loam, 0 to 2 percent slopes; at an elevation of 665 feet; 1,785 feet north and 36 feet east of the southwest corner of sec. 13, T. 16 N., R. 7 E.; Douglas County, Illinois; USGS Tuscola topographic quadrangle; lat. 39 degrees 50 minutes 24.6 seconds N. and long. 88 degrees 22 minutes 05 seconds W.; UTM Zone 16, 382947E and 4410701N, NAD 27:

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate very fine granular structure; friable; strongly acid; abrupt smooth boundary.

E—8 to 12 inches; grayish brown (10YR 5/2) silt loam; moderate fine granular structure; friable; few fine black (7.5YR 2.5/1) moderately cemented iron and manganese oxide concretions throughout; strongly acid; clear smooth boundary.

- BE—12 to 16 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate very fine subangular blocky structure; firm; few fine black (7.5YR 2.5/1) moderately cemented iron and manganese oxide concretions throughout; common fine distinct dark grayish brown (2.5Y 4/2) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
- Btg1—16 to 25 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; few fine black (7.5YR 2.5/1) moderately cemented iron and manganese oxide concretions throughout; common fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation in the matrix; moderately acid; clear smooth boundary.
- Btg2—25 to 37 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium subangular blocky structure; firm; many prominent very dark gray (10YR 3/1) organo-clay films on faces of peds; few fine black (7.5YR 2.5/1) moderately cemented iron and manganese oxide concretions throughout; few fine distinct yellowish brown (10YR 5/4) masses of iron and manganese accumulation in the matrix; slightly acid; clear smooth boundary.
- Bt1—37 to 43 inches; light olive brown (2.5Y 5/4) silty clay loam; weak and moderate medium and coarse subangular blocky structure; firm; common prominent very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few fine black (7.5YR 2.5/1) moderately cemented iron and manganese oxide concretions throughout; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; neutral; clear smooth boundary.
- 2Bt2—43 to 50 inches; variegated yellowish brown (10YR 5/4), light olive brown (2.5Y 5/4), and dark grayish brown (10YR 4/2) clay loam; weak coarse subangular blocky structure; firm; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; 2 percent gravel; neutral; gradual irregular boundary.
- 2Cd—50 to 80 inches; light olive brown (2.5Y 5/3) loam; massive; very firm; common medium black (7.5YR 2.5/1) moderately cemented iron and manganese oxide concretions throughout; common medium white (10YR 8/1) very weakly cemented calcium carbonate nodules throughout; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium distinct gray (10YR 6/1) iron depletions in the matrix; 7 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess or other silty material:* 40 to 60 inches

*Depth to carbonates:* 40 to 75 inches

*Ap or A horizon:*

Hue—10YR

Value—3 to 5

Chroma—2

Texture—silt loam

*E horizon (where present):*

Hue—10YR

Value—4 or 5

Chroma—1 to 3

Texture—silt loam

*BE horizon (where present):*

Hue—10YR or 2.5Y

Value—4 or 5

Chroma—2 to 4  
Texture—silt loam or silty clay loam

*Bt or Btg horizon:*

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

*2Bt, 2Btg, or 2BC horizon:*

Hue—10YR, 2.5Y, or 5Y  
Value—4 or 5  
Chroma—2 to 4  
Texture—clay loam, loam, silty clay loam, or silt loam  
Content of gravel—less than 5 percent

*2C, 2Cg, 2Cdg, or 2Cd horizon:*

Hue—10YR, 2.5Y, or 5Y  
Value—4 or 5  
Chroma—2 to 4  
Texture—clay loam, loam, silty clay loam, or silt loam  
Content of gravel—less than 10 percent

## **236A—Sabina silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Till plains and ground moraines

*Position on the landform:* Summits and footslopes

### ***Map Unit Composition***

Sabina and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of more than 2 percent
- Soils that have a thicker and darker surface layer
- Soils that are more than 60 inches deep to till

*Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess over loamy till

*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:* 48 to 80 inches to dense material

*Available water capacity:* About 9.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 0.5 foot to 2.0 feet, January through May

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High  
*Hazard of corrosion:* High for steel and concrete  
*Surface runoff class:* Medium  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w  
*Prime farmland category:* Prime farmland where drained  
*Hydric soil status:* Not hydric

## **Sable Series**

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

### **Typical Pedon**

Sable silty clay loam, 0 to 2 percent slopes; at an elevation of 732 feet; 1,281 feet south and 97 feet west of the northeast corner of sec. 14, T. 9 N., R. 3 W.; Warren County, Illinois; USGS Kirkwood East topographic quadrangle; lat. 40 degrees 46 minutes 22.4 seconds N. and long. 90 degrees 41 minutes 33.7 seconds W., NAD 27; UTM Zone 15, 694708E and 4516110N, NAD 83:

- 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 dark reddish brown (5YR 3/2) very weakly cemented iron and manganese oxide concretions throughout; 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 very dark grayish brown (10YR 3/2) organic coatings on faces of peds; few fine dark reddish brown (5YR 3/2) very weakly cemented iron and manganese oxide concretions throughout; slightly acid; 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 reddish brown (5YR 3/2) very weakly cemented iron and manganese oxide concretions throughout; common medium distinct brown (10YR 5/3) masses of iron accumulation in the matrix; few medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; 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 reddish brown (5YR 3/2) very weakly cemented iron and manganese oxide concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear wavy boundary.
- Btg2—38 to 47 inches; gray (N 5/) 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 prisms; common fine dark reddish brown (5YR 3/2) very weakly cemented iron and manganese oxide concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; gradual smooth boundary.

Cg—47 to 60 inches; gray (N 5/) silt loam; massive; friable; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline.

### Range in Characteristics

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

*Depth to the base of soil development:* 40 to 60 inches

*Ap or A horizon:*

Hue—10YR, 5Y, or N

Value—2 or 3

Chroma—0 or 1

Texture—silty clay loam or silt loam

*AB or BA horizon (where present):*

Hue—10YR, 5Y, or N

Value—2 or 3

Chroma—0 or 1

Texture—silty clay loam

*Bg, Btg, BC, or BCg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silty clay loam or silt loam

*Cg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 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:* Toeslopes

### Map Unit Composition

Sable and similar soils: 90 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have till or outwash in the lower part of the profile
- Soils that have 6 to 12 inches of silty overwash
- Soils that have carbonates in the surface layer

*Dissimilar soils:*

- The somewhat poorly drained Arrowsmith and Muscatune soils on summits
- The poorly drained Spaulding soils on toeslopes

### 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:* About 12.2 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 5.0 to 6.0 percent  
*Shrink-swell potential:* Moderate  
*Depth and months of the highest apparent seasonal high water table:* At the surface to 1 foot below the surface, January through May  
*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through May  
*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:* Low  
*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

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

## **Sawmill Series**

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

### **Typical Pedon**

Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded; at an elevation of 636 feet; 1,350 feet south and 140 feet west of the northeast corner of sec. 31, T. 30 N., R. 3 E.; Livingston County, Illinois; USGS Long Point topographic quadrangle; lat. 41 degrees 01 minute 36 seconds N. and long. 88 degrees 54 minutes 43 seconds W., NAD 27; UTM Zone 16, 339248E and 4543492N, NAD 83:

- Ap—0 to 9 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; few very fine roots; slightly acid; abrupt smooth boundary.
- A1—9 to 17 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate medium granular structure; friable; few very fine roots; slightly acid; clear smooth boundary.
- A2—17 to 24 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure parting to moderate medium granular; friable; few very fine roots; 1 percent gravel; neutral; clear smooth boundary.
- A3—24 to 29 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; weak medium prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; 1 percent gravel; neutral; clear smooth boundary.
- Bg1—29 to 36 inches; dark gray (5Y 4/1) silty clay loam; weak medium prismatic structure; firm; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; 1 percent gravel; neutral; clear smooth boundary.
- Bg2—36 to 41 inches; dark gray (5Y 4/1) silty clay loam; weak medium prismatic structure; friable; few very fine roots; common distinct very dark gray (10YR 3/1) organic coatings on faces of peds; few fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; 1 percent gravel; neutral; clear smooth boundary.

BCg—41 to 48 inches; dark gray (5Y 4/1) silty clay loam; very weak medium prismatic structure; firm; few very fine roots; few fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; few fine prominent yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; common fine distinct dark grayish brown (10YR 4/2) iron depletions in the matrix; 1 percent gravel; neutral; abrupt smooth boundary.

Cg—48 to 60 inches; 60 percent gray (10YR 5/1) and 40 percent brownish yellow (10YR 6/6) silt loam; massive; firm; few fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; 1 percent gravel; slightly alkaline.

### Range in Characteristics

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

*Depth to carbonates:* More than 48 inches

*Depth to the base of soil development:* 36 to 60 inches

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

Hue—10YR, 2.5Y, 5Y, or N

Value—2 or 3

Chroma—0 to 2

Texture—silty clay loam

Content of gravel—less than 5 percent

*Bg, Btg, or BCg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—3 to 6

Chroma—1 or 2

Texture—silty clay loam

Content of gravel—less than 5 percent

*Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

Texture—silty clay loam or clay loam with strata of loam, silt loam, or sandy loam

Content of gravel—less than 10 percent

## 3107A—Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded

### Setting

*Landform:* Flood plains

### Map Unit Composition

Sawmill and similar soils: 90 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have a thinner subsurface layer
- Soils that have less clay and more silt in the control section
- Soils that are overlain by light-colored, recent deposits
- Soils that have more gravel in the lower part of the profile

*Dissimilar soils:*

- The poorly drained Millington soils on flood plains
- Somewhat poorly drained soils in slightly higher positions on flood plains

***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:* About 11.6 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 4.0 to 7.0 percent*Shrink-swell potential:* Moderate*Depth and months of the highest apparent seasonal high water table:* At the surface to 1 foot below the surface, January through May*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through May*Frequency and most likely period of flooding:* Frequent, November through June*Potential for frost action:* High*Hazard of corrosion:* High for steel and low for concrete*Surface runoff class:* Negligible*Susceptibility to water erosion:* Low*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* 3w*Prime farmland category:* Prime farmland where drained and either protected from flooding or not frequently flooded during the growing season*Hydric soil status:* Hydric**8107A—Sawmill silty clay loam, 0 to 2 percent slopes, occasionally flooded*****Setting****Landform:* Flood plains***Map Unit Composition***

Sawmill and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have a thinner subsurface layer
- Soils that have less clay and more silt in the control section
- Soils that are overlain by light-colored, recent deposits
- Soils that have more gravel in the lower part of the profile

*Dissimilar soils:*

- Somewhat poorly drained soils in slightly higher positions on flood plains

***Properties and Qualities of the Sawmill Soil****Parent material:* Silty 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:* About 11.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 7.0 percent

*Shrink-swell potential:* Moderate

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through May

*Frequency and most likely period of flooding:* Occasional, November through June

*Potential for frost action:* High

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

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Selma Series**

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

### **Typical Pedon**

Selma loam, 0 to 2 percent slopes; at an elevation of 656 feet; 52 feet south and 160 feet west of the northeast corner of sec. 18, T. 28 N., R. 10 E.; Iroquois County, Illinois; USGS Piper City NE topographic quadrangle; lat. 40 degrees 54 minutes 36 seconds N. and long. 88 degrees 06 minutes 44 seconds W., NAD 27; UTM Zone 16, 406337E and 4529366N, NAD 83:

Ap—0 to 6 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine and fine roots; neutral; gradual smooth boundary.

A—6 to 13 inches; black (10YR 2/1) clay loam, dark gray (10YR 4/1) dry; weak fine subangular blocky structure; friable; common fine roots; neutral; gradual wavy boundary.

Btg1—13 to 19 inches; dark grayish brown (2.5Y 4/2) clay loam; moderate fine and medium subangular blocky structure; friable; common fine roots; many prominent very dark gray (2.5Y 3/1) organo-clay films on faces of peds and in pores; few fine distinct yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; neutral; gradual wavy boundary.

Btg2—19 to 28 inches; grayish brown (2.5Y 5/2) loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common fine roots; many prominent dark gray (2.5Y 4/1) clay films on faces of peds; few fine light olive brown (2.5Y 5/4) iron and manganese oxide nodules throughout; common medium distinct olive brown (2.5Y 4/4) masses of iron accumulation in the matrix; slightly alkaline; gradual wavy boundary.

Btg3—28 to 39 inches; grayish brown (2.5Y 5/2) loam; weak fine and medium subangular blocky structure; friable; common fine roots; few distinct dark gray (2.5Y 4/1) clay films on faces of peds; black (N 2.5/) krotovina at a depth of 30 to 39 inches; few fine dark yellowish brown (10YR 4/6) iron and manganese oxide nodules throughout; few fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; slightly alkaline; gradual wavy boundary.

BCtg—39 to 44 inches; grayish brown (2.5Y 5/2) loam; weak medium subangular blocky structure; friable; few very fine roots; few faint dark gray (2.5Y 4/1) clay films on faces of peds; few fine dark yellowish brown (10YR 4/6) iron and manganese oxide nodules throughout; few fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation in the matrix; strongly effervescent; slightly alkaline; gradual wavy boundary.

Cg1—44 to 54 inches; 55 percent dark gray (2.5Y 4/1), 35 percent gray (2.5Y 5/1), and 10 percent light yellowish brown (2.5Y 6/4), stratified sandy loam and loamy sand; massive in the sandy loam and single grain in the loamy sand; friable in the sandy loam and loose in the loamy sand; few very fine roots; violently effervescent; moderately alkaline; gradual wavy boundary.

Cg2—54 to 80 inches; 45 percent dark gray (2.5Y 4/1), 45 percent gray (2.5Y 5/1), and 10 percent light olive brown (2.5Y 5/6), stratified silt loam, sandy loam, and loamy sand; massive in the silt loam and sandy loam and single grain in the loamy sand; friable; few very fine roots; strongly effervescent; moderately alkaline.

### Range in Characteristics

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

*Depth to carbonates:* More than 30 inches

*Depth to the base of soil development:* 35 to 55 inches

*Ap and A horizons:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—loam or clay loam

*Bg, Btg, or BCg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

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

Content of gravel—less than 10 percent

*Cg or C horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—5 or 6

Chroma—1 to 6

Texture—stratified sandy loam, loam, silt loam, loamy sand, or sand

Content of gravel—less than 15 percent

## 125A—Selma loam, 0 to 2 percent slopes

### Setting

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Toeslopes

### Map Unit Composition

Selma and similar soils: 90 percent

Dissimilar soils: 10 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that contain more sand and less clay in the upper 40 inches

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes
- Soils that are subject to flooding
- The very poorly drained Houghton soils on toeslopes

***Properties and Qualities of the Selma Soil****Parent material:* Outwash*Drainage class:* 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:* About 9.9 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 4.0 to 6.0 percent*Shrink-swell potential:* Moderate*Depth and months of the highest apparent seasonal high water table:* At the surface to 1 foot below the surface, January through May*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through 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:* Low*Susceptibility to wind erosion:* Low***Interpretive Groups****Land capability classification:* 2w*Prime farmland category:* Prime farmland where drained*Hydric soil status:* Hydric***Somonauk Series*****Taxonomic classification:** Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs**Typical Pedon**

Somonauk silt loam, 0 to 2 percent slopes; at an elevation of 822 feet; 700 feet south and 2,400 feet west of the northeast corner of sec. 25, T. 41 N., R. 4 E.; De Kalb County, Illinois; USGS Genoa topographic quadrangle; lat. 42 degrees 00 minutes 26 seconds N. and long. 88 degrees 43 minutes 24 seconds W., NAD 27; UTM Zone 16, 357276E and 4652019N, NAD 83:

Ap—0 to 4 inches; 85 percent dark grayish brown (10YR 4/2) and 15 percent dark brown (10YR 3/3) silt loam, grayish brown (10YR 5/2) dry; weak fine and medium granular structure; friable; common very fine and fine roots; neutral; gradual wavy boundary.

E—4 to 9 inches; 80 percent dark grayish brown (10YR 4/2) and 20 percent brown (10YR 4/3) silt loam, light brownish gray (10YR 6/2) dry; weak medium and thick platy structure; friable; common very fine and fine roots; neutral; clear smooth boundary.

Bt1—9 to 14 inches; brown (10YR 4/3) silty clay loam; moderate fine and medium subangular blocky structure; friable; common fine roots; many distinct dark brown (10YR 3/3) clay films on faces of peds and in pores; few distinct light brownish gray (10YR 6/2) (dry) clay depletions on faces of peds; common fine black (10YR 2/1) manganese oxide nodules throughout; moderately acid; gradual wavy boundary.

- Bt2—14 to 21 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; common very fine and fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; few distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; common medium black (10YR 2/1) manganese oxide nodules throughout; moderately acid; gradual wavy boundary.
- Bt3—21 to 29 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium and coarse prismatic structure; friable; common fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; few distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; common medium black (10YR 2/1) manganese oxide nodules throughout; few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; gradual wavy boundary.
- Bt4—29 to 34 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine and medium subangular blocky structure; friable; common very fine and fine roots; common distinct brown (10YR 4/3) clay films on faces of peds and in pores; few distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; common fine black (10YR 2/1) manganese oxide nodules throughout; few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; moderately acid; gradual wavy boundary.
- 2Bt5—34 to 39 inches; yellowish brown (10YR 5/4) silty clay loam that contains 13 percent sand; moderate medium angular blocky structure; friable; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds and in pores; few distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; common fine black (10YR 2/1) manganese oxide nodules throughout; few fine distinct grayish brown (10YR 5/2) iron depletions in the matrix; 1 percent gravel; moderately acid; gradual wavy boundary.
- 2Bt6—39 to 49 inches; yellowish brown (10YR 5/4) loam; moderate medium and coarse angular blocky structure; friable; few distinct dark yellowish brown (10YR 4/4) clay films on faces of peds and in pores; few fine black (10YR 2/1) manganese oxide nodules throughout; common fine distinct yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; 6 percent gravel; moderately acid; gradual wavy boundary.
- 2Bt7—49 to 55 inches; brown (7.5YR 4/3) loam; weak medium and coarse angular blocky structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds and in pores; few fine black (10YR 2/1) manganese oxide nodules throughout; common fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; 8 percent gravel; slightly acid; clear smooth boundary.
- 2Bt8—55 to 61 inches; brown (7.5YR 4/3) sandy loam; weak medium angular blocky structure; friable; common distinct dark brown (10YR 3/3) clay films on faces of peds and in pores; 10 percent gravel; slightly acid; clear smooth boundary.
- 2Bt9—61 to 70 inches; 60 percent dark yellowish brown (10YR 4/4) and 40 percent brown (7.5YR 4/3) sandy loam; weak medium subangular blocky structure; friable; few distinct dark brown (10YR 3/3) clay films on faces of peds and in pores; 8 percent gravel; neutral; gradual wavy boundary.
- 2C—70 to 80 inches; 70 percent dark yellowish brown (10YR 4/4) and 30 percent yellowish brown (10YR 5/4), stratified gravelly sandy loam and gravelly sand; massive; very friable; 15 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess or other silty material:* 20 to 40 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 42 to 75 inches

*Ap or A horizon:*

Hue—10YR  
 Value—3 to 5  
 Chroma—2 or 3  
 Texture—silt loam

*E horizon (where present):*

Hue—10YR  
 Value—4 to 6  
 Chroma—2 or 3  
 Texture—silt loam

*Bt horizon:*

Hue—10YR or 7.5YR  
 Value—4 to 6  
 Chroma—3 to 6  
 Texture—silty clay loam or silt loam

*2Bt horizon:*

Hue—10YR or 7.5YR  
 Value—4 to 6  
 Chroma—3 to 6  
 Texture—loam, clay loam, silt loam, sandy loam, sandy clay loam, or silty clay loam  
 Content of gravel—less than 15 percent

*2BC horizon (where present):*

Hue—10YR or 7.5YR  
 Value—4 to 6  
 Chroma—3 to 6  
 Texture—loam, clay loam, silt loam, sandy loam, sandy clay loam, or silty clay loam  
 Content of gravel—less than 15 percent

*2C horizon:*

Hue—10YR or 7.5YR  
 Value—4 to 6  
 Chroma—3 to 6  
 Texture—stratified loam, sandy loam, or silt loam or the gravelly analogs of these textures with thin strata of other textures  
 Content of gravel—less than 20 percent

**668B—Somonauk silt loam, 2 to 5 percent slopes*****Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Summits and backslopes

***Map Unit Composition***

Somonauk and similar soils: 92 percent

Dissimilar soils: 8 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have a thicker and darker surface layer
- Soils that are more than 40 inches deep to outwash

- Soils that have till in the lower part of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 2 percent or more than 5 percent

*Dissimilar soils:*

- The poorly drained Drummer soils on toeslopes

***Properties and Qualities of the Somonauk Soil***

*Parent material:* Loess or other silty material and the underlying outwash

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*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:* Moderate

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* 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.; 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; UTM Zone 16, 303579E and 4648734N, NAD 83:

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; 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; 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; 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; 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

*Depth to carbonates:* More than 80 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

*AB horizon (where present):*

Hue—7.5YR or 10YR

Value—3

Chroma—2 or 3

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

*Position on the landform:* Summits and shoulders

### ***Map Unit Composition***

Sparta and similar soils: 91 percent

Dissimilar soils: 9 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are moderately eroded
- Soils that have less sand and more clay in the lower part of the profile
- Soils that have slopes of less than 1 percent or more than 6 percent

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes
- The poorly drained Selma soils on toeslopes

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

*Parent material:* Eolian sands and/or 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:* About 5.1 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*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:* Low  
*Susceptibility to wind erosion:* High

### ***Interpretive Groups***

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

## **88D—Sparta loamy sand, 6 to 12 percent slopes**

### ***Setting***

*Landform:* Stream terraces  
*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

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

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that are moderately eroded
- Soils that have less sand and more clay in the lower part of the profile
- Soils that have slopes of less than 6 percent or more than 12 percent

#### *Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Eolian sands and/or 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:* About 5.0 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 1.0 to 2.0 percent  
*Shrink-swell potential:* Low  
*Ponding:* None  
*Flooding:* None  
*Potential for frost action:* Low  
*Hazard of corrosion:* Low for steel and high for concrete

*Surface runoff class:* Low  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* High

### **Interpretive Groups**

*Land capability classification:* 6s  
*Prime farmland category:* Not prime farmland  
*Hydric soil status:* Not hydric

## **Spaulding Series**

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

### **Typical Pedon**

Spaulding silty clay loam, 0 to 2 percent slopes; at an elevation of about 612 feet; 2,410 feet east and 1,300 feet south of the northwest corner of sec. 22, T. 17 N., R. 3 W.; Sangamon County, Illinois; USGS Cornland topographic quadrangle; lat. 39 degrees 54 minutes 52 seconds N. and long. 89 degrees 24 minutes 54 seconds W., NAD 27; UTM Zone 16, 293581E and 4421059N, NAD 83:

Apk—0 to 9 inches; black (10YR 2/1) silty clay loam, very dark gray (10YR 3/1) dry; weak and moderate fine granular structure; friable; many fine roots; few snail shells; violently effervescent; 15 percent calcium carbonate equivalent; moderately alkaline; abrupt smooth boundary.

Ak1—9 to 18 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine and fine subangular blocky structure; friable; many fine roots; few snail shells; violently effervescent; 22 percent calcium carbonate equivalent; moderately alkaline; clear smooth boundary.

Ak2—18 to 22 inches; very dark gray (10YR 3/1) silty clay loam, gray (10YR 5/1) dry; moderate very fine and fine subangular blocky structure; firm; common fine roots; few fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation along micropores; few snail shells; violently effervescent; 22 percent calcium carbonate equivalent; moderately alkaline; clear smooth boundary.

Btkg1—22 to 26 inches; dark gray (2.5Y 4/1) silty clay loam; moderate very fine and fine subangular blocky structure; firm; common fine roots; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common distinct black (10YR 2/1) organic coatings in root channels and/or pores; few fine prominent light olive brown (2.5Y 5/6) masses of iron accumulation along micropores; few fine carbonate nodules; strongly effervescent; 12 percent calcium carbonate equivalent; moderately alkaline; clear smooth boundary.

Btkg2—26 to 32 inches; olive gray (5Y 5/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; common fine roots; few distinct gray (5Y 5/1) clay films on faces of peds; common fine prominent black (10YR 2/1) masses of manganese oxide accumulation in the matrix; common medium prominent light olive brown (2.5Y 5/6) and yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common medium and coarse carbonate nodules; strongly effervescent; 12 percent calcium carbonate equivalent; moderately alkaline; clear smooth boundary.

Btkg3—32 to 38 inches; gray (5Y 6/1) silty clay loam; moderate fine and medium subangular blocky structure; firm; few distinct gray (5Y 5/1) clay films on faces of peds; very few distinct very dark gray (10YR 3/1) organic coatings in root channels and/or pores; many fine prominent light olive brown (2.5Y 5/6) and few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix;

few fine carbonate nodules; strongly effervescent; 16 percent calcium carbonate equivalent; moderately alkaline; clear smooth boundary.

BCKg—38 to 44 inches; gray (5Y 6/1) silty clay loam; weak medium subangular blocky structure; firm; few distinct gray (5Y 5/1) clay films in root channels and/or pores; few distinct very dark gray (10YR 3/1) organic coatings in root channels and/or pores; many fine prominent light olive brown (2.5Y 5/6) and few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; few fine carbonate nodules; strongly effervescent; 16 percent calcium carbonate equivalent; moderately alkaline; clear smooth boundary.

Cg—44 to 80 inches; gray (5Y 6/1) silt loam; massive; friable; many medium prominent strong brown (7.5YR 5/8) masses of iron accumulation in the matrix; strongly effervescent; 19 percent calcium carbonate equivalent; moderately alkaline.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* More than 80 inches

*Depth to carbonates:* 0 to 16 inches

*Depth to the base of soil development:* 22 to 60 inches

*Apk or Ak horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—2 or 3

Chroma—0 or 1

Texture—silty clay loam

*Bkg or Btkg horizon:*

Hue—10YR, 2.5Y, 5Y, or N

Value—3 to 6

Chroma—0 to 2

Texture—silty clay loam or silt loam

*Cg horizon:*

Hue—7.5YR, 10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 8

Texture—silt loam

## 712A—Spaulding silty clay loam, 0 to 2 percent slopes

### Setting

*Landform:* Depressions and ground moraines

*Position on the landform:* Toeslopes

### Map Unit Composition

Spaulding and similar soils: 91 percent

Dissimilar soils: 9 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have loamy drift in the lower part of the profile
- Soils that have a thicker surface layer
- Soils that do not have carbonates in the surface layer

*Dissimilar soils:*

- The somewhat poorly drained Arrowsmith and Muscatune soils on summits and footslopes

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

*Parent material:* Calcareous 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:* About 12.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 6.0 percent

*Shrink-swell potential:* Moderate

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through 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:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## ***St. Charles Series***

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

### **Typical Pedon**

St. Charles silt loam, 2 to 5 percent slopes; at an elevation of 635 feet; 80 feet north and 2,170 feet west of the southeast corner of sec. 26, T. 16 N., R. 8 E.; Bureau County, Illinois; USGS Wyandot topographic quadrangle; lat. 41 degrees 20 minutes 09 seconds N. and long. 89 degrees 32 minutes 12 seconds W., NAD 27; UTM Zone 16, 287733E and 4579146N, NAD 83:

Ap—0 to 8 inches; brown (10YR 4/3) silt loam, pale brown (10YR 6/3) dry; moderate medium granular structure; friable; few fine roots; moderately acid; abrupt smooth boundary.

Bt1—8 to 15 inches; yellowish brown (10YR 5/4) silty clay loam; moderate fine subangular blocky structure; friable; few fine roots; many faint dark brown (10YR 3/3) organic coatings and dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—15 to 21 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

Bt3—21 to 34 inches; yellowish brown (10YR 5/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; many faint dark yellowish brown (10YR 4/4) clay films on faces of peds; few fine iron and manganese oxide concretions throughout; moderately acid; clear smooth boundary.

Bt4—34 to 44 inches; yellowish brown (10YR 5/4) silt loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; many faint dark yellowish brown (10YR 4/4) clay films and many distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; common medium faint brown (7.5YR 4/4)

masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Bt5—44 to 50 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; many faint dark yellowish brown (10YR 4/4) clay films and distinct light gray (10YR 7/2) (dry) silt coatings on faces of peds; few fine distinct strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

2Bt6—50 to 57 inches; yellowish brown (10YR 5/6), stratified loam, sandy loam, and silt loam; weak medium subangular blocky structure; friable; common distinct dark yellowish brown (10YR 4/4) clay films on faces of peds; moderately acid; clear smooth boundary.

2C—57 to 60 inches; yellowish brown (10YR 5/4), stratified loam and silt loam; massive; friable; moderately acid.

### Range in Characteristics

*Thickness of the loess or other silty material:* 40 to 60 inches

*Depth to carbonates:* More than 44 inches

*Depth to the base of soil development:* 44 to 70 inches

*Ap or A horizon:*

Hue—10YR

Value—3 to 5

Chroma—1 to 3

Texture—silt loam

*E horizon (where present):*

Hue—10YR

Value—4 to 6

Chroma—2 to 4

Texture—silt loam

*BE or Bt horizon:*

Hue—10YR or 7.5YR

Value—4 or 5

Chroma—3 to 6

Texture—silty clay loam or silt loam

*2Bt or 2BC horizon:*

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 to 6

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

Content of gravel—less than 15 percent

*2C horizon:*

Hue—10YR or 7.5YR

Value—4 to 6

Chroma—3 to 6

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

Content of gravel—less than 20 percent

**243A—St. Charles silt loam, 0 to 2 percent slopes*****Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Summits

***Map Unit Composition***

St. Charles and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent******Similar soils:***

- Soils that are less than 40 inches deep to outwash
- Soils that are more than 60 inches deep to outwash
- Soils that have a thicker and darker surface layer
- Soils that have slopes of more than 2 percent
- Soils that are underlain by gravel

***Dissimilar soils:***

- The somewhat poorly drained Kendall soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

***Properties and Qualities of the St. Charles 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:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

**243B—St. Charles silt loam, 2 to 5 percent slopes*****Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Summits and shoulders

***Map Unit Composition***

St. Charles and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are less than 40 inches deep to outwash
- Soils that are more than 60 inches deep to outwash
- Soils that have a thicker and darker surface layer
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that are underlain by gravel
- Soils that are moderately eroded

*Dissimilar soils:*

- The somewhat poorly drained Kendall soils on summits and footslopes
- The poorly drained Drummer soils on toeslopes

### ***Properties and Qualities of the St. Charles Soil***

*Parent material:* Loess over stratified loamy outwash

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 11.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* High

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **243C2—St. Charles silt loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Stream terraces and outwash plains

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

St. Charles and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are less than 40 inches deep to outwash
- Soils that are more than 60 inches deep to outwash
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that are underlain by gravel
- Soils that are severely eroded or only slightly eroded

*Dissimilar soils:*

- The somewhat poorly drained Kendall soils on summits and footslopes

**Properties and Qualities of the St. Charles 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:* Moderate

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* High

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

**Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

**St. Clair Series**

**Taxonomic classification:** Fine, illitic, mesic Oxyaquic Hapludalfs

**Typical Pedon**

St. Clair silty clay loam, 12 to 20 percent slopes; at an elevation of 614 feet; 320 feet north and 80 feet west of the center of sec. 34, T. 30 N., R. 4 E.; Livingston County, Illinois; USGS Blackstone topographic quadrangle; lat. 41 degrees 01 minute 36 seconds N. and long. 88 degrees 44 minutes 54 seconds W., NAD 27; UTM Zone 16, 353019E and 4543210N, NAD 83:

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

Bt1—5 to 12 inches; brown (10YR 4/3) silty clay; moderate fine subangular blocky structure; very firm; few very fine roots; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; neutral; clear smooth boundary.

Bt2—12 to 18 inches; brown (10YR 4/3) silty clay; moderate fine subangular blocky structure; very firm; few very fine roots; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; common medium faint yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; 1 percent gravel; strongly effervescent; slightly alkaline; clear smooth boundary.

BC—18 to 26 inches; grayish brown (10YR 5/2) silty clay; moderate fine subangular blocky structure; very firm; few very fine roots; common fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation in the matrix; 3 percent gravel; violently effervescent; moderately alkaline; clear smooth boundary.

2Cd—26 to 60 inches; 70 percent grayish brown (10YR 5/2) and 30 percent light olive brown (2.5Y 5/4) silty clay; massive; very firm; few very fine roots; common

medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 3 percent gravel; violently effervescent; moderately alkaline.

### **Range in Characteristics**

*Thickness of the loess or other silty material:* Less than 20 inches

*Depth to carbonates:* 10 to 30 inches

*Depth to the base of soil development:* 20 to 48 inches

*A horizon:*

Hue—7.5YR or 10YR

Value—2 to 5

Chroma—1 to 3

Texture—silty clay loam or silt loam

*E horizon (where present):*

Hue—7.5YR or 10YR

Value—3 to 5

Chroma—2 or 3

Texture—silty clay loam or silt loam

*Bt horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 or 4

Texture—silty clay or clay

Content of gravel—less than 15 percent

*2Cd horizon:*

Hue—7.5YR or 10YR

Value—4 to 6

Chroma—1 to 4

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

Content of gravel—1 to 15 percent

## **560D2—St. Clair silty clay loam, 6 to 12 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

St. Clair and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less clay and more silt in the middle and lower parts of the profile
- Soils that have more clay in the surface layer
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that are more than 20 inches deep to till

*Dissimilar soils:*

- The calcareous, moderately well drained Chatsworth soils on backslopes
- The nearly level, somewhat poorly drained Nappanee soils on footslopes

### ***Properties and Qualities of the St. Clair Soil***

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* 20 to 48 inches to dense material

*Available water capacity:* About 5.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.5 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **560E—St. Clair silty clay loam, 12 to 20 percent slopes**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

St. Clair and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less clay and more silt in the middle and lower parts of the profile
- Soils that are moderately eroded
- Soils that are more than 20 inches deep to till
- Soils that have slopes of less than 12 percent or more than 20 percent

*Dissimilar soils:*

- Severely eroded soils on shoulders and backslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The nearly level, somewhat poorly drained Nappanee soils on footslopes

### ***Properties and Qualities of the St. Clair Soil***

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* 20 to 48 inches to dense material

*Available water capacity:* About 4.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 6e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **Starks Series**

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

### **Typical Pedon**

Starks silt loam, 0 to 2 percent slopes; at an elevation of 610 feet; 30 feet south and 600 feet east of the northwest corner of sec. 33, T. 30 N., R. 4 E.; Livingston County, Illinois; USGS Streator South topographic quadrangle; lat. 41 degrees 01 minute 58 seconds N. and long. 88 degrees 46 minutes 27 seconds W., NAD 27; UTM Zone 16, 350840E and 4543911N, NAD 83:

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

E—10 to 14 inches; grayish brown (10YR 5/2) silt loam, light gray (10YR 7/2) dry; moderate fine subangular blocky structure; friable; few very fine roots; many distinct white (10YR 8/1) (dry) silt coatings on faces of peds; common fine faint brown (10YR 5/3) masses of iron accumulation in the matrix; neutral; abrupt smooth boundary.

BE—14 to 17 inches; 80 percent brown (10YR 4/3) and 20 percent grayish brown (10YR 5/2) silty clay loam; moderate fine subangular blocky structure; friable; few very fine roots; many distinct white (10YR 8/1) (dry) silt coatings on faces of peds; common fine faint yellowish brown (10YR 5/4) masses of iron accumulation in the matrix; neutral; abrupt smooth boundary.

Bt—17 to 21 inches; brown (10YR 4/3) silty clay loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; many faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) weakly cemented iron and manganese oxide concretions throughout; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; common fine faint grayish brown (10YR 5/2) iron depletions in the matrix; slightly acid; clear smooth boundary.

Btg1—21 to 25 inches; gray (10YR 5/1) silty clay loam; weak fine prismatic structure parting to moderate fine angular blocky; friable; few very fine roots; common faint dark grayish brown (10YR 4/2) clay films on faces of peds; few fine black (7.5YR 2.5/1) weakly cemented iron and manganese oxide concretions throughout; common fine prominent brown (7.5YR 4/4) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

- Btg2—25 to 31 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium prismatic structure parting to moderate fine angular blocky; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine black (7.5YR 2.5/1) weakly cemented iron and manganese oxide concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.
- 2Btg3—31 to 43 inches; grayish brown (2.5Y 5/2), stratified silt loam and sandy loam; weak medium prismatic structure parting to weak fine angular blocky; friable; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common fine black (7.5YR 2.5/1) weakly cemented iron and manganese oxide concretions throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral; clear smooth boundary.
- 2Cg—43 to 60 inches; grayish brown (2.5Y 5/2) sandy loam with thin strata of loamy sand; massive; very friable; many coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; neutral.

### Range in Characteristics

*Thickness of the loess or other silty material:* 24 to 40 inches

*Depth to carbonates:* 40 to 70 inches

*Depth to the base of soil development:* 35 to more than 60 inches

*Ap horizon:*

Hue—10YR

Value—2 to 5

Chroma—1 to 3

Texture—silt loam

*E horizon (where present):*

Hue—10YR

Value—5 or 6

Chroma—2 or 3

Texture—silt loam

*Bt and Btg horizons:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—1 to 4

Texture—silty clay loam or silt loam

*2Btg or 2BCg horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—1 to 6

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

Content of gravel—less than 5 percent

*2Cg horizon:*

Hue—7.5YR, 10YR, or 2.5Y

Value—4 to 6

Chroma—1 to 6

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

Content of gravel—less than 15 percent

## 132A—Starks silt loam, 0 to 2 percent slopes

### *Setting*

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Footslopes and summits

### *Map Unit Composition*

Starks and similar soils: 90 percent

Dissimilar soils: 10 percent

### *Soils of Minor Extent*

*Similar soils:*

- Soils that are more than 40 inches deep to outwash
- Soils that have a thicker and darker surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet

*Dissimilar soils:*

- The well drained Camden soils on summits
- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying outwash

*Drainage class:* Somewhat poorly drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot to 2.0 feet, January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Not hydric

## **Streator Series**

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

### **Typical Pedon**

Streator silty clay loam, 0 to 2 percent slopes; at an elevation of 738 feet; 2,544 feet north and 150 feet west of the southeast corner of sec. 36, T. 29 N., R. 1 E.; Marshall County, Illinois; USGS Minonk topographic quadrangle; lat. 40 degrees 55 minutes 58 seconds N. and long. 89 degrees 02 minutes 54 seconds W., NAD 27; UTM Zone 16, 327548E and 4533324N, NAD 83:

- Ap—0 to 9 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak fine and medium granular structure; friable; common very fine roots; neutral; clear smooth boundary.
- A—9 to 13 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate fine granular structure; friable; common very fine roots; neutral; clear smooth boundary.
- BA—13 to 17 inches; dark gray (10YR 4/1) silty clay loam; weak medium prismatic structure parting to moderate fine and very fine subangular blocky; friable; common very fine roots; common fine distinct yellowish brown (10YR 5/4) rounded iron masses with diffuse boundaries throughout the matrix; neutral; clear smooth boundary.
- Bg—17 to 24 inches; gray (5Y 5/1) silty clay; moderate medium prismatic structure parting to moderate fine subangular blocky; firm; common very fine roots; many distinct very dark gray (10YR 3/1) organic coatings on faces of peds; common fine prominent yellowish brown (10YR 5/4) rounded iron masses with diffuse boundaries and common fine prominent black (10YR 2/1) rounded iron and manganese oxide nodules with diffuse boundaries throughout the matrix; neutral; clear smooth boundary.
- Btg1—24 to 33 inches; gray (5Y 5/1) silty clay; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; many distinct dark gray (10YR 4/1) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) rounded iron masses with diffuse boundaries and common fine and medium prominent black (10YR 2/1) rounded iron and manganese oxide nodules with diffuse boundaries throughout the matrix; neutral; gradual smooth boundary.
- Btg2—33 to 42 inches; gray (5Y 5/1) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; friable; few very fine roots; common distinct dark gray (10YR 4/1) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) and brown (10YR 5/3) rounded iron masses with diffuse boundaries and common fine and medium prominent black (10YR 2/1) rounded iron and manganese oxide nodules with diffuse boundaries throughout the matrix; neutral; clear wavy boundary.
- 2Btg3—42 to 56 inches; grayish brown (2.5Y 5/2) clay; weak medium prismatic structure; firm; few very fine roots; few distinct dark gray (10YR 4/1) clay films on faces of peds; common fine prominent yellowish brown (10YR 5/6) and distinct light olive brown (2.5Y 5/4) rounded iron masses with diffuse boundaries throughout the matrix; many fine faint gray (5Y 6/1) iron depletions lining pores; 5 percent gravel; slightly alkaline; gradual wavy boundary.
- 2BCkg—56 to 68 inches; grayish brown (2.5Y 5/2) silty clay; weak coarse prismatic structure; very firm; few very fine roots; common prominent light gray (5Y 7/1) calcium carbonate coatings on faces of peds and lining root pores; common fine prominent yellowish brown (10YR 5/6) and many fine and medium distinct light olive brown (2.5Y 5/4) rounded iron masses with diffuse boundaries throughout the matrix; common fine prominent white (10YR 8/1) irregular calcium carbonate nodules throughout the matrix; many fine faint gray (5Y 6/1) iron depletions lining pores; 5 percent gravel; slightly effervescent; moderately alkaline; gradual wavy boundary.
- 2Cg—68 to 80 inches; grayish brown (2.5Y 5/2) silty clay; massive; very firm; many fine and medium distinct light olive brown (2.5Y 5/4) rounded iron masses with diffuse boundaries throughout the matrix; common fine faint gray (5Y 6/1) iron depletions throughout the matrix; 5 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* 30 to 50 inches

*Depth to carbonates:* 30 to 60 inches

*Depth to the base of soil development:* 40 to 70 inches

*Ap and A horizons:*

Hue—10YR

Value—2

Chroma—1 or 2

Texture—silty clay loam or silty clay

*BA or AB horizon (where present):*

Hue—10YR or 2.5Y

Value—3 to 6

Chroma—1 or 2

Texture—silty clay loam or silty clay

*Bg and Btg horizons:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

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

*2Btg and 2BCkg horizons:*

Hue—10YR, 2.5Y, 5Y, or N

Value—4 to 6

Chroma—0 to 2

Texture—silty clay, clay, or silty clay loam

*2Cg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay or clay

## 435A—Streator silty clay loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines, lake plains, and depressions

*Position on the landform:* Toeslopes

### Map Unit Composition

Streator and similar soils: 94 percent

Dissimilar soils: 6 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have till at a depth of less than 30 inches or more than 50 inches
- Soils that have less clay and more silt in the control section
- Soils that have 6 to 12 inches of silty overwash

*Dissimilar soils:*

- The somewhat poorly drained Rutland soils on summits and footslopes

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

*Parent material:* Loess or other silty material and the underlying till or lacustrine deposits

*Drainage class:* Poorly drained

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

*Permeability below a depth of 60 inches:* Very slow to moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.3 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 7.0 percent

*Shrink-swell potential:* High

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through 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:* Low

*Susceptibility to wind erosion:* Moderate

### ***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## ***Stronghurst Series***

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

### **Typical Pedon**

Stronghurst silt loam, 0 to 2 percent slopes; at an elevation of 721 feet; 1,440 feet north and 200 feet east of the southwest corner of sec. 26, T. 15 N., R. 4 W.; Mercer County, Illinois; USGS Buffalo Prairie topographic quadrangle; lat. 41 degrees 15 minutes 43 seconds N. and long. 90 degrees 49 minutes 20 seconds W.; UTM Zone 15, 682433E and 4570123N, NAD 83:

Ap—0 to 7 inches; dark gray (10YR 4/1) silt loam, gray (10YR 6/1) dry; weak medium granular structure; friable; common roots; neutral; clear smooth boundary.

E—7 to 11 inches; dark grayish brown (10YR 4/2) silt loam; weak fine subangular blocky structure; friable; common roots; few fine and medium dark reddish brown (5YR 3/2) iron and manganese oxide concretions in the matrix; slightly acid; clear smooth boundary.

BE—11 to 15 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine subangular blocky structure; firm; common roots; common faint light brownish gray (10YR 6/2) (dry) clay depletions on faces of peds; few dark reddish brown (5YR 3/2) iron and manganese oxide concretions in the matrix; strongly acid; clear smooth boundary.

Bt1—15 to 22 inches; grayish brown (10YR 5/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; few roots; many faint dark grayish brown (10YR 4/2) clay films on faces of peds; common dark reddish brown (5YR 3/2) iron and manganese oxide concretions in the matrix; few fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation in the matrix; strongly acid; gradual smooth boundary.

- Bt2—22 to 29 inches; brown (10YR 5/3) silty clay loam; moderate fine and medium subangular blocky structure; firm; few roots; many faint dark grayish brown (10YR 4/2) clay films on faces of peds; many dark reddish brown (5YR 3/2) iron and manganese oxide concretions in the matrix; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation and common medium faint dark grayish brown (10YR 4/2) iron depletions in the matrix; strongly acid; gradual smooth boundary.
- Bt3—29 to 35 inches; brown (10YR 5/3) silty clay loam; weak coarse subangular blocky structure; firm; few roots; common distinct dark gray (10YR 4/1) clay films on faces of peds and on surfaces along root channels; many dark reddish brown (5YR 3/2) iron and manganese oxide concretions in the matrix; many medium faint dark yellowish brown (10YR 4/4) and many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; strongly acid; gradual smooth boundary.
- Bt4—35 to 47 inches; pale brown (10YR 6/3) silty clay loam; weak coarse subangular blocky structure; friable; few faint dark grayish brown (10YR 4/2) clay films on faces of peds and on surfaces along root channels; many dark reddish brown (5YR 3/2) iron and manganese oxide concretions in the matrix; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; gradual wavy boundary.
- C—47 to 60 inches; mixed pale brown (10YR 6/3) and yellowish brown (10YR 5/6) silt loam; massive; friable; many dark reddish brown (5YR 3/2) iron and manganese oxide concretions in the matrix; moderately acid.

### Range in Characteristics

*Depth to the base of soil development:* More than 42 inches

*Ap or A horizon:*

Hue—10YR  
Value—3 to 6  
Chroma—1 or 2  
Texture—silt loam

*E horizon:*

Hue—10YR  
Value—4 to 6  
Chroma—2 or 3  
Texture—silt loam

*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

***Map Unit Composition***

Stronghurst and similar soils: 97 percent

Dissimilar soils: 3 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that have a thicker and darker surface layer
- Soils that have slopes of more than 2 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet

*Dissimilar soils:*

- The well drained Rozetta soils on summits or shoulders

***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:* About 12.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot to 2.0 feet, January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Not hydric

**278B—Stronghurst silt loam, 2 to 5 percent slopes*****Setting***

*Landform:* Ground moraines

*Position on the landform:* Summits

***Map Unit Composition***

Stronghurst and similar soils: 97 percent

Dissimilar soils: 3 percent

### **Soils of Minor Extent**

*Similar soils:*

- Soils that have a thicker and darker surface layer
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that are moderately eroded

*Dissimilar soils:*

- The well drained Rozetta soils on summits or shoulders

### **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:* About 12.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot to 2.0 feet, January through May

*Ponding:* None

*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:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Sunbury Series**

**Taxonomic classification:** Fine, smectitic, mesic Aquollic Hapludalfs

### **Typical Pedon**

Sunbury silt loam, 0 to 2 percent slopes; at an elevation of about 680 feet; 1,270 feet north and 1,410 feet east of the southwest corner of sec. 19, T. 16 N., R. 7 E.; Douglas County, Illinois; USGS Atwood topographic quadrangle; lat. 39 degrees 49 minutes 27.4 seconds N. and long. 88 degrees 27 minutes 25.6 seconds W.; UTM Zone 16, 375298E and 4409059N, NAD 27:

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

E—8 to 12 inches; brown (10YR 5/3) silt loam; moderate thin and medium platy structure parting to moderate fine granular; friable; common very fine roots; moderately acid; clear smooth boundary.

BE—12 to 15 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; firm; common very fine and fine roots; many distinct light gray (10YR 7/2) (dry) clay depletions on faces of pedis; moderately acid; clear smooth boundary.

- Bt1**—15 to 25 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; common very fine and fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; few medium black (7.5YR 2.5/1) weakly cemented iron and manganese oxide nodules throughout; common fine faint dark grayish brown (10YR 4/2) iron depletions in the matrix; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
- Bt2**—25 to 36 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium prismatic structure parting to moderate medium and coarse subangular blocky; firm; common fine roots; many distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; few medium black (7.5YR 2.5/1) weakly cemented iron and manganese oxide nodules throughout; few medium distinct dark gray (10YR 4/1) iron depletions in the matrix; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.
- Bt3**—36 to 43 inches; brown (10YR 5/3) silty clay loam; moderate medium prismatic structure parting to weak coarse subangular blocky; friable; few very fine and fine roots; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; common distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; common medium black (7.5YR 2.5/1) weakly cemented iron and manganese oxide nodules throughout; common medium faint light brownish gray (10YR 6/2) iron depletions in the matrix; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; slightly alkaline; clear smooth boundary.
- 2Btg**—43 to 47 inches; grayish brown (10YR 5/2) loam; weak coarse subangular blocky structure; firm; few distinct dark grayish brown (10YR 4/2) clay films on faces of peds; few distinct very dark gray (10YR 3/1) organo-clay films on faces of peds and in pores; few fine and medium black (7.5YR 2.5/1) weakly cemented iron and manganese oxide nodules throughout; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 1 percent gravel; slightly alkaline; abrupt smooth boundary.
- 2C**—47 to 72 inches; 50 percent grayish brown (10YR 5/2) and 50 percent yellowish brown (10YR 5/6) loam; massive; firm; common fine and medium white (10YR 8/1) weakly cemented calcium carbonate nodules throughout; few fine and medium black (7.5YR 2.5/1) weakly cemented manganese oxide nodules throughout; 3 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the loess or other silty material:* 40 to 60 inches

*Depth to carbonates:* 45 to 60 inches

*Ap or A horizon:*

Hue—10YR or 2.5Y

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*E horizon:*

Hue—10YR

Value—3 to 5

Chroma—2 or 3

Texture—silt loam

*BE horizon:*

Hue—10YR

Value—4 or 5  
 Chroma—3 or 4  
 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 or silty clay

*2Btg or 2Bt horizon:*

Hue—10YR or 2.5Y  
 Value—4 to 6  
 Chroma—2 to 6  
 Texture—loam, clay loam, or silt loam  
 Content of gravel—less than 5 percent

*2C or 2Cg horizon:*

Hue—10YR or 2.5Y  
 Value—5 or 6  
 Chroma—1 to 8  
 Texture—loam, clay loam, silt loam, or silty clay loam  
 Content of gravel—less than 5 percent

## **234A—Sunbury silt loam, 0 to 2 percent slopes**

### ***Setting***

*Landform:* Ground moraines and till plains

*Position on the landform:* Summits and footslopes

### ***Map Unit Composition***

Sunbury and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a thicker surface layer
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of more than 2 percent
- Soils that have more than 60 inches of loess over the till

*Dissimilar soils:*

- The poorly drained Elpaso soils on toeslopes

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

*Parent material:* Loess over loamy till

*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:* About 10.1 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,

January through May

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 1

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Swygert Series**

**Taxonomic classification:** Fine, mixed, active, mesic Aquic Argiudolls

**Taxadjunct features:** The Swygert soils in map units 91B2, 91C2, and 91C3 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. The Swygert soils in map units 91B2 and 91C2 are classified as fine, mixed, active, mesic Aquollic Hapludalfs. The Swygert soil in map unit 91C3 is classified as a fine, mixed, active, mesic Aquic Hapludalf.

### **Typical Pedon**

Swygert silty clay loam, 0 to 2 percent slopes; at an elevation of 675 feet; 339 feet south and 66 feet east of the northwest corner of sec. 7, T. 25 N., R. 13 W.; Iroquois County, Illinois; USGS Onarga East topographic quadrangle; lat. 40 degrees 38 minutes 36 seconds N. and long. 87 degrees 53 minutes 04 seconds W., NAD 27; UTM Zone 16, 425215E and 4499540N, NAD 83:

- Ap—0 to 7 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; moderate very fine granular structure; friable; many fine roots; slightly acid; abrupt wavy boundary.
- A—7 to 12 inches; black (10YR 2/1) silty clay loam, dark gray (10YR 4/1) dry; weak medium angular blocky structure parting to weak fine subangular blocky; friable; many fine roots; common black (N 2.5/) krotovinas; slightly acid; abrupt smooth boundary.
- Bt1—12 to 18 inches; very dark grayish brown (10YR 3/2) silty clay, gray (10YR 5/1) dry; moderate fine subangular blocky structure; friable; many fine roots; many distinct black (10YR 2/1) and very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine black (10YR 2/1) iron and manganese oxide concretions throughout; common fine faint brown (10YR 4/3) masses of iron accumulation in the matrix; slightly acid; clear wavy boundary.
- Bt2—18 to 26 inches; brown (10YR 4/3) silty clay; weak medium prismatic structure parting to moderate medium subangular blocky; friable; common fine roots; many distinct very dark grayish brown (10YR 3/2) organo-clay films and dark grayish brown (10YR 4/2) clay films on faces of peds; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; few fine distinct olive gray (5Y 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
- Bt3—26 to 31 inches; yellowish brown (10YR 5/4) silty clay; moderate medium prismatic structure parting to weak medium and fine angular blocky; firm; common fine roots; common distinct very dark gray (10YR 3/1) organo-clay films in root channels; common very dark gray (10YR 3/1) krotovinas; common distinct dark gray (10YR 4/1) and gray (10YR 5/1) clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix;

common fine prominent gray (5Y 5/1) iron depletions in the matrix; slightly effervescent; 7 percent calcium carbonate equivalent; moderately alkaline; gradual smooth boundary.

2Bt4—31 to 41 inches; light olive brown (2.5Y 5/4) silty clay; moderate medium prismatic structure parting to weak coarse angular blocky; very firm; few fine roots; common prominent very dark gray (10YR 3/1) organo-clay films and gray (5Y 5/1) clay films on faces of peds; common medium prominent gray (5Y 5/1) iron depletions in the matrix; slightly effervescent; 16 percent calcium carbonate equivalent; moderately alkaline; gradual smooth boundary.

2Bt5—41 to 51 inches; light olive brown (2.5Y 5/4) silty clay; weak coarse prismatic structure; very firm; few fine roots; common distinct very dark gray (5Y 3/1) organo-clay films in root channels; many distinct dark gray (5Y 4/1) clay films on faces of peds; common fine black (10YR 2/1) iron and manganese oxide concretions throughout; few fine distinct olive (5Y 5/6) and few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; common fine prominent gray (5Y 5/1) iron depletions in the matrix; strongly effervescent; 18 percent calcium carbonate equivalent; moderately alkaline; gradual smooth boundary.

2Cd—51 to 60 inches; brown (10YR 5/3) silty clay; massive; very firm; many distinct gray (5Y 6/1) pressure faces; common fine black (10YR 2/1) iron and manganese oxide concretions throughout; few coarse prominent strong brown (7.5YR 5/6 and 5/8) masses of iron accumulation in the matrix; strongly effervescent; 19 percent calcium carbonate equivalent; moderately alkaline.

### Range in Characteristics

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

*Depth to till:* Less than 45 inches

*Depth to carbonates:* 20 to 50 inches

*Depth to the base of soil development:* 35 to 55 inches; ranges to 20 inches in pedons in severely eroded areas

*Ap and A horizons:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silty clay loam or silt loam

*Bt and 2Bt horizons:*

Hue—10YR, 2.5Y, or 5Y

Value—4 or 5

Chroma—2 to 6

Texture—silty clay or clay

*2Cd horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 to 6

Texture—silty clay, silty clay loam, or clay

## 91A—Swygert silty clay loam, 0 to 2 percent slopes

### Setting

*Landform:* Ground moraines and end moraines

*Position on the landform:* Footslopes and summits

### **Map Unit Composition**

Swygert and similar soils: 92 percent

Dissimilar soils: 8 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have a thinner subsurface layer
- Soils that have slopes of more than 2 percent
- Soils that have more than 50 percent clay in the control section

#### *Dissimilar soils:*

- The poorly drained Bryce soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying lacustrine deposits and till

*Drainage class:* Somewhat poorly drained

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

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

*Depth to restrictive feature:* 35 to 55 inches to dense material

*Available water capacity:* About 7.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet, January through May

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **91B—Swygert silty clay loam, 2 to 4 percent slopes**

### **Setting**

*Landform:* Ground moraines and end moraines

*Position on the landform:* Footslopes and backslopes

### **Map Unit Composition**

Swygert and similar soils: 92 percent

Dissimilar soils: 8 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that are moderately eroded

- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have more than 50 percent clay in the control section

*Dissimilar soils:*

- The poorly drained Bryce soils on toeslopes

***Properties and Qualities of the Swygert Soil***

*Parent material:* Thin mantle of loess or other silty material and the underlying lacustrine deposits and till

*Drainage class:* Somewhat poorly drained

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

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

*Depth to restrictive feature:* 35 to 55 inches to dense material

*Available water capacity:* About 7.2 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 3.0 to 5.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet, January through May

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

**91B2—Swygert silty clay loam, 2 to 4 percent slopes, eroded**

***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Footslopes and backslopes

***Map Unit Composition***

Swygert and similar soils: 94 percent

Dissimilar soils: 6 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that are severely eroded or only slightly eroded
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have more than 50 percent clay in the control section

*Dissimilar soils:*

- The poorly drained Bryce soils on toeslopes

***Properties and Qualities of the Swygert Soil***

*Parent material:* Thin mantle of loess or other silty material and the underlying lacustrine deposits and till

*Drainage class:* Somewhat poorly drained  
*Slowest permeability within a depth of 40 inches:* Slow  
*Permeability below a depth of 60 inches:* Very slow  
*Depth to restrictive feature:* 35 to 55 inches to dense material  
*Available water capacity:* About 7.0 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent  
*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
 January through May  
*Ponding:* None  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Low  
*Susceptibility to wind erosion:* Low

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

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

### **91C2—Swygert silty clay loam, 4 to 6 percent slopes, eroded**

#### ***Setting***

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

#### ***Map Unit Composition***

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

#### ***Soils of Minor Extent***

##### *Similar soils:*

- Soils that are severely eroded or only slightly eroded
- Soils that have more than 50 percent clay in the control section
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of less than 4 percent or more than 6 percent

##### *Dissimilar soils:*

- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Bryce soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying lacustrine deposits and 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:* 35 to 55 inches to dense material  
*Available water capacity:* About 6.5 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
 January through May  
*Ponding:* None  
*Flooding:* None  
*Accelerated erosion:* The surface layer has been thinned by erosion.  
*Potential for frost action:* Moderate  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Low

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

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

### **91C3—Swygert silty clay loam, 4 to 6 percent slopes, severely eroded**

#### ***Setting***

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

#### ***Map Unit Composition***

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

#### ***Soils of Minor Extent***

##### *Similar soils:*

- Soils that have more than 50 percent clay in the control section
- Soils that have a seasonal high water table at a depth of more than 2 feet
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that are moderately eroded

##### *Dissimilar soils:*

- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Bryce soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying lacustrine deposits and 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:* 20 to 40 inches to dense material  
*Available water capacity:* About 6.1 inches to a depth of 60 inches  
*Content of organic matter in the surface layer:* 0.8 to 2.0 percent  
*Shrink-swell potential:* High  
*Depth and months of the highest perched seasonal high water table:* 1 to 2 feet,  
 January through May  
*Ponding:* None  
*Flooding:* None  
*Accelerated erosion:* The surface layer is mostly subsoil material.

*Potential for frost action:* Moderate  
*Hazard of corrosion:* High for steel and low for concrete  
*Surface runoff class:* High  
*Susceptibility to water erosion:* Moderate  
*Susceptibility to wind erosion:* Moderate

### **Interpretive Groups**

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

## **Symerton Series**

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

**Taxadjunct features:** The Symerton soil in map unit 294C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-loamy, mixed, superactive, mesic Mollic Oxyaquic Hapludalf.

### **Typical Pedon**

Symerton silt loam, 2 to 5 percent slopes; at an elevation of 714 feet; 102 feet north and 1,806 feet west of the southeast corner of sec. 33, T. 24 N., R. 12 W.; Iroquois County, Illinois; USGS Hoopeston topographic quadrangle; lat. 40 degrees 29 minutes 17.1 seconds N. and long. 87 degrees 42 minutes 57.9 seconds W., NAD 27; UTM Zone 16, 439310E and 4482181N, NAD 83:

- Ap—0 to 10 inches; black (10YR 2/1) silt loam, very dark gray (10YR 3/1) dry; weak very fine granular structure; friable; slightly acid; abrupt smooth boundary.
- A—10 to 15 inches; very dark gray (10YR 3/1) silt loam, dark grayish brown (10YR 4/2) dry; moderate very fine granular structure; friable; moderately acid; clear smooth boundary.
- AB—15 to 19 inches; very dark grayish brown (10YR 3/2) silty clay loam, dark grayish brown (10YR 4/2) dry; moderate very fine granular structure; friable; many distinct black (10YR 2/1) organic coatings on faces of peds; moderately acid; clear smooth boundary.
- 2Bt1—19 to 25 inches; brown (10YR 4/3) gravelly clay loam; moderate very fine subangular blocky structure; firm; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide nodules throughout; 18 percent gravel; moderately acid; clear smooth boundary.
- 2Bt2—25 to 31 inches; brown (10YR 4/3) gravelly clay loam; moderate fine subangular blocky structure; firm; common distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide nodules throughout; 18 percent gravel; neutral; clear smooth boundary.
- 2Bt3—31 to 35 inches; yellowish brown (10YR 5/4) gravelly loam; weak fine and medium subangular blocky structure; firm; common distinct brown (10YR 4/3) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide nodules throughout; few fine prominent yellowish red (5YR 5/8) masses of iron accumulation in the matrix; 18 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- 3Bt4—35 to 39 inches; brown (10YR 5/3) silt loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; few distinct brown (10YR 4/3)

clay films on faces of peds; few fine prominent yellowish red (5YR 5/8) masses of iron accumulation in the matrix; slightly effervescent; slightly alkaline; clear smooth boundary.

3C—39 to 60 inches; light olive brown (2.5Y 5/4) and light yellowish brown (2.5Y 6/4) silt loam; massive; firm; few fine prominent yellowish red (5YR 4/8) masses of iron accumulation in the matrix; few fine prominent gray (10YR 5/1) iron depletions in the matrix; strongly effervescent; slightly alkaline.

### Range in Characteristics

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

*Depth to till:* 22 to 50 inches

*Depth to carbonates:* 24 to 55 inches

*Depth to the base of soil development:* 30 to 50 inches

*Ap, A, and AB horizons:*

Hue—10YR

Value—2 to 4

Chroma—1 to 4

Texture—silt loam, loam, or silty clay loam

*2Bt horizon:*

Hue—7.5YR or 10YR

Value—4 or 5

Chroma—3 to 6

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

Content of gravel—less than 20 percent

*3Bt or 3BC horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 or 5

Chroma—3 or 4

Texture—silty clay loam or silt loam

Content of gravel—less than 7 percent

*3C horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—3 or 4

Texture—silty clay loam or silt loam

Content of gravel—less than 7 percent

## 294B—Symerton silt loam, 2 to 5 percent slopes

### Setting

*Landform:* Ground moraines and lake plains

*Position on the landform:* Summits and backslopes

### Map Unit Composition

Symerton and similar soils: 88 percent

Dissimilar soils: 12 percent

### Soils of Minor Extent

*Similar soils:*

- Soils that have less sand and more clay in the upper one-half of the profile

- Soils that have slopes of more than 5 percent
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that are moderately eroded

*Dissimilar soils:*

- The poorly drained Ashkum soils on toeslopes

***Properties and Qualities of the Symerton Soil***

*Parent material:* Thin mantle of loess or other silty material and the underlying outwash and till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 7.9 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.5 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet, February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

**294C2—Symerton silt loam, 5 to 10 percent slopes, eroded**

***Setting***

*Landform:* Ground moraines and lake plains

*Position on the landform:* Backslopes and shoulders

***Map Unit Composition***

Symerton and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent***

*Similar soils:*

- Soils that have less sand and more clay in the upper one-half of the profile
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that are severely eroded or only slightly eroded

*Dissimilar soils:*

- The nearly level, somewhat poorly drained Andres soils on summits and footslopes
- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying outwash and till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet, February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 3e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## ***Thorp Series***

**Taxonomic classification:** Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls

### **Typical Pedon**

Thorp silt loam, 0 to 2 percent slopes; at an elevation of 640 feet; 1,190 feet north and 2,400 feet west of the southeast corner of sec. 27, T. 36 N., R. 5 E.; La Salle County, Illinois; USGS Sheridan topographic quadrangle; lat. 41 degrees 33 minutes 42 seconds N. and long. 88 degrees 38 minutes 49 seconds W.; UTM Zone 16, 362665E and 4602414N, NAD 83:

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; 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; 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; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Btg1—19 to 21 inches; 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; many distinct very dark gray (10YR 3/1) clay films on faces of pedis; few fine prominent yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

Btg2—21 to 33 inches; 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) masses of iron accumulation 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/) 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) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.

2Btg4—43 to 50 inches; 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; grayish brown (10YR 5/2) and yellowish brown (10YR 5/8) sandy loam with thin strata of sand; massive; friable in the sandy loam; single grain; loose in the sand; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 14 inches

*Thickness of the loess or silty material:* 30 to 54 inches

*Depth to carbonates:* More than 40 inches

*Depth to the base of soil development:* 40 to 65 inches

*Ap and A horizons:*

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 and/or 2BCg 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; thin strata of silty clay loam, loamy sand, or sand in some pedons

Content of gravel—less than 10 percent

*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

Content of gravel—less than 15 percent

## 206A—Thorp silt loam, 0 to 2 percent slopes

### **Setting**

*Landform:* Ground moraines and outwash plains

*Position on the landform:* Toeslopes

### **Map Unit Composition**

Thorp and similar soils: 95 percent

Dissimilar soils: 5 percent

### **Soils of Minor Extent**

*Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that have 6 to 12 inches of silty overwash
- Soils that have a thicker surface layer

*Dissimilar soils:*

- The somewhat poorly drained Brenton soils on summits

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

*Parent material:* Loess over stratified loamy outwash

*Drainage class:* Poorly drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 9.4 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 4.0 to 6.0 percent

*Shrink-swell potential:* Moderate

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through May

*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:* Low

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 2w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Titus Series**

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

### **Typical Pedon**

Titus silty clay loam, 0 to 2 percent slopes, occasionally flooded; at an elevation of 470 feet; 2,650 feet west and 2,150 feet south of the northeast corner of sec. 20, T. 2 N., R. 9 W.; Adams County, Illinois; USGS Lima topographic quadrangle; lat. 40 degrees 08 minutes 25 seconds N. and long. 91 degrees 27 minutes 55 seconds W., NAD 27; UTM Zone 15, 630724E and 4444461N, NAD 83:

- Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silty clay loam, dark grayish brown (10YR 4/2) dry; weak fine and medium subangular blocky structure; very firm; few fine roots; neutral; clear smooth boundary.
- A—7 to 13 inches; dark olive gray (5Y 3/2) silty clay loam, dark grayish brown (10YR 4/2) dry; weak medium subangular blocky structure; very firm; few fine roots; few fine prominent dark yellowish brown (10YR 4/4) masses of iron accumulation throughout; neutral; clear smooth boundary.
- Bg1—13 to 25 inches; dark gray (2.5Y 4/1) silty clay; weak fine prismatic structure; very firm; few fine roots; many distinct dark olive gray (5Y 3/2) organo-clay films on faces of peds; common fine prominent dark yellowish brown (10YR 4/6) masses of iron accumulation throughout; neutral; clear smooth boundary.
- Bg2—25 to 36 inches; dark gray (5Y 4/1) silty clay; weak medium prismatic structure; very firm; few very fine roots; many distinct gray (N 5/) pressure faces on faces of peds; common fine prominent brown (7.5YR 4/4) and few fine prominent black (10YR 2/1) masses of iron accumulation throughout; neutral; clear smooth boundary.
- Bg3—36 to 46 inches; dark gray (5Y 4/1) silty clay; weak medium prismatic structure; very firm; few very fine roots; many distinct gray (N 5/) pressure faces on faces of peds; common fine prominent brown (7.5YR 4/4) and few fine prominent black (10YR 2/1) masses of iron accumulation throughout; neutral; clear smooth boundary.
- Bg4—46 to 55 inches; dark gray (2.5 4/1) silty clay; weak fine prismatic structure; very firm; few very fine roots; many distinct gray (N 5/) pressure faces on faces of peds; few fine prominent dark yellowish brown (10YR 4/6) masses of iron accumulation throughout; neutral; clear smooth boundary.
- BCg—55 to 68 inches; dark gray (5Y 4/1) silty clay loam; massive; very firm; few fine prominent dark yellowish brown (10YR 4/6) masses of iron accumulation throughout; neutral; clear smooth boundary.
- Cg—68 to 80 inches; dark gray (5Y 4/1) silty clay loam; massive; very firm; many fine prominent brown (7.5YR 4/4) and few fine prominent black (10YR 2/1) masses of iron accumulation throughout; neutral.

### Range in Characteristics

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

*Depth to the base of soil development:* 35 to 70 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 or silty clay loam

Content of gravel—less than 2 percent

*Cg and/or BCg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—1 or 2

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

Content of gravel—less than 15 percent

## 8404A—Titus silty clay loam, 0 to 2 percent slopes, occasionally flooded

### *Setting*

*Landform:* Flood plains

### *Map Unit Composition*

Titus and similar soils: 90 percent

Dissimilar soils: 10 percent

### *Soils of Minor Extent*

*Similar soils:*

- Soils that have a surface layer more than 24 inches thick
- Soils that have more clay and less silt in the control section
- Soils that have carbonates in the lower part of the profile

*Dissimilar soils:*

- The poorly drained Sawmill soils on flood plains

### *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:* Slow or moderately slow

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 10.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* High

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

*Depth and most likely period of ponding:* 0.0 to 0.5 foot, January through May

*Frequency and most likely period of flooding:* Occasional, November through June

*Potential for frost action:* High

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

*Surface runoff class:* Negligible

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Moderate

### *Interpretive Groups*

*Land capability classification:* 3w

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Hydric

## **Varna Series**

**Taxonomic classification:** Fine, illitic, mesic Oxyaquic Argiudolls

**Taxadjunct features:** The Varna soils in map units 223B2, 223C2, 223C3, 223D2, and 223D3 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. The Varna soils in map units 223B2, 223C2, and 223D2 are classified as fine, illitic, mesic Mollic Oxyaquic Hapludalfs. The Varna soils in map units 223C3 and 223D3 are classified as fine, illitic, mesic Oxyaquic Hapludalfs.

### Typical Pedon

Varna silt loam, 2 to 4 percent slopes; at an elevation of 722 feet; 35 feet north and 860 feet east of the southwest corner of sec. 6, T. 29 N., R. 11 E.; Kankakee County, Illinois; USGS Herscher topographic quadrangle; lat. 41 degrees 00 minutes 53 seconds N. and long. 88 degrees 00 minutes 49 seconds W.; UTM Zone 16, 414761E and 4540891N, NAD 83:

Ap—0 to 8 inches; very dark gray (10YR 3/1) silt loam, gray (10YR 5/1) dry; moderate fine granular structure; friable; neutral; abrupt smooth boundary.

A—8 to 12 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; slightly acid; clear smooth boundary.

2Bt1—12 to 18 inches; brown (10YR 4/3) silty clay loam; moderate very fine subangular blocky structure; firm; many distinct very dark gray (10YR 3/1) organo-clay films on faces of peds; 5 percent gravel; moderately acid; clear smooth boundary.

2Bt2—18 to 24 inches; dark yellowish brown (10YR 4/4) silty clay; weak fine prismatic structure parting to moderate very fine and fine subangular blocky; firm; many distinct very dark grayish brown (10YR 3/2) organo-clay films on faces of peds; 5 percent gravel; moderately acid; clear smooth boundary.

2Bt3—24 to 30 inches; light olive brown (2.5Y 5/4) silty clay; weak fine prismatic structure parting to moderate fine angular and subangular blocky; firm; common distinct dark grayish brown (10YR 4/2) clay films on faces of peds; many fine distinct yellowish brown (10YR 5/6) masses of iron accumulation in the matrix; 5 percent gravel; neutral; clear wavy boundary.

2Bt4—30 to 42 inches; 60 percent yellowish brown (10YR 5/6) and 40 percent grayish brown (2.5Y 5/2) silty clay loam; moderate medium prismatic structure parting to moderate fine and medium angular and subangular blocky; firm; few distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; 5 percent gravel; slightly effervescent; slightly alkaline; gradual smooth boundary.

2BCt—42 to 48 inches; 50 percent yellowish brown (10YR 5/6) and 50 percent gray (5Y 5/1) silty clay loam; weak medium prismatic structure parting to weak medium subangular and angular blocky; firm; few distinct dark grayish brown (10YR 4/2) clay films on vertical faces of peds; 2 percent gravel; slightly effervescent; moderately alkaline; gradual wavy boundary.

2Cd—48 to 60 inches; 90 percent yellowish brown (10YR 5/4 and 5/6) and 10 percent gray (5Y 5/1) silty clay loam; massive; very firm; 5 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

*Thickness of the mollic epipedon:* 10 to 16 inches

*Thickness of the loess or other silty material:* Less than 18 inches

*Depth to carbonates:* 24 to 42 inches

*Depth to the base of soil development:* 24 to 60 inches; ranges to 18 inches in pedons in severely eroded areas

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*Bt or 2Bt horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—3 or 4 in the upper part; 1 to 4 in the lower part  
 Texture—silty clay loam, silty clay, or clay  
 Content of gravel—less than 10 percent

*2Cd and/or 2BC horizon:*

Hue—10YR, 2.5Y, or 5Y  
 Value—4 to 6  
 Chroma—1 to 6  
 Texture—silty clay loam or clay loam  
 Content of gravel—less than 10 percent

## **223B—Varna silt loam, 2 to 4 percent slopes**

### ***Setting***

*Landform:* Ground moraines and end moraines  
*Position on the landform:* Backslopes and summits

### ***Map Unit Composition***

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

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are moderately eroded
- Soils that have less clay and more silt in the upper part of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have outwash above the till

*Dissimilar soils:*

- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 24 to 60 inches to dense material

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

*Content of organic matter in the surface layer:* 2.5 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
 February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **223B2—Varna silt loam, 2 to 4 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes and summits

### ***Map Unit Composition***

Varna and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less clay and more silt in the upper part of the profile
- Soils that have a surface layer of silty clay loam
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have outwash above the till

*Dissimilar soils:*

- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 24 to 60 inches to dense material

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

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 223C2—Varna silt loam, 4 to 6 percent slopes, eroded

### **Setting**

*Landform:* Ground moraines and end moraines

*Position on the landform:* Shoulders and backslopes

### **Map Unit Composition**

Varna and similar soils: 90 percent

Dissimilar soils: 10 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have less clay and more silt in the upper part of the profile
- Soils that have a surface layer of silty clay loam
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have outwash above the till

#### *Dissimilar soils:*

- The nearly level, somewhat poorly drained Elliott soils on summits and footslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 24 to 60 inches to dense material

*Available water capacity:* About 8.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet, February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 3e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **223C3—Varna silty clay loam, 4 to 6 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Shoulders and backslopes

### ***Map Unit Composition***

Varna and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that are moderately eroded
- Soils that have less clay and more silt in the upper part of the profile
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have outwash above the till

*Dissimilar soils:*

- The nearly level, somewhat poorly drained Elliott soils on summits and footslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 18 to 36 inches to dense material

*Available water capacity:* About 6.0 inches to a depth of 60 inches

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

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* High

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## 223D2—Varna silt loam, 6 to 12 percent slopes, eroded

### **Setting**

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes

### **Map Unit Composition**

Varna and similar soils: 92 percent

Dissimilar soils: 8 percent

### **Soils of Minor Extent**

#### *Similar soils:*

- Soils that have less clay and more silt in the upper part of the profile
- Soils that have a surface layer of silty clay loam
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that have outwash above the till

#### *Dissimilar soils:*

- The nearly level, somewhat poorly drained Elliott soils on summits and footslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 24 to 60 inches to dense material

*Available water capacity:* About 7.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Very high

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### **Interpretive Groups**

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## **223D3—Varna silty clay loam, 6 to 12 percent slopes, severely eroded**

### ***Setting***

*Landform:* Ground moraines and end moraines

*Position on the landform:* Backslopes

### ***Map Unit Composition***

Varna and similar soils: 95 percent

Dissimilar soils: 5 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less clay and more silt in the upper part of the profile
- Soils that are moderately eroded
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet
- Soils that have slopes of less than 6 percent or more than 12 percent
- Soils that have outwash above the till

*Dissimilar soils:*

- The nearly level, somewhat poorly drained Elliott soils on summits and footslopes
- The calcareous, moderately well drained Chatsworth soils on backslopes
- The poorly drained Ashkum soils on toeslopes

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

*Parent material:* Till

*Drainage class:* Moderately well drained

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

*Permeability below a depth of 60 inches:* Slow

*Depth to restrictive feature:* 18 to 36 inches to dense material

*Available water capacity:* About 6.5 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 1.0 to 2.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet,  
February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Very high

*Susceptibility to water erosion:* High

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 4e

*Prime farmland category:* Not prime farmland

*Hydric soil status:* Not hydric

## ***Virgil Series***

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

### **Typical Pedon**

Virgil silt loam, 0 to 2 percent slopes; at an elevation of 765 feet; 300 feet south and 1,346 feet east of the northwest corner of sec. 8, T. 26 N., R. 8 E.; Stephenson County, Illinois; USGS Freeport East topographic quadrangle; lat. 42 degrees 16 minutes 30 seconds N. and long. 89 degrees 36 minutes 38 seconds W., NAD 27; UTM Zone 16, 284717E and 4683613N, NAD 83:

- Ap—0 to 7 inches; black (10YR 2/1) silt loam, grayish brown (10YR 5/2) dry; weak medium granular structure; friable; common fine roots; neutral; abrupt smooth boundary.
- Eg—7 to 13 inches; dark grayish brown (10YR 4/2) and grayish brown (10YR 5/2) silt loam, light brownish gray (10YR 6/2) dry; weak thin platy structure parting to moderate fine granular; friable; many fine roots; few faint black (10YR 2/1) organic coatings on faces of peds and fillings in root channels; few fine prominent brown (7.5YR 4/4) masses of iron accumulation in the matrix; strongly acid; clear smooth boundary.
- Bt1—13 to 17 inches; grayish brown (10YR 5/2) and brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; common fine roots; few faint dark grayish brown (10YR 4/2) clay films on faces of peds; common distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; few fine prominent brown (7.5YR 4/4) and strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; strongly acid; clear smooth boundary.
- Bt2—17 to 25 inches; grayish brown (10YR 5/2) and brown (10YR 5/3) silty clay loam; moderate fine subangular blocky structure; firm; common fine roots; common faint dark grayish brown (10YR 4/2) and grayish brown (10YR 5/2) clay films on faces of peds; common faint light gray (10YR 7/2) (dry) clay depletions on faces of peds; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; few fine prominent brown (7.5YR 4/4) and strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; strongly acid; gradual smooth boundary.
- Btg1—25 to 35 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate fine and medium subangular blocky structure; firm; few fine roots; many faint grayish brown (2.5Y 5/2) clay films on faces of peds; few distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; many fine black (10YR 2/1) iron and manganese oxide concretions throughout; common fine prominent strong brown (7.5YR 5/6 and 5/8) masses of iron accumulation in the matrix; strongly acid; clear smooth boundary.
- Btg2—35 to 44 inches; light brownish gray (2.5Y 6/2) silty clay loam; moderate medium and coarse subangular and angular blocky structure; firm; few fine roots; common faint grayish brown (2.5Y 5/2) clay films on faces of peds; few distinct light gray (10YR 7/2) (dry) clay depletions on faces of peds; many fine black (10YR 2/1) iron and manganese oxide nodules and concretions throughout; many medium prominent brown (7.5YR 4/4) and strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.
- Btg3—44 to 49 inches; grayish brown (2.5Y 5/2) silty clay loam; weak medium and coarse angular blocky structure; firm; few fine roots; few prominent gray (N 5/) clay films on faces of peds; many fine black (10YR 2/1) iron and manganese oxide nodules and concretions throughout; many medium prominent brown (7.5YR 4/4) and strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; moderately acid; clear smooth boundary.

2Btg4—49 to 58 inches; grayish brown (2.5Y 5/2) and light brownish gray (2.5Y 6/2) loam; weak coarse angular blocky structure; firm; few prominent dark gray (N 4/) clay films on faces of peds; few fine black (10YR 2/1) iron and manganese oxide concretions throughout; many medium prominent brown (7.5YR 4/4) and strong brown (7.5YR 5/6) masses of iron accumulation in the matrix; neutral; gradual smooth boundary.

2C—58 to 60 inches; brown (10YR 4/3) and dark yellowish brown (10YR 4/4) sandy loam; massive; friable; common fine distinct dark gray (10YR 4/1) and gray (10YR 5/1) iron depletions in the matrix; slightly alkaline.

### Range in Characteristics

*Thickness of the loess or other silty material:* 40 to 60 inches

*Depth to carbonates:* 45 to 70 inches

*Depth to the base of soil development:* 42 to 70 inches

*Ap or A horizon:*

Hue—10YR

Value—2 or 3

Chroma—1 or 2

Texture—silt loam

*E or Eg horizon:*

Hue—10YR

Value—4 to 6

Chroma—1 or 2

Texture—silt loam

*Bt or Btg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—2 to 4

Texture—silty clay loam

*2Bt, 2Btg, 2BC, or 2BCg horizon:*

Hue—10YR, 2.5Y, or 5Y

Value—4 to 6

Chroma—2 to 8

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

Content of gravel—less than 10 percent

*2C or 2Cg horizon:*

Hue—10YR or 2.5Y

Value—4 to 6

Chroma—2 to 8

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

Content of gravel—less than 15 percent

## 104A—Virgil silt loam, 0 to 2 percent slopes

### Setting

*Landform:* Outwash plains and ground moraines

*Position on the landform:* Footslopes and summits

### Map Unit Composition

Virgil and similar soils: 90 percent

Dissimilar soils: 10 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have a lighter colored surface layer
- Soils that have a thicker surface layer
- Soils that have outwash within a depth of 40 inches
- Soils that have a seasonal high water table at a depth of more than 2 feet

*Dissimilar soils:*

- The well drained Batavia soils on summits
- The poorly drained Drummer soils on toeslopes

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

*Parent material:* Loess and the underlying outwash

*Drainage class:* Somewhat poorly drained

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

*Permeability below a depth of 60 inches:* Moderate or moderately rapid

*Depth to restrictive feature:* More than 80 inches

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

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* Moderate

*Depth and months of the highest apparent seasonal high water table:* 0.5 foot to 2.0 feet, January through May

*Ponding:* None

*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:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 1

*Prime farmland category:* Prime farmland where drained

*Hydric soil status:* Not hydric

## **W—Water**

- This map unit consists of natural bodies of water, such as ponds, lakes, and rivers.

## ***Warsaw Series***

**Taxonomic classification:** Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Argiudolls

**Taxadjunct features:** The Warsaw soil in map unit 290C2 has a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soil. This soil is classified as a fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Mollic Hapludalf.

### **Typical Pedon**

Warsaw silt loam, 0 to 2 percent slopes; at an elevation of 535 feet; 1,800 feet south and 620 feet west of the northeast corner of sec. 9, T. 33 N., R. 9 E.; Will County, Illinois; USGS Wilmington topographic quadrangle; lat. 41 degrees 21 minutes 27

seconds N. and long. 88 degrees 11 minutes 39 seconds W., NAD 27; UTM Zone 16, 400106E and 4579132N, NAD 83:

- Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine granular structure; friable; many very fine roots; 2 percent gravel; slightly acid; clear smooth boundary.
- A—7 to 11 inches; very dark grayish brown (10YR 3/2) silt loam, grayish brown (10YR 5/2) dry; moderate fine and medium granular structure; friable; many very fine roots; common distinct black (10YR 2/1) organic coatings on faces of peds; 2 percent gravel; slightly acid; clear smooth boundary.
- 2BA—11 to 17 inches; brown (10YR 4/3) loam; moderate fine subangular blocky structure; friable; many very fine roots; many distinct very dark grayish brown (10YR 3/2) organic coatings on faces of peds; 5 percent gravel; moderately acid; clear smooth boundary.
- 2Bt1—17 to 28 inches; dark yellowish brown (10YR 4/4) clay loam; moderate fine and medium subangular blocky structure; friable; common very fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; 5 percent gravel; moderately acid; clear wavy boundary.
- 3Bt2—28 to 32 inches; dark yellowish brown (10YR 4/4) gravelly sandy clay loam; weak fine and medium subangular blocky structure; friable; common very fine roots; few distinct brown (10YR 4/3) clay films on faces of peds; common fine black (10YR 2/1) very weakly cemented iron and manganese oxide concretions throughout; 20 percent gravel; neutral; clear wavy boundary.
- 3C1—32 to 44 inches; yellowish brown (10YR 5/4) gravelly loamy sand; massive; very friable; few very fine roots; 20 percent gravel; slightly effervescent; slightly alkaline; gradual wavy boundary.
- 3C2—44 to 80 inches; light yellowish brown (10YR 6/4) very gravelly sand; single grain; loose; 40 percent gravel; strongly effervescent; moderately alkaline.

### Range in Characteristics

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

*Depth to sandy and gravelly glaciofluvial deposits:* 24 to 40 inches

*Depth to carbonates:* 24 to 40 inches

*Depth to the base of soil development:* 24 to 40 inches

*Ap and A horizons:*

Hue—10YR or 7.5YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam, loam, or sandy loam

Content of gravel—less than 15 percent

*2BA horizon (where present):*

Hue—10YR or 7.5YR

Value—3 or 4

Chroma—2 to 4

Texture—silt loam, loam, or sandy loam

Content of gravel—less than 15 percent

*2Bt horizon:*

Hue—10YR or 7.5YR

Value—3 to 5

Chroma—2 to 4

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

Content of gravel—less than 15 percent

*3Bt horizon:*

Hue—7.5YR or 10YR

Value—2 to 4

Chroma—2 to 4

Texture—gravelly clay loam or gravelly sandy clay loam

Content of gravel—15 to 25 percent

*3C horizon:*

Hue—7.5YR or 10YR

Value—5 to 7

Chroma—2 to 4

Texture—the gravelly, very gravelly, or extremely gravelly analogs of sand, loamy sand, coarse sand, or loamy coarse sand

Content of gravel—15 to 78 percent

**290A—Warsaw silt loam, 0 to 2 percent slopes*****Setting****Landform:* Outwash plains and stream terraces*Position on the landform:* Summits***Map Unit Composition***

Warsaw and similar soils: 90 percent

Dissimilar soils: 10 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have less sand and gravel in the lower part of the profile
- Soils that have less sand and more silt in the upper part of the profile
- Soils that do not have calcareous sand and gravel within a depth of 40 inches
- Soils that have slopes of more than 2 percent

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

***Properties and Qualities of the Warsaw Soil****Parent material:* Thin mantle of loess or other silty material and the underlying loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits*Drainage class:* Well drained*Slowest permeability within a depth of 40 inches:* Moderate*Permeability below a depth of 60 inches:* Very rapid*Depth to restrictive feature:* More than 80 inches*Available water capacity:* About 6.8 inches to a depth of 60 inches*Content of organic matter in the surface layer:* 2.5 to 4.0 percent*Shrink-swell potential:* Moderate*Ponding:* None*Flooding:* None*Potential for frost action:* Moderate*Hazard of corrosion:* Moderate for steel and concrete*Surface runoff class:* Low*Susceptibility to water erosion:* Low*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2s

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **290B—Warsaw silt loam, 2 to 4 percent slopes**

### ***Setting***

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Backslopes and summits

### ***Map Unit Composition***

Warsaw and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that do not have calcareous sand and gravel within a depth of 40 inches
- Soils that have less sand and more silt in the upper part of the profile
- Soils that have slopes of less than 2 percent or more than 4 percent
- Soils that have less sand and gravel in the lower part of the profile
- Soils that are moderately eroded

*Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 6.8 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.5 to 4.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

*Hazard of corrosion:* Moderate for steel and concrete

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## 290C2—Warsaw silt loam, 4 to 6 percent slopes, eroded

### *Setting*

*Landform:* Outwash plains and stream terraces

*Position on the landform:* Shoulders and backslopes

### *Map Unit Composition*

Warsaw and similar soils: 92 percent

Dissimilar soils: 8 percent

### *Soils of Minor Extent*

#### *Similar soils:*

- Soils that have slopes of less than 4 percent or more than 6 percent
- Soils that have less sand and gravel in the lower part of the profile
- Soils that have less sand and more silt in the upper part of the profile
- Soils that do not have calcareous sand and gravel within a depth of 40 inches
- Soils that are severely eroded or only slightly eroded

#### *Dissimilar soils:*

- Somewhat poorly drained soils on summits and footslopes

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

*Parent material:* Thin mantle of loess or other silty material and the underlying loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

*Drainage class:* Well drained

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

*Permeability below a depth of 60 inches:* Very rapid

*Depth to restrictive feature:* More than 80 inches

*Available water capacity:* About 5.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 3.0 percent

*Shrink-swell potential:* Moderate

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Medium

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### *Interpretive Groups*

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **Wenona Series**

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

**Taxadjunct features:** The Wenona soils in map units 388B2 and 388C2 have a thinner dark surface layer than is defined as the range for the series. This difference, however, does not significantly affect the use and management of the soils. These soils are classified as fine, smectitic, mesic Mollic Oxyaquic Hapludalfs.

### Typical Pedon

Wenona silt loam, 2 to 5 percent slopes; at an elevation of 718 feet; 324 feet east and 216 feet north of the southwest corner of sec. 8, T. 29 N., R. 2 E.; La Salle County, Illinois; USGS Minonk topographic quadrangle; lat. 40 degrees 59 minutes 07 seconds N. and long. 89 degrees 01 minute 35 seconds W., NAD 27; UTM Zone 16, 329543E and 4539089N, NAD 83:

- Ap—0 to 9 inches; very dark brown (10YR 2/2) silt loam, very dark grayish brown (10YR 3/2) dry; moderate fine granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.
- A—9 to 14 inches; very dark brown (10YR 2/2) silt loam, very dark grayish brown (10YR 3/2) dry; moderate fine and medium granular structure; friable; many fine and very fine roots; moderately acid; clear smooth boundary.
- Bt1—14 to 20 inches; brown (10YR 4/3) silty clay loam; moderate fine subangular blocky structure; firm; common fine roots; many distinct dark brown (10YR 3/3) organo-clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt2—20 to 26 inches; dark yellowish brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; common fine roots; many distinct brown (10YR 4/3) clay films on faces of peds; moderately acid; clear smooth boundary.
- Bt3—26 to 31 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; common distinct brown (10YR 4/3) clay films on faces of peds; few fine black (10YR 2/1) iron and manganese oxide nodules throughout; few fine prominent yellowish brown (10YR 5/8) masses of iron accumulation in the matrix; slightly acid; clear smooth boundary.
- Bt4—31 to 37 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak medium prismatic structure parting to weak medium subangular blocky; firm; common distinct brown (10YR 4/3) clay films on faces of peds; few very fine roots; few fine black (10YR 2/1) iron and manganese oxide nodules throughout; common fine and medium faint brown (10YR 5/3) masses of iron accumulation in the matrix; common fine and medium distinct grayish brown (10YR 5/2) iron depletions in the matrix; neutral; clear smooth boundary.
- 2BCt—37 to 50 inches; olive (5Y 5/3) silty clay; weak medium prismatic structure parting to weak coarse subangular blocky; very firm; few fine roots; few faint olive gray (5Y 5/2) clay films on vertical faces of peds; common fine distinct and prominent yellowish brown (10YR 5/4 and 5/6) masses of iron accumulation in the matrix; 5 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- 2Cd—50 to 60 inches; olive gray (5Y 5/2) silty clay; massive; very firm; common fine and medium distinct light olive brown (2.5Y 5/4) and few fine prominent yellowish brown (10YR 5/6 and 5/8) masses of iron accumulation in the matrix; 5 percent gravel; strongly effervescent; slightly alkaline.

### Range in Characteristics

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

*Thickness of the loess or other silty material:* 35 to 55 inches

*Depth to the base of soil development:* 40 to 65 inches

*Ap and A horizons:*

Hue—10YR

Value—2 or 3

Chroma—1 to 3

Texture—silt loam or silty clay loam

*Bt horizon:*

Hue—10YR  
 Value—4 to 6  
 Chroma—3 to 6  
 Texture—silty clay loam or silty clay

*2Bt horizon:*

Hue—2.5Y or 5Y  
 Value—4 to 6  
 Chroma—2 to 6  
 Texture—silty clay or silty clay loam  
 Content of gravel—less than 5 percent

*2Cd horizon:*

Hue—2.5Y or 5Y  
 Value—4 to 6  
 Chroma—2 to 4  
 Texture—silty clay or clay  
 Content of gravel—less than 5 percent

**388B—Wenona silt loam, 2 to 5 percent slopes*****Setting***

*Landform:* Ground moraines and lake plains

*Position on the landform:* Backslopes, summits, and footslopes

***Map Unit Composition***

Wenona and similar soils: 95 percent

Dissimilar soils: 5 percent

***Soils of Minor Extent****Similar soils:*

- Soils that have less clay and more silt in the control section
- Soils that are less than 35 inches deep to till
- Soils that are more than 55 inches deep to till
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that are moderately eroded
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet

*Dissimilar soils:*

- The poorly drained Streator soils on toeslopes

***Properties and Qualities of the Wenona Soil***

*Parent material:* Loess or other silty material and the underlying till or lacustrine deposits

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* 40 to 65 inches to dense material

*Available water capacity:* About 9.6 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.5 to 4.5 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet, February through April

*Ponding:* None

*Flooding:* None

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Low

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **388B2—Wenona silt loam, 2 to 5 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines and lake plains

*Position on the landform:* Backslopes, summits, and footslopes

### ***Map Unit Composition***

Wenona and similar soils: 94 percent

Dissimilar soils: 6 percent

### ***Soils of Minor Extent***

*Similar soils:*

- Soils that have less clay and more silt in the control section
- Soils that are less than 35 inches deep to till
- Soils that are more than 55 inches deep to till
- Soils that have slopes of less than 2 percent or more than 5 percent
- Soils that are severely eroded or only slightly eroded
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet

*Dissimilar soils:*

- The poorly drained Streator soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till or lacustrine deposits

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* 40 to 65 inches to dense material

*Available water capacity:* About 9.7 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet, February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

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

*Surface runoff class:* Low

*Susceptibility to water erosion:* Moderate

*Susceptibility to wind erosion:* Low

### ***Interpretive Groups***

*Land capability classification:* 2e

*Prime farmland category:* Prime farmland

*Hydric soil status:* Not hydric

## **388C2—Wenona silty clay loam, 5 to 10 percent slopes, eroded**

### ***Setting***

*Landform:* Ground moraines

*Position on the landform:* Backslopes and shoulders

### ***Map Unit Composition***

Wenona and similar soils: 92 percent

Dissimilar soils: 8 percent

### ***Soils of Minor Extent***

#### *Similar soils:*

- Soils that have less clay and more silt in the control section
- Soils that are less than 35 inches deep to till
- Soils that are more than 55 inches deep to till
- Soils that have slopes of less than 5 percent or more than 10 percent
- Soils that have more clay in the surface layer
- Soils that have a seasonal high water table at a depth of less than 2.0 feet or more than 3.5 feet

#### *Dissimilar soils:*

- The nearly level, somewhat poorly drained Rutland soils on summits and footslopes
- The poorly drained Streator soils on toeslopes

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

*Parent material:* Loess or other silty material and the underlying till or lacustrine deposits

*Drainage class:* Moderately well drained

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

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

*Depth to restrictive feature:* 40 to 65 inches to dense material

*Available water capacity:* About 10.0 inches to a depth of 60 inches

*Content of organic matter in the surface layer:* 2.0 to 4.0 percent

*Shrink-swell potential:* High

*Depth and months of the highest perched seasonal high water table:* 2.0 to 3.5 feet, February through April

*Ponding:* None

*Flooding:* None

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

*Potential for frost action:* Moderate

*Hazard of corrosion:* High 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: 3e*

*Prime farmland category: 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. 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 gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

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

## Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses or describe specific management concerns. 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 potential of the soils for the use. Terms for limitation classes are *not limited*, *somewhat limited*, and *very limited*. Terms indicating the potential of the soils for a given use are *good*, *fair*, and *poor*.

## Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

## Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "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.

In 2002, La Salle County had 546,471 acres of cropland (U.S. Department of Commerce, 2002). The major row crops are corn and soybeans. The major small grain crop is wheat. Alfalfa is the major forage crop. Some areas are used for vegetable or nursery crops.

The soils in La Salle County have good potential for continued crop production, especially if the latest crop production technology is applied. This soil survey can be used as a guide in applying this technology.

Water erosion is a potential problem on approximately 31 percent of the cropland in the county. Erosion can be a problem on soils that have slopes of more than 2 percent, such as Plano, Rutland, and Catlin soils. It also is a hazard in less sloping areas if the slopes are long and runoff water is concentrated.

Loss of the surface layer through sheet and rill erosion is damaging for several reasons. Soil productivity is reduced as the surface soil is removed and part of the subsoil is incorporated into the plow layer. The subsoil is generally lower in content of plant nutrients and organic matter and higher in content of clay than the surface soil. As the amount of organic matter decreases and the content of clay increases in the plow layer, soil tilth deteriorates, resulting in soil crusting and a reduced rate of water infiltration. Under these conditions, preparing a good seedbed could be difficult. Erosion results in the sedimentation of streams, rivers, road ditches, and lakes. Sediment pollution reduces the quality of water for agricultural, municipal, and recreational uses and for fish and wildlife. Removing the sediment generally is expensive. Erosion control helps to minimize this pollution and improves water quality.

Erosion-control measures include both cultural and structural practices. The most widely used cultural practice in the county is conservation tillage, such as chisel plowing, no-till farming, or ridge planting. Conservation tillage systems leave a cover of crop residue on 20 to 90 percent of the surface. No-till farming is most effective on well drained and moderately well drained soils, such as Osco and Varna soils (fig. 10). Another common cultural practice is using a crop rotation that includes 1 or more years of close-growing grasses or legumes. If slopes are smooth and uniform, terraces and contour farming also are effective in controlling erosion.

Structural practices are needed in drainageways where concentrated runoff flows overland. Constructing grassed waterways or establishing erosion-control structures reduces the hazard of erosion (fig. 11). Further information about the erosion-control measures suitable for each kind of soil is provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

Drainage systems have been installed in most areas of the poorly drained and somewhat poorly drained soils used as cropland in the county. Therefore, these soils are adequately drained for the crops commonly grown in the county. Measures that



**Figure 10.—No-till soybeans in an area of Varna silt loam, 4 to 6 percent slopes, eroded. Planting on the contour and establishing grass-backed terraces help to control erosion in areas of this soil.**

maintain the drainage system are needed. A subsurface drainage system has been installed in areas of poorly drained soils, such as Sable and Drummer soils. In some areas of poorly drained and very poorly drained soils, such as Bryce and Peotone soils, surface tile inlets or shallow surface ditches are needed to remove excess water. In places, somewhat poorly drained soils are wet long enough for productivity to be reduced in some years unless a drainage system is installed. A subsurface drainage system has been installed in areas of the somewhat poorly drained Muscatune and Elliott soils.

Restricted permeability can increase the susceptibility of a soil to erosion. As water movement slows within a soil, the runoff rate increases. The slowly permeable Swygert soils are more susceptible to erosion than the moderately permeable Osco soils. The effect that restricted permeability has on the erosion hazard can be reduced by applying a cropping system that leaves crop residue on the surface after planting, by incorporating green manure crops or crop residue into the soil, and by using conservation cropping systems.

Restricted permeability can limit the effectiveness of drainage systems. In order for the drainage system to be effective in lowering the seasonal high water table, tile must be more closely spaced in the slowly permeable Elliott soils than in the moderately permeable Muscatune soils.

Soil tilth is an important factor influencing the germination of seeds, the runoff rate, and the rate of water infiltration. Soils that have good tilth are granular and porous and have a high content of organic matter.

Poor tilth is a problem on soils that have a surface layer of silty clay loam or silty clay. Examples are Ashkum, Bryce, and Streator soils. If these soils are plowed when wet, the surface layer becomes cloddy. This cloddiness hinders the preparation of a



**Figure 11.—A block chute erosion-control structure helps to prevent gullies in an area of Varna silt loam, 4 to 6 percent slopes, eroded, at the end of a farm field.**

good seedbed. Tilling in the fall, leaving the soil surface rough, and leaving moderate amounts of crop residue on the surface generally result in good tilth in the spring. A system of strip or ridge tillage may also be effective in areas of these soils.

Crusting can be a problem in areas of Camden and Birkbeck soils, which have a surface layer of silt loam that is low in content of organic matter. Generally, the structure of these soils is weak, and a crust forms on the surface during periods of intense rainfall. This crust is hard when dry. It inhibits seedling emergence, reduces the infiltration rate, and increases the runoff rate and the hazard of erosion. Regular additions of crop residue, manure, and other organic material improve soil structure and minimize crusting.

A high pH within a depth of 40 inches can occur in Harpster, Spaulding, and Arrowsmith soils. The high soil reaction can reduce the uptake of some nutrients by the plants or cause other elements to accumulate to toxic levels. Incorporating green manure crops, manure, or crop residue into the soil, applying a system of conservation tillage, and using conservation cropping systems can help to minimize the harmful effects of this limitation.

A root-restrictive layer or bedrock limits the available water capacity of soils. Varna, Swygart, Channahon, and Gale soils have layers that restrict the penetration of plant roots. Increasing the rate of water infiltration, reducing the runoff rate, or planting drought-tolerant species can minimize the effects of this limitation. Planting cover crops and applying a system of conservation tillage that leaves crop residue on the surface after planting increase the rate of water infiltration and reduce the runoff rate. Planting drought-tolerant species, such as soybeans and winter wheat, is beneficial because these crops make the most efficient use of the limited amount of water.

Proper management is needed on hayland to prolong the life of desirable forage species, maintain or improve the quality and quantity of forage, and control erosion

and runoff. Hay may last as a vigorous crop for 4 to 5 years, depending on management and on the varieties seeded. Suitable hay plants include several legumes and cool-season grasses. Alfalfa is the most common legume grown for hay. It is often grown in mixtures with smooth bromegrass and orchardgrass. Alfalfa is best suited to moderately well drained soils, such as Blackberry and Catlin soils. Red clover also is grown for hay. Measures that maintain or improve fertility are needed. The amount of lime and fertilizer to be added to the soil should be based on the results of soil tests, the needs of the plants, and the expected level of yields. Seed varieties should be selected in accordance with the soil properties and the drainage conditions of the specific tract of land.

Overgrazing reduces the vigor of pasture plants and reduces forage production. It also increases the extent of weeds and brush. Deferred grazing, rotation grazing, and proper stocking rates help to prevent overgrazing. Deferred grazing allows the plants in pastures that are not being used to build up reserves of carbohydrates. Rotating grazing among several pastures allows each area a rest period (fig. 12).

Many of the soils in the survey area have a high water table in spring. Deferring grazing during wet periods can minimize surface compaction. Pasture renovation also helps to prevent compaction. Frost heave can damage alfalfa and red clover in areas that have a seasonal high water table. Leaving a cover of stubble 4 to 6 inches high during the winter and planting mixtures of grasses and legumes help to prevent frost heave.

## **Limitations Affecting Cropland and Pastureland**

The management concerns affecting the use of the detailed soil map units in the survey area for crops and pasture are shown in table 6.

### **Cropland**

The main concerns affecting the management of cropland in La Salle County are water erosion, wetness, ponding, crusting, poor tilth, restricted permeability, high pH, root-restrictive layer, limited available water capacity, excessive permeability, and depth to bedrock. Excess lime, wind erosion, flooding, and subsidence are additional management concerns.

Generally, a combination of several practices is needed to control water erosion. Conservation tillage, strip cropping, field windbreaks, contour farming, conservation cropping systems, crop residue management, terraces, diversions, grassed filter strips, and grassed waterways help to prevent excessive soil loss.

In some areas used as cropland, wetness and ponding are management concerns. Drainage systems consist of subsurface tile drains, surface inlet tile, open drainage ditches, or a combination of these. Measures that maintain the drainage system are needed.

Practices that minimize crusting and improve soil tilth include incorporating green manure crops, manure, or crop residue into the soil and using a system of conservation tillage. Surface cloddiness can be controlled by avoiding tillage when the soil is too wet.

Restricted permeability can be overcome by incorporating green manure crops, manure, or crop residue into the soil; applying a system of conservation tillage; and using conservation cropping systems.

High pH and excess lime can be overcome by incorporating green manure crops, manure, or crop residue into the soil and by using conservation tillage and conservation cropping systems. Also, crops may respond well to additions of phosphate fertilizer on soils that have a high content of lime.

A root-restrictive layer in a soil and bedrock within a depth of 40 inches limit the total amount of water available to plants. These limitations cannot be easily overcome.



**Figure 12.—A system of rotation grazing helps to prevent overgrazing. Pictured is an area of Atterberry silt loam, 0 to 2 percent slopes.**

Planting cover crops and applying a system of conservation tillage that leaves crop residue on the surface after planting increase the rate of water infiltration, reduce the runoff rate, and conserve moisture. Also, planting drought-tolerant crop species makes the most efficient use of the limited supply of available water in the soil.

The effects of limited available water capacity can be minimized by reducing the evaporation and runoff rates and increasing the water infiltration rate. Applying conservation tillage and conservation cropping systems, farming on the contour, stripcropping, establishing field windbreaks, and leaving crop residue on the surface conserve moisture.

Excessive permeability can cause deep leaching of nutrients and pesticides. Selecting appropriate chemicals and using split application methods reduce the hazard of ground-water contamination.

Wind erosion can be controlled by applying a system of conservation tillage that leaves crop residue on the surface after planting and by keeping the surface rough.

Flooding cannot be easily overcome. Winter small grain crops can be damaged by floodwater. Tilling and planting should be delayed in the spring until flooding is no longer a hazard. Dikes and diversions can reduce the extent of the crop damage caused by floodwater.

Subsidence occurs as a result of shrinkage from drying, consolidation because of the loss of ground water, compaction from tillage, wind erosion, burning, and biochemical oxidation. Limiting the amount of drainage, avoiding excessive tillage, avoiding tilling when the soil is wet, and using a system of conservation tillage that leaves crop residue on the surface after planting help to control subsidence.

The criteria used to determine some of the limitations or hazards in the table are described in the following paragraphs.

*Crusting.*—The average content of organic matter in the surface layer is 2.5 percent or less, and the content of clay in the surface layer is between 20 and 35 percent.

*Depth to bedrock.*—Bedrock is within a depth of 40 inches.

*Excess lime.*—The calcium carbonate equivalent is 15 percent or more within a depth of 16 inches.

*Excessive permeability.*—The lower limit of the permeability range within the soil profile is 6 inches or more per hour.

*Flooding.*—The soil is occasionally flooded or frequently flooded.

*High pH.*—The lower limit of the pH is 7.4 or more within a depth of 40 inches.

*Limited available water capacity.*—The available water capacity calculated to a depth of 60 inches or to a root-limiting layer is 6 inches or less.

*Ponding.*—The water table is above the surface.

*Poor tilth.*—The lower limit of the clay content in the surface layer is 27 percent or more.

*Restricted permeability.*—Permeability is less than 0.2 inch per hour between the surface and a depth of 40 inches.

*Root-restrictive layer.*—Dense material is within a depth of 40 inches.

*Subsidence.*—The decrease in surface elevation is more than 0 inches.

*Water erosion.*—The Kw factor of the surface layer multiplied by the upper limit of the slope is 0.8 or more, and the slope is 3 percent or more.

*Wetness.*—The seasonal high water table is within a depth of 1.5 feet.

*Wind erosion.*—The wind erodibility group (WEG) is 1 or 2.

### **Pastureland**

The main concerns affecting the management of pastureland in La Salle County are water erosion, wetness, ponding, low pH, high pH, frost heave, root-restrictive layer, limited available water capacity, poor tilth, excessive permeability, depth to bedrock, excess lime, low fertility, wind erosion, equipment limitations, and flooding.

Water erosion is a hazard in pastured areas where the value of the Kw factor multiplied by the upper limit of the slope is 0.8 or more and the slope is 3 percent or more. Water erosion reduces the productivity of pasture. It also results in onsite and offsite sedimentation, causes water pollution by sedimentation, and increases the runoff of livestock manure and other nutrients. Establishing or renovating stands of legumes and grasses helps to control erosion. Controlling erosion during seedbed preparation is a major concern. If the soil is tilled for the reseeding of pasture or hay crops, planting winter cover crops, establishing grassed waterways, farming on the contour, and applying a system of conservation tillage that leaves crop residue on the surface can help to minimize erosion.

Wetness and ponding are management concerns in some areas of pasture or hayland. Wetness occurs when the seasonal high water table is within a depth of 1.5 feet, and ponding occurs when the seasonal high water table is above the surface. Drainage systems consisting of subsurface tile drains, surface inlet tile, open drainage ditches, or a combination of these help to lower the water table and remove excess water. Measures that maintain the drainage system are needed. Selecting species of grasses and legumes adapted to wet conditions improves forage production. Restricted use during wet periods helps to keep the pasture in good condition.

Soils that have low pH, or low reaction, have a pH value of 5.5 or less within a depth of 40 inches. Low pH inhibits the uptake of certain nutrients by the plants or accelerates the absorption of certain other elements to the level of toxic concentrations. Either of these conditions affects the health and vigor of the plants. Applications of lime should be based on the results of soil tests. The goal is to achieve the optimum pH level for the uptake of the major nutrients by the specific grass, legume, or combination of grasses and legumes.

In soils that have high pH, the lower limit of the pH range is 7.4 or more within a depth of 40 inches. Excess lime occurs in soils that have a calcium carbonate equivalent of 15 percent or more within a depth of 16 inches. The high soil reaction associated with these limitations can inhibit the uptake of certain nutrients and micronutrients by the plants or accelerates the absorption of certain other elements to the level of toxic concentrations. Either of these conditions affects the health and vigor of the plants. Applications of sulfate and phosphate compounds or additions of certain forms of nitrogen fertilizer help to lower the pH. Selecting species of grasses and legumes that are tolerant of high pH improves forage production.

Frost heave is a limitation in poorly drained and very poorly drained soils that have a moderate or high potential for frost action. It occurs when ice lenses or bands that drive an ice wedge between two layers develop near the surface layer of a soil. The ice wedges heave the overlying soil layer upward, snapping the roots. Soils that have a low content of sand have small pores that hold water and enable ice lenses to form. Selecting adapted forage and hay varieties can help to minimize the effects of frost heave. Timely deferment of grazing helps to maintain a protective cover that insulates the soil, thereby reducing the effects of frost heave.

Soils that have a root-restrictive layer have a dense layer of till within a depth of 40 inches. This layer inhibits root penetration. This limitation lowers the total amount of water that is available to plants. Deep-rooted perennial legumes and grasses make the most efficient use of the limited amount of available water. Selecting drought-tolerant species of legumes and grasses improves forage production.

Limited available water capacity occurs in areas where the available water capacity calculated to a depth of 60 inches or to a root-limiting layer is 6 inches or less. Available water capacity refers to the capacity of soils to hold water available for use by most plants. The quality and quantity of the pasture plants may be reduced if the amount of available water is inadequate for maintenance of a healthy community of desired pasture species. The pasture cannot support the desired number of livestock. A poor-quality pasture may increase the hazard of water erosion and increase the runoff of pollutants. Planting drought-resistant species of grasses and legumes helps to establish a cover of vegetation. The plants should not be clipped or grazed until they are sufficiently established.

Poor tilth can occur in a soil where the lower limit of the clay content is 27 percent or more and the lower limit of the organic matter content is less than 3 percent. Overgrazing or grazing when the soil is wet reduces the extent of the plant cover and results in surface compaction and poor tilth and thus increases the susceptibility to erosion. Proper stocking rates, rotation grazing, and timely deferment of grazing, especially during wet periods, help to keep the pasture in good condition. Properly locating livestock watering facilities helps to prevent surface compaction or the formation of ruts by making it unnecessary for cattle to travel long distances up and down the steeper slopes.

Soils in which the depth to bedrock is 40 inches or less have a restricted root zone and a limited available moisture capacity. Planting adapted forage and hay varieties helps to overcome this limitation. The plants should not be clipped or grazed until they are sufficiently established. Rotation grazing and timely deferment of grazing help to maintain healthy stands of forage plants, which, in turn, reduce the runoff rate and thus conserve moisture.

Excessive permeability is a concern in areas where the lower limit of the permeability range is 6 or more inches per hour within the soil profile. Excessive permeability can cause deep leaching of nutrients and pesticides. Selecting appropriate chemicals and using split application methods can reduce the hazard of ground-water contamination when stands of legumes and grasses are established or renovated.

Low fertility occurs in areas where the average content of organic matter in the surface layer is 1 percent or less or the cation-exchange capacity (CEC) is 7 milliequivalents or less per 100 grams of soil. Low fertility affects the health and vigor of the plants and thus has a direct impact on the quantity and quality of livestock. Additions of fertilizer and other organic material should be based on the results of soil tests, on the needs of specific plant species, and on the desired level of production.

Organic and sandy soils that have a wind erodibility group (WEG) of 1 or 2 are susceptible to wind erosion. If the soil is tilled for the reseeding of pasture or hay crops, planting winter cover crops, applying a system of conservation tillage that leaves crop residue on the surface, and keeping the surface rough help to control wind erosion. Overgrazing or grazing when the soil is wet reduces the extent of the plant cover and thus increases the susceptibility to wind erosion. Proper stocking rates, rotation grazing, and timely deferment of grazing, especially during wet periods, help to keep the pasture in good condition.

The use of equipment is limited in areas where the average slope is more than 10 percent. This limitation can cause rapid wear of equipment and can hinder fertilization, harvesting, pasture renovation, and seedbed preparation. It cannot be easily overcome.

Frequent or occasional flooding can damage forage stands and delay harvesting in some years. Dikes and diversions help to control the extent of damage caused by floodwater. Selecting species of grasses and legumes adapted to wet conditions improves forage production. Restricted grazing during wet periods helps to keep the pasture in good condition.

## **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 7. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered (Olson and Lang, 2000; Olson and others, 2000).

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.

Yields for grass-legume pasture under an average level of management also are shown in table 7. Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields in the table reflect the productive capacity of each soil for each of the principal crops and pasture plants. 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 7 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local

office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

## Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961).

*Capability classes*, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

*Capability subclasses* are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. 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, rangeland, forestland, or wildlife habitat.

*Capability units* are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally

designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

The capability classification of the soils in this survey area is given in the section "Soil Series and Detailed Soil Map Units" and in the yields table.

## **Prime Farmland**

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

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 601,932 acres, or nearly 81 percent of the total acreage in La Salle County, meets the requirements for prime farmland.

The map units in the survey area that are considered prime farmland are listed in table 8. 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. Some of the soil qualities that affect use and management are described under the heading "Soil Series and Detailed Soil Map Units."

## **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 all 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, under natural conditions, 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, 2002). These criteria are used to identify map unit components that normally are 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, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time 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 are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

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.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform. Table 9 lists the map units that include hydric soils, either as major components or as soils of minor extent. The hydric soils listed in the table meet the definition of a hydric soil and have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and Vasilas, 2006).

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
  - B. are poorly drained or very poorly drained and have either:
    - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or

- 2) a water table at a depth of 0.5 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
- 3) a water table at a depth of 1.0 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

## 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 10 shows the height that locally grown trees and shrubs are expected to reach in 20 years on soils in the survey area. The estimates in the table 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 the Cooperative Extension Service or from a commercial nursery.

## Forestland Productivity and Management

Forest once covered 15 percent of the land in La Salle County, or about 112,000 acres. Today, around 5 percent of the county, or 39,300 acres, is forestland (Schmidt and others, 2000). When La Salle County was first settled, the major river valleys, the bluffs above them, and much of the upland near the major streams were forested. Most of the forest was cleared for agriculture. Over the past century, new forests have been created only by natural succession of fallow upland and bottom-land areas, by abandonment of low-yielding cropland, and by seeding or planting of seedlings. Areas of grazed forestlands are slowly recovering but may require many decades or a full forest generation in order to become productive with or without management. As the demographics of the county change and additional time passes, these forestation realities will continue to be significant.

Principal forest cover types in La Salle County include oak-hickory (14,000 acres), maple-beech (19,600 acres), and elm-ash-cottonwood (5,700 acres) (Schmidt and others, 2000). Among these principal forest types and other minor cover associations, many different tree and shrub species are represented in the county.

The county has tremendous potential for establishing additional productive forestland. Areas classified as highly erodible land (HEL) would be especially well suited to hardwood forest. Forestry in the county is not only potentially profitable but also serves to protect and enhance watershed quality, recreation, botanical resources, wildlife habitat, and esthetic value. Interest in forest management and establishment in

the county is moderate. Wooded parcels as small as 5 acres can be effectively managed for both timber production and multi-resource conservation if desired.

Assistance in establishing, improving, or managing forestland is available from foresters or specialists in natural resources. Detailed information regarding forest resources is available from the Forestry Department of the Illinois Department of Natural Resources.

## Forestland Productivity

Table 11 can help woodland owners or forest managers plan the use of soils for wood crops. Only those soils commonly used for wood crops are listed.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or online at <http://soils.usda.gov/technical>.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

*Suggested trees to plant* are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

## Forestland Management

The tables described in this section rate the soils according to the limitations that affect various aspects of forestland management.

### Forestland Harvest Equipment Considerations

Table 12 provides information regarding the use of harvest equipment in areas used as forestland.

For most soils spring is the most limiting season. Alternate thawing and freezing during snowmelt cause saturation and low strength of the surface soil layers. When thawing is complete, saturation continues for short periods in well drained soils to nearly all year in very poorly drained soils in depressions. Degrees of wetness are generally proportionate to the depth at which a seasonal high water table occurs and the duration of the high water table. The water table generally is lower in the summer during the heavy use of moisture by vegetation and is nearer to the surface during periods when absorbed precipitation is greater than the vegetation requires. Harvesting during periods of saturation usually results in severe soil damage, except when the soil is frozen. The preferred season for timber harvest on many soils is winter, when wetness and low soil strength can be overcome by freezing.

Considerations shown in the table are as follows:

*Slope.*—The upper limit of the slope range is more than 15 percent.

*Flooding.*—The soil is frequently flooded.

*Wetness.*—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched water table (any drainage class).

*Depth to hard bedrock.*—The depth to hard bedrock is less than 10 inches.

*Rubbly surface.*—The word "rubbly" is in the map unit name.

*Surface stones.*—The words “extremely stony” are included in the description of the surface layer, or 3 percent or more of the soil surface is covered with stones.

*Surface boulders.*—The word “bouldery” is included in the description of the surface layer, or 0.01 percent or more of the soil surface is covered with boulders.

*Susceptible to rutting and wheel slippage (low strength).*—The AASHTO classification is A-6, A-7, or A-8 in any layer at a depth of 20 inches or less.

*Poor traction (loose sandy material).*—The USDA texture includes sands or loamy sands in any layer at a depth of 10 inches or less.

### **Forest Log Landing Considerations**

Table 13 provides information regarding the use of the soils as log landings. Log landings are areas where logs are assembled for transportation. Areas that require little or no cutting, filling, or surface preparation are desired.

Considerations shown in the table are as follows:

*Slope.*—The slope is more than 6 percent.

*Flooding.*—The soil is occasionally flooded or frequently flooded.

*Wetness.*—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched water table (any drainage class).

*Surface boulders.*—The word “bouldery” is included in the description of the surface layer, or 0.01 percent or more of the soil surface is covered with boulders.

*Susceptible to rutting and wheel slippage (low strength).*—The AASHTO classification is A-6, A-7, or A-8 in any layer at a depth of 20 inches or less.

*Rubbly surface.*—The word “rubbly” is in the map unit name.

### **Forestland Site Preparation and Planting Considerations**

Table 14 provides information regarding considerations affecting site preparation and planting in areas used as forestland.

Considerations shown in the table are as follows:

*Slope.*—The upper limit of the slope range is more than 15 percent.

*Flooding.*—The soil is frequently flooded.

*Wetness.*—The soil is somewhat poorly drained, poorly drained, or very poorly drained or has a perched water table (any drainage class).

*Depth to hard bedrock.*—The depth to hard bedrock is less than 20 inches.

*Surface stones.*—The word “stony” is included in the description of the surface layer, or 0.01 percent or more of the soil surface is covered with stones.

*Surface boulders.*—The word “bouldery” is included in the description of the surface layer, or 0.01 percent or more of the soil surface is covered with boulders.

*Water erosion.*—The slope is 8 percent or more.

*Potential poor tilth and compaction.*—The AASHTO classification is A-6 or A-7 in the upper 10 inches.

*Rubbly surface.*—The word “rubbly” is in the map unit name.

*Cobbly surface.*—The word “cobbly” is included in the description of the surface layer, or 0.1 percent or more of the surface is covered with cobbles.

## **Recreation**

La Salle County offers a wide variety of recreational facilities, including State parks, nature preserves, fish and wildlife areas, and county parks. Starved Rock State Park provides an assortment of outdoor activities, including boating, canoeing, fishing, hiking, biking, camping, picnicking, snowmobiling, and cross-country skiing. Some other areas of interest include Buffalo Rock State Park (fig. 13), Sandy Ford Nature Preserve, La Salle Lake Fish and Wildlife Area, and Catlin County Park. The Illinois and Michigan Canal National Heritage Corridor runs through the county. The canal runs from Chicago to the city of Peru. It provides many recreational opportunities for



**Figure 13.—A picnic area in Buffalo Rock State Park in an area of Marseilles silt loam, 2 to 5 percent slopes.**

the county and the surrounding region. Most municipalities in the county offer a variety of recreational facilities and activities. The Illinois, Fox, and Vermilion Rivers and other lakes and streams in the county provide opportunities for additional recreational activities.

The soils of the survey area are rated in tables 15a and 15b according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public

sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 15a and 15b 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

La Salle County hosts a wide variety of wildlife. Past geologic conditions have played a significant role in soil formation and topography, and a wide variety of soils have developed. These soils have given rise to many different habitat types. Areas that sustain plentiful amounts of high quality habitat contain both common and unique types of wildlife, some that are even threatened or endangered. Throughout La Salle County, soils directly affect the potential for habitat development and thus the numbers and types of wildlife that might eventually use these habitat types.

Habitat types can be grouped into four major categories—grasslands, woodlands, wetlands, and row crops. Although not normally considered a habitat type, row crops make up a significant portion of the land mass of La Salle County and in many areas are the only available habitat of any significance for miles.

Grasslands generally are grouped as cool-season grasses (hay-type grasses, such as brome, fescue, rye, and timothy) and warm-season grasses (prairie grasses, such as big bluestem, switchgrass, and indiagrass). Both types of grasses and their associated herbaceous plants (flowers) can produce good habitat for wildlife if managed properly (fig. 14). Wildlife that inhabit these areas include eastern meadowlark, horned lark, pheasant, bobwhite quail, kestrel, red-tailed hawk, northern harrier, sandhill crane, plains pocket gopher, meadow vole, 13-lined ground squirrel, coyote, badger, white-tailed deer, American toad, and hog-nosed snake.

Many types of wildlife are exclusively dependent on woodland habitat, but some may use woodlands only on a more temporary or seasonal basis. Woodlands can be broken down according to their position on bottom land or in the uplands. Bottom-land forestland stands occur throughout the county and range from very small to very large. The trees and shrubs in these stands are specially adapted to somewhat wet to very wet conditions. The rest of the woodlands are dominated by trees and shrubs that grow in areas of the better drained soils. A wide variety of tree and shrub species can grow throughout the county. Examples of woodland wildlife include white-tailed deer, eastern wild turkey, pileated woodpecker, gray squirrel, fox squirrel, red fox, smooth green snake, flying squirrel, and gray tree frog.

Wetlands range from cattail marshes to areas of open water, such as rivers, ponds, and small lakes. Shallow water areas are typically very productive habitats that support large numbers and many types of wildlife. Plants that grow in wetland areas have developed under wet conditions and are tolerant of excess moisture. River habitat in La Salle County consists of the Illinois, Vermilion, and Fox Rivers and their tributaries. Much of this habitat is of high quality and contains numerous threatened and endangered species of plants and animals. A wide assortment of species all use wetland habitat at one time or another. Some common species that frequent areas of wetland habitat are great blue heron, red-winged blackbird, mink, beaver, muskrat, northern water snake, common snapping turtle, soft-shelled turtle, bull frog, walleyed-pike, river redhorse, and quillback.

Areas of cropland are not available as year-round habitat, but they provide temporary habitat for much of the year. Certain species, such as pheasant and killdeer, can actually thrive with little other habitat as long as they are able to nest successfully. Most wildlife using habitat types adjacent to cropland areas make use of



**Figure 14.—Warm-season grasses provide food and cover for a variety of wildlife. Catlin silt loam, 2 to 5 percent slopes, is in the foreground, and Ross loam, 0 to 2 percent slopes, occasionally flooded, is in the background.**

cropped areas for food either directly or indirectly. Species that thrive in and around cropped areas with interspersed habitat include pheasants, killdeer, lark sparrow, kestrel, pocket gopher, white-tailed deer, and badgers.

Assistance with wildlife habitat projects is available from various local, State, and Federal agencies, including the Illinois Department of Natural Resources, the U.S. Fish and Wildlife Service, the Natural Resources Conservation Service, and the local Soil and Water Conservation District.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 16, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that

limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

*Grain and seed crops* are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

*Grasses and legumes* are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, clover, and alfalfa.

*Wild herbaceous plants* are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

*Hardwood trees* and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian olive, autumn olive, and crabapple.

*Coniferous plants* furnish browse 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, fir, cedar, and juniper.

*Wetland plants* are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, cordgrass, rushes, sedges, and reeds.

*Shallow water areas* have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

*Habitat for openland wildlife* consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, 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, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and bear.

*Habitat for wetland wildlife* consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

## **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 gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; 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 17a and 17b show the degree and kind of soil limitations that

affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Dwellings* are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Small commercial buildings* are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Local roads and streets* have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

*Shallow excavations* are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

*Lawns and landscaping* require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

## Sanitary Facilities

Tables 18a and 18b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Septic tank absorption fields* are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

*Sewage lagoons* are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious

soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading

required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

*Daily cover for landfill* is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

## Construction Materials

Tables 19a and 19b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

*Gravel* and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 19a, 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 or gravel 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 or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 19b, the rating class terms are *good*, *fair*, and *poor*. The features that limit the soils as sources of reclamation material, roadfill, and topsoil 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 these materials. The lower the number, the greater the limitation.

*Reclamation material* is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of

reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

*Roadfill* is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

*Topsoil* is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

## Water Management

Tables 20a, 20b, and 20c give information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; aquifer-fed excavated ponds; grassed waterways; terraces and diversions; drainage; and irrigation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

**Table 20a**

*Pond reservoir areas* hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

*Embankments, dikes, and levees* are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

*Aquifer-fed excavated ponds* are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

**Table 20b**

*Grassed waterways* are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. A hazard of wind erosion, a 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.

*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 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.

*Drainage* is used in some areas to remove excess subsurface and surface water from the soil. The ratings in the table apply to undisturbed soils that commonly have a seasonal high water table within a depth of about 3.5 feet. Current land use is not considered in the ratings. Depth to bedrock, a dense layer, or a cemented pan, the content of large stones, and the content of clay influence the ease of digging, filling, and compacting. A seasonal high water table, ponding, and flooding may restrict the period when excavations can be made. The slope influences the use of machinery. Soil texture and depth to the water table influence the resistance to sloughing. Subsidence of organic layers influences grade and stability of tile drains. Limitations affecting areas where the tile line passes through soils in which the water table is generally below a

depth of 3.5 feet are provided in the table that includes the column “shallow excavations,” which is described under the heading “Building Site Development.”

**Table 20c**

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 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.

# 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 21 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, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

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 22 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

*Sand* as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Silt* as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

*Moist bulk density* is the weight of soil (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 (Ksat)* refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (Ksat). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Linear extensibility* refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at  $1/3$ - or  $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In table 22, 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.

*Erosion factors* are shown in table 22 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of 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. The groups are described in the “National Soil Survey Handbook” (available online at <http://soils.usda.gov>).

*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 23 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Cation-exchange capacity* is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

*Effective cation-exchange capacity* refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

*Soil reaction* is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

*Calcium carbonate equivalent* is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

## Water Features

Table 24 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.

*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 24 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* of flooding 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.

*Water table* refers to a saturated zone in the soil. Table 24 indicates the depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone for the specified *months* 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.

The table also shows 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.

## Soil Features

Table 25 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness of the restrictive layer, which significantly affects the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*Subsidence* is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

*Potential for frost action* is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

*Risk of corrosion* pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

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# Glossary

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Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the “National Soil Survey Handbook” (available in local offices of the Natural Resources Conservation Service or on the Internet).

**ABC soil.** A soil having an A, a B, and a C horizon.

**Ablation till.** Loose, relatively permeable earthy material deposited during the downwasting of nearly static glacial ice, either contained within or accumulated on the surface of the glacier.

**AC soil.** A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

**Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

**Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

**Alluvium.** Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

**Alpha,alpha-dipyridyl.** A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

**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 toward which a slope faces. Also called slope aspect.

**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.

**Backswamp.** A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

- Basal area.** The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.
- Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.
- Base slope** (geomorphology). A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).
- Bedding plane.** A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.
- Bedding system.** A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.
- Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
- Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
- Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
- Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
- Bottom land.** An informal term loosely applied to various portions of a flood plain.
- Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.
- Breaks.** A landscape or tract of steep, rough or broken land dissected by ravines and gullies and marking a sudden change in topography.
- Breast height.** An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.
- Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.
- Cable yarding.** A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.
- Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
- Canopy.** The leafy crown of trees or shrubs. (See Crown.)
- Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

- Catena.** A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.
- Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
- Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.
- Catsteps.** See Terracettes.
- Cement rock.** Shaly limestone used in the manufacture of cement.
- Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.
- Chemical treatment.** Control of unwanted vegetation through the use of chemicals.
- Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
- Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
- Clay depletions.** See Redoximorphic features.
- Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
- Claypan.** A dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky when wet.
- Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.
- Coarse textured soil.** Sand or loamy sand.
- Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.
- Cobbly soil material.** Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.
- COLE (coefficient of linear extensibility).** See Linear extensibility.
- Colluvium.** Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.
- 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.** See Redoximorphic features.
- Conglomerate.** A coarse grained, clastic sedimentary rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.
- Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting

crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

- Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.
- Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."
- Contour stripcropping.** Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.
- Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.
- Coprogenous earth (sedimentary peat).** A type of limnic layer composed predominantly of fecal material derived from aquatic animals.
- Corrosion (geomorphology).** A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.
- Corrosion (soil survey interpretations).** 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.
- Cross-slope farming.** Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.
- Crown.** The upper part of a tree or shrub, including the living branches and their foliage.
- Culmination of the mean annual increment (CMAI).** The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.
- Cutbanks cave (in tables).** The walls of excavations tend to cave in or slough.
- Decreasers.** The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.
- Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.
- Dense layer (in tables).** A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

- 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.
- Diamicton.** A generic term for any nonlithified, nonsorted or poorly sorted sediment that contains a wide range of particle sizes, such as coarse fragments contained within a fine earth matrix (e.g., till); used when the genetic content of the sediment is uncertain.
- Diatomaceous earth.** A geologic deposit of fine, grayish siliceous material composed chiefly or entirely of the remains of diatoms.
- Dip slope.** A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.
- Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.
- Divided-slope farming.** A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.
- Drainage class (natural).** Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained*. These classes are defined in the “Soil Survey Manual.”
- Drainage, surface.** Runoff, or surface flow of water, from an area.
- Drainageway.** A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.
- Draw.** A small stream valley that generally is shallower and more open than a ravine or gulch and that has a broader bottom. The present stream channel may appear inadequate to have cut the drainageway that it occupies.
- Drift.** A general term applied to all mineral material (clay, silt, sand, gravel, and boulders) transported by a glacier and deposited directly by or from the ice or transported by running water emanating from a glacier. Drift includes unstratified material (till) that forms moraines and stratified deposits that form outwash plains, eskers, kames, varves, and glaciofluvial sediments. The term is generally applied to Pleistocene glacial deposits in areas that no longer contain glaciers.
- Drumlin.** A low, smooth, elongated oval hill, mound, or ridge of compact till that has a core of bedrock or drift. It commonly has a blunt nose facing the direction from which the ice approached and a gentler slope tapering in the other direction. The longer axis is parallel to the general direction of glacier flow. Drumlins are products of streamline (laminar) flow of glaciers, which molded the subglacial floor through a combination of erosion and deposition.
- Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.
- Dune.** A low mound, ridge, bank, or hill of loose, windblown granular material (generally sand), either barren and capable of movement from place to place or covered and stabilized with vegetation but retaining its characteristic shape.

**Earthy fill.** See Mine spoil.

**Ecological site.** An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

**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 deposit.** Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

**Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

**Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

**Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

*Erosion (geologic).* Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

*Erosion (accelerated).* Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

**Erosion pavement.** A surficial lag concentration or layer of gravel and other rock fragments that remains on the soil surface after sheet or rill erosion or wind has removed the finer soil particles and that tends to protect the underlying soil from further erosion.

**Erosion surface.** A land surface shaped by the action of erosion, especially by running water.

**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. Most commonly applied to cliffs produced by differential erosion. Synonym: scarp.

**Esker.** A long, narrow, sinuous, steep-sided ridge of stratified sand and gravel deposited as the bed of a stream flowing in an ice tunnel within or below the ice (subglacial) or between ice walls on top of the ice of a wasting glacier and left behind as high ground when the ice melted. Eskers range in length from less than a kilometer to more than 160 kilometers and in height from 3 to 30 meters.

**Extrusive rock.** Igneous rock derived from deep-seated molten matter (magma) deposited and cooled on the earth's surface.

**Fallow.** Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

**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*.

**Fill slope.** A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

**Fine textured soil.** Sandy clay, silty clay, or clay.

**Firebreak.** An area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

**First bottom.** An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

**Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

**Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

**Flood plain.** The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

**Flood-plain landforms.** A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

**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.

**Flood-plain step.** An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

**Fluvial.** Of or pertaining to rivers or streams; produced by stream or river action.

**Foothills.** A region of steeply sloping hills that fringes a mountain range or high-plateau escarpment. The hills have relief of as much as 1,000 feet (300 meters).

**Footslope.** The concave surface at the base of a hillslope. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

**Forb.** Any herbaceous plant not a grass or a sedge.

**Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.

**Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

**Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

**Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

- Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur in the form of outwash plains, valley trains, deltas, kames, eskers, and kame terraces.
- Glaciolacustrine deposits.** Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are bedded 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.
- Graded stripcropping.** Growing crops in strips that grade toward a protected waterway.
- Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.
- Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.
- Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.
- Green manure crop (agronomy).** A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.
- Ground water.** Water filling all the unblocked pores of the material below the water table.
- Gully.** A small channel with steep sides caused by erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. 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.
- Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.
- Head slope (geomorphology).** A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.
- Hemic soil material (mucky peat).** Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.
- High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.
- Hill.** A generic term for an elevated area of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline. Slopes are generally more than 15 percent. The distinction between a hill and a mountain is arbitrary and may depend on local usage.
- Hillslope.** A generic term for the steeper part of a hill between its summit and the drainage line, valley flat, or depression floor at the base of a hill.
- 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.

*L horizon.*—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

*A horizon.*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

*E horizon.*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

*B horizon.*—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

*C horizon.*—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

*Cr horizon.*—Soft, consolidated bedrock beneath the soil.

*R layer.*—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

**Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

**Hydrologic soil groups.** Refers to soils grouped according to their runoff potential.

The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

**Igneous rock.** Rock that was formed by cooling and solidification of magma and that has not been changed appreciably by weathering since its formation. Major varieties include plutonic and volcanic rock (e.g., andesite, basalt, and granite).

**Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

**Impervious soil.** A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

**Increasers.** Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate 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.** A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

**Interfluve** (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

**Intermittent stream.** A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**Invaders.** On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

**Iron depletions.** See Redoximorphic features.

**Irrigation.** Application of water to soils to assist in production of crops. Methods of irrigation are:

*Basin.*—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

*Border.*—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

*Controlled flooding.*—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

*Corrugation.*—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

*Drip (or trickle).*—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

*Furrow.*—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

*Sprinkler.*—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

*Subirrigation.*—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

*Wild flooding.*—Water, released at high points, is allowed to flow onto an area without controlled distribution.

**Kame.** A low mound, knob, hummock, or short irregular ridge composed of stratified sand and gravel deposited by a subglacial stream as a fan or delta at the margin of a melting glacier; by a supraglacial stream in a low place or hole on the surface

of the glacier; or as a ponded deposit on the surface or at the margin of stagnant ice.

**Karst** (topography). A kind of topography that formed in limestone, gypsum, or other soluble rocks by dissolution and that is characterized by closed depressions, sinkholes, caves, and underground drainage.

**Knoll**. A small, low, rounded hill rising above adjacent landforms.

**Ksat**. Saturated hydraulic conductivity. (See Permeability.)

**Lacustrine deposit**. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

**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.

**Lake terrace**. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

**Landslide**. A general, encompassing term for most types of mass movement landforms and processes involving the downslope transport and outward deposition of soil and rock materials caused by gravitational forces; the movement may or may not involve saturated materials. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

**Large stones** (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

**Leaching**. The removal of soluble material from soil or other material by percolating water.

**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.

**Loess**. Material transported and deposited by wind and consisting dominantly of silt-sized particles.

**Low strength**. The soil is not strong enough to support loads.

**Low-residue crops**. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

**Marl**. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions; formed primarily under freshwater lacustrine conditions but also formed in more saline environments.

**Mass movement**. A generic term for the dislodgment and downslope transport of soil and rock material as a unit under direct gravitational stress.

**Masses**. See Redoximorphic features.

**Meander belt**. The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

**Meander scar**. A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

**Meander scroll.** One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

**Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.

**Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.

**Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement at depth in the earth's crust. Nearly all such rocks are crystalline.

**Mine spoil.** An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

**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.** A kind of map unit that has little or no natural soil and supports little or no vegetation.

**Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.

**Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.

**Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

**Moraine.** In terms of glacial geology, a mound, ridge, or other topographically distinct accumulation of unsorted, unstratified drift, predominantly till, deposited primarily by the direct action of glacial ice in a variety of landforms. Also, a general term for a landform composed mainly of till (except for kame moraines, which are composed mainly of stratified outwash) that has been deposited by a glacier. Some types of moraines are disintegration, end, ground, kame, lateral, recessional, and terminal.

**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.** See Redoximorphic features.

**Nose slope** (geomorphology). A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent. Nose slopes consist dominantly of colluvium and slope-wash sediments (for example, slope alluvium).

**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.** Stratified and sorted sediments (chiefly sand and gravel) removed or “washed out” from a glacier by meltwater streams and deposited in front of or beyond the end moraine or the margin of a glacier. The coarser material is deposited nearer to the ice.

**Outwash plain.** An extensive lowland area of coarse textured glaciofluvial material. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

**Paleoterrace.** An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

**Pan.** A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

**Parent material.** The unconsolidated organic and mineral material in which soil forms.

**Peat.** Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

**Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.

**Pedisediment.** A layer of sediment, eroded from the shoulder and backslope of an erosional slope, that lies on and is being (or was) transported across a gently sloping erosional surface at the foot of a receding hill or mountain slope.

**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.

**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.

**Pitting** (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

**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.

**Plateau** (geomorphology). A comparatively flat area of great extent and elevation; specifically, an extensive land region that is considerably elevated (more than 100 meters) above the adjacent lower lying terrain, is commonly limited on at least one side by an abrupt descent, and has a flat or nearly level surface. A comparatively large part of a plateau surface is near summit level.

**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.

**Pore linings.** See Redoximorphic features.

**Potential native plant community.** See Climax plant community.

**Potential rooting depth (effective rooting depth).** Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

**Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

**Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Proper grazing use.** Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed as 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

**Red beds.** Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

**Redoximorphic concentrations.** See Redoximorphic features.

**Redoximorphic depletions.** See Redoximorphic features.

**Redoximorphic features.** Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
  - A. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; *and*
  - B. Masses, which are noncemented concentrations of substances within the soil matrix; *and*
  - C. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
  - A. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; *and*
  - B. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletans).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

**Reduced matrix.** See Redoximorphic features.

**Regolith.** All unconsolidated earth materials above the solid bedrock. It includes material weathered in place from all kinds of bedrock and alluvial, glacial, eolian, lacustrine, and pyroclastic deposits.

**Relief.** The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

**Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

**Rill.** A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

**Riser.** The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

- Road cut.** A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.
- Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.
- Root zone.** The part of the soil that can be penetrated by plant roots.
- Runoff.** The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.
- Saline soil.** A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.
- Sand.** As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.
- Sandstone.** Sedimentary rock containing dominantly sand-sized particles.
- Sapric soil material (muck).** The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.
- Saturated hydraulic conductivity (Ksat).** 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.
- Scarification.** The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.
- Sedimentary rock.** A consolidated deposit of clastic particles, chemical precipitates, or organic remains accumulated at or near the surface of the earth under normal low temperature and pressure conditions. Sedimentary rocks include consolidated equivalents of alluvium, colluvium, drift, and eolian, lacustrine, and marine deposits. Examples are sandstone, siltstone, mudstone, claystone, shale, conglomerate, limestone, dolomite, and coal.
- 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 that formed by the hardening of a deposit of clay, silty clay, or silty clay loam and that has a tendency to split into thin layers.
- 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 convex, erosional surface near the top of a hillslope. A shoulder is a transition from summit to backslope.
- 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 (geomorphology).** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.
- Silica.** A combination of silicon and oxygen. The mineral form is called quartz.
- Silica-sesquioxide ratio.** The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.
- Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05

millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

- Siltstone.** An indurated silt having the texture and composition of shale but lacking its fine lamination or fissility; a massive mudstone in which silt predominates over 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 closed, circular or elliptical depression, commonly funnel shaped, characterized by subsurface drainage and formed either by dissolution of the surface of underlying bedrock (e.g., limestone, gypsum, or salt) or by collapse of underlying caves within bedrock. Complexes of sinkholes in carbonate-rock terrain are the main components of karst topography.
- Site index.** A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.
- Slickensides** (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.
- 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 alluvium.** Sediment gradually transported down the slopes of mountains or hills primarily by nonchannel alluvial processes (i.e., slope-wash processes) and characterized by particle sorting. Lateral particle sorting is evident on long slopes. In a profile sequence, sediments may be distinguished by differences in size and/or specific gravity of rock fragments and may be separated by stone lines. Burnished peds and sorting of rounded or subrounded pebbles or cobbles distinguish these materials from unsorted colluvial deposits.
- Slow refill** (in tables). The slow filling of ponds, resulting from restricted permeability in 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.

**Stone line.** In a vertical cross section, a line formed by scattered fragments or a discrete layer of angular and subangular rock fragments (commonly a gravel- or cobble-sized lag concentration) that formerly was draped across a topographic surface and was later buried by additional sediments. A stone line generally caps material that was subject to weathering, soil formation, and erosion before burial. Many stone lines seem to be buried erosion pavements, originally formed by sheet and rill erosion across the land surface.

**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.

**Strath terrace.** A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

**Stream terrace.** One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

**Stripcropping.** Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

**Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grain* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

**Stubble mulch.** Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

**Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.

**Subsoiling.** Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

**Substratum.** The part of the soil below the solum.

**Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.

**Summer fallow.** The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

**Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

**Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

**Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

**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.** An end moraine that marks the farthest advance of a glacier. It typically has the form of a massive arcuate or concentric ridge, or complex of ridges, and is underlain by till and other types of drift.
- Terrace (conservation).** 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 (geomorphology).** A steplike surface, bordering a valley floor or shoreline, that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.
- Terracettes.** Small, irregular steplike forms on steep hillslopes, especially in pasture, formed by creep or erosion of surficial materials that may be induced or enhanced by trampling of livestock, such as sheep or cattle.
- 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.** Dominantly unsorted and nonstratified drift, generally unconsolidated and deposited directly by a glacier without subsequent reworking by meltwater, and consisting of a heterogeneous mixture of clay, silt, sand, gravel, stones, and boulders; rock fragments of various lithologies are embedded within a finer matrix that can range from clay to sandy loam.
- Till plain.** An extensive area of level to gently undulating soils underlain predominantly by till and bounded at the distal end by subordinate recessional or end moraines.
- Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.
- Toeslope.** The gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.
- Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.
- Trace elements.** Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.
- Tread.** The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.
- Upland.** An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.
- Valley fill.** The unconsolidated sediment deposited by any agent (water, wind, ice, or mass wasting) so as to fill or partly fill a valley.
- 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.

**Water bars.** Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

**Weathering.** All physical disintegration, chemical decomposition, and biologically induced changes in rocks or other deposits at or near the earth's surface by atmospheric or biologic agents or by circulating surface waters but involving essentially no transport of the altered 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 Ottawa, 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----	30.8	14.0	22.4	56	-16	0	1.49	0.73	2.13	4	8.7
February---	37.1	19.5	28.3	65	-11	2	1.32	.59	1.95	3	5.1
March-----	49.1	29.9	39.5	80	6	34	2.60	1.12	3.85	6	2.9
April-----	62.4	39.8	51.1	87	19	133	3.44	1.94	4.79	6	.6
May-----	73.9	50.8	62.3	92	32	378	4.00	2.34	5.69	6	.0
June-----	82.4	60.4	71.4	96	43	633	4.13	1.94	6.28	6	.0
July-----	85.3	64.6	74.9	99	49	759	3.63	1.64	5.47	5	.0
August-----	83.6	62.5	73.0	97	48	703	3.78	1.72	5.64	6	.0
September--	77.4	54.2	65.8	95	36	470	3.49	1.74	5.02	5	.0
October----	65.8	42.5	54.1	87	24	183	2.59	1.32	3.62	5	.0
November---	49.5	31.9	40.7	75	10	32	2.94	1.32	4.39	5	1.0
December---	36.1	20.1	28.1	63	-9	4	2.27	1.09	3.38	5	6.0
Yearly:											
Average---	61.1	40.8	51.0	---	---	---	---	---	---	---	---
Extreme---	104	-25	---	100	-18	---	---	---	---	---	---
Total-----	---	---	---	---	---	3,331	35.68	30.04	41.32	62	24.3

\* 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 Ottawa, 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. 15	Apr. 20	May 9
2 years in 10 later than--	Apr. 9	Apr. 16	May 3
5 years in 10 later than--	Mar. 29	Apr. 8	Apr. 22
<b>First freezing temperature in fall:</b>			
1 year in 10 earlier than--	Oct. 24	Oct. 12	Oct. 1
2 years in 10 earlier than--	Oct. 28	Oct. 17	Oct. 6
5 years in 10 earlier than--	Nov. 6	Oct. 28	Oct. 15

Table 3.--Growing Season

(Recorded in the period 1971-2000 at Ottawa, 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	199	181	155
8 years in 10	207	188	162
5 years in 10	221	203	176
2 years in 10	235	217	191
1 year in 10	243	225	198

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
Alvin-----	Coarse-loamy, mixed, superactive, mesic Typic Hapludalfs
Andres-----	Fine-loamy, mixed, superactive, mesic Aquic Argiudolls
Appleriver-----	Fine-silty, mixed, superactive, mesic Aquic Hapludalfs
Arrowsmith-----	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Ashkum-----	Fine, mixed, superactive, mesic Typic Endoaquolls
Atterberry-----	Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs
Barony-----	Fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Batavia-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Beecher-----	Fine, illitic, mesic Udollic Epiaqualfs
Birkbeck-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Blackberry-----	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Blount-----	Fine, illitic, mesic Aeric Epiaqualfs
Boone-----	Mesic, uncoated Typic Quartzipsammets
Bowes-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Brenton-----	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Bryce-----	Fine, mixed, superactive, mesic Vertic Endoaquolls
Buckhart-----	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
Camden-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Campton-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Casco-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Inceptic Hapludalfs
Catlin-----	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
*Catlin-----	Fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
*Catlin-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Channahon-----	Loamy, mixed, superactive, mesic Lithic Argiudolls
*Channahon-----	Coarse-loamy, mixed, superactive, mesic Typic Argiudolls
Chatsworth-----	Fine, illitic, mesic Oxyaquic Eutrudepts
Chenoa-----	Fine, illitic, mesic Aquic Argiudolls
Clare-----	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
*Clarence-----	Fine, illitic, mesic Aquollic Hapludalfs
Danabrook-----	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
*Danabrook-----	Fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Dickinson-----	Coarse-loamy, mixed, superactive, mesic Typic Hapludolls
*Dickinson-----	Coarse-loamy, mixed, superactive, mesic Dystric Eutrudepts
Dresden-----	Fine-loamy over sandy or sandy-skeletal, mixed, active, mesic Mollic Hapludalfs
Drummer-----	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Du Page-----	Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls
Elburn-----	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Elkhart-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Elliott-----	Fine, illitic, mesic Aquic Argiudolls
*Elliott-----	Fine, illitic, mesic Aquollic Hapludalfs
Elpaso-----	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Faxon-----	Fine-loamy, mixed, superactive, mesic Typic Endoaquolls
Fayette-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Flanagan-----	Fine, smectitic, mesic Aquic Argiudolls
Fox-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Hapludalfs
Frankfort-----	Fine, illitic, mesic Udollic Epiaqualfs
Gale-----	Fine-silty over sandy or sandy-skeletal, mixed, superactive, mesic Typic Hapludalfs
Graymont-----	Fine-silty, mixed, superactive, mesic Oxyaquic Argiudolls
*Graymont-----	Fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Greenbush-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Harpster-----	Fine-silty, mixed, superactive, mesic Typic Calcicquolls
Hartsburg-----	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Harvard-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Hennepin-----	Fine-loamy, mixed, active, mesic Typic Eutrudepts
Hesch-----	Coarse-loamy, mixed, active, mesic Typic Argiudolls
Houghton-----	Euic, mesic Typic Haplosaprists
Joliet-----	Loamy, mixed, superactive, mesic Lithic Endoaquolls

Table 4.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Kaneville-----	Fine-silty, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Kendall-----	Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Kernan-----	Fine, smectitic, mesic Aeric Epiaqualfs
Kidami-----	Fine-loamy, mixed, active, mesic Oxyaquic Hapludalfs
La Rose-----	Fine-loamy, mixed, active, mesic Typic Argiudolls
Lawson-----	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
Lena-----	Euic, mesic Typic Haplosaprists
Loran-----	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
*Loran-----	Fine-silty, mixed, superactive, mesic Aquollic Hapludalfs
Lorenzo-----	Fine-loamy over sandy or sandy-skeletal, mixed, active, mesic Typic Argiudolls
Marseilles-----	Fine-silty, mixed, active, mesic Typic Hapludalfs
Mayville-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Millbrook-----	Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs
Millington-----	Fine-loamy, mixed, superactive, calcareous, mesic Cumulic Endoaquolls
Millsdale-----	Fine, mixed, active, mesic Typic Argiaquolls
Mokena-----	Fine-loamy, mixed, active, mesic Aquic Argiudolls
Mona-----	Fine-loamy, mixed, superactive, mesic Oxyaquic Argiudolls
*Mona-----	Fine-loamy, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Moundprairie-----	Fine-silty, mixed, superactive, calcareous, mesic Mollic Fluvaquents
Muscature-----	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Nappanee-----	Fine, illitic, mesic Aeric Epiaqualfs
*Nappanee-----	Fine, illitic, mesic Aquic Hapludalfs
Northfield-----	Loamy, mixed, active, mesic Lithic Hapludalfs
Orthents, acid----	Fine, mixed, semiactive, acid, mesic Typic Udorthents
Orthents, clayey--	Fine, mixed, active, nonacid, mesic Aquic Udorthents
Orthents, loamy---	Fine-loamy, mixed, active, nonacid, mesic Oxyaquic Udorthents
Osc-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Osc-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Otter-----	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Ozaukee-----	Fine, illitic, mesic Oxyaquic Hapludalfs
Peotone-----	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Plano-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Plano-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Proctor-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Proctor-----	Fine-silty, mixed, superactive, mesic Mollic Hapludalfs
Psammments-----	Mixed, mesic Udipsammments
Rantoul-----	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Ridgeville-----	Coarse-loamy, mixed, superactive, mesic Aquic Argiudolls
Ritchey-----	Loamy, mixed, superactive, mesic Lithic Hapludalfs
Rodman-----	Sandy-skeletal, mixed, mesic Typic Hapludolls
Rooks-----	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Ross-----	Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls
Rozetta-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Rush-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
Rutland-----	Fine, smectitic, mesic Aquic Argiudolls
*Rutland-----	Fine, smectitic, mesic Aquollic Hapludalfs
Sabina-----	Fine, smectitic, mesic Aeric Epiaqualfs
Sable-----	Fine-silty, mixed, superactive, mesic Typic Endoaquolls
Sawmill-----	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Selma-----	Fine-loamy, mixed, superactive, mesic Typic Endoaquolls
Somonauk-----	Fine-silty, mixed, superactive, mesic Oxyaquic Hapludalfs
Sparta-----	Sandy, mixed, mesic Entic Hapludolls
Spaulding-----	Fine-silty, mixed, superactive, mesic Typic Calciaquolls
St. Charles-----	Fine-silty, mixed, superactive, mesic Typic Hapludalfs
St. Clair-----	Fine, illitic, mesic Oxyaquic Hapludalfs
Starks-----	Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Streator-----	Fine, smectitic, mesic Vertic Endoaquolls
Stronghurst-----	Fine-silty, mixed, superactive, mesic Aeric Endoaqualfs
Sunbury-----	Fine, smectitic, mesic Aquollic Hapludalfs
Swygert-----	Fine, mixed, active, mesic Aquic Argiudolls
*Swygert-----	Fine, mixed, active, mesic Aquic Hapludalfs
*Swygert-----	Fine, mixed, active, mesic Aquollic Hapludalfs
Symerton-----	Fine-loamy, mixed, superactive, mesic Oxyaquic Argiudolls

Table 4.--Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
*Symerton-----	Fine-loamy, mixed, superactive, mesic Mollic Oxyaquic Hapludalfs
Thorp-----	Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls
Titus-----	Fine, smectitic, mesic Vertic Endoaquolls
Varna-----	Fine, illitic, mesic Oxyaquic Argiudolls
*Varna-----	Fine, illitic, mesic Mollic Oxyaquic Hapludalfs
*Varna-----	Fine, illitic, mesic Oxyaquic Hapludalfs
Virgil-----	Fine-silty, mixed, superactive, mesic Udollic Endoaqualfs
Warsaw-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Argiudolls
*Warsaw-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Mollic Hapludalfs
Wenona-----	Fine, smectitic, mesic Oxyaquic Argiudolls
*Wenona-----	Fine, smectitic, mesic Mollic Oxyaquic Hapludalfs

Table 5.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
23B	Blount silt loam, 2 to 4 percent slopes-----	1,431	0.2
51A	Muscatune silt loam, 0 to 2 percent slopes-----	33,394	4.5
60C2	La Rose loam, 5 to 10 percent slopes, eroded-----	459	*
60D2	La Rose loam, 10 to 18 percent slopes, eroded-----	157	*
61A	Atterberry silt loam, 0 to 2 percent slopes-----	2,832	0.4
61B	Atterberry silt loam, 2 to 5 percent slopes-----	3,100	0.4
67A	Harpster silty clay loam, 0 to 2 percent slopes-----	11,739	1.6
68A	Sable silty clay loam, 0 to 2 percent slopes-----	51,883	7.1
86B	Osco silt loam, 2 to 5 percent slopes-----	10,105	1.4
86C2	Osco silt loam, 5 to 10 percent slopes, eroded-----	2,841	0.4
87A	Dickinson sandy loam, 0 to 2 percent slopes-----	184	*
87B	Dickinson sandy loam, 2 to 5 percent slopes-----	660	*
87C2	Dickinson sandy loam, 5 to 10 percent slopes, eroded-----	187	*
88B	Sparta loamy sand, 1 to 6 percent slopes-----	241	*
88D	Sparta loamy sand, 6 to 12 percent slopes-----	77	*
91A	Swygert silty clay loam, 0 to 2 percent slopes-----	1,772	0.2
91B	Swygert silty clay loam, 2 to 4 percent slopes-----	13,662	1.9
91B2	Swygert silty clay loam, 2 to 4 percent slopes, eroded-----	3,047	0.4
91C2	Swygert silty clay loam, 4 to 6 percent slopes, eroded-----	5,803	0.8
91C3	Swygert silty clay loam, 4 to 6 percent slopes, severely eroded-----	1,581	0.2
103A	Houghton muck, 0 to 2 percent slopes-----	352	*
104A	Virgil silt loam, 0 to 2 percent slopes-----	2,781	0.4
105A	Batavia silt loam, 0 to 2 percent slopes-----	672	*
105B	Batavia silt loam, 2 to 5 percent slopes-----	3,129	0.4
105C2	Batavia silt loam, 5 to 10 percent slopes, eroded-----	433	*
125A	Selma loam, 0 to 2 percent slopes-----	191	*
131B	Alvin fine sandy loam, 2 to 5 percent slopes-----	221	*
131C2	Alvin fine sandy loam, 5 to 10 percent slopes, eroded-----	116	*
132A	Starks silt loam, 0 to 2 percent slopes-----	1,314	0.2
134A	Camden silt loam, 0 to 2 percent slopes-----	654	*
134B	Camden silt loam, 2 to 5 percent slopes-----	4,296	0.6
134C2	Camden silt loam, 5 to 10 percent slopes, eroded-----	3,068	0.4
134D2	Camden silt loam, 10 to 18 percent slopes, eroded-----	983	0.1
134D3	Camden silty clay loam, 10 to 18 percent slopes, severely eroded-----	333	*
134F	Camden silt loam, 18 to 35 percent slopes-----	196	*
146A	Elliott silt loam, 0 to 2 percent slopes-----	583	*
146B	Elliott silt loam, 2 to 4 percent slopes-----	7,516	1.0
146B2	Elliott silty clay loam, 2 to 4 percent slopes, eroded-----	894	0.1
147B2	Clarence silty clay loam, 2 to 4 percent slopes, eroded-----	742	0.1
148A	Proctor silt loam, 0 to 2 percent slopes-----	1,330	0.2
148B	Proctor silt loam, 2 to 5 percent slopes-----	4,614	0.6
148C2	Proctor silt loam, 5 to 10 percent slopes, eroded-----	2,547	0.3
149A	Brenton silt loam, 0 to 2 percent slopes-----	5,397	0.7
151A	Ridgeville fine sandy loam, 0 to 2 percent slopes-----	192	*
151B	Ridgeville fine sandy loam, 2 to 4 percent slopes-----	175	*
152A	Drummer silty clay loam, 0 to 2 percent slopes-----	55,211	7.5
154A	Planagan silt loam, 0 to 2 percent slopes-----	12,365	1.7
171A	Catlin silt loam, 0 to 2 percent slopes-----	186	*
171B	Catlin silt loam, 2 to 5 percent slopes-----	10,263	1.4
171B2	Catlin silt loam, 2 to 5 percent slopes, eroded-----	4,008	0.5
171C2	Catlin silt loam, 5 to 10 percent slopes, eroded-----	14,067	1.9
171C3	Catlin silty clay loam, 5 to 10 percent slopes, severely eroded-----	1,118	0.2
193C2	Mayville silt loam, 5 to 10 percent slopes, eroded-----	697	*
198A	Elburn silt loam, 0 to 2 percent slopes-----	14,737	2.0
199A	Plano silt loam, 0 to 2 percent slopes-----	1,043	0.1
199B	Plano silt loam, 2 to 5 percent slopes-----	10,230	1.4
199C2	Plano silt loam, 5 to 10 percent slopes, eroded-----	2,924	0.4
206A	Thorp silt loam, 0 to 2 percent slopes-----	4,518	0.6
210A	Lena muck, 0 to 2 percent slopes-----	411	*
219A	Millbrook silt loam, 0 to 2 percent slopes-----	698	*
223B	Varna silt loam, 2 to 4 percent slopes-----	590	*
223B2	Varna silt loam, 2 to 4 percent slopes, eroded-----	1,092	0.1
223C2	Varna silt loam, 4 to 6 percent slopes, eroded-----	7,025	1.0

See footnote at end of table.

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
223C3	Varna silty clay loam, 4 to 6 percent slopes, severely eroded-----	2,052	0.3
223D2	Varna silt loam, 6 to 12 percent slopes, eroded-----	693	*
223D3	Varna silty clay loam, 6 to 12 percent slopes, severely eroded-----	1,285	0.2
228B	Nappanee silt loam, 2 to 4 percent slopes-----	3,456	0.5
228C2	Nappanee silty clay loam, 4 to 6 percent slopes, eroded-----	3,753	0.5
228C3	Nappanee silty clay loam, 4 to 6 percent slopes, severely eroded-----	616	*
232A	Ashkum silty clay loam, 0 to 2 percent slopes-----	6,452	0.9
233A	Birkbeck silt loam, 0 to 2 percent slopes-----	293	*
233B	Birkbeck silt loam, 2 to 5 percent slopes-----	5,454	0.7
233C2	Birkbeck silt loam, 5 to 10 percent slopes, eroded-----	4,453	0.6
234A	Sunbury silt loam, 0 to 2 percent slopes-----	3,229	0.4
235A	Bryce silty clay, 0 to 2 percent slopes-----	14,212	1.9
236A	Sabina silt loam, 0 to 2 percent slopes-----	4,255	0.6
238A	Rantoul silty clay, 0 to 2 percent slopes-----	227	*
241C3	Chatsworth silty clay, 4 to 6 percent slopes, severely eroded-----	90	*
241D3	Chatsworth silty clay, 6 to 12 percent slopes, severely eroded-----	1,840	0.3
241E3	Chatsworth silty clay, 12 to 20 percent slopes, severely eroded-----	1,681	0.2
241F	Chatsworth silty clay loam, 20 to 30 percent slopes-----	3,505	0.5
241G	Chatsworth silty clay loam, 30 to 50 percent slopes-----	4,245	0.6
242A	Kendall silt loam, 0 to 2 percent slopes-----	1,464	0.2
243A	St. Charles silt loam, 0 to 2 percent slopes-----	860	0.1
243B	St. Charles silt loam, 2 to 5 percent slopes-----	4,045	0.5
243C2	St. Charles silt loam, 5 to 10 percent slopes, eroded-----	1,835	0.2
244A	Hartsburg silty clay loam, 0 to 2 percent slopes-----	3,691	0.5
278A	Stronghurst silt loam, 0 to 2 percent slopes-----	1,453	0.2
278B	Stronghurst silt loam, 2 to 5 percent slopes-----	1,039	0.1
279B	Rozetta silt loam, 2 to 5 percent slopes-----	1,676	0.2
280C2	Fayette silt loam, 5 to 10 percent slopes, eroded-----	689	*
290A	Warsaw silt loam, 0 to 2 percent slopes-----	233	*
290B	Warsaw silt loam, 2 to 4 percent slopes-----	437	*
290C2	Warsaw silt loam, 4 to 6 percent slopes, eroded-----	340	*
293A	Andres silt loam, 0 to 2 percent slopes-----	625	*
293B	Andres silt loam, 2 to 5 percent slopes-----	1,738	0.2
294B	Symerton silt loam, 2 to 5 percent slopes-----	920	0.1
294C2	Symerton silt loam, 5 to 10 percent slopes, eroded-----	1,472	0.2
295A	Mokena silt loam, 0 to 2 percent slopes-----	1,145	0.2
295B	Mokena silt loam, 2 to 4 percent slopes-----	2,678	0.4
298B	Beecher silt loam, 2 to 4 percent slopes-----	795	0.1
311B	Ritchey silt loam, 2 to 4 percent slopes-----	67	*
314A	Joliet silt loam, 0 to 2 percent slopes-----	179	*
315B	Channahon silt loam, 2 to 4 percent slopes-----	489	*
317A	Millsdale silty clay loam, 0 to 2 percent slopes-----	634	*
318B	Lorenzo loam, 2 to 4 percent slopes-----	250	*
318C2	Lorenzo loam, 4 to 6 percent slopes, eroded-----	341	*
320B	Frankfort silt loam, 2 to 4 percent slopes-----	1,301	0.2
320C2	Frankfort silty clay loam, 4 to 6 percent slopes, eroded-----	961	0.1
325B	Dresden silt loam, 2 to 4 percent slopes-----	254	*
325C2	Dresden silt loam, 4 to 6 percent slopes, eroded-----	270	*
327B	Fox silt loam, 2 to 4 percent slopes-----	561	*
327C2	Fox silt loam, 4 to 6 percent slopes, eroded-----	729	*
327D2	Fox loam, 6 to 12 percent slopes, eroded-----	592	*
330A	Peotone silty clay loam, 0 to 2 percent slopes-----	2,992	0.4
344A	Harvard silt loam, 0 to 2 percent slopes-----	270	*
344B	Harvard silt loam, 2 to 5 percent slopes-----	1,104	0.2
344C2	Harvard silt loam, 5 to 10 percent slopes, eroded-----	498	*
356A	Elpaso silty clay loam, 0 to 2 percent slopes-----	25,294	3.4
375A	Rutland silty clay loam, 0 to 2 percent slopes-----	6,561	0.9
375B	Rutland silty clay loam, 2 to 5 percent slopes-----	30,906	4.2
375B2	Rutland silty clay loam, 2 to 5 percent slopes, eroded-----	857	0.1
388B	Wenona silt loam, 2 to 5 percent slopes-----	1,802	0.2
388B2	Wenona silt loam, 2 to 5 percent slopes, eroded-----	298	*
388C2	Wenona silty clay loam, 5 to 10 percent slopes, eroded-----	2,117	0.3

See footnote at end of table.

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
397F	Boone loamy fine sand, 15 to 35 percent slopes-----	519	*
413B	Gale silt loam, 2 to 4 percent slopes-----	404	*
413C2	Gale silt loam, 4 to 6 percent slopes, eroded-----	234	*
435A	Streator silty clay loam, 0 to 2 percent slopes-----	20,585	2.8
448B	Mona silt loam, 2 to 5 percent slopes-----	788	0.1
448C2	Mona silt loam, 5 to 10 percent slopes, eroded-----	845	0.1
512B	Danabrook silt loam, 2 to 5 percent slopes-----	92	*
512C2	Danabrook silt loam, 5 to 10 percent slopes, eroded-----	230	*
516A	Faxon loam, 0 to 2 percent slopes-----	2,370	0.3
527C2	Kidami loam, 4 to 6 percent slopes, eroded-----	296	*
527D2	Kidami loam, 6 to 12 percent slopes, eroded-----	738	0.1
530B	Ozaukee silt loam, 2 to 4 percent slopes-----	371	*
530C2	Ozaukee silt loam, 4 to 6 percent slopes, eroded-----	1,927	0.3
530C3	Ozaukee silty clay loam, 4 to 6 percent slopes, severely eroded-----	294	*
530D2	Ozaukee silt loam, 6 to 12 percent slopes, eroded-----	801	0.1
530D3	Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded-----	348	*
530E2	Ozaukee silt loam, 12 to 20 percent slopes, eroded-----	356	*
530F	Ozaukee silt loam, 20 to 30 percent slopes-----	40	*
541B	Graymont silt loam, 2 to 5 percent slopes-----	965	0.1
541B2	Graymont silt loam, 2 to 5 percent slopes, eroded-----	182	*
541C2	Graymont silt loam, 5 to 10 percent slopes, eroded-----	2,605	0.4
542A	Rooks silty clay loam, 0 to 2 percent slopes-----	1,932	0.3
542B	Rooks silty clay loam, 2 to 5 percent slopes-----	1,639	0.2
549B	Marseilles silt loam, 2 to 5 percent slopes-----	914	0.1
549C2	Marseilles silt loam, 5 to 10 percent slopes, eroded-----	857	0.1
549D2	Marseilles silt loam, 10 to 18 percent slopes, eroded-----	527	*
549F	Marseilles silt loam, 18 to 35 percent slopes-----	1,131	0.2
549G	Marseilles silt loam, 35 to 60 percent slopes-----	799	0.1
554B	Kernan silt loam, 2 to 4 percent slopes-----	2,051	0.3
560D2	St. Clair silty clay loam, 6 to 12 percent slopes, eroded-----	1,555	0.2
560E	St. Clair silty clay loam, 12 to 20 percent slopes-----	595	*
567B	Elkhart silt loam, 2 to 5 percent slopes-----	27	*
572A	Loran silt loam, 0 to 2 percent slopes-----	886	0.1
572B	Loran silt loam, 2 to 5 percent slopes-----	454	*
572C2	Loran silt loam, 5 to 10 percent slopes, eroded-----	236	*
614A	Chenoa silty clay loam, 0 to 2 percent slopes-----	745	0.1
614B	Chenoa silty clay loam, 2 to 5 percent slopes-----	5,755	0.8
662B	Barony silt loam, 2 to 5 percent slopes-----	594	*
663B	Clare silt loam, 2 to 5 percent slopes-----	2,756	0.4
667B	Kaneville silt loam, 2 to 5 percent slopes-----	422	*
668B	Somonauk silt loam, 2 to 5 percent slopes-----	325	*
675B	Greenbush silt loam, 2 to 5 percent slopes-----	661	*
675C2	Greenbush silt loam, 5 to 10 percent slopes, eroded-----	400	*
679B	Blackberry silt loam, 2 to 5 percent slopes-----	12,739	1.7
680B	Campton silt loam, 2 to 5 percent slopes-----	1,015	0.1
712A	Spaulding silty clay loam, 0 to 2 percent slopes-----	4,613	0.6
715A	Arrowsmith silt loam, 0 to 2 percent slopes-----	1,687	0.2
732A	Appleriver silt loam, 0 to 2 percent slopes-----	538	*
732B	Appleriver silt loam, 2 to 5 percent slopes-----	451	*
791A	Rush silt loam, 0 to 2 percent slopes-----	52	*
791B	Rush silt loam, 2 to 4 percent slopes-----	371	*
792A	Bowes silt loam, 0 to 2 percent slopes-----	223	*
792B	Bowes silt loam, 2 to 4 percent slopes-----	450	*
794G	Marseilles, Northfield, and Ritchey silt loams, 30 to 60 percent slopes-----	4,348	0.6
802B	Orthents, loamy, undulating-----	4,346	0.6
802D	Orthents, loamy, rolling-----	1,021	0.1
804D	Orthents, acid, undulating and rolling-----	1,216	0.2
804G	Orthents, acid, steep-----	336	*
805B	Orthents, clayey, undulating-----	866	0.1
814A	Muscatune-Buckhart silt loams, 0 to 3 percent slopes-----	56,881	7.7
817A	Channahon-Hesch fine sandy loams, 0 to 2 percent slopes-----	1,337	0.2
817B	Channahon-Hesch fine sandy loams, 2 to 6 percent slopes-----	1,623	0.2

See footnote at end of table.

Table 5.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
818A	Flanagan-Catlin silt loams, 0 to 3 percent slopes-----	35,058	4.8
820E	Hennepin-Casco complex, 12 to 30 percent slopes-----	3,707	0.5
820G	Hennepin-Casco complex, 30 to 60 percent slopes-----	3,599	0.5
830	Landfills-----	270	*
864	Pits, quarry-----	4,016	0.5
865	Pits, gravel-----	2,298	0.3
969E2	Casco-Rodman complex, 12 to 20 percent slopes, eroded-----	452	*
969F	Casco-Rodman complex, 20 to 30 percent slopes-----	537	*
1103A	Houghton muck, undrained, 0 to 2 percent slopes-----	80	*
1480A	Moundprairie silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded	1,541	0.2
3073A	Ross loam, 0 to 2 percent slopes, frequently flooded-----	4,026	0.5
3076A	Otter silt loam, 0 to 2 percent slopes, frequently flooded-----	291	*
3082A	Millington silt loam, 0 to 2 percent slopes, frequently flooded-----	2,751	0.4
3107A	Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded-----	2,969	0.4
3321A	Du Page silt loam, 0 to 2 percent slopes, frequently flooded-----	1,676	0.2
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded-----	2,945	0.4
3480A	Moundprairie silty clay loam, 0 to 2 percent slopes, frequently flooded-----	1,641	0.2
3800A	Psammets, nearly level, frequently flooded-----	306	*
7073A	Ross silt loam, 0 to 2 percent slopes, rarely flooded-----	658	*
8073A	Ross loam, 0 to 2 percent slopes, occasionally flooded-----	1,044	0.1
8107A	Sawmill silty clay loam, 0 to 2 percent slopes, occasionally flooded-----	1,243	0.2
8151A	Ridgeville fine sandy loam, 0 to 2 percent slopes, occasionally flooded-----	155	*
8404A	Titus silty clay loam, 0 to 2 percent slopes, occasionally flooded-----	575	*
8451A	Lawson silt loam, 0 to 2 percent slopes, occasionally flooded-----	598	*
8516A	Faxon loam, 0 to 2 percent slopes, occasionally flooded-----	860	0.1
MW	Miscellaneous water-----	135	*
W	Water-----	10,525	1.4
	Total-----	735,640	100.0

\* Less than 0.1 percent.

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland

(See text for a description of the limitations and hazards listed in this table. Only the soils that are generally available for use as cropland or pastureland are listed. Absence of an entry indicates that the soil is generally not suited to use as cropland or pastureland)

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
23B: Blount-----	Wetness, root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Wetness, root-restrictive layer, low pH, high pH
51A: Muscatune-----	Wetness	Wetness
60C2: La Rose-----	High pH, crusting, water erosion, restricted permeability	High pH, water erosion
60D2: La Rose-----	High pH, crusting, water erosion, restricted permeability	High pH, water erosion
61A: Atterberry-----	Wetness, crusting	Wetness, low pH
61B: Atterberry-----	Wetness, crusting, water erosion	Wetness, low pH, water erosion
67A: Harpster-----	Ponding, poor tilth, excess lime	Ponding, excess lime, frost heave, poor tilth
68A: Sable-----	Ponding, poor tilth	Ponding, frost heave, poor tilth
86B: Osco-----	Water erosion	Low pH, water erosion
86C2: Osco-----	Crusting, water erosion	Low pH, water erosion
87A: Dickinson-----	Limited available water capacity, excessive permeability	Low pH, limited available water capacity, excessive permeability
87B: Dickinson-----	Limited available water capacity, excessive permeability	Low pH, limited available water capacity, excessive permeability
87C2: Dickinson-----	Water erosion, limited available water capacity, excessive permeability	Low pH, water erosion, limited available water capacity, excessive permeability

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
88B: Sparta-----	Wind erosion, limited available water capacity, excessive permeability	Low pH, wind erosion, limited available water capacity, excessive permeability
88D: Sparta-----	---	Low pH, wind erosion, limited available water capacity, excessive permeability
91A: Swygert-----	Wetness, root-restrictive layer, poor tilth, high pH, restricted permeability	Wetness, root-restrictive layer, high pH, poor tilth
91B: Swygert-----	Wetness, root-restrictive layer, poor tilth, high pH, restricted permeability, water erosion	Wetness, root-restrictive layer, high pH, poor tilth
91B2: Swygert-----	Wetness, root-restrictive layer, poor tilth, high pH, restricted permeability water erosion	Wetness, root-restrictive layer, poor tilth, high pH
91C2: Swygert-----	Wetness, root-restrictive layer, poor tilth, high pH, water erosion, restricted permeability	Wetness, root-restrictive layer, poor tilth, high pH, water erosion
91C3: Swygert-----	Wetness, root-restrictive layer, poor tilth, high pH, water erosion, restricted permeability	Wetness, root-restrictive layer, poor tilth, high pH, water erosion
103A: Houghton-----	Ponding, wind erosion, subsidence, crusting	Ponding, low pH, wind erosion, frost heave
104A: Virgil-----	Wetness	Wetness, low pH
105A: Batavia-----	Crusting	Low pH
105B: Batavia-----	Crusting, water erosion	Low pH, water erosion
105C2: Batavia-----	Crusting, water erosion	Low pH, water erosion
125A: Selma-----	Ponding	Ponding, frost heave
131B: Alvin-----	Water erosion	Low pH, low fertility

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
131C2: Alvin-----	Water erosion	Low pH, water erosion, low fertility
132A: Starks-----	Wetness, crusting	Wetness, low pH
134A: Camden-----	Crusting	Low pH
134B: Camden-----	Crusting, water erosion	Low pH, water erosion
134C2: Camden-----	Crusting, water erosion	Low pH, water erosion
134D2: Camden-----	Crusting, water erosion	Low pH, water erosion
134D3: Camden-----	---	Poor tilth, low pH, water erosion, low fertility, excessive permeability
134F: Camden-----	---	Equipment limitation, low pH, water erosion, excessive permeability
146A: Elliott-----	Wetness, root-restrictive layer, restricted permeability	Wetness, root-restrictive layer
146B: Elliott-----	Wetness, root-restrictive layer, high pH, restricted permeability, water erosion	Wetness, root-restrictive layer, high pH
146B2: Elliott-----	Wetness, root-restrictive layer, poor tilth, high pH, water erosion, restricted permeability	Wetness, root-restrictive layer, poor tilth, high pH
147B2: Clarence-----	Wetness, root-restrictive layer, poor tilth, high pH, water erosion, limited available water capacity, restricted permeability	Wetness, root-restrictive layer, poor tilth, high pH, limited available water capacity
148A: Proctor-----	No major limitations	Low pH
148B: Proctor-----	Water erosion	Low pH
148C2: Proctor-----	Water erosion	Low pH, water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
149A: Brenton-----	Wetness	Wetness
151A: Ridgeville-----	Wetness	Wetness
151B: Ridgeville-----	Wetness	Wetness
152A: Drummer-----	Ponding, poor tilth	Ponding, frost heave, poor tilth
154A: Flanagan-----	Wetness, restricted permeability	Wetness
171A: Catlin-----	No major limitations	Low pH
171B: Catlin-----	Water erosion	Water erosion
171B2: Catlin-----	Water erosion, crusting	Water erosion
171C2: Catlin-----	Water erosion, crusting	Water erosion
171C3: Catlin-----	Poor tilth, crusting, water erosion	Poor tilth, water erosion
193C2: Mayville-----	High pH, crusting, water erosion,	Low pH, high pH, water erosion
198A: Elburn-----	Wetness	Wetness
199A: Plano-----	No major limitations	Low pH
199B: Plano-----	Water erosion	Low pH, water erosion
199C2: Plano-----	Water erosion	Low pH, water erosion
206A: Thorp-----	Ponding, restricted permeability	Ponding, low pH, frost heave
210A: Lena-----	Ponding, excess lime, wind erosion, subsidence	Ponding, wind erosion, excess lime, frost heave
219A: Millbrook-----	Wetness	Wetness, low pH

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
223B: Varna-----	Root-restrictive layer, high pH, restricted permeability, water erosion	Root-restrictive layer, high pH
223B2: Varna-----	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
223C2: Varna-----	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
223C3: Varna-----	Root-restrictive layer, poor tilth, high pH, crusting, water erosion, restricted, permeability	Root-restrictive layer, poor tilth, high pH, water erosion
223D2: Varna-----	Root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
223D3: Varna-----	Root-restrictive layer, poor tilth, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, poor tilth, water erosion, high pH
228B: Nappanee-----	Wetness, root-restrictive layer, high pH, crusting, water erosion, restricted permeability	Wetness, root-restrictive layer, low pH, high pH, water erosion
228C2: Nappanee-----	Wetness, root-restrictive layer, poor tilth, high pH, crusting, water erosion, limited available water capacity, restricted permeability	Wetness, root-restrictive layer, poor tilth, low pH, high pH, water erosion, limited available water capacity
228C3: Nappanee-----	Wetness, root-restrictive layer, poor tilth, high pH, crusting, water erosion, limited available water capacity, restricted permeability	Wetness, root-restrictive layer, poor tilth, low pH, high pH, water erosion, limited available water capacity, low fertility
232A: Ashkum-----	Ponding, poor tilth	Ponding, frost heave, poor tilth
233A: Birkbeck-----	No major limitations	Low pH

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
233B: Birkbeck-----	Crusting, water erosion	Low pH, water erosion
233C2: Birkbeck-----	Crusting, water erosion	Low pH, water erosion
234A: Sunbury-----	Wetness	Wetness
235A: Bryce-----	Ponding, poor tilth, restricted permeability	Ponding, frost heave, poor tilth
236A: Sabina-----	Wetness, crusting	Wetness, low pH
238A: Rantoul-----	Ponding, poor tilth, restricted permeability	Ponding, frost heave, poor tilth
241C3: Chatsworth-----	---	Root-restrictive layer, poor tilth, water erosion, limited available water capacity, low fertility, excess lime
241D3: Chatsworth-----	---	Root-restrictive layer, poor tilth, water erosion, limited available water capacity, low fertility, excess lime
241E3: Chatsworth-----	---	---
241F: Chatsworth-----	---	---
241G: Chatsworth-----	---	---
242A: Kendall-----	Wetness, crusting	Wetness, low pH
243A: St. Charles-----	Crusting	Low pH
243B: St. Charles-----	Crusting, water erosion	Low pH, water erosion
243C2: St. Charles-----	Crusting, water erosion	Low pH, water erosion
244A: Hartsburg-----	Ponding, high pH, poor tilth	Ponding, high pH, poor tilth, frost heave
278A: Stronghurst-----	Wetness, crusting	Wetness, low pH

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
278B: Stronghurst-----	Wetness, crusting, water erosion	Wetness, low pH, water erosion
279B: Rozetta-----	Crusting, water erosion	Low pH, water erosion
280C2: Fayette-----	Crusting, water erosion	Low pH, water erosion
290A: Warsaw-----	High pH, excessive permeability	Low pH, high pH, excessive permeability
290B: Warsaw-----	High pH, water erosion, excessive permeability	Low pH, high pH, excessive permeability
290C2: Warsaw-----	High pH, crusting, water erosion, limited available water capacity, excessive permeability	Low pH, high pH, water erosion, limited available water capacity, excessive permeability
293A: Andres-----	Wetness	Wetness
293B: Andres-----	Wetness, water erosion	Wetness, water erosion
294B: Symerton-----	High pH, water erosion	High pH, water erosion
294C2: Symerton-----	High pH, crusting, water erosion	High pH, water erosion
295A: Mokena-----	Wetness, root-restrictive layer, restricted permeability	Wetness, root-restrictive layer
295B: Mokena-----	Wetness, root-restrictive layer, restricted permeability	Wetness, root-restrictive layer
298B: Beecher-----	Wetness, root-restrictive layer, high pH, water erosion, restricted permeability	Wetness, root-restrictive layer, low pH, high pH, excess lime
311B: Ritchey-----	Depth to bedrock, crusting, water erosion, limited available water capacity	Depth to bedrock, limited available water capacity, water erosion
314A: Joliet-----	Ponding, depth to bedrock, excess lime, limited available water capacity	Ponding, depth to bedrock, limited available water capacity, excess lime, frost heave

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
315B: Channahon-----	Depth to bedrock, water erosion, limited available water capacity	Depth to bedrock, limited available water capacity, water erosion
317A: Millsdale-----	Ponding, depth to bedrock, poor tilth	Ponding, depth to bedrock, poor tilth, frost heave
318B: Lorenzo-----	High pH, water erosion, limited available water capacity, excessive permeability	High pH, limited available water capacity, excessive permeability
318C2: Lorenzo-----	High pH, crusting, water erosion, limited available water capacity, excessive permeability	High pH, water erosion, limited available water capacity, excessive permeability
320B: Frankfort-----	Wetness, root-restrictive layer, high pH, water erosion, limited available water capacity, restricted permeability	Wetness, root-restrictive layer, high pH, limited available water capacity, water erosion
320C2: Frankfort-----	Wetness, root-restrictive layer, poor tilth, high pH, crusting, water erosion, limited available water capacity, restricted permeability	Wetness, root-restrictive layer, poor tilth, high pH, water erosion, limited available water capacity
325B: Dresden-----	High pH, water erosion, excessive permeability	High pH, water erosion, excessive permeability
325C2: Dresden-----	High pH, crusting, water erosion, excessive permeability	High pH, water erosion, excessive permeability
327B: Fox-----	High pH, crusting, water erosion, excessive permeability	Low pH, high pH, excessive permeability, water erosion
327C2: Fox-----	High pH, crusting, water erosion, limited available water capacity, excessive permeability	Low pH, high pH, water erosion, limited available water capacity, excessive permeability
327D2: Fox-----	High pH, crusting, water erosion, excessive permeability, limited available water capacity	Low pH, high pH, water erosion, excessive permeability, limited available water capacity

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
330A: Peotone-----	Ponding, poor tilth	Ponding, frost heave, poor tilth
344A: Harvard-----	No major limitations	Low pH
344B: Harvard-----	Water erosion	Low pH, water erosion
344C2: Harvard-----	Crusting, water erosion	Low pH, water erosion
356A: Elpaso-----	Ponding, poor tilth	Ponding, frost heave, poor tilth
375A: Rutland-----	Wetness, poor tilth	Wetness, poor tilth, low pH
375B: Rutland-----	Wetness, poor tilth, water erosion	Wetness, poor tilth, water erosion, low pH
375B2: Rutland-----	Wetness, poor tilth, water erosion	Wetness, poor tilth, water erosion, low pH
388B: Wenona-----	Water erosion	Water erosion, low pH
388B2: Wenona-----	Water erosion	Water erosion, low pH
388C2: Wenona-----	Water erosion, poor tilth	Water erosion, low pH, poor tilth
397F: Boone-----	---	---
413B: Gale-----	Depth to bedrock, crusting, water erosion, excessive permeability	Depth to bedrock, low pH, water erosion, excessive permeability
413C2: Gale-----	Depth to bedrock, crusting, water erosion, excessive permeability	Depth to bedrock, low pH, water erosion, excessive permeability
435A: Streator-----	Ponding, restricted permeability, poor tilth	Ponding, frost heave, poor tilth
448B: Mona-----	Root-restrictive layer, high pH, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
448C2: Mona-----	Root-restrictive layer, high pH, water erosion, restricted permeability	Root-restrictive layer, high pH, water erosion
512B: Danabrook-----	Water erosion	Low pH, water erosion
512C2: Danabrook-----	Water erosion	Low pH, water erosion
516A: Faxon-----	Ponding, depth to bedrock	Ponding, depth to bedrock, low pH, frost heave
527C2: Kidami-----	Crusting, water erosion	Low pH, water erosion
527D2: Kidami-----	High pH, crusting, water erosion	Low pH, high pH, water erosion
530B: Ozaukee-----	Root-restrictive layer, high pH, water erosion, crusting, restricted permeability	Root-restrictive layer, high pH, water erosion
530C2: Ozaukee-----	Root-restrictive layer, high pH, water erosion, crusting, restricted permeability	Root-restrictive layer, high pH, water erosion
530C3: Ozaukee-----	Root-restrictive layer, poor tilth, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, poor tilth, high pH, water erosion, low fertility
530D2: Ozaukee-----	Root-restrictive layer, high pH, water erosion, crusting, restricted permeability	Root-restrictive layer, high pH, water erosion
530D3: Ozaukee-----	Root-restrictive layer, poor tilth, high pH, crusting, water erosion, restricted permeability	Root-restrictive layer, poor tilth, high pH, water erosion, low fertility
530E2: Ozaukee-----	Root-restrictive layer, high pH, water erosion, crusting, restricted permeability	Equipment limitation, root- restrictive layer, high pH, water erosion
530F: Ozaukee-----	---	Equipment limitation, root- restrictive layer, high pH, water erosion
541B: Graymont-----	High pH, water erosion, restricted permeability	High pH, water erosion

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
541B2: Graymont-----	High pH, water erosion, restricted permeability	High pH, water erosion
541C2: Graymont-----	High pH, water erosion, restricted permeability	High pH, water erosion
542A: Rooks-----	Wetness, poor tilth, high pH	Wetness, high pH, poor tilth
542B: Rooks-----	Wetness, poor tilth, high pH, water erosion	Wetness, high pH, poor tilth, water erosion
549B: Marseilles-----	Depth to bedrock, crusting, water erosion, restricted permeability	Depth to bedrock, low pH, water erosion
549C2: Marseilles-----	Depth to bedrock, crusting, water erosion, limited available water capacity, restricted permeability	Depth to bedrock, low pH, water erosion, limited available water capacity
549D2: Marseilles-----	Depth to bedrock, crusting, water erosion, limited available water capacity, restricted permeability	Depth to bedrock, low pH, water erosion, limited available water capacity
549F: Marseilles-----	---	---
549G: Marseilles-----	---	---
554B: Kernan-----	Wetness, crusting, water erosion, restricted permeability	Wetness, water erosion, low pH
560D2: St. Clair-----	Root-restrictive layer, poor tilth, high pH, crusting, water erosion, limited available water capacity, restricted permeability	Root-restrictive layer, poor tilth, low pH, high pH, water erosion, limited available water capacity
560E: St. Clair-----	---	Equipment limitation, root- restrictive layer, poor tilth, low pH, high pH, water erosion, limited available water capacity
567B: Elkhart-----	High pH, water erosion	High pH, water erosion
572A: Loran-----	Wetness	Wetness

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
572B: Loran-----	Wetness, water erosion	Wetness, water erosion
572C2: Loran-----	Wetness, water erosion	Wetness, water erosion
614A: Chenoa-----	Wetness, poor tilth, high pH, restricted permeability	Wetness, high pH, poor tilth
614B: Chenoa-----	Wetness, poor tilth, water erosion	Wetness, poor tilth, water erosion
662B: Barony-----	Water erosion	Low pH, water erosion
663B: Clare-----	Water erosion	Low pH, water erosion
667B: Kaneville-----	Water erosion	Water erosion
668B: Somonausk-----	Crusting, water erosion	Low pH, water erosion
675B: Greenbush-----	Crusting, water erosion	Low pH, water erosion
675C2: Greenbush-----	Crusting, water erosion	Low pH, water erosion
679B: Blackberry-----	Water erosion	Low pH, water erosion
680B: Campton-----	Crusting, water erosion	Low pH, water erosion
712A: Spaulding-----	Ponding, excess lime, poor tilth	Ponding, poor tilth, excess lime, frost heave
715A: Arrowsmith-----	Wetness, high pH	Wetness, high pH
732A: Appleriver-----	Wetness, crusting, restricted permeability	Wetness, low pH
732B: Appleriver-----	Wetness, water erosion, crusting, restricted permeability	Wetness, water erosion, low pH
791A: Rush-----	Crusting, excessive permeability	Low pH, excessive permeability
791B: Rush-----	Crusting, water erosion, excessive permeability	Low pH, water erosion, excessive permeability

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
792A: Bowes-----	Excessive permeability	Low pH, excessive permeability
792B: Bowes-----	Water erosion, excessive permeability	Low pH, water erosion, excessive permeability
794G: Marseilles-----	---	---
Northfield-----	---	---
Ritchey-----	---	---
802B: Orthents, loamy-----	Crusting, water erosion	Water erosion
802D: Orthents, loamy-----	Crusting, water erosion	Water erosion
804D: Orthents, acid-----	---	---
804G: Orthents, acid-----	---	---
805B: Orthents, clayey-----	Poor tilth, water erosion, limited available water capacity, restricted permeability	Poor tilth, water erosion, limited available water capacity
814A: Muscatune-----	Wetness	Wetness
Buckhart-----	No major limitations	No major limitations
817A: Channahon-----	Depth to bedrock, limited available water capacity	Depth to bedrock, low pH, limited available water capacity
Hesch-----	Depth to bedrock, limited available water capacity	Depth to bedrock, low pH, limited available water capacity
817B: Channahon-----	Depth to bedrock, water erosion, limited available water capacity	Depth to bedrock, low pH, limited available water capacity, water erosion
Hesch-----	Depth to bedrock, water erosion, limited available water capacity	Depth to bedrock, low pH, limited available water capacity, water erosion
818A: Flanagan-----	Wetness	Wetness
Catlin-----	No major limitations	Low pH

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
820E: Hennepin-----	---	Equipment limitation, water erosion, excess lime
Casco-----	---	Equipment limitation, high pH, water erosion
820G: Hennepin-----	---	---
Casco-----	---	---
969E2: Casco-----	---	Equipment limitation, high pH, water erosion, limited available water capacity, excessive permeability
Rodman-----	---	Equipment limitation, water erosion, limited available water capacity, excess lime, excessive permeability
969F: Casco-----	---	---
Rodman-----	---	---
1103A: Houghton-----	---	Ponding, low pH, wind erosion, frost heave
1480A: Moundprairie-----	---	Flooding, ponding, poor tilth, high pH, frost heave
3073A: Ross-----	Flooding	Flooding
3076A: Otter-----	Flooding, ponding	Flooding, ponding, frost heave
3082A: Millington-----	Flooding, ponding, excess lime	Flooding, ponding, excess lime, frost heave
3107A: Sawmill-----	Flooding, ponding, poor tilth	Flooding, ponding, frost heave, poor tilth
3321A: Du Page-----	Flooding, excess lime	Flooding, excess lime
3451A: Lawson-----	Flooding, wetness	Flooding, wetness
3480A: Moundprairie-----	Flooding, ponding, poor tilth, high pH	Flooding, ponding, poor tilth, high pH, frost heave

Table 6.--Limitations and Hazards Affecting Cropland and Pastureland--Continued

Map symbol and soil name	Limitations and hazards affecting cropland	Limitations and hazards affecting pastureland
3800A: Psamments-----	Flooding, wind erosion, limited available water capacity, excessive permeability	Flooding, low pH, wind erosion, limited available water capacity, low fertility, excessive permeability
7073A: Ross-----	No major limitations	No major limitations
8073A: Ross-----	Flooding	Flooding
8107A: Sawmill-----	Flooding, ponding, poor tilth	Flooding, ponding, frost heave, poor tilth
8151A: Ridgeville-----	Flooding, wetness	Flooding, wetness
8404A: Titus-----	Flooding, ponding, poor tilth, restricted permeability	Flooding, ponding, poor tilth, frost heave
8451A: Lawson-----	Flooding, wetness	Flooding, wetness
8516A: Faxon-----	Flooding, ponding, depth to bedrock	Flooding, ponding, depth to bedrock, low pH, frost heave

Table 7.--Land Capability and Yields per Acre of Crops and Pasture

(Yields for corn, soybeans, winter wheat, oats, and grass-legume hay are those that can be expected under an optimum level of management. Yields for grass-legume pasture are those that can be expected under an average level of management. All yields 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	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
23B: Blount-----	2e	124	43	51	58	4.00	5.80
51A: Muscatune----	1	180	57	68	94	5.42	8.00
60C2: La Rose-----	3e	133	44	53	62	4.20	6.10
60D2: La Rose-----	4e	124	41	50	58	3.90	5.70
61A: Atterberry---	1	164	51	64	88	4.97	7.30
61B: Atterberry---	2e	162	50	63	87	4.92	7.30
67A: Harpster-----	2w	164	52	61	80	4.86	7.20
68A: Sable-----	2w	171	56	66	88	5.15	7.50
86B: Osco-----	2e	170	53	67	91	6.16	9.0
86C2: Osco-----	3e	160	50	63	86	5.78	8.30
87A: Dickinson----	2s	128	42	51	67	3.05	4.50
87B: Dickinson----	2e	127	42	51	66	3.02	4.40
87C2: Dickinson----	3e	119	39	47	62	2.84	4.10
88B: Sparta-----	4s	106	37	45	51	3.58	5.20
88D: Sparta-----	6s	103	36	43	50	3.30	4.80
91A: Swygert-----	2w	143	47	57	71	4.10	6.0
91B: Swygert-----	2e	142	47	56	70	4.10	5.90

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
91B2: Swygert-----	2e	133	44	53	66	3.80	5.50
91C2: Swygert-----	3e	132	43	52	65	3.80	5.40
91C3: Swygert-----	4e	86	29	39	55	3.03	4.47
103A: Houghton-----	3w	158	52	---	---	---	7.00
104A: Virgil-----	1	164	50	63	87	5.00	7.30
105A: Batavia-----	1	159	50	61	85	5.20	7.70
105B: Batavia-----	2e	157	50	60	84	5.20	7.60
105C2: Batavia-----	3e	148	47	57	79	4.84	7.10
125A: Selma-----	2w	157	51	62	80	4.80	7.00
131B: Alvin-----	2e	134	44	52	66	3.40	4.90
131C2: Alvin-----	3e	126	41	49	62	3.15	4.60
132A: Starks-----	2w	147	46	57	76	4.60	6.80
134A: Camden-----	1	149	46	58	78	4.29	6.30
134B: Camden-----	2e	148	46	57	77	4.25	6.30
134C2: Camden-----	3e	139	43	54	73	3.99	5.80
134D2: Camden-----	3e	129	40	50	67	3.71	5.30
134D3: Camden-----	6e	---	---	---	---	3.60	5.20
134F: Camden-----	6e	---	---	---	---	3.05	4.47
146A: Elliott-----	2w	151	50	61	78	4.50	6.70
146B: Elliott-----	2e	149	50	60	77	4.50	6.60

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
146B2: Elliott-----	2e	143	48	58	74	4.30	6.30
147B2: Clarence-----	3e	117	41	49	55	3.68	5.30
148A: Proctor-----	1	164	51	62	88	5.70	8.30
148B: Proctor-----	2e	164	51	62	88	5.70	8.30
148C2: Proctor-----	3e	154	48	59	83	5.36	7.70
149A: Brenton-----	1	176	54	67	95	5.10	7.50
151A: Ridgeville---	2s	136	46	57	70	4.50	6.70
151B: Ridgeville---	2e	135	46	56	69	4.50	6.60
152A: Drummer-----	2w	173	56	65	89	5.04	7.40
154A: Flanagan-----	1	175	56	69	92	5.31	7.83
171A: Catlin-----	1	168	53	66	89	6.10	9.00
171B: Catlin-----	2e	166	52	65	88	6.04	8.91
171B2: Catlin-----	2e	160	50	63	85	5.80	8.60
171C2: Catlin-----	3e	156	49	61	83	5.67	8.30
171C3: Catlin-----	4e	146	46	57	77	5.30	7.70
193C2: Mayville-----	3e	125	41	50	64	3.30	4.90
198A: Elburn-----	1	178	55	67	85	5.20	7.67
199A: Plano-----	1	175	54	67	93	6.33	9.30
199B: Plano-----	2e	173	53	66	92	6.27	9.10
199C2: Plano-----	3e	163	50	62	87	5.89	8.60

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
206A: Thorp-----	2w	153	50	60	79	4.60	6.80
210A: Lena-----	3w	154	49	---	---	---	6.30
219A: Millbrook---	1	159	50	62	84	4.80	7.00
223B: Varna-----	2e	141	45	57	70	4.40	6.40
223B2: Varna-----	2e	135	43	55	67	4.20	6.20
223C2: Varna-----	3e	133	42	55	67	4.10	6.10
223C3: Varna-----	4e	124	39	50	62	3.80	5.50
223D2: Varna-----	4e	131	41	53	65	4.00	5.90
223D3: Varna-----	4e	119	38	49	60	3.70	5.50
228B: Nappanee----	3e	103	37	41	44	3.60	5.20
228C2: Nappanee----	3e	96	34	38	40	3.30	4.80
228C3: Nappanee----	4e	79	28	30	42	2.70	3.90
232A: Ashkum-----	2w	154	51	59	77	4.60	6.80
233A: Birkbeck----	1	151	47	60	79	4.60	6.80
233B: Birkbeck----	2e	149	47	59	78	4.58	6.76
233C2: Birkbeck----	3e	140	44	56	73	4.30	6.30
234A: Sunbury-----	1	162	51	63	84	4.97	7.33
235A: Bryce-----	2w	146	49	58	73	4.30	6.30
236A: Sabina-----	2w	151	47	59	78	4.63	6.83
238A: Rantoul-----	3w	130	45	51	58	3.73	5.50

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
241C3: Chatsworth---	6e	---	---	---	---	2.20	3.20
241D3: Chatsworth---	7e	---	---	---	---	---	3.00
241E3, 241F, 241G: Chatsworth--	7e	---	---	---	---	---	---
242A: Kendall-----	2w	155	48	60	80	4.75	7.00
243A: St. Charles--	1	151	47	59	78	4.63	6.80
243B: St. Charles--	2e	149	47	58	77	4.58	6.80
243C2: St. Charles--	3e	140	44	55	73	4.31	6.30
244A: Hartsburg----	2w	164	53	61	80	4.86	7.20
278A: Stronghurst--	2w	154	48	60	78	4.80	7.00
278B: Stronghurst--	2e	152	48	59	77	4.70	6.90
279B: Rozetta-----	2e	147	46	58	75	4.70	6.90
280C2: Fayette-----	3e	140	44	56	72	4.42	6.40
290A: Warsaw-----	2s	145	46	58	73	4.60	6.80
290B: Warsaw-----	2e	144	46	57	72	4.60	6.80
290C2: Warsaw-----	2e	136	43	55	69	4.30	6.40
293A: Andres-----	1	166	53	64	87	4.90	7.20
293B: Andres-----	2e	164	52	63	86	4.80	7.00
294B: Symerton-----	2e	159	50	61	81	5.50	8.30
294C2: Symerton-----	3e	150	47	58	76	5.20	7.70

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
295A: Mokena-----	2w	155	49	60	79	4.40	6.50
295B: Mokena-----	2e	153	49	59	78	4.40	6.40
298B: Beecher-----	2e	136	46	54	70	4.20	6.10
311B: Ritchey-----	3e	99	34	42	51	3.10	4.60
314A: Joliet-----	3w	117	40	47	61	3.30	5.50
315B: Channahon----	3e	102	35	44	54	3.30	4.70
317A: Millsdale----	3w	129	45	54	68	4.00	5.80
318B: Lorenzo-----	3s	128	42	51	62	3.00	4.40
318C2: Lorenzo-----	3e	119	39	48	58	2.80	4.10
320B: Frankfort----	3e	119	41	51	54	3.60	5.20
320C2: Frankfort----	4e	110	38	48	51	3.30	4.80
325B: Dresden-----	2e	141	46	54	72	3.70	5.40
325C2: Dresden-----	2e	133	43	52	69	3.50	5.20
327B: Fox-----	2e	133	43	52	65	3.20	4.60
327C2: Fox-----	2e	126	40	50	62	3.00	4.40
327D2: Fox-----	3e	123	40	49	61	2.90	4.20
330A: Peotone-----	2w	148	49	55	70	4.50	6.70
344A: Harvard-----	1	154	48	60	79	5.00	7.30
344B: Harvard-----	2e	152	48	59	78	5.00	7.30
344C2: Harvard-----	3e	143	45	56	73	4.70	6.70

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
356A: Elpaso-----	2w	176	57	60	92	5.20	7.70
375A: Rutland-----	2w	162	52	64	87	4.97	7.30
375B: Rutland-----	2e	160	51	63	86	4.92	7.20
375B2: Rutland-----	2e	154	49	61	83	4.80	7.00
388B: Wenona-----	2e	154	51	60	81	5.00	7.30
388B2: Wenona-----	2e	148	49	58	78	4.70	6.90
388C2: Wenona-----	3e	147	48	57	77	4.70	6.90
397F: Boone-----	7s	---	---	---	---	---	---
413B: Gale-----	2e	120	40	49	61	3.60	5.30
413C2: Gale-----	3e	114	38	46	58	3.40	5.00
435A: Streator-----	2w	160	52	62	82	4.60	6.80
448B: Mona-----	2e	145	46	56	74	3.80	5.60
448C2: Mona-----	3e	136	43	53	70	3.50	5.20
512B: Danabrook----	2e	166	52	65	89	5.70	8.40
512C2: Danabrook----	3e	156	49	61	84	5.40	7.80
516A: Faxon-----	3w	135	44	55	68	4.20	6.20
527C2: Kidami-----	2e	133	42	50	65	3.90	5.60
527D2: Kidami-----	3e	131	41	49	63	3.80	5.40
530B: Ozaukee-----	2e	134	42	53	71	3.40	5.00
530C2: Ozaukee-----	2e	127	39	51	68	3.20	4.70

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
530C3: Ozaukee-----	3e	117	37	47	63	3.00	4.30
530D2: Ozaukee-----	3e	124	39	50	66	3.10	4.50
530D3: Ozaukee-----	4e	115	36	46	61	2.90	4.10
530E2: Ozaukee-----	4e	113	35	45	60	2.90	4.10
530F: Ozaukee-----	6e	---	---	---	---	2.60	3.70
541B: Graymont-----	2e	163	51	63	84	5.30	7.90
541B2: Graymont-----	2e	157	49	61	81	5.15	7.60
541C2: Graymont-----	3e	153	48	60	79	5.00	7.40
542A: Rooks-----	1	172	53	64	88	4.97	7.30
542B: Rooks-----	2e	170	53	63	87	4.90	7.27
549B: Marseilles---	2e	128	43	52	67	3.30	4.70
549C2: Marseilles---	3e	119	40	48	63	3.00	4.40
549D2: Marseilles---	4e	114	38	46	60	2.90	4.20
549F, 549G: Marseilles---	7e	---	---	---	---	---	---
554B: Kernan-----	2e	137	45	54	69	4.20	6.10
560D2: St. Clair----	4e	98	33	43	46	3.20	4.60
560E: St. Clair----	6e	---	---	---	---	3.00	4.90
567B: Elkhart-----	2e	153	49	58	72	4.70	6.90
572A: Loran-----	1	147	48	58	76	4.41	6.50
572B: Loran-----	2e	146	48	57	75	4.37	6.40

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
572C2: Loran-----	3e	137	45	54	71	4.10	5.90
614A: Chenoc-----	2w	156	51	61	82	4.60	6.80
614B: Chenoc-----	2e	154	50	60	81	4.60	6.80
662B: Barony-----	2e	153	48	59	79	5.00	7.30
663B: Clare-----	2e	162	50	62	86	5.70	8.42
667B: Kaneville----	2e	159	49	60	84	5.10	7.40
668B: Somonauk----	2e	146	44	56	75	4.60	6.80
675B: Greenbush----	2e	164	51	62	86	4.81	7.10
675C2: Greenbush----	3e	161	50	61	84	4.52	6.70
679B: Blackberry---	2e	175	54	66	88	6.27	9.10
680B: Campton-----	2e	150	47	59	78	4.60	6.80
712A: Spaulding----	2w	164	53	61	80	4.86	7.20
715A: Arrowsmith---	1	171	55	67	87	5.09	7.50
732A: Appleriver---	1	128	41	52	64	4.07	6.00
732B: Appleriver---	2e	127	41	51	63	3.60	5.94
791A: Rush-----	1	159	49	61	82	5.50	8.20
791B: Rush-----	2e	157	49	60	81	5.40	8.10
792A: Bowes-----	1	159	50	63	86	5.60	8.30
792B: Bowes-----	2e	157	50	62	85	5.50	8.30

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
794G----- Marseilles, Northfield, and Ritchey	8	---	---	---	---	---	---
802B: Orthents, loamy-----	2e	93	32	35	55	3.70	4.70
802D: Orthents, loamy-----	3e	90	31	34	54	3.60	4.50
804D, 804G: Orthents, acid-----	7s	---	---	---	---	---	---
805B: Orthents, clayey-----	3e	84	29	31	51	3.30	4.20
814A----- Muscatune----	1e	163	50	63	93	6.08	10.10
Buckhart----	2e						
817A----- Channahon----	3s	114	39	48	57	2.90	4.20
Hesch-----	2s						
817B----- Channahon----	3e	110	37	46	56	3.00	4.30
Hesch-----	2e						
818A----- Flanagan- Catlin	1	157	50	65	90	6.00	10.00
820E----- Hennepin- Casco	6e	---	---	---	---	2.40	3.50
820G----- Hennepin- Casco	7e	---	---	---	---	---	---
830. Landfills							
864. Pits, quarry							
865. Pits, gravel							
969E2----- Casco-----	6e	---	---	---	---	2.40	3.50
Rodman-----	6s						

See footnote at end of table.

Table 7.--Land Capability and Yields per Acre of Crops and Pasture--Continued

Map symbol and soil name	Land capability	Corn	Soybeans	Winter wheat	Oats	Grass-legume hay	Grass-legume pasture
		Bu	Bu	Bu	Bu	Tons	AUM*
969F----- Casco----- Rodman-----	7e 7s	---	---	---	---	---	2.70
1103A: Houghton----	5w	---	---	---	---	---	---
1480A: Moundprairie	5w	---	---	---	---	---	---
3073A: Ross-----	3w	147	48	---	---	4.40	6.50
3076A: Otter-----	3w	168	55	---	---	5.10	7.50
3082A: Millington---	3w	154	49	---	---	4.60	6.80
3107A: Sawmill-----	3w	153	49	---	---	4.70	6.90
3321A: Du Page-----	2w	153	49	---	---	4.80	7.00
3451A: Lawson-----	3w	154	50	---	---	4.70	6.90
3480A: Moundprairie	3w	146	45	---	---	4.20	6.20
3800A: Psammets----	4s	---	---	---	---	---	---
7073A: Ross-----	1	163	53	64	80	4.86	7.20
8073A: Ross-----	2w	163	53	64	80	4.90	7.20
8107A: Sawmill-----	2w	170	54	64	87	5.20	7.70
8151A: Ridgeville---	2s	116	39	48	63	3.80	5.70
8404A: Titus-----	3w	143	47	55	68	4.40	6.50
8451A: Lawson-----	2w	171	55	66	87	5.20	7.70
8516A: Faxon-----	3w	115	37	47	58	3.60	5.30

\* Animal unit month: The amount of forage required to feed one mature cow, of approximately 1,000 pounds weight, with or without a calf, for 30 days.

Table 8.--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	Map unit name
23B	Blount silt loam, 2 to 4 percent slopes
51A	Muscataune silt loam, 0 to 2 percent slopes
60C2	La Rose loam, 5 to 10 percent slopes, eroded
61A	Atterberry silt loam, 0 to 2 percent slopes (where drained)
61B	Atterberry silt loam, 2 to 5 percent slopes
67A	Harpster silty clay loam, 0 to 2 percent slopes (where drained)
68A	Sable silty clay loam, 0 to 2 percent slopes (where drained)
86B	Osco silt loam, 2 to 5 percent slopes
87A	Dickinson sandy loam, 0 to 2 percent slopes
87B	Dickinson sandy loam, 2 to 5 percent slopes
87C2	Dickinson sandy loam, 5 to 10 percent slopes, eroded
91A	Swygert silty clay loam, 0 to 2 percent slopes
91B	Swygert silty clay loam, 2 to 4 percent slopes
91B2	Swygert silty clay loam, 2 to 4 percent slopes, eroded
91C2	Swygert silty clay loam, 4 to 6 percent slopes, eroded
104A	Virgil silt loam, 0 to 2 percent slopes (where drained)
105A	Batavia silt loam, 0 to 2 percent slopes
105B	Batavia silt loam, 2 to 5 percent slopes
125A	Selma loam, 0 to 2 percent slopes (where drained)
131B	Alvin fine sandy loam, 2 to 5 percent slopes
131C2	Alvin fine sandy loam, 5 to 10 percent slopes, eroded
132A	Starks silt loam, 0 to 2 percent slopes (where drained)
134A	Camden silt loam, 0 to 2 percent slopes
134B	Camden silt loam, 2 to 5 percent slopes
146A	Elliott silt loam, 0 to 2 percent slopes
146B	Elliott silt loam, 2 to 4 percent slopes
146B2	Elliott silty clay loam, 2 to 4 percent slopes, eroded
148A	Proctor silt loam, 0 to 2 percent slopes
148B	Proctor silt loam, 2 to 5 percent slopes
149A	Brenton silt loam, 0 to 2 percent slopes
151A	Ridgeville fine sandy loam, 0 to 2 percent slopes
151B	Ridgeville fine sandy loam, 2 to 4 percent slopes
152A	Drummer silty clay loam, 0 to 2 percent slopes (where drained)
154A	Flanagan silt loam, 0 to 2 percent slopes
171A	Catlin silt loam, 0 to 2 percent slopes
171B	Catlin silt loam, 2 to 5 percent slopes
171B2	Catlin silt loam, 2 to 5 percent slopes, eroded
198A	Elburn silt loam, 0 to 2 percent slopes
199A	Plano silt 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)
219A	Millbrook silt loam, 0 to 2 percent slopes (where drained)
223B	Varna silt loam, 2 to 4 percent slopes
223B2	Varna silt loam, 2 to 4 percent slopes, eroded
223C2	Varna silt loam, 4 to 6 percent slopes, eroded
228B	Nappanee silt loam, 2 to 4 percent slopes
232A	Ashkum silty clay loam, 0 to 2 percent slopes (where drained)
233A	Birkbeck silt loam, 0 to 2 percent slopes
233B	Birkbeck silt loam, 2 to 5 percent slopes
234A	Sunbury silt loam, 0 to 2 percent slopes
235A	Bryce silty clay, 0 to 2 percent slopes (where drained)
236A	Sabina silt loam, 0 to 2 percent slopes (where drained)
242A	Kendall silt loam, 0 to 2 percent slopes (where drained)
243A	St. Charles silt loam, 0 to 2 percent slopes
243B	St. Charles silt loam, 2 to 5 percent slopes
244A	Hartsburg silty clay loam, 0 to 2 percent slopes (where drained)
278A	Stronghurst silt loam, 0 to 2 percent slopes (where drained)
278B	Stronghurst silt loam, 2 to 5 percent slopes

Table 8.--Prime Farmland--Continued

Map symbol	Map unit name
279B	Rozetta silt loam, 2 to 5 percent slopes
290A	Warsaw silt loam, 0 to 2 percent slopes
290B	Warsaw silt loam, 2 to 4 percent slopes
290C2	Warsaw silt loam, 4 to 6 percent slopes, eroded
293A	Andres silt loam, 0 to 2 percent slopes
293B	Andres silt loam, 2 to 5 percent slopes
294B	Symerton silt loam, 2 to 5 percent slopes
294C2	Symerton silt loam, 5 to 10 percent slopes, eroded
295A	Mokena silt loam, 0 to 2 percent slopes
295B	Mokena silt loam, 2 to 4 percent slopes
298B	Beecher silt loam, 2 to 4 percent slopes
317A	Millsdale silty clay loam, 0 to 2 percent slopes (where drained)
320B	Frankfort silt loam, 2 to 4 percent slopes
325B	Dresden silt loam, 2 to 4 percent slopes
325C2	Dresden silt loam, 4 to 6 percent slopes, eroded
327B	Fox silt loam, 2 to 4 percent slopes
327C2	Fox silt loam, 4 to 6 percent slopes, eroded
330A	Peotone silty clay loam, 0 to 2 percent slopes (where drained)
344A	Harvard silt loam, 0 to 2 percent slopes
344B	Harvard silt loam, 2 to 5 percent slopes
356A	Elpaso silty clay loam, 0 to 2 percent slopes (where drained)
375A	Rutland silty clay loam, 0 to 2 percent slopes
375B	Rutland silty clay loam, 2 to 5 percent slopes
375B2	Rutland silty clay loam, 2 to 5 percent slopes, eroded
388B	Wenona silt loam, 2 to 5 percent slopes
388B2	Wenona silt loam, 2 to 5 percent slopes, eroded
388C2	Wenona silty clay loam, 5 to 10 percent slopes, eroded
413B	Gale silt loam, 2 to 4 percent slopes
413C2	Gale silt loam, 4 to 6 percent slopes, eroded
435A	Streator silty clay loam, 0 to 2 percent slopes (where drained)
448B	Mona silt loam, 2 to 5 percent slopes
448C2	Mona silt loam, 5 to 10 percent slopes, eroded
512B	Danabrook silt loam, 2 to 5 percent slopes
516A	Faxon loam, 0 to 2 percent slopes (where drained)
527C2	Kidami loam, 4 to 6 percent slopes, eroded
530B	Ozaukee silt loam, 2 to 4 percent slopes
530C2	Ozaukee silt loam, 4 to 6 percent slopes, eroded
541B	Graymont silt loam, 2 to 5 percent slopes
541B2	Graymont silt loam, 2 to 5 percent slopes, eroded
542A	Rooks silty clay loam, 0 to 2 percent slopes
542B	Rooks silty clay loam, 2 to 5 percent slopes
549B	Marseilles silt loam, 2 to 5 percent slopes
554B	Kernan silt loam, 2 to 4 percent slopes
567B	Elkhart silt loam, 2 to 5 percent slopes
572A	Loran silt loam, 0 to 2 percent slopes
572B	Loran silt loam, 2 to 5 percent slopes
614A	Chenoa silty clay loam, 0 to 2 percent slopes
614B	Chenoa silty clay loam, 2 to 5 percent slopes
662B	Barony silt loam, 2 to 5 percent slopes
663B	Clare silt loam, 2 to 5 percent slopes
667B	Kaneville silt loam, 2 to 5 percent slopes
668B	Somonauk silt loam, 2 to 5 percent slopes
675B	Greenbush silt loam, 2 to 5 percent slopes
679B	Blackberry silt loam, 2 to 5 percent slopes
680B	Campton silt loam, 2 to 5 percent slopes
712A	Spaulding silty clay loam, 0 to 2 percent slopes (where drained)
715A	Arrowsmith silt loam, 0 to 2 percent slopes
732A	Appleriver silt loam, 0 to 2 percent slopes
732B	Appleriver silt loam, 2 to 5 percent slopes
791A	Rush silt loam, 0 to 2 percent slopes
791B	Rush silt loam, 2 to 4 percent slopes
792A	Bowes silt loam, 0 to 2 percent slopes

Table 8.--Prime Farmland--Continued

Map symbol	Map unit name
792B	Bowes silt loam, 2 to 4 percent slopes
814A	Muscatune-Buckhart silt loams, 0 to 3 percent slopes
818A	Flanagan-Catlin silt loams, 0 to 3 percent slopes
3073A	Ross loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3076A	Otter silt loam, 0 to 2 percent slopes, frequently flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
3082A	Millington silt loam, 0 to 2 percent slopes, frequently flooded (where drained and either 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)
3321A	Du Page silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3451A	Lawson silt loam, 0 to 2 percent slopes, frequently flooded (where protected from flooding or not frequently flooded during the growing season)
3480A	Moundprairie 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)
7073A	Ross silt loam, 0 to 2 percent slopes, rarely flooded
8073A	Ross loam, 0 to 2 percent slopes, occasionally flooded
8107A	Sawmill silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained)
8151A	Ridgeville fine sandy loam, 0 to 2 percent slopes, occasionally flooded
8404A	Titus silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained)
8451A	Lawson silt loam, 0 to 2 percent slopes, occasionally flooded
8516A	Faxon loam, 0 to 2 percent slopes, occasionally flooded (where drained)

Table 9.--Hydric Soils

(Only those map units that have hydric components are listed. See text for a description of hydric qualities and definitions of the hydric criteria codes)

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
23B: Blount silt loam, 2 to 4 percent slopes	Blount	ground moraine, end moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
51A: Muscatune silt loam, 0 to 2 percent slopes	Muscatune	ground moraine	Not hydric	---
	Sable	ground moraine	Hydric	2B3
60C2: La Rose loam, 5 to 10 percent slopes, eroded	La Rose	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
60D2: La Rose loam, 10 to 18 percent slopes, eroded	La Rose	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
61A: Atterberry silt loam, 0 to 2 percent slopes	Atterberry	ground moraine	Not hydric	---
	Sable	ground moraine	Hydric	2B3
61B: Atterberry silt loam, 2 to 5 percent slopes	Atterberry	ground moraine	Not hydric	---
	Sable	ground moraine	Hydric	2B3
67A: Harpster silty clay loam, 0 to 2 percent slopes	Harpster	ground moraine, lake plain, outwash plain, stream terrace, depression	Hydric	2B3
	Houghton	ground moraine, outwash plain, end moraine	Hydric	1,2B3
68A: Sable silty clay loam, 0 to 2 percent slopes	Sable	ground moraine	Hydric	2B3
	Spaulding	ground moraine, depression	Hydric	2B3
86B: Osco silt loam, 2 to 5 percent slopes	Osco	ground moraine	Not hydric	---
	Sable	ground moraine	Hydric	2B3
86C2: Osco silt loam, 5 to 10 percent slopes, eroded	Osco	ground moraine	Not hydric	---
	Sable	ground moraine	Hydric	2B3
88B: Sparta loamy sand, 1 to 6 percent slopes	Sparta	stream terrace	Not hydric	---
	Selma	outwash plain, stream terrace	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
91A: Swygert silty clay loam, 0 to 2 percent slopes	Swygert	ground moraine, end moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
91B: Swygert silty clay loam, 2 to 4 percent slopes	Swygert	ground moraine, end moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
91B2: Swygert silty clay loam, 2 to 4 percent slopes, eroded	Swygert	ground moraine, end moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
91C2: Swygert silty clay loam, 4 to 6 percent slopes, eroded	Swygert	ground moraine, end moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
91C3: Swygert silty clay loam, 4 to 6 percent slopes, severely eroded	Swygert	ground moraine, end moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
103A: Houghton muck, 0 to 2 percent slopes	Houghton	ground moraine, outwash plain, end moraine	Hydric	1,2B3
	Drummer	outwash plain, ground moraine	Hydric	2B3
104A: Virgil silt loam, 0 to 2 percent slopes	Virgil	outwash plain, ground moraine	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
105A: Batavia silt loam, 0 to 2 percent slopes	Batavia	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
105B: Batavia silt loam, 2 to 5 percent slopes	Batavia	outwash plain	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
105C2: Batavia silt loam, 5 to 10 percent slopes, eroded	Batavia	outwash plain	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
125A: Selma loam, 0 to 2 percent slopes	Selma	outwash plain, stream terrace	Hydric	2B3
	Houghton	ground moraine, outwash plain, end moraine	Hydric	1,2B3
131B: Alvin fine sandy loam, 2 to 5 percent slopes	Alvin	outwash plain, stream terrace	Not hydric	---
	Selma	outwash plain, stream terrace	Hydric	2B3
132A: Starks silt loam, 0 to 2 percent slopes	Starks	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, stream terrace	Hydric	2B3
146A: Elliott silt loam, 0 to 2 percent slopes	Elliott	ground moraine, end moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
146B: Elliott silt loam, 2 to 4 percent slopes	Elliott	ground moraine, end moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
146B2: Elliott silty clay loam, 2 to 4 percent slopes, eroded	Elliott	ground moraine, end moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
147B2: Clarence silty clay loam, 2 to 4 percent slopes, eroded	Clarence	ground moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
148A: Proctor silt loam, 0 to 2 percent slopes	Proctor	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
148B: Proctor silt loam, 2 to 5 percent slopes	Proctor	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, stream terrace	Hydric	2B3
148C2: Proctor silt loam, 5 to 10 percent slopes, eroded	Proctor	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, stream terrace	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
149A: Brenton silt loam, 0 to 2 percent slopes	Brenton	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
152A: Drummer silty clay loam, 0 to 2 percent slopes	Drummer	outwash plain, ground moraine	Hydric	2B3
	Harpster	ground moraine, lake plain, outwash plain, stream terrace, depression	Hydric	2B3
	Houghton	ground moraine, outwash plain, end moraine	Hydric	1,2B3
154A: Flanagan silt loam, 0 to 2 percent slopes	Flanagan	ground moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
171A: Catlin silt loam, 0 to 2 percent slopes	Catlin	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
171B: Catlin silt loam, 2 to 5 percent slopes	Catlin	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
171B2: Catlin silt loam, 2 to 5 percent slopes, eroded	Catlin	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
171C2: Catlin silt loam, 5 to 10 percent slopes, eroded	Catlin	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
171C3: Catlin silty clay loam, 5 to 10 percent slopes, severely eroded	Catlin	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
193C2: Mayville silt loam, 5 to 10 percent slopes, eroded	Mayville	end moraine, ground moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
198A: Elburn silt loam, 0 to 2 percent slopes	Elburn	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
	Thorp	depression	Hydric	2B3
199A: Plano silt loam, 0 to 2 percent slopes	Plano	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
199B: Plano silt loam, 2 to 5 percent slopes	Plano	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
199C2: Plano silt loam, 5 to 10 percent slopes, eroded	Plano	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
206A: Thorp silt loam, 0 to 2 percent slopes	Thorp	outwash plain, ground moraine	Hydric	2B3
210A: Lena muck, 0 to 2 percent slopes	Lena	ground moraine, outwash plain	Hydric	1,2B3
219A: Millbrook silt loam, 0 to 2 percent slopes	Millbrook	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
223B: Varna silt loam, 2 to 4 percent slopes	Varna	ground moraine, end moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
223B2: Varna silt loam, 2 to 4 percent slopes, eroded	Varna	ground moraine, end moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
223C2: Varna silt loam, 4 to 6 percent slopes, eroded	Varna	ground moraine, end moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
223C3: Varna silty clay loam, 4 to 6 percent slopes, severely eroded	Varna	ground moraine, end moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
223D2: Varna silt loam, 6 to 12 percent slopes, eroded	Varna	ground moraine, end moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
223D3: Varna silty clay loam, 6 to 12 percent slopes, severely eroded	Varna	ground moraine, end moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
228B: Nappanee silt loam, 2 to 4 percent slopes	Nappanee	ground moraine, end moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
228C2: Nappanee silty clay loam, 4 to 6 percent slopes, eroded	Nappanee	ground moraine, end moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
228C3: Nappanee silty clay loam, 4 to 6 percent slopes, severely eroded	Nappanee	ground moraine, end moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
232A: Ashkum silty clay loam, 0 to 2 percent slopes	Ashkum	ground moraine, end moraine	Hydric	2B3
	Houghton	ground moraine, outwash plain, end moraine	Hydric	1,2B3
233A: Birkbeck silt loam, 0 to 2 percent slopes	Birkbeck	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
233B: Birkbeck silt loam, 2 to 5 percent slopes	Birkbeck	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
233C2: Birkbeck silt loam, 5 to 10 percent slopes, eroded	Birkbeck	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
234A: Sunbury silt loam, 0 to 2 percent slopes	Sunbury	till plain, ground moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
235A: Bryce silty clay, 0 to 2 percent slopes	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
	Rantoul	ground moraine, lake plain	Hydric	3,2B3
236A: Sabina silt loam, 0 to 2 percent slopes	Sabina	ground moraine, till plain	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
238A: Rantoul silty clay, 0 to 2 percent slopes	Rantoul	ground moraine, lake plain	Hydric	3,2B3
	Houghton	ground moraine, outwash plain, end moraine	Hydric	1,2B3
241C3: Chatsworth silty clay, 4 to 6 percent slopes, severely eroded	Chatsworth	ground moraine, end moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
241D3: Chatsworth silty clay, 6 to 12 percent slopes, severely eroded	Chatsworth	ground moraine, end moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
242A: Kendall silt loam, 0 to 2 percent slopes	Kendall	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
243A: St. Charles silt loam, 0 to 2 percent slopes	St. Charles	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
243B: St. Charles silt loam, 2 to 5 percent slopes	St. Charles	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
244A: Hartsburg silty clay loam, 0 to 2 percent slopes	Hartsburg	outwash plain, ground moraine	Hydric	2B3
279B: Rozetta silt loam, 2 to 5 percent slopes	Rozetta	ground moraine	Not hydric	---
	Sable	ground moraine	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
293A: Andres silt loam, 0 to 2 percent slopes	Andres	ground moraine, lake plain	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
293B: Andres silt loam, 2 to 5 percent slopes	Andres	ground moraine, lake plain	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
294B: Symerton silt loam, 2 to 5 percent slopes	Symerton	ground moraine, lake plain	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
294C2: Symerton silt loam, 5 to 10 percent slopes, eroded	Symerton	ground moraine, lake plain	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
295A: Mokena silt loam, 0 to 2 percent slopes	Mokena	ground moraine, lake plain	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
295B: Mokena silt loam, 2 to 4 percent slopes	Mokena	ground moraine, lake plain	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
298B: Beecher silt loam, 2 to 4 percent slopes	Beecher	ground moraine, end moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
314A: Joliet silt loam, 0 to 2 percent slopes	Joliet	stream terrace	Hydric	2B3
315B: Channahon silt loam, 2 to 4 percent slopes	Channahon	outwash plain, stream terrace	Not hydric	---
	Faxon	outwash plain, stream terrace	Hydric	2B3
317A: Millsdale silty clay loam, 0 to 2 percent slopes	Millsdale	stream terrace	Hydric	2B3
320B: Frankfort silt loam, 2 to 4 percent slopes	Frankfort	ground moraine, end moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
320C2: Frankfort silty clay loam, 4 to 6 percent slopes, eroded	Frankfort	ground moraine, end moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
330A: Peotone silty clay loam, 0 to 2 percent slopes	Peotone	ground moraine	Hydric	2B3
	Houghton	ground moraine, outwash plain, end moraine	Hydric	1,2B3
344A: Harvard silt loam, 0 to 2 percent slopes	Harvard	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
344B: Harvard silt loam, 2 to 5 percent slopes	Harvard	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
344C2: Harvard silt loam, 5 to 10 percent slopes, eroded	Harvard	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
356A: Elpaso silty clay loam, 0 to 2 percent slopes	Elpaso	ground moraine, end moraine	Hydric	2B3
	Harpster	ground moraine, lake plain, outwash plain, stream terrace, depression	Hydric	2B3
375A: Rutland silty clay loam, 0 to 2 percent slopes	Rutland	ground moraine, lake plain	Not hydric	---
	Streator	ground moraine, lake plain, depression	Hydric	2B3
375B: Rutland silty clay loam, 2 to 5 percent slopes	Rutland	ground moraine, lake plain	Not hydric	---
	Streator	ground moraine, lake plain, depression	Hydric	2B3
375B2: Rutland silty clay loam, 2 to 5 percent slopes, eroded	Rutland	ground moraine, lake plain	Not hydric	---
	Streator	ground moraine, lake plain, depression	Hydric	2B3
388B: Wenona silt loam, 2 to 5 percent slopes	Wenona	ground moraine, lake plain	Not hydric	---
	Streator	ground moraine, lake plain, depression	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
388B2: Wenona silt loam, 2 to 5 percent slopes, eroded	Wenona	ground moraine, lake plain	Not hydric	---
	Streator	ground moraine, lake plain, depression	Hydric	2B3
388C2: Wenona silty clay loam, 5 to 10 percent slopes, eroded	Wenona	ground moraine	Not hydric	---
	Streator	ground moraine, lake plain, depression	Hydric	2B3
435A: Streator silty clay loam, 0 to 2 percent slopes	Streator	ground moraine, lake plain, depression	Hydric	2B3
448B: Mona silt loam, 2 to 5 percent slopes	Mona	ground moraine, glacial lake (relict)	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
448C2: Mona silt loam, 5 to 10 percent slopes, eroded	Mona	ground moraine	Not hydric	---
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
512B: Danabrook silt loam, 2 to 5 percent slopes	Danabrook	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
512C2: Danabrook silt loam, 5 to 10 percent slopes, eroded	Danabrook	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
516A: Faxon loam, 0 to 2 percent slopes	Faxon	outwash plain, stream terrace	Hydric	2B3
	Peotone	ground moraine	Hydric	2B3
527C2: Kidami loam, 4 to 6 percent slopes, eroded	Kidami	end moraine, ground moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
527D2: Kidami loam, 6 to 12 percent slopes, eroded	Kidami	end moraine, ground moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
530B: Ozaukee silt loam, 2 to 4 percent slopes	Ozaukee	ground moraine, end moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
530C2: Ozaukee silt loam, 4 to 6 percent slopes, eroded	Ozaukee	end moraine, ground moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
530C3: Ozaukee silty clay loam, 4 to 6 percent slopes, severely eroded	Ozaukee	end moraine, ground moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
530D2: Ozaukee silt loam, 6 to 12 percent slopes, eroded	Ozaukee	end moraine, ground moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
530D3: Ozaukee silty clay loam, 6 to 12 percent slopes, severely eroded	Ozaukee	end moraine, ground moraine	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
541B: Graymont silt loam, 2 to 5 percent slopes	Graymont	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
541B2: Graymont silt loam, 2 to 5 percent slopes, eroded	Graymont	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
541C2: Graymont silt loam, 5 to 10 percent slopes, eroded	Graymont	end moraine, ground moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
542A: Rooks silty clay loam, 0 to 2 percent slopes	Rooks	ground moraine	Not hydric	---
	Hartsburg	outwash plain, ground moraine	Hydric	2B3
542B: Rooks silty clay loam, 2 to 5 percent slopes	Rooks	ground moraine	Not hydric	---
	Hartsburg	outwash plain, ground moraine	Hydric	2B3
554B: Kernan silt loam, 2 to 4 percent slopes	Kernan	ground moraine, lake plain	Not hydric	---
	Streator	ground moraine, lake plain, depression	Hydric	2B3
572A: Loran silt loam, 0 to 2 percent slopes	Loran	ground moraine	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
572B: Loran silt loam, 2 to 5 percent slopes	Loran	ground moraine	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
572C2: Loran silt loam, 5 to 10 percent slopes, eroded	Loran	ground moraine	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
614A: Chenoa silty clay loam, 0 to 2 percent slopes	Chenoa	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
614B: Chenoa silty clay loam, 2 to 5 percent slopes	Chenoa	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
662B: Barony silt loam, 2 to 5 percent slopes	Barony	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
663B: Clare silt loam, 2 to 5 percent slopes	Clare	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
667B: Kaneville silt loam, 2 to 5 percent slopes	Kaneville	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
668B: Somonauk silt loam, 2 to 5 percent slopes	Somonauk	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
675B: Greenbush silt loam, 2 to 5 percent slopes	Greenbush	ground moraine	Not hydric	---
	Sable	ground moraine	Hydric	2B3
679B: Blackberry silt loam, 2 to 5 percent slopes	Blackberry	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
680B: Campton silt loam, 2 to 5 percent slopes	Campton	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
712A: Spaulding silty clay loam, 0 to 2 percent slopes	Spaulding	ground moraine, depression	Hydric	2B3
715A: Arrowsmith silt loam, 0 to 2 percent slopes	Arrowsmith	ground moraine	Not hydric	---
	Sable	ground moraine	Hydric	2B3
	Spaulding	ground moraine, depression	Hydric	2B3
791A: Rush silt loam, 0 to 2 percent slopes	Rush	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
791B: Rush silt loam, 2 to 4 percent slopes	Rush	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
792A: Bowes silt loam, 0 to 2 percent slopes	Bowes	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
792B: Bowes silt loam, 2 to 4 percent slopes	Bowes	outwash plain, stream terrace	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
802B: Orthents, loamy, undulating	Orthents, loamy	outwash plain, ground moraine	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
	Elpaso	ground moraine, end moraine	Hydric	2B3
802D: Orthents, loamy, rolling	Orthents, loamy	ground moraine, outwash plain	Not hydric	---
	Drummer	outwash plain, ground moraine	Hydric	2B3
	Elpaso	ground moraine, end moraine	Hydric	2B3
805B: Orthents, clayey, undulating	Orthents, clayey	ground moraine, lake plain	Not hydric	---
	Ashkum	ground moraine, end moraine	Hydric	2B3
	Bryce	ground moraine, glacial lake (relict)	Hydric	2B3
	Houghton	ground moraine, outwash plain, end moraine	Hydric	1,2B3
	Peotone	ground moraine	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
814A: Muscatune-Buckhart silt loams, 0 to 3 percent slopes	Muscatune	ground moraine	Not hydric	---
	Buckhart	ground moraine	Not hydric	---
	Sable	ground moraine	Hydric	2B3
817A: Channahon-Hesch fine sandy loams, 0 to 2 percent slopes	Channahon	stream terrace, flood plain step, outwash plain	Not hydric	---
	Hesch	stream terrace, flood plain step,	Not hydric	---
	Faxon	outwash plain, stream terrace	Hydric	2B3
	Peotone	ground moraine	Hydric	2B3
817B: Channahon-Hesch fine sandy loams, 2 to 6 percent slopes	Channahon	stream terrace, flood plain step, outwash plain	Not hydric	---
	Hesch	stream terrace, flood plain step,	Not hydric	---
	Faxon	outwash plain, stream terrace	Hydric	2B3
	Peotone	ground moraine	Hydric	2B3
818A: Flanagan-Catlin silt loams, 0 to 3 percent slopes	Flanagan	ground moraine	Not hydric	---
	Catlin	ground moraine, end moraine	Not hydric	---
	Elpaso	ground moraine, end moraine	Hydric	2B3
1103A: Houghton muck, undrained, 0 to 2 percent slopes	Houghton	ground moraine, outwash plain	Hydric	1,3,2B3
	Drummer	outwash plain, ground moraine	Hydric	2B3
1480A: Moundprairie silty clay loam, undrained, 0 to 2 percent slopes, frequently flooded	Moundprairie	flood plain	Hydric	1,3,2B3
3076A: Otter silt loam, 0 to 2 percent slopes, frequently flooded	Otter	flood plain	Hydric	2B3
	Houghton	ground moraine, outwash plain, end moraine	Hydric	1,2B3
	Millington	flood plain	Hydric	2B3
3082A: Millington silt loam, 0 to 2 percent slopes, frequently flooded	Millington	flood plain	Hydric	2B3
	Sawmill	flood plain	Hydric	2B3
3107A: Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded	Sawmill	flood plain	Hydric	2B3
	Millington	flood plain	Hydric	2B3

Table 9.--Hydric Soils--Continued

Map symbol and map unit name	Component	Local landform	Hydric status	Hydric criteria
3321A: Du Page silt loam, 0 to 2 percent slopes, frequently flooded	Du Page Millington	flood plain flood plain	Not hydric Hydric	--- 2B3
3451A: Lawson silt loam, 0 to 2 percent slopes, frequently flooded	Lawson Sawmill	flood plain flood plain	Not hydric Hydric	--- 2B3
3480A: Moundprairie silty clay loam, 0 to 2 percent slopes, frequently flooded	Moundprairie Millington	flood plain flood plain	Hydric Hydric	2B3 2B3
8107A: Sawmill silty clay loam, 0 to 2 percent slopes, occasionally flooded	Sawmill	flood plain	Hydric	2B3
8404A: Titus silty clay loam, 0 to 2 percent slopes, occasionally flooded	Titus Sawmill	flood plain flood plain	Hydric Hydric	2B3 2B3
8451A: Lawson silt loam, 0 to 2 percent slopes, occasionally flooded	Lawson Sawmill	flood plain flood plain	Not hydric Hydric	--- 2B3
8516A: Faxon loam, 0 to 2 percent slopes, occasionally flooded	Faxon Titus	flood plain flood plain	Hydric Hydric	2B3 2B3

Table 10.--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
23B: Blount-----	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-----	Carolina poplar
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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
60C2, 60D2: La Rose-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--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
61A, 61B: 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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
67A: Harpster-----	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---
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, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
86B, 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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--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
87A, 87B, 87C2: 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	Carolina poplar-----	---
88B, 88D: Sparta-----	American hazelnut, common elderberry, common winterberry, coralberry, mapleleaf viburnum, silky dogwood	American plum, American witchhazel, alternatetea dogwood, blackhaw, common chokecherry, common serviceberry, nannyberry, prairie crabapple, roughleaf dogwood, southern arrowwood, staghorn sumac	Washington hawthorn, blue spruce, common hackberry, eastern redcedar, red maple	Carolina poplar-----	Eastern white pine
91A, 91B, 91B2, 91C2, 91C3: Swygert-----	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-----	Carolina poplar

Table 10.--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
103A: Houghton-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Common serviceberry, hazel alder, nannyberry, roughleaf dogwood	Arborvitae-----	Pin oak, river birch, swamp white oak	Carolina poplar, eastern cottonwood
104A: Virgil-----	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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
105A, 105B, 105C2: Batavia-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--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
125A: Selma-----	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, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
131B: Alvin-----	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, pecan	Norway spruce, common hackberry, pin oak	Carolina poplar, eastern white pine
131C2: Alvin-----	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, pecan	Norway spruce, common hackberry, pin oak, tuliptree	Carolina poplar, eastern white pine
132A: Starks-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 10.--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
134A, 134B, 134C2, 134D2, 134D3, 134F: 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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
146A, 146B, 146B2: Elliott-----	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-----	Carolina poplar
147B2: Clarence-----	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-----	Carolina poplar

Table 10.--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
148A, 148B, 148C2: Proctor-----	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
149A: Brenton-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
151A, 151B: Ridgeville-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 10.--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
152A: Drummer-----	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, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
154A: Flanagan-----	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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
171A, 171B, 171B2, 171C2, 171C3: Catlin-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--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
193C2: Mayville-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
198A: Elburn-----	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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
199A, 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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
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 white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--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
210A: Lena-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Common serviceberry, hazel alder, nannyberry, roughleaf dogwood	Arborvitae-----	Pin oak, river birch, swamp white oak	Carolina poplar, eastern cottonwood
219A: Millbrook-----	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, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
223B, 223B2, 223C2, 223C3, 223D2: Varna-----	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-----	Carolina poplar
223D3: Varna-----	American plum, black chokeberry, coralberry, gray dogwood, mapleleaf arrowwood	Washington hawthorn, blackhaw, hazelnut, nannyberry, prairie crabapple, shadbush	Baldcypress, eastern redcedar, northern northern white- cedar, tamarack	Norway spruce, eastern white pine, pin oak	Eastern cottonwood, imperial Carolina poplar

Table 10.--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
228B, 228C2, 228C3: Nappanee-----	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-----	Carolina poplar
232A: Ashkum-----	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, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
233A, 233B, 233C2: Birkbeck-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--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
234A: Sunbury-----	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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
235A: Bryce-----	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, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
236A: Sabina-----	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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--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
238A: Rantoul-----	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, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
241C3: Chatsworth-----	Coralberry, mapleleaf viburnum, redosier dogwood, roughleaf dogwood	American cranberrybush, Ohio buckeye, bitternut hickory, bur oak, chinkapin oak, cockspur hawthorn, common chokecherry, eastern redcedar	Austrian pine, common hackberry, eastern redcedar, thornless honeylocust	Carolina poplar, Norway spruce	Carolina poplar
241D3, 241E3, 241F, 241G: Chatsworth-----	Coralberry, mapleleaf viburnum, redosier dogwood, roughleaf dogwood	American cranberrybush, Ohio buckeye, bitternut hickory, bur oak, chinkapin oak, cockspur hawthorn, common chokecherry, eastern redcedar	Austrian pine, common hackberry, thornless honeylocust	Carolina poplar-----	---
242A: Kendall-----	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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--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
243A, 243B, 243C2: St. Charles-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
244A: Hartsburg-----	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---
278A, 278B: 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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
279B: 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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--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
280C2: 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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
290A, 290B, 290C2: Warsaw-----	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	Carolina poplar-----	---
293A, 293B: Andres-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
294B, 294C2: Symerton-----	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--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
295A, 295B: Mokena-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
298B: Beecher-----	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-----	Carolina poplar
311B: Ritchey-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---
314A: Joliet-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---

Table 10.--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
315B: Channahon-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---
317A: Millsdale-----	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, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
318B, 318C2: Lorenzo-----	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	Carolina poplar-----	---
320B, 320C2: Frankfort-----	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-----	Carolina poplar

Table 10.--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
325B, 325C2: Dresden-----	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	Carolina poplar-----	---
327B, 327C2, 327D2: Fox-----	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	Carolina poplar-----	---
330A: Peotone-----	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, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
344A, 344B: Harvard-----	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--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
344C2: Harvard-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
356A: Elpaso-----	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, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
375A, 375B, 375B2: Rutland-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
388B, 388B2, 388C2: Wenona-----	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--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
397F: Boone-----	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	Carolina poplar-----	---
413B, 413C2: Gale-----	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	Carolina poplar-----	---
435A: Streator-----	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, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
448B, 448C2: Mona-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--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
512B, 512C2: Danabrook-----	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
516A: Faxon-----	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, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
527C2, 527D2: Kidami-----	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--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
530B, 530C2, 530C3, 530D2, 530D3, 530E2, 530F: Ozaukee-----	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-----	Carolina poplar
541B, 541B2, 541C2: Graymont-----	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
542A, 542B: Rooks-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 10.--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
549B, 549C2, 549D2, 549F, 549G: 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	Carolina poplar-----	---
554B: Kernan-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
560D2, 560E: St. Clair-----	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-----	Carolina poplar
567B: Elkhart-----	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	Carolina poplar, eastern cottonwood	---

Table 10.--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
572A, 572B, 572C2: 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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
614A, 614B: Chenoa-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
662B: Barony-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
663B: Clare-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--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
667B: Kaneville-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
668B: Somonauk-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, 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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
679B: Blackberry-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine

Table 10.--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
680B: Campton-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
712A: Spaulding-----	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---
715A: Arrowsmith-----	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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
732A, 732B: Appleriver-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 10.--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
791A, 791B: Rush-----	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
792A, 792B: Bowes-----	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
794G: 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	Carolina poplar-----	---
Northfield-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---
Ritchey-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---

Table 10.--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
802B, 802D: Orthents, loamy-----	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, eastern redcedar, nannyberry, pecan, white oak	Douglas fir, Norway spruce, black walnut, blackgum, common hackberry, northern red oak, pin oak	Carolina poplar, eastern cottonwood, eastern white pine
804D, 804G: Orthents, acid-----	Common juniper-----	Austrian pine, common chokecherry, common winterberry, eastern redcedar	Black locust, blue spruce, northern red oak, thornless honeylocust, white oak	---	---
805B: Orthents, clayey-----	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	Arborvitae, black oak, blackgum, bur oak, chinkapin oak, common hackberry, eastern redcedar	Norway spruce-----	Carolina poplar
814A: 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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--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
814A: Buckhart-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
817A, 817B: Channahon-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---
Hesch-----	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	Carolina poplar-----	---
818A: Flanagan-----	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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--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
818A: Catlin-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
820E, 820G: Hennepin-----	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	Carolina poplar, eastern cottonwood	---
Casco-----	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	Carolina poplar----	---
830. Landfills					
864. Pits, quarry					
865. Pits, gravel					

Table 10.--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
969E2, 969F: Casco-----	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	Carolina poplar-----	---
Rodman-----	American plum, black chokeberry, blackhaw, common juniper, gray dogwood, mapleleaf viburnum	Cockspur hawthorn, common serviceberry, eastern redcedar, nannyberry, prairie crabapple	Bur oak, chinkapin oak, thornless honeylocust	---	---
1103A: Houghton-----	American cranberrybush, black chokeberry, buttonbush, common elderberry, common ninebark, common winterberry, gray dogwood, highbush blueberry, northern spicebush, redosier dogwood, silky dogwood	Common serviceberry, hazel alder, nannyberry, roughleaf dogwood	Arborvitae-----	Pin oak, river birch, swamp white oak	Carolina poplar, eastern cottonwood
1480A: Moundprairie-----	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---

Table 10.--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
3073A: Ross-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
3076A: Otter-----	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, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
3082A: Millington-----	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---
3107A: 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, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 10.--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
3321A: Du Page-----	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, northern red oak, pin oak, tuliptree	Carolina poplar, eastern cottonwood, eastern white pine
3451A: Lawson-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
3480A: Moundprairie-----	Common winterberry, gray dogwood, redosier dogwood	Common pawpaw, nannyberry, roughleaf dogwood, silky dogwood	Arborvitae, bur oak, common hackberry, eastern redcedar, green hawthorn	Carolina poplar, eastern cottonwood	---
3800A: Psumments-----	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 white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak

Table 10.--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
7073A, 8073A: Ross-----	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, red maple, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8107A: 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 white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8151A: Ridgeville-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 10.--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
8404A: 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 white-cedar, shingle oak	Red maple, river birch, swamp white oak, sweetgum	Carolina poplar, eastern cottonwood, pin oak
8451A: Lawson-----	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, eastern redcedar, green hawthorn, nannyberry, pecan, shingle oak	Norway spruce, blackgum, common hackberry, red maple, swamp white oak	Carolina poplar, eastern cottonwood, pin oak
8516A: Faxon-----	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, shingle oak	Red maple, river birch, swamp white oak	Carolina poplar, eastern cottonwood, pin oak

Table 11.--Forestland Productivity

(Only the soils that are commonly used as forestland are listed. See text for an explanation of terms used in this table)

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac	
23B:				
Blount-----	Northern red oak----	57	43	Black oak, bur oak,
	White ash-----	57	43	chinkapin oak,
	White oak-----	57	43	common hackberry,
	Sugar maple-----	54	29	eastern redcedar
61A, 61B:				
Atterberry-----	Northern red oak----	70	57	Common hackberry,
	White oak-----	70	57	common persimmon,
	Bur oak-----	---	---	eastern cottonwood,
	Green ash-----	---	---	pecan, pin oak,
				swamp white oak
88B, 88D:				
Sparta-----	Northern red oak----	70	57	Common hackberry,
	Jack pine-----	---	---	eastern redcedar,
	Eastern white pine--	---	---	eastern white
	Red pine-----	---	---	pine, red maple, red
				red pine, shortleaf
				pine
103A:				
Houghton-----	Silver maple-----	82	29	Eastern cottonwood,
	Quaking aspen-----	60	57	pin oak, swamp white
	White ash-----	56	43	oak
	Red maple-----	56	29	
	Arborvitae-----	37	57	
	Green ash-----	---	---	
104A:				
Virgil-----	Silver maple-----	70	29	Common hackberry,
	American elm-----	---	---	eastern cottonwood,
	Shagbark hickory----	---	---	pecan, pin oak,
				swamp white oak
105A, 105B, 105C2:				
Batavia-----	White oak-----	80	57	Black walnut,
	Northern red oak----	---	---	eastern white
	Black walnut-----	---	---	pine, northern red
				oak, red pine,
				white oak
131B:				
Alvin-----	White oak-----	80	57	Black walnut, bur
	Northern red oak----	80	57	oak, eastern white
	Black walnut-----	---	---	pine, pecan, pin
				oak
131C2:				
Alvin-----	Northern red oak----	80	57	Black walnut, bur
	Tuliptree-----	90	86	oak, eastern white
	White oak-----	80	57	pine, pecan, pin
	Black walnut-----	---	---	oak, tuliptree

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac	
132A: Starks-----	White oak-----	80	57	Common hackberry, eastern cottonwood, pecan, pin oak, swamp white oak
	Northern red oak----	80	57	
	Black walnut-----	---	---	
134A, 134B, 134C2, 134D2: Camden-----	Green ash-----	76	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	Northern red oak----	85	72	
	Sweetgum-----	80	86	
	Tuliptree-----	95	100	
	White oak-----	85	72	
134D3, 134F: Camden-----	White oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	Northern red oak----	---	---	
	Tuliptree-----	---	---	
	Black walnut-----	---	---	
193C2: Mayville-----	Northern red oak----	78	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
	White oak-----	78	57	
210A: Lena-----	Black willow-----	---	---	Eastern cottonwood, pin oak, swamp white oak
	Red maple-----	---	---	
	Silver maple-----	---	---	
	White ash-----	---	---	
219A: Millbrook-----	Northern red oak----	80	57	Common hackberry, eastern cottonwood, pecan, pin oak, swamp white oak
	Black walnut-----	---	---	
	Shagbark hickory----	---	---	
	White oak-----	80	57	
228B, 228C2: Nappanee-----	Pin oak-----	85	72	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	White oak-----	75	72	
	American sycamore---	---	---	
	Northern red oak----	---	---	
	Shagbark hickory----	---	---	
233A, 233B, 233C2: Birkbeck-----	White oak-----	86	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	Green ash-----	---	---	
	Northern red oak----	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac	
236A:				
Sabina-----	White oak-----	80	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak
	Black walnut-----	---	---	
	Northern red oak----	80	57	
241F, 241G:				
Chatsworth-----	Northern red oak----	66	57	Austrian pine, bitternut hickory, bur oak, chinkapin oak, common hackberry, eastern redcedar, honeylocust
	American basswood---	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
242A:				
Kendall-----	White oak-----	80	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak
	Black walnut-----	---	---	
	Northern red oak----	80	57	
	Tuliptree-----	90	86	
243A, 243B, 243C2:				
St. Charles-----	Northern red oak----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	Sweetgum-----	---	---	
	Tuliptree-----	95	100	
	White oak-----	85	72	
	Green ash-----	---	---	
278A, 278B:				
Stronghurst-----	Northern red oak----	70	57	Common hackberry, common persimmon, eastern cottonwood, pecan, pin oak, swamp white oak
	White oak-----	70	57	
	Bur oak-----	---	---	
	Green ash-----	---	---	
279B:				
Rozetta-----	White oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	Northern red oak----	80	57	
	Tuliptree-----	90	86	
	Black walnut-----	---	---	
280C2:				
Fayette-----	Northern red oak----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	White oak-----	80	57	
	Black walnut-----	---	---	
	Tuliptree-----	90	86	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac	
298B: Beecher-----	Northern red oak----	65	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	Black cherry-----	---	---	
	Bur oak-----	---	---	
	Northern pin oak----	---	---	
	Shagbark hickory----	---	---	
	White oak-----	---	---	
311B: Ritchey-----	Northern red oak----	50	29	Bur oak, chinkapin oak, eastern redcedar, thornless honeylocust
	White oak-----	50	29	
	Bur oak-----	---	---	
	Eastern redcedar----	---	---	
315B: Channahon-----	Northern red oak----	55	43	Bur oak, chinkapin oak, eastern redcedar, thornless honeylocust
	Sugar maple-----	---	---	
	White oak-----	---	---	
	American basswood----	---	---	
317A: Millsdale-----	Pin oak-----	86	72	American sycamore, eastern cottonwood, pin oak, red maple, swamp white oak
	Eastern cottonwood--	---	---	
	Green ash-----	---	---	
	Red maple-----	---	---	
	Swamp white oak----	---	---	
	Black cherry-----	---	---	
320B, 320C2: Frankfort-----	Northern red oak----	70	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	White oak-----	70	57	
	Bur oak-----	---	---	
	Green ash-----	---	---	
325B, 325C2: Dresden-----	Northern red oak----	70	57	Black oak, common hackberry, eastern white pine
	American basswood----	---	---	
	Black cherry-----	---	---	
	Black oak-----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
	White oak-----	---	---	
327B, 327C2, 327D2: Fox-----	Northern red oak----	65	57	Black oak, common hackberry, eastern white pine
	Black cherry-----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
	White oak-----	---	---	
344A: Harvard-----	Northern red oak----	---	---	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, white oak
	Shagbark hickory----	---	---	
	Tuliptree-----	---	---	
	White oak-----	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac	
344B:				
Harvard-----	Northern red oak----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, white oak
	Shagbark hickory----	85	72	
	White ash-----	---	---	
	White oak-----	---	---	
344C2:				
Harvard-----	Northern red oak----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	Shagbark hickory----	---	---	
	White ash-----	---	---	
	White oak-----	85	72	
397F:				
Boone-----	Black oak-----	56	43	Black oak, common hackberry, eastern white pine, red pine
	Eastern redcedar----	---	---	
413B, 413C2:				
Gale-----	Northern red oak----	66	43	Black oak, common hackberry, eastern white pine
	White oak-----	66	29	
	White ash-----	---	---	
	Black oak-----	---	---	
527C2, 527D2:				
Kidami-----	Northern red oak----	69	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, white oak
	American beech-----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
	White oak-----	---	---	
530B 530C2, 530C3, 530D2, 530D3, 530E2, 530F:				
Ozaukee-----	Northern red oak----	66	57	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	American basswood----	---	---	
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White ash-----	---	---	
549B, 549C2, 549D2, 549F, 549G:				
Marseilles-----	Northern red oak----	66	43	Black oak, common hackberry, eastern white pine
	Black oak-----	---	---	
	White ash-----	---	---	
	White oak-----	66	43	
554B:				
Kernan-----	Northern red oak----	80	57	Common hackberry, eastern cottonwood, pecan, pin oak, swamp white oak
	Black walnut-----	---	---	
	Shagbark hickory----	---	---	
	White oak-----	80	57	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac	
560D2, 560E: St. Clair-----	Northern red oak----	66	43	Black oak, bur oak, chinkapin oak, common hackberry, eastern redcedar
	Sugar maple-----	---	---	
	White ash-----	---	---	
	White oak-----	62	43	
662B: Barony-----	Northern red oak----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	Shagbark hickory----	---	---	
	White ash-----	---	---	
	White oak-----	85	72	
667B: Kaneville-----	Northern red oak----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	Shagbark hickory----	---	---	
	White ash-----	---	---	
	White oak-----	85	72	
668B: Somonauk-----	Northern red oak----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White oak-----	85	72	
675B, 675C2: Greenbush-----	White oak-----	80	57	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	Northern red oak----	80	57	
	Black walnut-----	---	---	
	Tuliptree-----	90	86	
680B: Campton-----	Northern red oak----	85	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	Shagbark hickory----	---	---	
	Sugar maple-----	---	---	
	White oak-----	85	72	
732A, 732B: Appleriver-----	White oak-----	70	57	Common hackberry, eastern cottonwood, pecan, pin oak, swamp white oak
	Green ash-----	---	---	
	Northern red oak----	---	---	
	Bur oak-----	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac	
791A, 791B:				
Rush-----	Northern red oak----	90	72	Black walnut,
	White oak-----	90	72	eastern cottonwood,
	Shagbark hickory----	---	---	eastern white pine,
	Sugar maple-----	---	---	northern red oak,
				pecan, pin oak,
				white oak
792A, 792B:				
Bowes-----	Northern red oak----	90	72	Black walnut,
	White oak-----	90	72	eastern cottonwood,
	Shagbark hickory----	---	---	eastern white pine,
	White ash-----	---	---	northern red oak,
				pecan, pin oak,
				white oak
794G:				
Marseilles-----	Northern red oak----	66	43	Black oak, common
	Black oak-----	---	---	hackberry, eastern
	White ash-----	---	---	white pine
	White oak-----	66	29	
Northfield-----	Northern red oak----	50	29	Bur oak, chinkapin
	White oak-----	50	29	oak, eastern
	Bur oak-----	---	---	redcedar, thornless
	Eastern redcedar----	---	---	honeylocust
Ritchey-----	Northern red oak----	50	29	Bur oak, chinkapin
	White oak-----	50	29	oak, eastern
	Bur oak-----	---	---	redcedar, thornless
	Eastern redcedar----	---	---	honeylocust
817A, 817B:				
Channahon-----	Northern red oak----	55	43	Bur oak, chinkapin
	Sugar maple-----	---	---	oak, eastern
	White oak-----	---	---	redcedar, thornless
	American basswood---	---	---	honeylocust
Hesch.				
820E, 820G:				
Hennepin-----	Northern red oak----	85	72	Black walnut,
	Shagbark hickory----	---	---	eastern redcedar,
	White oak-----	---	---	eastern white
	Black oak-----	---	---	pine, northern
				red oak, red pine,
				white oak
Casco-----	Northern red oak----	85	72	Black oak, common
	Shagbark hickory----	---	---	hackberry, eastern
	White oak-----	---	---	white pine
	Black oak-----	---	---	
969E2, 969F:				
Casco-----	Northern red oak----	55	43	Black oak, common
	Black oak-----	---	---	hackberry, eastern
	Shagbark hickory----	---	---	white pine

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac	
969E2, 969F: Rodman-----	Northern red oak----	45	29	Bur oak, chinkapin oak, eastern redcedar, thornless honeylocust
	Shagbark hickory----	---	---	
	White oak-----	---	---	
1103A: Houghton-----	Silver maple-----	82	29	Eastern cottonwood, pin oak, swamp white oak
	Arborvitae-----	37	57	
	Green ash-----	---	---	
	Quaking aspen-----	60	57	
	Red maple-----	56	29	
	White ash-----	56	43	
1480A: Moundprairie-----	Eastern cottonwood--	86	86	Eastern cottonwood, pin oak, silver maple, swamp white oak
	Green ash-----	---	---	
	Red maple-----	56	29	
	Silver maple-----	82	29	
3073A: Ross-----	Northern red oak----	86	72	Common hackberry, eastern cottonwood, pecan, pin oak, swamp white oak
	Sugar maple-----	85	57	
	Tuliptree-----	96	100	
	White ash-----	---	---	
	White oak-----	---	---	
	Black cherry-----	---	---	
	Black walnut-----	---	---	
3076A: Otter-----	Silver maple-----	94	43	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum
	White ash-----	---	---	
3082A: Millington-----	American beech-----	---	---	Bur oak, common hackberry, eastern cottonwood, eastern redcedar
	American sycamore---	---	---	
	Blackgum-----	---	---	
	Northern red oak----	---	---	
	Pin oak-----	---	---	
	Red maple-----	---	---	
	Shagbark hickory----	---	---	
	Swamp white oak----	---	---	
	White ash-----	---	---	
3107A: Sawmill-----	Pin oak-----	90	72	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak
	American sycamore---	---	---	
	Eastern cottonwood--	---	---	
3451A: Lawson-----	Silver maple-----	70	29	Common hackberry, eastern cottonwood, pecan, pin oak, swamp white oak
	White ash-----	---	---	
	Red maple-----	---	---	

Table 11.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity			Suggested trees to plant
	Common trees	Site index	Volume of wood fiber cu ft/ac	
3480A: Moundprairie-----	Eastern cottonwood--	86	86	Eastern cottonwood, silver maple
	Green ash-----	50	29	
7073A: Ross-----	Northern red oak----	86	72	Black walnut, eastern cottonwood, eastern white pine, northern red oak, pecan, pin oak, tuliptree, white oak
	Sugar maple-----	85	57	
	Tuliptree-----	96	100	
	White ash-----	---	---	
	White oak-----	---	---	
	Black cherry-----	---	---	
	Black walnut-----	---	---	
8073A: Ross-----	Northern red oak----	86	72	Common hackberry, eastern cottonwood, pecan, pin oak, swamp white oak
	Sugar maple-----	85	57	
	Tuliptree-----	96	100	
	White ash-----	---	---	
	White oak-----	---	---	
	Black cherry-----	---	---	
8107A: Sawmill-----	Pin oak-----	90	72	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum
	Cherrybark oak-----	---	---	
	Eastern cottonwood--	---	---	
	American sycamore---	---	---	
	Sweetgum-----	---	---	
8151A: Ridgeville-----	Eastern cottonwood--	99	129	Common hackberry, eastern cottonwood, pecan, pin oak, swamp white oak oak
	Silver maple-----	80	29	
	White ash-----	51	29	
	Red maple-----	---	---	
8404A: Titus-----	Eastern cottonwood--	99	129	Common hackberry, eastern cottonwood, pin oak, river birch, swamp white oak, sweetgum
	Silver maple-----	80	29	
	White ash-----	51	29	
8451A: Lawson-----	Silver maple-----	70	29	Common hackberry, eastern cottonwood, pecan, pin oak, swamp white oak
	White ash-----	---	---	
	Red maple-----	---	---	
8516A: Faxon-----	Eastern cottonwood--	99	129	Common hackberry, eastern cottonwood, pecan, pin oak, swamp white oak
	Silver maple-----	80	29	
	White ash-----	51	29	

Table 12.--Forestland Harvest Equipment Considerations

(Only the soils that are commonly used as forestland are listed. See text for a description of the considerations listed in this table)

Map symbol and soil name	Forestland harvest equipment considerations
23B: Blount-----	Wetness Susceptible to rutting and wheel slippage
61A, 61B: Atterberry-----	Wetness Susceptible to rutting and wheel slippage
88B, 88D: Sparta-----	Poor traction (loose sandy material)
103A: Houghton-----	Wetness Susceptible to rutting and wheel slippage
104A: Virgil-----	Wetness Susceptible to rutting and wheel slippage
105A, 105B, 105C2: Batavia-----	Susceptible to rutting and wheel slippage
131B, 131C2: Alvin-----	Susceptible to rutting and wheel slippage
132A: Starks-----	Wetness Susceptible to rutting and wheel slippage
134A, 134B, 134C2: Camden-----	Susceptible to rutting and wheel slippage
134D2, 134D3, 134F: Camden-----	Slope Susceptible to rutting and wheel slippage
193C2: Mayville-----	Wetness Susceptible to rutting and wheel slippage
210A: Lena-----	Wetness Susceptible to rutting and wheel slippage
219A: Millbrook-----	Wetness Susceptible to rutting and wheel slippage
228B, 228C2: Nappanee-----	Wetness Susceptible to rutting and wheel slippage
233A, 233B, 233C2: Birkbeck-----	Wetness Susceptible to rutting and wheel slippage
236A: Sabina-----	Wetness Susceptible to rutting and wheel slippage

Table 12.--Forestland Harvest Equipment Considerations--Continued

Map symbol and soil name	Forestland harvest equipment considerations
241F, 241G: Chatsworth-----	Slope Wetness Susceptible to rutting and wheel slippage
242A: Kendall-----	Wetness Susceptible to rutting and wheel slippage
243A, 243B, 243C2: St. Charles-----	Susceptible to rutting and wheel slippage
278A, 278B: Stronghurst-----	Wetness Susceptible to rutting and wheel slippage
279B: Rozetta-----	Susceptible to rutting and wheel slippage
280C2: Fayette-----	Susceptible to rutting and wheel slippage
298B: Beecher-----	Wetness Susceptible to rutting and wheel slippage
311B: Ritchey-----	Susceptible to rutting and wheel slippage
315B: Channahon-----	Susceptible to rutting and wheel slippage
317A: Millsdale-----	Wetness Susceptible to rutting and wheel slippage
320B, 320C2: Frankfort-----	Wetness Susceptible to rutting and wheel slippage
325B, 325C2: Dresden-----	Susceptible to rutting and wheel slippage
327B, 327C2, 327D2: Fox-----	Susceptible to rutting and wheel slippage
344A, 344B, 344C2: Harvard-----	Susceptible to rutting and wheel slippage
397F: Boone-----	Slope Poor traction (loose sandy material)
413B, 413C2: Gale-----	Susceptible to rutting and wheel slippage
527C2, 527D2: Kidami-----	Wetness Susceptible to rutting and wheel slippage

Table 12.--Forestland Harvest Equipment Considerations--Continued

Map symbol and soil name	Forestland harvest equipment considerations
530B, 530C2, 530C3, 530D2, 530D3: Ozaukee-----	Wetness Susceptible to rutting and wheel slippage
530E2, 530F: Ozaukee-----	Slope Wetness Susceptible to rutting and wheel slippage
549B, 549C2: Marseilles-----	Susceptible to rutting and wheel slippage
549D2, 549F, 549G: Marseilles-----	Slope Susceptible to rutting and wheel slippage
554B: Kernan-----	Wetness Susceptible to rutting and wheel slippage
560D2: St. Clair-----	Wetness Susceptible to rutting and wheel slippage
560E: St. Clair-----	Slope Wetness Susceptible to rutting and wheel slippage
662B: Barony-----	Susceptible to rutting and wheel slippage
667B: Kaneville-----	Susceptible to rutting and wheel slippage
668B: Somonauk-----	Susceptible to rutting and wheel slippage
675B, 675C2: Greenbush-----	Susceptible to rutting and wheel slippage
680B: Campton-----	Susceptible to rutting and wheel slippage
732A, 732B: Appleriver-----	Wetness Susceptible to rutting and wheel slippage
791A, 791B: Rush-----	Susceptible to rutting and wheel slippage
792A, 792B: Bowes-----	Susceptible to rutting and wheel slippage
794G: Marseilles-----	Slope Susceptible to rutting and wheel slippage
Northfield-----	Slope Susceptible to rutting and wheel slippage
Ritchey-----	Slope Susceptible to rutting and wheel slippage

Table 12.--Forestland Harvest Equipment Considerations--Continued

Map symbol and soil name	Forestland harvest equipment considerations
817A, 817B: Channahon-----	No major considerations
Hesch-----	No major considerations
820E, 820G: Hennepin-----	Slope Susceptible to rutting and wheel slippage
Casco-----	Slope Susceptible to rutting and wheel slippage
969E2, 969F: Casco-----	Slope Susceptible to rutting and wheel slippage
Rodman-----	Slope
1103A: Houghton-----	Wetness Susceptible to rutting and wheel slippage
1480A: Moundprairie-----	Flooding Wetness Susceptible to rutting and wheel slippage
3073A: Ross-----	Flooding Susceptible to rutting and wheel slippage
3076A: Otter-----	Flooding Wetness Susceptible to rutting and wheel slippage
3082A: Millington-----	Flooding Wetness Susceptible to rutting and wheel slippage
3107A: Sawmill-----	Flooding Wetness Susceptible to rutting and wheel slippage
3451A: Lawson-----	Flooding Wetness Susceptible to rutting and wheel slippage
3480A: Moundprairie-----	Flooding Wetness Susceptible to rutting and wheel slippage
7073A, 8073A: Ross-----	Susceptible to rutting and wheel slippage
8107A: Sawmill-----	Wetness Susceptible to rutting and wheel slippage

Table 12.--Forestland Harvest Equipment Considerations--Continued

Map symbol and soil name	Forestland harvest equipment considerations
8151A: Ridgeville-----	Wetness Susceptible to rutting and wheel slippage
8404A: Titus-----	Wetness Susceptible to rutting and wheel slippage
8451A: Lawson-----	Wetness Susceptible to rutting and wheel slippage
8516A: Faxon-----	Wetness Susceptible to rutting and wheel slippage

Table 13.--Forest Log Landing Considerations

(Only the soils that are commonly used as forestland are listed. See text for a description of the considerations listed in this table)

Map symbol and soil name	Forest log landing considerations
23B: Blount-----	Wetness Susceptible to rutting and wheel slippage
61A: Atterberry-----	Wetness Susceptible to rutting and wheel slippage
61B: Atterberry-----	Wetness Susceptible to rutting and wheel slippage
88B: Sparta-----	No major considerations
88D: Sparta-----	Slope
103A: Houghton-----	Wetness Susceptible to rutting and wheel slippage
104A: Virgil-----	Wetness Susceptible to rutting and wheel slippage
105A, 105B: Batavia-----	Susceptible to rutting and wheel slippage
105C2: Batavia-----	Slope Susceptible to rutting and wheel slippage
131B: Alvin-----	Susceptible to rutting and wheel slippage
131C2: Alvin-----	Slope Susceptible to rutting and wheel slippage
132A: Starks-----	Wetness Susceptible to rutting and wheel slippage
134A, 134B: Camden-----	Susceptible to rutting and wheel slippage
134C2, 134D2, 134D3, 134F: Camden-----	Slope Susceptible to rutting and wheel slippage
193C2: Mayville-----	Slope Wetness Susceptible to rutting and wheel slippage
210A: Lena-----	Wetness Susceptible to rutting and wheel slippage

Table 13.--Forest Log Landing Considerations--Continued

Map symbol and soil name	Forest log landing considerations
219A: Millbrook-----	Wetness Susceptible to rutting and wheel slippage
228B, 228C2: Nappanee-----	Wetness Susceptible to rutting and wheel slippage
233A, 233B: Birkbeck-----	Wetness Susceptible to rutting and wheel slippage
233C2: Birkbeck-----	Slope Wetness Susceptible to rutting and wheel slippage
236A: Sabina-----	Wetness Susceptible to rutting and wheel slippage
241F, 241G: Chatsworth-----	Slope Wetness Susceptible to rutting and wheel slippage
242A: Kendall-----	Wetness Susceptible to rutting and wheel slippage
243A, 243B: St. Charles-----	Susceptible to rutting and wheel slippage
243C2: St. Charles-----	Slope Susceptible to rutting and wheel slippage
278A, 278B: Stronghurst-----	Wetness Susceptible to rutting and wheel slippage
279B: Rozetta-----	Susceptible to rutting and wheel slippage
280C2: Fayette-----	Slope Susceptible to rutting and wheel slippage
298B: Beecher-----	Wetness Susceptible to rutting and wheel slippage
311B: Ritchey-----	Susceptible to rutting and wheel slippage
315B: Channahon-----	Susceptible to rutting and wheel slippage
317A: Millsdale-----	Wetness Susceptible to rutting and wheel slippage

Table 13.--Forest Log Landing Considerations--Continued

Map symbol and soil name	Forest log landing considerations
320B, 320C2: Frankfort-----	Wetness Susceptible to rutting and wheel slippage
325B, 325C2: Dresden-----	Susceptible to rutting and wheel slippage
327B, 327C2: Fox-----	Susceptible to rutting and wheel slippage
327D2: Fox-----	Slope Susceptible to rutting and wheel slippage
344A, 344B: Harvard-----	Susceptible to rutting and wheel slippage
344C2: Harvard-----	Slope Susceptible to rutting and wheel slippage
397F: Boone-----	Slope
413B, 413C2: Gale-----	Susceptible to rutting and wheel slippage
527C2: Kidami-----	Wetness Susceptible to rutting and wheel slippage
527D2: Kidami-----	Slope Wetness Susceptible to rutting and wheel slippage
530B, 530C2, 530C3: Ozaukee-----	Wetness Susceptible to rutting and wheel slippage
530D2, 530D3, 530E2, 530F: Ozaukee-----	Slope Wetness Susceptible to rutting and wheel slippage
549B: Marseilles-----	Susceptible to rutting and wheel slippage
549C2, 549D2, 549F, 549G: Marseilles-----	Slope Susceptible to rutting and wheel slippage
554B: Kernan-----	Wetness Susceptible to rutting and wheel slippage
560D2, 560E: St. Clair-----	Slope Wetness Susceptible to rutting and wheel slippage

Table 13.--Forest Log Landing Considerations--Continued

Map symbol and soil name	Forest log landing considerations
662B: Barony-----	Susceptible to rutting and wheel slippage
667B: Kaneville-----	Susceptible to rutting and wheel slippage
668B: Somonauk-----	Susceptible to rutting and wheel slippage
675B: Greenbush-----	Susceptible to rutting and wheel slippage
675C2: Greenbush-----	Slope Susceptible to rutting and wheel slippage
680B: Campton-----	Susceptible to rutting and wheel slippage
732A, 732B: Appleriver-----	Wetness Susceptible to rutting and wheel slippage
791A, 791B: Rush-----	Susceptible to rutting and wheel slippage
792A, 792B: Bowes-----	Susceptible to rutting and wheel slippage
794G: Marseilles-----	Slope Susceptible to rutting and wheel slippage
Northfield-----	Slope Susceptible to rutting and wheel slippage
Ritchey-----	Slope Susceptible to rutting and wheel slippage
817A, 817B: Channahon-----	No major considerations
Hesch-----	No major considerations
820E, 820G: Hennepin-----	Slope Susceptible to rutting and wheel slippage
Casco-----	Slope Susceptible to rutting and wheel slippage
969E2, 969F: Casco-----	Slope Susceptible to rutting and wheel slippage
Rodman-----	Slope
1103A: Houghton-----	Wetness Susceptible to rutting and wheel slippage

Table 13.--Forest Log Landing Considerations--Continued

Map symbol and soil name	Forest log landing considerations
1480A: Moundprairie-----	Flooding Wetness Susceptible to rutting and wheel slippage
3073A: Ross-----	Flooding Susceptible to rutting and wheel slippage
3076A: Otter-----	Flooding Wetness Susceptible to rutting and wheel slippage
3082A: Millington-----	Flooding Wetness Susceptible to rutting and wheel slippage
3107A: Sawmill-----	Flooding Wetness Susceptible to rutting and wheel slippage
3451A: Lawson-----	Flooding Wetness Susceptible to rutting and wheel slippage
3480A: Moundprairie-----	Flooding Wetness Susceptible to rutting and wheel slippage
7073A: Ross-----	Susceptible to rutting and wheel slippage
8073A: Ross-----	Flooding Susceptible to rutting and wheel slippage
8107A: Sawmill-----	Flooding Wetness Susceptible to rutting and wheel slippage
8151A: Ridgeville-----	Flooding Wetness Susceptible to rutting and wheel slippage
8404A: Titus-----	Flooding Wetness Susceptible to rutting and wheel slippage
8451A: Lawson-----	Flooding Wetness Susceptible to rutting and wheel slippage

Table 13.--Forest Log Landing Considerations--Continued

Map symbol and soil name	Forest log landing considerations
8516A: Faxon-----	Flooding Wetness Susceptible to rutting and wheel slippage

Table 14.--Forestland Site Preparation and Planting Considerations

(Only the soils that are commonly used as forestland are listed. See text for a description of the considerations listed in this table)

Map symbol and soil name	Forestland site preparation and planting considerations
23B: Blount-----	Wetness Potential poor tilth and compaction
61A, 61B: Atterberry-----	Wetness Potential poor tilth and compaction
88B: Sparta-----	No major considerations
88D: Sparta-----	Water erosion
103A: Houghton-----	Wetness
104A: Virgil-----	Wetness Potential poor tilth and compaction
105A, 105B: Batavia-----	Potential poor tilth and compaction
105C2: Batavia-----	Water erosion Potential poor tilth and compaction
131B: Alvin-----	No major considerations
131C2: Alvin-----	Water erosion
132A: Starks-----	Wetness Potential poor tilth and compaction
134A, 134B: Camden-----	Potential poor tilth and compaction
134C2: Camden-----	Water erosion Potential poor tilth and compaction
134D2, 134D3, 134F: Camden-----	Slope Water erosion Potential poor tilth and compaction
193C2: Mayville-----	Wetness Water erosion Potential poor tilth and compaction
210A: Lena-----	Wetness

Table 14.--Forestland Site Preparation and Planting  
Considerations--Continued

Map symbol and soil name	Forestland site preparation and planting considerations
219A: Millbrook-----	Wetness Potential poor tilth and compaction
228B, 228C2: Nappanee-----	Wetness Potential poor tilth and compaction
233A, 233B: Birkbeck-----	Wetness Potential poor tilth and compaction
233C2: Birkbeck-----	Wetness Water erosion Potential poor tilth and compaction
236A: Sabina-----	Wetness Potential poor tilth and compaction
241F, 241G: Chatsworth-----	Slope Wetness Water erosion Potential poor tilth and compaction
242A: Kendall-----	Wetness Potential poor tilth and compaction
243A, 243B: St. Charles-----	Potential poor tilth and compaction
243C2: St. Charles-----	Water erosion Potential poor tilth and compaction
278A, 278B: Stronghurst-----	Wetness Potential poor tilth and compaction
279B: Rozetta-----	Potential poor tilth and compaction
280C2: Fayette-----	Water erosion Potential poor tilth and compaction
298B: Beecher-----	Wetness Potential poor tilth and compaction
311B: Ritchey-----	Depth to hard bedrock Potential poor tilth and compaction
315B: Channahon-----	Depth to hard bedrock

Table 14.--Forestland Site Preparation and Planting  
Considerations--Continued

Map symbol and soil name	Forestland site preparation and planting considerations
317A: Millsdale-----	Wetness
320B, 320C2: Frankfort-----	Wetness Potential poor tilth and compaction
325B, 325C2: Dresden-----	Potential poor tilth and compaction
327B, 327C2: Fox-----	Potential poor tilth and compaction
327D2: Fox-----	Water erosion Potential poor tilth and compaction
344A, 344B: Harvard-----	Potential poor tilth and compaction
344C2: Harvard-----	Water erosion Potential poor tilth and compaction
397F: Boone-----	Slope Water erosion
413B, 413C2: Gale-----	Potential poor tilth and compaction
527C2: Kidami-----	Wetness Potential poor tilth and compaction
527D2: Kidami-----	Wetness Water erosion Potential poor tilth and compaction
530B, 530C2, 530C3: Ozaukee-----	Wetness Potential poor tilth and compaction
530D2, 530D3: Ozaukee-----	Wetness Water erosion Potential poor tilth and compaction
530E2, 530F: Ozaukee-----	Slope Wetness Water erosion Potential poor tilth and compaction
549B: Marseilles-----	Potential poor tilth and compaction
549C2: Marseilles-----	Water erosion Potential poor tilth and compaction

Table 14.--Forestland Site Preparation and Planting  
Considerations--Continued

Map symbol and soil name	Forestland site preparation and planting considerations
549D2, 549F, 549G: Marseilles-----	Slope Water erosion Potential poor tilth and compaction
554B: Kernan-----	Wetness Potential poor tilth and compaction
560D2: St. Clair-----	Wetness Water erosion Potential poor tilth and compaction
560E: St. Clair-----	Slope Wetness Water erosion Potential poor tilth and compaction
662B: Barony-----	Potential poor tilth and compaction
667B: Kaneville-----	Potential poor tilth and compaction
668B: Somonauk-----	Potential poor tilth and compaction
675B: Greenbush-----	No major considerations
675C2: Greenbush-----	Water erosion Potential poor tilth and compaction
680B: Campton-----	Potential poor tilth and compaction
732A, 732B: Appleriver-----	Wetness Potential poor tilth and compaction
791A, 791B: Rush-----	Potential poor tilth and compaction
792A, 792B: Bowes-----	Potential poor tilth and compaction
794G: Marseilles-----	Slope Water erosion Potential poor tilth and compaction
Northfield-----	Slope Water erosion Potential poor tilth and compaction
Ritchey-----	Slope Depth to hard bedrock Water erosion Potential poor tilth and compaction

Table 14.--Forestland Site Preparation and Planting  
Considerations--Continued

Map symbol and soil name	Forestland site preparation and planting considerations
817A, 817B: Channahon-----	No major considerations
Hesch-----	No major considerations
820E, 820G: Hennepin-----	Slope Water erosion Potential poor tilth and compaction
Casco-----	Slope Water erosion
969E2, 969F: Casco-----	Slope Water erosion
Rodman-----	Slope Water erosion
1103A: Houghton-----	Wetness
1480A: Moundprairie-----	Flooding Wetness
3073A: Ross-----	Flooding
3076A: Otter-----	Flooding Wetness
3082A: Millington-----	Flooding Wetness
3107A: Sawmill-----	Flooding Wetness
3451A: Lawson-----	Flooding Wetness
3480A: Moundprairie-----	Flooding Wetness
7073A, 8073A: Ross-----	No major considerations
8107A: Sawmill-----	Wetness
8151A: Ridgeville-----	Wetness
8404A: Titus-----	Wetness

Table 14.--Forestland Site Preparation and Planting  
Considerations--Continued

Map symbol and soil name	Forestland site preparation and planting considerations
8451A: Lawson-----	Wetness
8516A: Faxon-----	Wetness

Table 15a.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

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
23B: Blount-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.99	Very limited Depth to saturated zone	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
					Slope	0.12
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
60C2: La Rose-----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Very limited Slope Slow water movement	1.00 0.21
60D2: La Rose-----	Somewhat limited Slope Slow water movement	0.96 0.21	Somewhat limited Slope Slow water movement	0.96 0.21	Very limited Slope Slow water movement	1.00 0.21
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
61B: Atterberry-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone Slope	1.00 0.28
67A: Harpster-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
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 Depth to saturated zone Ponding	1.00 1.00
86B: Osco-----	Not limited		Not limited		Somewhat limited Slope	0.28
86C2: Osco-----	Not limited		Not limited		Very limited Slope	1.00

Table 15a.--Recreational Development--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
87A: Dickinson-----	Not limited		Not limited		Not limited	
87B: Dickinson-----	Not limited		Not limited		Somewhat limited Slope	0.28
87C2: Dickinson-----	Not limited		Not limited		Very limited Slope	1.00
88B: Sparta-----	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy Slope	0.95 0.28
88D: Sparta-----	Somewhat limited Too sandy Slope	0.95 0.04	Somewhat limited Too sandy Slope	0.95 0.04	Very limited Slope Too sandy	1.00 0.95
91A: Swygert-----	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.75	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.96
91B, 91B2: Swygert-----	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.75	Somewhat limited Depth to saturated zone Slow water movement Slope	0.98 0.96 0.12
91C2, 91C3: Swygert-----	Very limited Slow water movement Depth to saturated zone	1.00 0.98	Very limited Slow water movement Depth to saturated zone	1.00 0.75	Very limited Slow water movement Depth to saturated zone Slope	1.00 0.98 0.88
103A: Houghton-----	Very limited Depth to saturated zone Organic matter content	1.00 1.00	Very limited Depth to saturated zone Organic matter content	1.00 1.00	Very limited Depth to saturated zone Organic matter content	1.00 1.00
104A: Virgil-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
105A: Batavia-----	Not limited		Not limited		Not limited	
105B: Batavia-----	Not limited		Not limited		Somewhat limited Slope	0.50

Table 15a.--Recreational Development--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
105C2: Batavia-----	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
125A: Selma-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
131B: Alvin-----	Not limited		Not limited		Somewhat limited Slope	0.28
131C2: Alvin-----	Not limited		Not limited		Very limited Slope	1.00
132A: Starks-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
134A: Camden-----	Not limited		Not limited		Not limited	
134B: Camden-----	Not limited		Not limited		Somewhat limited Slope	0.28
134C2: Camden-----	Not limited		Not limited		Very limited Slope	1.00
134D2, 134D3: Camden-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
134F: Camden-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
146A: Elliott-----	Very limited Depth to saturated zone	1.00	Somewhat limited Slow water movement	0.96	Very limited Depth to saturated zone	1.00
	Slow water movement	0.96	Depth to saturated zone	0.88	Slow water movement	0.96
146B, 146B2: Elliott-----	Very limited Depth to saturated zone	1.00	Somewhat limited Slow water movement	0.96	Very limited Depth to saturated zone	1.00
	Slow water movement	0.96	Depth to saturated zone	0.88	Slow water movement	0.96
					Slope	0.12

Table 15a.--Recreational Development--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
147B2: Clarence-----	Very limited Slow water movement Depth to saturated zone	1.00  0.98	Very limited Slow water movement Depth to saturated zone	1.00  0.75	Very limited Slow water movement Depth to saturated zone Slope	1.00  0.98 0.12
148A: Proctor-----	Not limited		Not limited		Not limited	
148B: Proctor-----	Not limited		Not limited		Somewhat limited Slope	0.28
148C2: Proctor-----	Not limited		Not limited		Very limited Slope	1.00
149A: Brenton-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
151A: Ridgeville-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
151B: Ridgeville-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Slope	0.98 0.12
152A: Drummer-----	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
154A: Flanagan-----	Somewhat limited Depth to saturated zone Slow water movement	0.98  0.21	Somewhat limited Depth to saturated zone Slow water movement	0.75  0.21	Somewhat limited Depth to saturated zone Slow water movement	0.98  0.21
171A: Catlin-----	Not limited		Not limited		Not limited	
171B, 171B2: Catlin-----	Not limited		Not limited		Somewhat limited Slope	0.12
171C2, 171C3: Catlin-----	Not limited		Not limited		Very limited Slope	1.00

Table 15a.--Recreational Development--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
193C2: Mayville-----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Very limited Slope Slow water movement	1.00 0.21
198A: Elburn-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
199A: Plano-----	Not limited		Not limited		Not limited	
199B: Plano-----	Not limited		Not limited		Somewhat limited Slope	0.28
199C2: Plano-----	Not limited		Not limited		Very limited Slope	1.00
206A: Thorp-----	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.96
210A: Lena-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
219A: Millbrook-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
223B, 223B2: Varna-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
223C2, 223C3: Varna-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.88
223D2, 223D3: Varna-----	Somewhat limited Slow water movement Slope	0.96 0.04	Somewhat limited Slow water movement Slope	0.96 0.04	Very limited Slope Slow water movement	1.00 0.96

Table 15a.--Recreational Development--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
228B: Nappanee-----	Very limited Depth to saturated zone	1.00	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Slow water movement Slope	1.00 0.12
228C2, 228C3: Nappanee-----	Very limited Depth to saturated zone	1.00	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Slow water movement Slope	1.00 0.88
232A: Ashkum-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
233A: Birkbeck-----	Not limited		Not limited		Not limited	
233B: Birkbeck-----	Not limited		Not limited		Somewhat limited Slope	0.28
233C2: Birkbeck-----	Not limited		Not limited		Very limited Slope	1.00
234A: Sunbury-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
235A: Bryce-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
236A: Sabina-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21

Table 15a.--Recreational Development--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
238A:						
Rantoul-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
241C3:						
Chatsworth-----	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
	Depth to saturated zone	0.16	Depth to saturated zone	0.08	Slope	0.88
					Depth to saturated zone	0.16
241D3:						
Chatsworth-----	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
	Too clayey	1.00	Too clayey	1.00	Slow water movement	1.00
	Depth to saturated zone	0.16	Depth to saturated zone	0.08	Too clayey	1.00
	Slope	0.04	Slope	0.04	Depth to saturated zone	0.16
241E3:						
Chatsworth-----	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slope	1.00
	Slope	1.00	Slope	1.00	Slow water movement	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
	Depth to saturated zone	0.16	Depth to saturated zone	0.08	Depth to saturated zone	0.16
241F, 241G:						
Chatsworth-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
	Depth to saturated zone	0.16	Depth to saturated zone	0.08	Depth to saturated zone	0.16
242A:						
Kendall-----	Very limited		Somewhat limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
243A:						
St. Charles-----	Not limited		Not limited		Not limited	
243B:						
St. Charles-----	Not limited		Not limited		Somewhat limited Slope	0.28
243C2:						
St. Charles-----	Not limited		Not limited		Very limited Slope	1.00

Table 15a.--Recreational Development--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
244A: Hartsburg-----	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  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
278B: Stronghurst-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone Slope	1.00  0.28
279B: Rozetta-----	Not limited		Not limited		Somewhat limited Slope	0.28
280C2: Fayette-----	Not limited		Not limited		Very limited Slope	1.00
290A: Warsaw-----	Not limited		Not limited		Not limited	
290B: Warsaw-----	Not limited		Not limited		Somewhat limited Slope	0.12
290C2: Warsaw-----	Not limited		Not limited		Somewhat limited Slope	0.88
293A: Andres-----	Somewhat limited Depth to saturated zone Slow water movement	0.99  0.21	Somewhat limited Depth to saturated zone Slow water movement	0.78  0.21	Somewhat limited Depth to saturated zone Slow water movement	0.99  0.21
293B: Andres-----	Somewhat limited Depth to saturated zone Slow water movement	0.99  0.21	Somewhat limited Depth to saturated zone Slow water movement	0.78  0.21	Somewhat limited Depth to saturated zone Slope Slow water movement	0.99  0.28 0.21
294B: Symerton-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96  0.28
294C2: Symerton-----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Very limited Slope Slow water movement	1.00  0.21

Table 15a.--Recreational Development--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
295A: Mokena-----	Somewhat limited Depth to saturated zone Slow water movement	0.98  0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96  0.75	Somewhat limited Depth to saturated zone Slow water movement	0.98  0.96
295B: Mokena-----	Somewhat limited Depth to saturated zone Slow water movement	0.98  0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96  0.75	Somewhat limited Depth to saturated zone Slow water movement Slope	0.98  0.96  0.12
298B: Beecher-----	Very limited Depth to saturated zone Slow water movement	1.00  0.96	Very limited Depth to saturated zone Slow water movement	1.00  0.96	Very limited Depth to saturated zone Slow water movement Slope	1.00  0.96  0.12
311B: Ritchey-----	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.12
314A: Joliet-----	Very limited Depth to saturated zone Depth to bedrock Ponding	1.00  1.00 1.00	Very limited Depth to saturated zone Depth to bedrock Ponding	1.00  1.00 1.00	Very limited Depth to saturated zone Depth to bedrock Ponding	1.00  1.00 1.00
315B: Channahon-----	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.12
317A: Millsdale-----	Very limited Depth to saturated zone Ponding Slow water movement	1.00  1.00 0.21	Very limited Depth to saturated zone Ponding Slow water movement	1.00  1.00 0.21	Very limited Depth to saturated zone Ponding Slow water movement	1.00  1.00 0.21
318B: Lorenzo-----	Not limited		Not limited		Somewhat limited Slope	0.12
318C2: Lorenzo-----	Not limited		Not limited		Somewhat limited Slope	0.88

Table 15a.--Recreational Development--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
320B: Frankfort-----	Very limited Depth to saturated zone	1.00	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Slow water movement Slope	1.00 0.12
320C2: Frankfort-----	Very limited Depth to saturated zone	1.00	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	1.00	Depth to saturated zone	0.94	Slow water movement Slope	1.00 0.88
325B: Dresden-----	Not limited		Not limited		Somewhat limited Slope	0.12
325C2: Dresden-----	Not limited		Not limited		Somewhat limited Slope	0.88
327B: Fox-----	Not limited		Not limited		Somewhat limited Slope	0.12
327C2: Fox-----	Not limited		Not limited		Somewhat limited Slope	0.88
327D2: Fox-----	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
330A: Peotone-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
344A: Harvard-----	Not limited		Not limited		Not limited	
344B: Harvard-----	Not limited		Not limited		Somewhat limited Slope	0.28
344C2: Harvard-----	Not limited		Not limited		Very limited Slope	1.00
356A: Elpaso-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00

Table 15a.--Recreational Development--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
375A: Rutland-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
375B: Rutland-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
	Slow water movement	0.21	Slow water movement	0.21	Slope Slow water movement	0.28 0.21
375B2: Rutland-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
	Slow water movement	0.43	Slow water movement	0.43	Slow water movement Slope	0.43 0.28
388B: Wenona-----	Somewhat limited Slow water movement	0.43	Somewhat limited Slow water movement	0.43	Somewhat limited Slow water movement Slope	0.43 0.28
388B2: Wenona-----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slope Slow water movement	0.28 0.21
388C2: Wenona-----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Very limited Slope Slow water movement	1.00 0.21
397F: Boone-----	Very limited Slope Too sandy	1.00 0.50	Very limited Slope Too sandy	1.00 0.50	Very limited Slope Depth to bedrock Too sandy	1.00 0.95 0.50
413B: Gale-----	Not limited		Not limited		Somewhat limited Slope Depth to bedrock	0.12 0.03
413C2: Gale-----	Not limited		Not limited		Somewhat limited Slope Depth to bedrock	0.88 0.01

Table 15a.--Recreational Development--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
435A: Streator-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
448B: Mona-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
					Slope	0.28
448C2: Mona-----	Very limited		Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00	Slow water movement	1.00
					Slope	1.00
512B: Danabrook-----	Not limited		Not limited		Somewhat limited	
					Slope	0.28
512C2: Danabrook-----	Not limited		Not limited		Very limited	
					Slope	1.00
516A: Faxon-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
527C2: Kidami-----	Not limited		Not limited		Somewhat limited	
					Slope	0.88
527D2: Kidami-----	Somewhat limited		Somewhat limited		Very limited	
	Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
	Slope	0.04	Slope	0.04	Slow water movement	0.21
530B: Ozaukee-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
					Slope	0.12
530C2: Ozaukee-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
	Depth to saturated zone	0.16	Depth to saturated zone	0.08	Slope	0.88
					Depth to saturated zone	0.16

Table 15a.--Recreational Development--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
530C3: Ozaukee-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96  0.88
530D2: Ozaukee-----	Somewhat limited Slow water movement Depth to saturated zone Slope	0.96  0.16  0.04	Somewhat limited Slow water movement Depth to saturated zone Slope	0.96  0.08  0.04	Very limited Slope Slow water movement Depth to saturated zone	1.00  0.96  0.16
530D3: Ozaukee-----	Somewhat limited Slow water movement Depth to saturated zone Slope	0.96  0.39  0.04	Somewhat limited Slow water movement Depth to saturated zone Slope	0.96  0.19  0.04	Very limited Slope Slow water movement Depth to saturated zone	1.00  0.96  0.39
530E2: Ozaukee-----	Very limited Slope Slow water movement Depth to saturated zone	1.00  0.96  0.16	Very limited Slope Slow water movement Depth to saturated zone	1.00  0.96  0.08	Very limited Slope Slow water movement Depth to saturated zone	1.00  0.96  0.16
530F: Ozaukee-----	Very limited Slope Slow water movement	1.00  0.96	Very limited Slope Slow water movement	1.00  0.96	Very limited Slope Slow water movement	1.00  0.96
541B: Graymont-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96  0.28
541B2: Graymont-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96  0.50
541C2: Graymont-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Very limited Slope Slow water movement	1.00  0.96
542A: Rooks-----	Somewhat limited Depth to saturated zone Slow water movement	0.98  0.21	Somewhat limited Depth to saturated zone Slow water movement	0.75  0.21	Somewhat limited Depth to saturated zone Slow water movement	0.98  0.21

Table 15a.--Recreational Development--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
542B: Rooks-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
	Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.28 0.21
549B: Marseilles-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96
					Slope	0.28
549C2: Marseilles-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Very limited Slope	1.00
					Slow water movement	0.96
					Depth to bedrock	0.80
549D2: Marseilles-----	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Very limited Slope	1.00
	Slope	0.96	Slope	0.96	Slow water movement	0.96
					Depth to bedrock	0.71
549F, 549G: Marseilles-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
					Depth to bedrock	0.10
554B: Kernan-----	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.94	Very limited Depth to saturated zone	1.00
	Slow water movement	0.43	Slow water movement	0.43	Slow water movement	0.43
					Slope	0.12
560D2: St. Clair-----	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slope	1.00
	Slope	0.04	Slope	0.04	Slow water movement	1.00
560E: St. Clair-----	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slope	1.00
	Slope	1.00	Slope	1.00	Slow water movement	1.00
	Depth to saturated zone	0.16	Depth to saturated zone	0.08	Depth to saturated zone	0.16
567B: Elkhart-----	Not limited		Not limited		Somewhat limited Slope	0.12

Table 15a.--Recreational Development--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
572A: Loran-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
572B: Loran-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Slope	0.98 0.28
572C2: Loran-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Very limited Slope Depth to saturated zone	1.00 0.98
614A: Chenoa-----	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.75	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.96
614B: Chenoa-----	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.21	Somewhat limited Depth to saturated zone Slow water movement	0.75 0.21	Somewhat limited Depth to saturated zone Slope Slow water movement	0.98 0.28 0.21
662B: Barony-----	Not limited		Not limited		Somewhat limited Slope	0.28
663B: Clare-----	Not limited		Not limited		Somewhat limited Slope	0.50
667B: Kaneville-----	Not limited		Not limited		Somewhat limited Slope	0.28
668B: Somonauk-----	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
679B: Blackberry-----	Not limited		Not limited		Somewhat limited Slope	0.28

Table 15a.--Recreational Development--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
680B: Campton-----	Not limited		Not limited		Somewhat limited Slope	0.28
712A: Spaulding-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
715A: Arrowsmith-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
732A: Appleriver-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.99	Slow water movement	0.99	Slow water movement	0.99
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
732B: Appleriver-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slow water movement	0.99	Slow water movement	0.99	Slow water movement	0.99
	Depth to saturated zone	0.98	Depth to saturated zone	0.75	Depth to saturated zone	0.98
					Slope	0.28
791A: Rush-----	Not limited		Not limited		Not limited	
791B: Rush-----	Not limited		Not limited		Somewhat limited Slope	0.12
792A: Bowes-----	Not limited		Not limited		Not limited	
792B: Bowes-----	Not limited		Not limited		Somewhat limited Slope	0.12
794G: Marseilles-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
					Depth to bedrock	0.10
Northfield-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
Ritchey-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00

Table 15a.--Recreational Development--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
802B: Orthents, loamy-----	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slope Slow water movement	0.28 0.21
802D: Orthents, loamy-----	Somewhat limited Slow water movement Slope	0.21 0.04	Somewhat limited Slow water movement Slope	0.21 0.04	Very limited Slope Slow water movement	1.00 0.21
804D: Orthents, acid-----	Very limited Too clayey Slow water movement Slope	1.00 0.98 0.01	Very limited Too clayey Slow water movement Slope	1.00 0.98 0.01	Very limited Slope Too clayey Slow water movement	1.00 1.00 0.98
804G: Orthents, acid-----	Very limited Slope Too clayey Slow water movement	1.00 1.00 0.98	Very limited Slope Too clayey Slow water movement	1.00 1.00 0.98	Very limited Slope Too clayey Slow water movement	1.00 1.00 0.98
805B: Orthents, clayey----	Very limited Slow water movement Too clayey	1.00 1.00	Very limited Slow water movement Too clayey	1.00 1.00	Very limited Slow water movement Too clayey Slope	1.00 1.00 0.12
814A: 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
Buckhart-----	Not limited		Not limited		Not limited	
817A: Channahon-----	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
Hesch-----	Not limited		Not limited		Not limited	
817B: Channahon-----	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.50
Hesch-----	Not limited		Not limited		Somewhat limited Depth to bedrock Slope	0.95 0.50
818A: Flanagan-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
Catlin-----	Not limited		Not limited		Not limited	

Table 15a.--Recreational Development--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
820E, 820G: Hennepin-----	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
Casco-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
830: Landfills-----	Not rated		Not rated		Not rated	
864: Pits, quarry-----	Not rated		Not rated		Not rated	
865: Pits, gravel-----	Not rated		Not rated		Not rated	
969E2, 969F: Casco-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rodman-----	Very limited Slope Gravel content	1.00 0.02	Very limited Slope Gravel content	1.00 0.02	Very limited Slope Gravel content	1.00 1.00
1103A: Houghton-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Organic matter content	1.00 1.00
1480A: Moundprairie-----	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
3073A: Ross-----	Very limited Flooding	1.00	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
3076A: Otter-----	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
3082A: Millington-----	Very limited Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Flooding Ponding	1.00 1.00 1.00

Table 15a.--Recreational Development--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: Sawmill-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
3321A: Du Page-----	Very limited Flooding	1.00	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
3451A: Lawson-----	Very limited Flooding	1.00	Somewhat limited Depth to saturated zone	0.75	Very limited Flooding	1.00
	Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
3480A: Moundprairie-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Flooding	1.00
	Ponding	1.00	Flooding	0.40	Ponding	1.00
3800A: Psammments-----	Very limited Flooding	1.00	Very limited Too sandy	1.00	Very limited Too sandy	1.00
	Too sandy	1.00	Flooding	0.40	Flooding	1.00
7073A: Ross-----	Very limited Flooding	1.00	Not limited		Not limited	
8073A: Ross-----	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
8107A: Sawmill-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00			Flooding	0.60
8151A: Ridgeville-----	Very limited Flooding	1.00	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone	0.98
	Depth to saturated zone	0.98			Flooding	0.60
8404A: Titus-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Slow water movement	0.96	Slow water movement	0.96
	Slow water movement	0.96			Flooding	0.60

Table 15a.--Recreational Development--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
8451A: Lawson-----	Very limited Flooding	1.00	Somewhat limited Depth to saturated zone	0.75	Somewhat limited Depth to saturated zone Flooding	0.98 0.60
8516A: Faxon-----	Very limited Depth to saturated zone Flooding Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.60

Table 15b.--Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

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
23B: Blount-----	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.98	Somewhat limited Depth to saturated zone	0.99
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
60C2: La Rose-----	Not limited		Not limited		Not limited	
60D2: La Rose-----	Not limited		Not limited		Somewhat limited Slope	0.96
61A, 61B: 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
67A: Harpster-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
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 Depth to saturated zone Ponding	1.00 1.00
86B, 86C2: Osco-----	Not limited		Not limited		Not limited	
87A, 87B, 87C2: 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
88D: Sparta-----	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Droughty Slope	0.07 0.04
91A, 91B, 91B2, 91C2, 91C3: Swygert-----	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 15b.--Recreational Development--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
103A: Houghton-----	Very limited Depth to saturated zone Organic matter content	1.00 1.00	Very limited Depth to saturated zone Organic matter content	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
104A: Virgil-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
105A, 105B: Batavia-----	Not limited		Not limited		Not limited	
105C2: Batavia-----	Not limited		Not limited		Somewhat limited Slope	0.01
125A: Selma-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
131B, 131C2: Alvin-----	Not limited		Not limited		Not limited	
132A: Starks-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
134A, 134B, 134C2: Camden-----	Not limited		Not limited		Not limited	
134D2, 134D3: Camden-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
134F: Camden-----	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.01	Very limited Slope	1.00
146A, 146B, 146B2: Elliott-----	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.73	Somewhat limited Depth to saturated zone	0.88
147B2: Clarence-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Droughty	0.75 0.01
148A, 148B, 148B2: Proctor-----	Not limited		Not limited		Not limited	

Table 15b.--Recreational Development--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
149A: Brenton-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
151A, 151B: Ridgeville-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
152A: Drummer-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
154A: Flanagan-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
171A, 171B, 171B2, 171C2, 171C3: Catlin-----	Not limited		Not limited		Not limited	
193C2: Mayville-----	Not limited		Not limited		Not limited	
198A: Elburn-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
199A, 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 Depth to saturated zone Ponding	1.00 1.00
210A: Lena-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
219A: Millbrook-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
223B, 223B2, 223C2, 223C3: Varna-----	Not limited		Not limited		Not limited	
223D2: Varna-----	Not limited		Not limited		Somewhat limited Slope	0.04

Table 15b.--Recreational Development--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
223D3: Varna-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope Content of large stones	0.04 0.01
228B: Nappanee-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
228C2: Nappanee-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone Droughty	0.94 0.01
228C3: Nappanee-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone Droughty	0.94 0.29
232A: Ashkum-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
233A, 233B, 233C2: Birkbeck-----	Not limited		Not limited		Not limited	
234A: Sunbury-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
235A: Bryce-----	Very limited Depth to saturated zone Too clayey Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Ponding	1.00 1.00 1.00
236A: Sabina-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
238A: Rantoul-----	Very limited Depth to saturated zone Too clayey Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Too clayey Ponding	1.00 1.00 1.00

Table 15b.--Recreational Development--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
241C3: Chatsworth-----	Very limited Too clayey	1.00	Very limited Too clayey	1.00	Very limited Too clayey Droughty Depth to saturated zone	1.00 0.97 0.08
241D3: Chatsworth-----	Very limited Too clayey	1.00	Very limited Too clayey	1.00	Very limited Too clayey Droughty Depth to saturated zone Slope	1.00 0.99 0.08 0.04
241E3: Chatsworth-----	Very limited Too clayey Slope	1.00 0.02	Very limited Too clayey	1.00	Very limited Slope Too clayey Droughty Depth to saturated zone	1.00 1.00 0.90 0.08
241F: Chatsworth-----	Very limited Slope	1.00	Not limited		Very limited Slope Droughty Depth to saturated zone	1.00 0.86 0.08
241G: Chatsworth-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty Depth to saturated zone	1.00 0.84 0.08
242A: Kendall-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
243A, 243B, 243C2: St. Charles-----	Not limited		Not limited		Not limited	
244A: Hartsburg-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
278A, 278B: 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: Rozetta-----	Not limited		Not limited		Not limited	

Table 15b.--Recreational Development--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
280C2: Fayette-----	Not limited		Not limited		Not limited	
290A, 290B, 290C2: Warsaw-----	Not limited		Not limited		Not limited	
293A, 293B: Andres-----	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.50	Somewhat limited Depth to saturated zone	0.78
294B, 294C2: Symerton-----	Not limited		Not limited		Not limited	
295A, 295B: Mokena-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
298B: Beecher-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
311B: Ritchey-----	Not limited		Not limited		Very limited Depth to bedrock Droughty	1.00 0.23
314A: Joliet-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to bedrock Depth to saturated zone Ponding Droughty	1.00 1.00 1.00 0.05
315B: Channahon-----	Not limited		Not limited		Very limited Depth to bedrock Droughty	1.00 0.12
317A: Millsdale-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Depth to bedrock	1.00 1.00 1.00 0.06
318B: Lorenzo-----	Not limited		Not limited		Somewhat limited Droughty	0.01
318C2: Lorenzo-----	Not limited		Not limited		Somewhat limited Droughty	0.09
320B, 320C2: Frankfort-----	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 15b.--Recreational Development--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
325B, 325C2: Dresden-----	Not limited		Not limited		Not limited	
327B, 327C2: Fox-----	Not limited		Not limited		Not limited	
327D2: Fox-----	Not limited		Not limited		Somewhat limited Slope	0.04
330A: Peotone-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
344A, 344B, 344C2: Harvard-----	Not limited		Not limited		Not limited	
356A: Elpaso-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
375A, 375B, 375B2: Rutland-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
388B, 388B2, 388C2: Wenona-----	Not limited		Not limited		Not limited	
397F: Boone-----	Very limited Slope Too sandy	1.00 0.50	Somewhat limited Too sandy	0.50	Very limited Slope Droughty Depth to bedrock	1.00 1.00 0.95
413B: Gale-----	Not limited		Not limited		Somewhat limited Depth to bedrock	0.03
413C2: Gale-----	Not limited		Not limited		Somewhat limited Depth to bedrock	0.01
435A: Streator-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
448B, 448C2: Mona-----	Not limited		Not limited		Not limited	
512B, 512C2: Danabrook-----	Not limited		Not limited		Not limited	

Table 15b.--Recreational Development--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
516A: Faxon-----	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding Depth to bedrock	1.00  1.00 0.06
527C2: Kidami-----	Not limited		Not limited		Not limited	
527D2: Kidami-----	Not limited		Not limited		Somewhat limited Slope	0.04
530B: Ozaukee-----	Not limited		Not limited		Not limited	
530C2: Ozaukee-----	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.08
530C3: Ozaukee-----	Not limited		Not limited		Not limited	
530D2: Ozaukee-----	Not limited		Not limited		Somewhat limited Depth to saturated zone Slope	0.08 0.04
530D3: Ozaukee-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Depth to saturated zone Slope	0.19 0.04
530E2: Ozaukee-----	Somewhat limited Slope	0.02	Not limited		Very limited Slope Depth to saturated zone	1.00 0.08
530F: Ozaukee-----	Very limited Slope	1.00	Not limited		Very limited Slope	1.00
541B, 541B2, 541C2: Graymont-----	Not limited		Not limited		Not limited	
542A, 542B: Rooks-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
549B: Marseilles-----	Not limited		Not limited		Not limited	

Table 15b.--Recreational Development--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
549C2: Marseilles-----	Not limited		Not limited		Somewhat limited Depth to bedrock	0.80
549D2: Marseilles-----	Not limited		Not limited		Somewhat limited Slope Depth to bedrock	0.96 0.71
549F: Marseilles-----	Very limited Slope	1.00	Somewhat limited Slope	0.04	Very limited Slope Depth to bedrock	1.00 0.10
549G: Marseilles-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope Depth to bedrock	1.00 0.10
554B: Kernan-----	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Depth to saturated zone	0.94
560D2: St. Clair-----	Not limited		Not limited		Somewhat limited Slope	0.04
560E: St. Clair-----	Somewhat limited Slope	0.02	Not limited		Very limited Slope Droughty Depth to saturated zone	1.00 0.14 0.08
567B: Elkhart-----	Not limited		Not limited		Not limited	
572A, 572B, 572C2: Loran-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
614A, 614B: Chenoa-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
662B: Barony-----	Not limited		Not limited		Not limited	
663B: Clare-----	Not limited		Not limited		Not limited	
667B: Kaneville-----	Not limited		Not limited		Not limited	
668B: Somonauk-----	Not limited		Not limited		Not limited	

Table 15b.--Recreational Development--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
675B, 675C2: Greenbush-----	Not limited		Not limited		Not limited	
679B: Blackberry-----	Not limited		Not limited		Not limited	
680B: Campton-----	Not limited		Not limited		Not limited	
712A: Spaulding-----	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
715A: Arrowsmith-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
732A, 732B: Appleriver-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75
791A, 791B: Rush-----	Not limited		Not limited		Not limited	
792A, 792B: Bowes-----	Not limited		Not limited		Not limited	
794G: Marseilles-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope Depth to bedrock	1.00 0.10
Northfield-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.53
Ritchey-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.12
802B: Orthents, loamy----	Not limited		Not limited		Not limited	
802D: Orthents, loamy----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.04
804D: Orthents, acid-----	Very limited Too clayey	1.00	Very limited Too clayey	1.00	Very limited Too clayey Slope	1.00 0.01

Table 15b.--Recreational Development--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
804G:						
Orthents, acid-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
805B:						
Orthents, clayey----	Very limited		Very limited		Very limited	
	Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
					Droughty	0.48
814A:						
Muscatune-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Buckhart-----	Not limited		Not limited		Not limited	
817A:						
Channahon-----	Not limited		Not limited		Very limited	
					Depth to bedrock	1.00
					Droughty	0.65
Hesch-----	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.29
817B:						
Channahon-----	Not limited		Not limited		Very limited	
					Depth to bedrock	1.00
					Droughty	0.91
Hesch-----	Not limited		Not limited		Somewhat limited	
					Depth to bedrock	0.95
					Droughty	0.05
818A:						
Flanagan-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
Catlin-----	Not limited		Not limited		Not limited	
820E:						
Hennepin-----	Somewhat limited		Not limited		Very limited	
	Slope	0.68			Slope	1.00
Casco-----	Somewhat limited		Not limited		Very limited	
	Slope	0.68			Slope	1.00
820G:						
Hennepin-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Casco-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
					Droughty	0.17
830:						
Landfills-----	Not rated		Not rated		Not rated	

Table 15b.--Recreational Development--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
864: Pits, quarry-----	Not rated		Not rated		Not rated	
865: Pits, gravel-----	Not rated		Not rated		Not rated	
969E2: Casco-----	Somewhat limited Slope	0.02	Not limited		Very limited Slope Droughty	1.00 0.05
Rodman-----	Somewhat limited Slope	0.02	Not limited		Very limited Slope Droughty Gravel content	1.00 1.00 0.02
969F: Casco-----	Very limited Slope	1.00	Not limited		Very limited Slope Droughty	1.00 0.34
Rodman-----	Very limited Slope	1.00	Not limited		Very limited Slope Droughty Gravel content	1.00 0.94 0.02
1103A: Houghton-----	Very limited Depth to saturated zone Organic matter content	1.00 1.00	Very limited Depth to saturated zone Organic matter content	1.00 1.00	Very limited Organic matter content Depth to saturated zone	1.00 1.00
1480A: Moundprairie-----	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3073A: Ross-----	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
3076A: Otter-----	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3082A: Millington-----	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Ponding Flooding	1.00 1.00 0.40	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00

Table 15b.--Recreational Development--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
3107A: Sawmill-----	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
3321A: Du Page-----	Somewhat limited		Somewhat limited		Very limited	
	Flooding	0.40	Flooding	0.40	Flooding	1.00
3451A: Lawson-----	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
3480A: Moundprairie-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	0.40	Flooding	0.40	Ponding	1.00
3800A: Psammets-----	Very limited		Very limited		Very limited	
	Too sandy	1.00	Too sandy	1.00	Flooding	1.00
	Flooding	0.40	Flooding	0.40	Droughty	0.69
					Too sandy	0.50
7073A: Ross-----	Not limited		Not limited		Not limited	
8073A: Ross-----	Not limited		Not limited		Somewhat limited Flooding	0.60
8107A: Sawmill-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
					Flooding	0.60
8151A: Ridgeville-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.44	Depth to saturated zone	0.44	Depth to saturated zone	0.75
					Flooding	0.60
8404A: Titus-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
					Flooding	0.60

Table 15b.--Recreational Development--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
8451A: Lawson-----	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone Flooding	0.75 0.60
8516A: Faxon-----	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Flooding Depth to bedrock	1.00 1.00 0.60 0.06

Table 16.--Wildlife Habitat

(See text for definitions of terms used in this table)

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
23B: Blount-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
51A: Muscatune-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
60C2: La Rose-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
60D2: La Rose-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
61A: Atterberry-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
61B: Atterberry-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
67A: Harpster-----	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
68A: Sable-----	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
86B: 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.
87A, 87B: Dickinson-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
87C2: Dickinson-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
88B, 88D: Sparta-----	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
91A: Swygert-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
91B, 91B2: Swygert-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
91C2, 91C3: Swygert-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 16.--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
103A: Houghton-----	Poor	Poor	Poor	Poor	Very poor.	Good	Good	Poor	Poor	Good.
104A: Virgil-----	Fair	Good	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
105A, 105B: Batavia-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
105C2: Batavia-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
125A: Selma-----	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
131B: Alvin-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
131C2: Alvin-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
132A: Starks-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
134A, 134B: Camden-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
134C2: Camden-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
134D2, 134D3, 134F: Camden-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
146A: Elliott-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
146B, 146B2: Elliott-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
147B2: Clarence-----	Fair	Good	Good	Fair	Fair	Fair	Poor	Good	Fair	Poor.
148A, 148B: Proctor-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
148C2: Proctor-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
149A: Brenton-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

Table 16.--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
151A: Ridgeville-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
151B: Ridgeville-----	Good	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
152A: Drummer-----	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
154A: Flanagan-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
171A: Catlin-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
171B, 171B2: Catlin-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
171C2, 171C3: Catlin-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
193C2: Mayville-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
198A: Elburn-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
199A, 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-----	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
210A: Lena-----	Poor	Poor	Poor	Poor	Very poor.	Good	Good	Poor	Poor	Good.
219A: Millbrook-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
223B, 223B2: Varna-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
223C2, 223C3: Varna-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
223D2, 223D3: Varna-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
228B: Nappanee-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.

Table 16.--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
228C2, 228C3: Nappanee-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
232A: Ashkum-----	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
233A: Birkbeck-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
233B: Birkbeck-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
233C2: Birkbeck-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
234A: Sunbury-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
235A: Bryce-----	Fair	Fair	Poor	Fair	Poor	Fair	Good	Fair	Fair	Fair.
236A: Sabina-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
238A: Rantoul-----	Poor	Poor	Poor	Poor	Poor	Fair	Good	Poor	Poor	Fair.
241C3: Chatsworth-----	Poor	Poor	Fair	Poor	Poor	Poor	Very poor.	Poor	Poor	Very poor.
241D3, 241E3: Chatsworth-----	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
241F, 241G: Chatsworth-----	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
242A: Kendall-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
243A: St. Charles-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
243B: St. Charles-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
243C2: St. Charles-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
244A: Hartsburg-----	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
278A, 278B: Stronghurst-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.

Table 16.--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
279B: Rozetta-----	Good	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.
290A, 290B: Warsaw-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
290C2: Warsaw-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
293A: Andres-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
293B: Andres-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
294B: Symerton-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
294C2: Symerton-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
295A: Mokena-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
295B: Mokena-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
298B: Beecher-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
311B: Ritchey-----	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
314A: Joliet-----	Poor	Poor	Fair	Fair	Poor	Good	Poor	Poor	Fair	Fair.
315B: Channahon-----	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
317A: Millsdale-----	Fair	Fair	Fair	Fair	Poor	Good	Fair	Fair	Fair	Fair.
318B, 318C2: Lorenzo-----	Fair	Fair	Good	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
320B: Frankfort-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.

Table 16.--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
320C2: Frankfort-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
325B: Dresden-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
325C2: Dresden-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
327B: Fox-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
327C2: Fox-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
327D2: Fox-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
330A: Peotone-----	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
344A, 344B: Harvard-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
344C2: Harvard-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
356A: Elpaso-----	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
375A: Rutland-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
375B, 375B2: Rutland-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
388B, 388B2: Wenona-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
388C2: Wenona-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
397F: Boone-----	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
413B, 413C2: Gale-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 16.--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
435A: Streator-----	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
448B: Mona-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
448C2: Mona-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
512B: Danabrook-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
512C2: Danabrook-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
516A: Faxon-----	Fair	Fair	Fair	Fair	Poor	Good	Fair	Fair	Fair	Fair.
527C2: Kidami-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
527D2: Kidami-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
530B: Ozaukee-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
530C2, 530C3: Ozaukee-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
530D2, 530D3: Ozaukee-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
530E2, 530F: Ozaukee-----	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
541B, 541B2: Graymont-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
541C2: Graymont-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
542A: Rooks-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
542B: Rooks-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 16.--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
549B, 549C2: Marseilles-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
549D2: Marseilles-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
549F: Marseilles-----	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
549G: Marseilles-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
554B: Kernan-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
560D2: St. Clair-----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
560E: St. Clair-----	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
567B: Elkhart-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
572A: Loran-----	Good	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
572B: Loran-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
572C2: Loran-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
614A: Chenoa-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
614B: Chenoa-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
662B: Barony-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
663B: Clare-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
667B: Kaneville-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 16.--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
668B: Somonausk-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
675B: Greenbush-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
675C2: Greenbush-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
679B: Blackberry-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
680B: Campton-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
712A: Spaulding-----	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
715A: Arrowsmith-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
732A: Appleriver-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
732B: Appleriver-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
791A, 791B: Rush-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
792A, 792B: Bowes-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
794G: Marseilles-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Northfield-----	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Ritchey-----	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
802B: Orthents, loamy---	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
802D: Orthents, loamy---	Fair	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 16.--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
804D: Orthents, acid----	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
804G: Orthents, acid----	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
805B: Orthents, clayey--	Fair	Fair	Fair	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
814A: Muscatune-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Buckhart-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
817A, 817B: Channahon-----	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
Hesch-----	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
818A: Flanagan-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
Catlin-----	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
820E: Hennepin-----	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Casco-----	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
820G: Hennepin-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Casco-----	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
969E2: Casco-----	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Rodman-----	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
969F: Casco-----	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Rodman-----	Very poor.	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
1103A: Houghton-----	Very poor.	Poor	Poor	Poor	Very poor.	Good	Good	Poor	Poor	Good.

Table 16.--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
1480A: Moundprairie-----	Very poor.	Poor	Poor	Poor	Very poor.	Good	Good	Poor	Poor	Good.
3073A: Ross-----	Poor	Fair	Fair	Good	Fair	Fair	Very poor.	Fair	Good	Poor.
3076A: Otter-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3082A: Millington-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3107A: Sawmill-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3321A: Du Page-----	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Poor.
3451A: Lawson-----	Poor	Fair	Fair	Good	Fair	Fair	Fair	Fair	Good	Fair.
3480A: Moundprairie-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
3800A: Psammets-----	Poor	Poor	Fair	Poor	Poor	Poor	Very poor.	Poor	Poor	Very poor.
7073A: Ross-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
8073A: Ross-----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
8107A: Sawmill-----	Poor	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
8151A: Ridgeville-----	Fair	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor.
8404A: Titus-----	Fair	Fair	Fair	Fair	Poor	Good	Good	Fair	Fair	Good.
8451A: Lawson-----	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
8516A: Faxon-----	Fair	Fair	Fair	Fair	Poor	Good	Fair	Fair	Fair	Fair.

Table 17a.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

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
23B: Blount-----	Very limited Depth to saturated zone Shrink-swell	1.00  0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00  0.50
51A: Muscatune-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98  0.50	Very limited Depth to saturated zone Shrink-swell	1.00  0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98  0.50
60C2: La Rose-----	Not limited		Not limited		Somewhat limited Slope	0.97
60D2: La Rose-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Very limited Slope	1.00
61A: Atterberry-----	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
61B: Atterberry-----	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
67A: Harpster-----	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  0.50	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00  0.50
68A: Sable-----	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00  0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00  0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00  0.50
86B: Osco-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50

Table 17a.--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
86C2: Osco-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Slope Shrink-swell	0.97 0.50
87A: Dickinson-----	Not limited		Not limited		Not limited	
87B: Dickinson-----	Not limited		Not limited		Not limited	
87C2: Dickinson-----	Not limited		Not limited		Somewhat limited Slope	0.97
88B: Sparta-----	Not limited		Not limited		Not limited	
88D: Sparta-----	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope	1.00
91A: Swygert-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.98
91B: Swygert-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.98
91B2: Swygert-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.98
91C2: Swygert-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Shrink-swell Depth to saturated zone Slope	1.00 0.98 0.12
91C3: Swygert-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell Slope	0.98 0.50 0.12

Table 17a.--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
103A: Houghton-----	Very limited Subsidence Depth to saturated zone Organic matter content Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Organic matter content Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Organic matter content Ponding	1.00 1.00 1.00 1.00
104A: Virgil-----	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
105A: Batavia-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
105B: Batavia-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
105C2: Batavia-----	Somewhat limited Shrink-swell Slope	0.50 0.01	Somewhat limited Shrink-swell Slope	0.50 0.01	Very limited Slope Shrink-swell	1.00 0.50
125A: Selma-----	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
131B: Alvin-----	Not limited		Not limited		Not limited	
131C2: Alvin-----	Not limited		Not limited		Somewhat limited Slope	0.97
132A: Starks-----	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
134A: Camden-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
134B: Camden-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
134C2: Camden-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Slope Shrink-swell	0.97 0.50

Table 17a.--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
134D2: Camden-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope	0.96	Very limited Slope Shrink-swell	1.00 0.50
134D3: Camden-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Shrink-swell	0.96 0.50	Very limited Slope Shrink-swell	1.00 0.50
134F: Camden-----	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
146A: Elliott-----	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
146B: Elliott-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
146B2: Elliott-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
147B2: Clarence-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
148A: Proctor-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
148B: Proctor-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
148C2: Proctor-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
149A: Brenton-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50

Table 17a.--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
151A: Ridgeville-----	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.98
151B: Ridgeville-----	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.98
152A: Drummer-----	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
154A: Flanagan-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.98
171A: Catlin-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
171B: Catlin-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
171B2: Catlin-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
171C2: Catlin-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
171C3: Catlin-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
193C2: Mayville-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Slope Shrink-swell	0.97 0.50

Table 17a.--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
198A: Elburn-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
199A: Plano-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
199B: Plano-----	Somewhat limited Shrink-swell	0.27	Somewhat limited Shrink-swell	0.27	Somewhat limited Shrink-swell	0.27
199C2: Plano-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
206A: Thorp-----	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 0.50	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
210A: Lena-----	Very limited Subsidence Depth to saturated zone Organic matter content Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Organic matter content Ponding	1.00 1.00 1.00 1.00	Very limited Subsidence Depth to saturated zone Organic matter content Ponding	1.00 1.00 1.00 1.00
219A: Millbrook-----	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
223B: Varna-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
223B2: Varna-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Shrink-swell	0.50
223C2: Varna-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell Slope	0.50 0.12

Table 17a.--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
223C3: Varna-----	Not limited		Somewhat limited Depth to saturated zone	0.99	Somewhat limited Slope	0.12
223D2: Varna-----	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Depth to saturated zone Slope	0.99 0.04	Very limited Slope Shrink-swell	1.00 0.50
223D3: Varna-----	Somewhat limited Slope	0.04	Somewhat limited Depth to saturated zone Slope	0.99 0.04	Very limited Slope	1.00
228B: Nappanee-----	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
228C2: Nappanee-----	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 Slope	1.00 0.50 0.12
228C3: Nappanee-----	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 Slope	1.00 0.50 0.12
232A: Ashkum-----	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00
233A: Birkbeck-----	Somewhat limited Shrink-swell	0.92	Very limited Depth to saturated zone Shrink-swell	0.99 0.92	Somewhat limited Shrink-swell	0.92
233B: Birkbeck-----	Somewhat limited Shrink-swell	0.92	Very limited Depth to saturated zone Shrink-swell	0.99 0.92	Somewhat limited Shrink-swell	0.92
233C2: Birkbeck-----	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Slope Shrink-swell	0.97 0.50

Table 17a.--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
234A: Sunbury-----	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
235A: Bryce-----	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00
236A: Sabina-----	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
238A: Rantoul-----	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00
241C3: Chatsworth-----	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.16	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell Depth to saturated zone Slope	0.50 0.16 0.12
241D3: Chatsworth-----	Somewhat limited Shrink-swell Depth to saturated zone Slope	0.50 0.16 0.04	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.50 0.04	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.16
241E3: Chatsworth-----	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.16	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.16
241F: Chatsworth-----	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.16	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.16
241G: Chatsworth-----	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.16	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.16

Table 17a.--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
242A: Kendall-----	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
243A: St. Charles-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
243B: St. Charles-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
243C2: St. Charles-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.97  0.50
244A: Hartsburg-----	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
278A: Stronghurst-----	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
278B: Stronghurst-----	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
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
280C2: Fayette-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.97  0.50
290A: Warsaw-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
290B: Warsaw-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
290C2: Warsaw-----	Not limited		Not limited		Somewhat limited Slope	0.12

Table 17a.--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
293A: Andres-----	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
293B: Andres-----	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
294B: Symerton-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.97	Somewhat limited Shrink-swell	0.50
294C2: Symerton-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
295A: Mokena-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
295B: Mokena-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.22	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
298B: Beecher-----	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
311B: Ritchey-----	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50
314A: Joliet-----	Very limited Depth to saturated zone Depth to hard bedrock Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Depth to hard bedrock Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Depth to hard bedrock Ponding	1.00 1.00 1.00
315B: Channahon-----	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50

Table 17a.--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
317A: Millsdale-----	Very limited Depth to saturated zone Shrink-swell Ponding Depth to hard bedrock	1.00 1.00 1.00 0.06	Very limited Depth to saturated zone Shrink-swell Depth to hard bedrock Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding Depth to hard bedrock	1.00 1.00 1.00 0.06
318B: Lorenzo-----	Not limited		Not limited		Not limited	
318C2: Lorenzo-----	Not limited		Not limited		Somewhat limited Slope	0.12
320B: Frankfort-----	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
320C2: Frankfort-----	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 Slope	1.00 0.50 0.12
325B: Dresden-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
325C2: Dresden-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell Slope	0.50 0.12
327B: Fox-----	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
327C2: Fox-----	Not limited		Not limited		Somewhat limited Slope	0.12
327D2: Fox-----	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Slope	0.04	Very limited Slope Shrink-swell	1.00 0.50
330A: Peotone-----	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00
344A: Harvard-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50

Table 17a.--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
344B: Harvard-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
344C2: Harvard-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
356A: Elpaso-----	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
375A: Rutland-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.98
375B: Rutland-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.98
375B2: Rutland-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.98
388B: Wenona-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Shrink-swell	1.00
388B2: Wenona-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Shrink-swell	1.00
388C2: Wenona-----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Shrink-swell Slope	1.00 0.97
397F: Boone-----	Very limited Slope	1.00	Very limited Slope Depth to soft bedrock	1.00 0.95	Very limited Slope	1.00

Table 17a.--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
413B: Gale-----	Not limited		Somewhat limited Depth to soft bedrock	0.03	Not limited	
413C2: Gale-----	Not limited		Somewhat limited Depth to soft bedrock	0.01	Somewhat limited Slope	0.12
435A: Streator-----	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Shrink-swell Ponding	1.00 1.00 1.00
448B: Mona-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
448C2: Mona-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
512B: Danabrook-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
512C2: Danabrook-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Slope Shrink-swell	0.97 0.50
516A: Faxon-----	Very limited Depth to saturated zone Ponding Depth to hard bedrock	1.00 1.00 0.06	Very limited Depth to saturated zone Depth to hard bedrock Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Depth to hard bedrock	1.00 1.00 0.06
527C2: Kidami-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
527D2: Kidami-----	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Depth to saturated zone Slope	0.99 0.04	Very limited Slope Shrink-swell	1.00 0.50

Table 17a.--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
530B: Ozaukee-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Shrink-swell	0.50
530C2: Ozaukee-----	Somewhat limited Depth to saturated zone	0.16	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Slope	0.16 0.12
530C3: Ozaukee-----	Not limited		Somewhat limited Depth to saturated zone	0.99	Somewhat limited Slope	0.12
530D2: Ozaukee-----	Somewhat limited Depth to saturated zone Slope	0.16 0.04	Very limited Depth to saturated zone Slope	1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.16
530D3: Ozaukee-----	Somewhat limited Depth to saturated zone Slope	0.39 0.04	Very limited Depth to saturated zone Slope	1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.39
530E2: Ozaukee-----	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.16	Very limited Depth to saturated zone Slope	1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.16
530F: Ozaukee-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Depth to saturated zone	1.00 1.00 0.99	Very limited Slope Shrink-swell	1.00 1.00 0.50
541B: Graymont-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone	0.99	Somewhat limited Shrink-swell	0.50
541B2: Graymont-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
541C2: Graymont-----	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	0.99	Somewhat limited Slope Shrink-swell	0.97 0.50

Table 17a.--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
542A: Rooks-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
542B: Rooks-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
549B: Marseilles-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.16	Somewhat limited Shrink-swell	0.50
549C2: Marseilles-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to soft bedrock Shrink-swell	0.79 0.50	Somewhat limited Slope Shrink-swell	0.97 0.50
549D2: Marseilles-----	Somewhat limited Slope Shrink-swell	0.96 0.50	Somewhat limited Slope Depth to soft bedrock Shrink-swell	0.96 0.71 0.50	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 soft bedrock	1.00 0.50 0.10	Very limited Slope Shrink-swell	1.00 0.50
549G: Marseilles-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.10	Very limited Slope Shrink-swell	1.00 0.50
554B: Kernan-----	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
560D2: St. Clair-----	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Depth to saturated zone Shrink-swell Slope	0.99 0.50 0.04	Very limited Slope Shrink-swell	1.00 0.50

Table 17a.--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
560E: St. Clair-----	Very limited Slope Shrink-swell Depth to saturated zone	 1.00 0.50 0.16	Very limited Depth to saturated zone Slope Shrink-swell	 1.00  1.00 0.50	Very limited Slope Shrink-swell Depth to saturated zone	 1.00 0.50 0.16
567B: Elkhart-----	Somewhat limited Shrink-swell	 0.50	Somewhat limited Shrink-swell Depth to saturated zone	 0.50 0.15	Somewhat limited Shrink-swell	 0.50
572A: Loran-----	Somewhat limited Depth to saturated zone Shrink-swell	 0.98 0.50	Very limited Depth to saturated zone Shrink-swell	 1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	 0.98 0.50
572B: Loran-----	Somewhat limited Depth to saturated zone Shrink-swell	 0.98 0.50	Very limited Depth to saturated zone Shrink-swell	 1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	 0.98 0.50
572C2: Loran-----	Somewhat limited Depth to saturated zone Shrink-swell	 0.98 0.50	Very limited Depth to saturated zone Shrink-swell	 1.00 0.50	Somewhat limited Depth to saturated zone Slope Shrink-swell	 0.98 0.97 0.50
614A: Chenoa-----	Very limited Shrink-swell Depth to saturated zone	 1.00 0.98	Very limited Depth to saturated zone	 1.00	Very limited Shrink-swell Depth to saturated zone	 1.00 0.98
614B: Chenoa-----	Very limited Shrink-swell Depth to saturated zone	 1.00 0.98	Very limited Depth to saturated zone Shrink-swell	 1.00 0.50	Very limited Shrink-swell Depth to saturated zone	 1.00 0.98
662B: Barony-----	Somewhat limited Shrink-swell	 0.50	Somewhat limited Depth to saturated zone Shrink-swell	 0.99 0.50	Somewhat limited Shrink-swell	 0.50
663B: Clare-----	Somewhat limited Shrink-swell	 0.50	Somewhat limited Depth to saturated zone Shrink-swell	 0.99 0.50	Somewhat limited Shrink-swell	 0.50

Table 17a.--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
667B: Kaneville-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
668B: Somonauk-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
675B: Greenbush-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Shrink-swell	0.50
675C2: Greenbush-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.15	Somewhat limited Slope Shrink-swell	0.97 0.50
679B: Blackberry-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
680B: Campton-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
712A: Spaulding-----	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.50
715A: Arrowsmith-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
732A: Appleriver-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
732B: Appleriver-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50

Table 17a.--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
791A: Rush-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
791B: Rush-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
792A: Bowes-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
792B: Bowes-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
794G: Marseilles-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.10	Very limited Slope Shrink-swell	1.00 0.50
Northfield-----	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
Ritchey-----	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
802B: Orthents, loamy----	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Depth to saturated zone	0.50 0.47	Somewhat limited Shrink-swell	0.50
802D: Orthents, loamy----	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Depth to saturated zone Slope	0.50 0.47 0.04	Very limited Slope Shrink-swell	1.00 0.50
804D: Orthents, acid-----	Somewhat limited Shrink-swell Slope	0.50 0.01	Somewhat limited Shrink-swell Depth to saturated zone Slope	0.50 0.47 0.01	Very limited Slope Shrink-swell	1.00 0.50
804G: Orthents, acid-----	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to saturated zone	1.00 0.50 0.47	Very limited Slope Shrink-swell	1.00 0.50

Table 17a.--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
805B: Orthents, clayey----	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Shrink-swell	1.00
814A: Muscatune-----	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.98 0.50
Buckhart-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
817A: Channahon-----	Somewhat limited Depth to soft bedrock	0.50	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock	1.00
Hesch-----	Not limited		Somewhat limited Depth to soft bedrock	0.29	Not limited	
817B: Channahon-----	Somewhat limited Depth to soft bedrock	0.50	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock	1.00
Hesch-----	Not limited		Somewhat limited Depth to soft bedrock	0.95	Not limited	
818A: Flanagan-----	Very limited Shrink-swell Depth to saturated zone	1.00 0.98	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.98
Catlin-----	Somewhat limited Shrink-swell	0.50	Somewhat limited Depth to saturated zone Shrink-swell	0.99 0.50	Somewhat limited Shrink-swell	0.50
820E: Hennepin-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Casco-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
820G: Hennepin-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Casco-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 17a.--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
830: Landfills-----	Not rated		Not rated		Not rated	
864: Pits, quarry-----	Not rated		Not rated		Not rated	
865: Pits, gravel-----	Not rated		Not rated		Not rated	
969E2: Casco-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rodman-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
969F: Casco-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rodman-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
1103A: Houghton-----	Very limited Ponding Subsidence Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00	Very limited Ponding Subsidence Depth to saturated zone Organic matter content	1.00 1.00 1.00 1.00
1480A: Moundprairie-----	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3073A: Ross-----	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.16	Very limited Flooding	1.00
3076A: Otter-----	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3082A: Millington-----	Very limited Flooding Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Ponding	1.00 1.00 1.00

Table 17a.--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
3107A: Sawmill-----	Very limited Flooding Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Ponding Shrink-swell	1.00 1.00 1.00 0.50
3321A: Du Page-----	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
3451A: Lawson-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 0.98
3480A: Moundprairie-----	Very limited Flooding Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Ponding	1.00 1.00 1.00
3800A: Psumments-----	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
7073A: Ross-----	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
8073A: Ross-----	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
8107A: Sawmill-----	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50	Very limited Ponding Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.50
8151A: Ridgeville-----	Very limited Flooding Depth to saturated zone	1.00 0.98	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 0.98

Table 17a.--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
8404A:						
Titus-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
8451A:						
Lawson-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to	0.98	Depth to	1.00	Depth to	0.98
	saturated zone		saturated zone		saturated zone	
8516A:						
Faxon-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Flooding	1.00
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Ponding	1.00	Depth to hard	1.00	Ponding	1.00
	Depth to hard	0.06	bedrock		Depth to hard	0.06
	bedrock		Ponding	1.00	bedrock	

Table 17b.--Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

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
23B: Blount-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
	Low strength	1.00	Dense layer	0.50		
	Depth to saturated zone	0.99	Cutbanks cave	0.10		
	Shrink-swell	0.50	Too clayey	0.02		
51A: Muscatune-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
	Shrink-swell	0.50				
60C2: La Rose-----	Somewhat limited		Somewhat limited		Not limited	
	Low strength	0.78	Dense layer	0.50		
	Frost action	0.50	Cutbanks cave	0.10		
60D2: La Rose-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Slope	0.96	Slope	0.96	Slope	0.96
	Low strength	0.78	Dense layer	0.50		
	Frost action	0.50	Cutbanks cave	0.10		
61A: Atterberry-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.94				
	Shrink-swell	0.50				
61B: Atterberry-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.94
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.94				
	Shrink-swell	0.50				
67A: Harpster-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 17b.--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
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
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
	Shrink-swell	0.50				
86B:						
Osc-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
86C2:						
Osc-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to saturated zone	0.15		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
87A:						
Dickinson-----	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
87B:						
Dickinson-----	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
87C2:						
Dickinson-----	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
88B:						
Sparta-----	Not limited		Very limited		Somewhat limited	
			Cutbanks cave	1.00	Droughty	0.08
88D:						
Sparta-----	Somewhat limited		Very limited		Somewhat limited	
	Slope	0.04	Cutbanks cave	1.00	Droughty	0.07
			Slope	0.04	Slope	0.04
91A:						
Swygert-----	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Shrink-swell	1.00	Too clayey	0.32		
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
	Frost action	0.50				
91B:						
Swygert-----	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Shrink-swell	1.00	Too clayey	0.32		
	Depth to saturated zone	0.75	Cutbanks cave	0.10		
	Frost action	0.50				

Table 17b.--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
91B2: Swygert-----	Very limited Low strength Shrink-swell Depth to saturated zone Frost action	 1.00 1.00 0.75  0.50	Very limited Depth to saturated zone Too clayey Cutbanks cave	 1.00  0.32 0.10	Somewhat limited Depth to saturated zone	 0.75
91C2: Swygert-----	Very limited Low strength Shrink-swell Depth to saturated zone Frost action	 1.00 1.00 0.75  0.50	Very limited Depth to saturated zone Cutbanks cave Too clayey	 1.00  0.10 0.08	Somewhat limited Depth to saturated zone	 0.75
91C3: Swygert-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	 1.00 0.75  0.50 0.50	Very limited Depth to saturated zone Too clayey Cutbanks cave	 1.00  0.32 0.10	Somewhat limited Depth to saturated zone	 0.75
103A: Houghton-----	Very limited Depth to saturated zone Subsidence Frost action Ponding	 1.00  1.00 1.00 1.00	Very limited Depth to saturated zone Organic matter content Ponding	 1.00  1.00  1.00	Very limited Organic matter content Depth to saturated zone Ponding	 1.00  1.00  1.00
104A: Virgil-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	 1.00 1.00 0.94  0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00  1.00	Somewhat limited Depth to saturated zone	 0.94
105A: Batavia-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
105B: Batavia-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
105C2: Batavia-----	Very limited Frost action Low strength Shrink-swell Slope	 1.00 1.00 0.50 0.01	Somewhat limited Cutbanks cave Slope	 0.10 0.01	Somewhat limited Slope	 0.01

Table 17b.--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
125A: Selma-----	Very limited Depth to saturated zone Frost action Ponding Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave Ponding	 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00
131B: Alvin-----	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave	 1.00	Not limited	
131C2: Alvin-----	Somewhat limited Frost action	 0.50	Very limited Cutbanks cave	 1.00	Not limited	
132A: Starks-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	 1.00 1.00 0.94 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 1.00	Somewhat limited Depth to saturated zone	 0.94
134A: Camden-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Cutbanks cave	 1.00	Not limited	
134B: Camden-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Cutbanks cave	 1.00	Not limited	
134C2: Camden-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Cutbanks cave	 1.00	Not limited	
134D2: Camden-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Very limited Cutbanks cave Slope	 1.00 0.96	Somewhat limited Slope	 0.96
134D3: Camden-----	Very limited Frost action Low strength Slope Shrink-swell	 1.00 1.00 0.96 0.50	Very limited Cutbanks cave Slope	 1.00 0.96	Somewhat limited Slope	 0.96

Table 17b.--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
134F: Camden-----	Very limited Slope Frost action Low strength Shrink-swell	 1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	 1.00 1.00	Very limited Slope	 1.00
146A: Elliott-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	 1.00 0.88 0.50 0.50	Very limited Depth to saturated zone Dense layer Cutbanks cave	 1.00 0.50 0.10	Somewhat limited Depth to saturated zone	 0.88
146B: Elliott-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	 1.00 0.88 0.50 0.50	Very limited Depth to saturated zone Dense layer Cutbanks cave	 1.00 0.50 0.10	Somewhat limited Depth to saturated zone	 0.88
146B2: Elliott-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	 1.00 0.88 0.50 0.50	Very limited Depth to saturated zone Dense layer Cutbanks cave	 1.00 0.50 0.10	Somewhat limited Depth to saturated zone	 0.88
147B2: Clarence-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	 1.00 0.75 0.50 0.50	Very limited Depth to saturated zone Too clayey Cutbanks cave	 1.00 0.50 0.10	Somewhat limited Depth to saturated zone Droughty	 0.75 0.01
148A: Proctor-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Cutbanks cave	 1.00	Not limited	
148B: Proctor-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
148C2: Proctor-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	

Table 17b.--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
149A: Brenton-----	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 Cutbanks cave	 1.00 1.00 1.00	Somewhat limited Depth to saturated zone	 0.75
151A: Ridgeville-----	Somewhat limited Depth to saturated zone Frost action	 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 1.00	Somewhat limited Depth to saturated zone	 0.75
151B: Ridgeville-----	Somewhat limited Depth to saturated zone Frost action	 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00 1.00	Somewhat limited Depth to saturated zone	 0.75
152A: Drummer-----	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	 1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave Ponding	 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00 1.00
154A: Flanagan-----	Very limited Frost action Low strength Shrink-swell Depth to saturated zone	 1.00 1.00 1.00 0.75	Very limited Depth to saturated zone Cutbanks cave	 1.00 0.10	Somewhat limited Depth to saturated zone	 0.75
171A: Catlin-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99 0.10	Not limited	
171B: Catlin-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99 0.10	Not limited	
171B2: Catlin-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99 0.10	Not limited	
171C2: Catlin-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99 0.10	Not limited	

Table 17b.--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
171C3: Catlin-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99  0.10	Not limited	
193C2: Mayville-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Dense layer Cutbanks cave	 0.99  0.50 0.10	Not limited	
198A: Elburn-----	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 Cutbanks cave	 1.00  1.00	Somewhat limited Depth to saturated zone	0.75
199A: Plano-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Cutbanks cave	 1.00	Not limited	
199B: Plano-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.27	Very limited Cutbanks cave	 1.00	Not limited	
199C2: Plano-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Cutbanks cave	 1.00	Not limited	
206A: Thorp-----	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 Cutbanks cave	 1.00 1.00  1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00
210A: Lena-----	Very limited Depth to saturated zone Subsidence Frost action Ponding	 1.00 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Organic matter content Ponding	 1.00 1.00 1.00 1.00	Very limited Organic matter content Depth to saturated zone Ponding	 1.00 1.00 1.00

Table 17b.--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
219A: Millbrook-----	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	
	Depth to	0.94	Cutbanks cave	1.00		
	saturated zone					
	Shrink-swell	0.50				
223B: Varna-----	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to	0.99		
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Dense layer	0.50		
			Cutbanks cave	0.10		
			Too clayey	0.03		
223B2: Varna-----	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to	0.99		
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Dense layer	0.50		
			Cutbanks cave	0.10		
223C2: Varna-----	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to	0.99		
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Dense layer	0.50		
			Cutbanks cave	0.10		
223C3: Varna-----	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to	0.99		
	Frost action	0.50	saturated zone			
			Dense layer	0.50		
			Cutbanks cave	0.10		
223D2: Varna-----	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to	0.99	Slope	0.04
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Dense layer	0.50		
	Slope	0.04	Cutbanks cave	0.10		
			Slope	0.04		
223D3: Varna-----	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to	0.99	Slope	0.04
	Frost action	0.50	saturated zone		Content of large	0.01
	Slope	0.04	Cutbanks cave	0.10	stones	
			Slope	0.04		
			Too clayey	0.02		
228B: Nappanee-----	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	
	Depth to	0.94	Dense layer	0.50		
	saturated zone		Too clayey	0.32		
	Shrink-swell	0.50	Cutbanks cave	0.10		

Table 17b.--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
228C2: Nappanee-----	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	
	Depth to	0.94	Dense layer	0.50	Droughty	0.01
	saturated zone		Too clayey	0.32		
	Shrink-swell	0.50	Cutbanks cave	0.10		
228C3: Nappanee-----	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	
	Depth to	0.94	Dense layer	0.50	Droughty	0.29
	saturated zone		Cutbanks cave	0.10		
	Shrink-swell	0.50	Too clayey	0.02		
232A: Ashkum-----	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	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
	Ponding	1.00				
233A: Birkbeck-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Depth to	0.99		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.92	Cutbanks cave	0.10		
233B: Birkbeck-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Depth to	0.99		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.92	Cutbanks cave	0.10		
233C2: Birkbeck-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Depth to	0.99		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
234A: Sunbury-----	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to	1.00	Depth to	0.94
	Shrink-swell	1.00	saturated zone		saturated zone	
	Depth to	0.94	Cutbanks cave	0.10		
	saturated zone					
	Frost action	0.50				
235A: Bryce-----	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	Ponding	1.00	Too clayey	1.00
	Low strength	1.00	Too clayey	0.50	Ponding	1.00
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Ponding	1.00				

Table 17b.--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
236A:						
Sabina-----	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	Cutbanks cave	0.10		
	Depth to	0.94				
	saturated zone					
238A:						
Rantoul-----	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	Ponding	1.00	Too clayey	1.00
	Low strength	1.00	Too clayey	0.59	Ponding	1.00
	Shrink-swell	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
241C3:						
Chatsworth-----	Very limited		Very limited		Very limited	
	Low strength	1.00	Depth to	1.00	Too clayey	1.00
	Shrink-swell	0.50	saturated zone		Droughty	0.97
	Frost action	0.50	Dense layer	0.50	Depth to	0.08
	Depth to	0.08	Cutbanks cave	0.10	saturated zone	
	saturated zone		Too clayey	0.02		
241D3:						
Chatsworth-----	Very limited		Very limited		Very limited	
	Low strength	1.00	Depth to	1.00	Too clayey	1.00
	Shrink-swell	0.50	saturated zone		Droughty	0.99
	Frost action	0.50	Dense layer	0.50	Depth to	0.08
	Depth to	0.08	Too clayey	0.32	saturated zone	
	saturated zone		Cutbanks cave	0.10	Slope	0.04
	Slope	0.04	Slope	0.04		
241E3:						
Chatsworth-----	Very limited		Very limited		Very limited	
	Low strength	1.00	Depth to	1.00	Slope	1.00
	Slope	1.00	saturated zone		Too clayey	1.00
	Shrink-swell	0.50	Slope	1.00	Droughty	0.90
	Frost action	0.50	Dense layer	0.50	Depth to	0.08
	Depth to	0.08	Too clayey	0.32	saturated zone	
	saturated zone		Cutbanks cave	0.10		
241F:						
Chatsworth-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to	1.00	Droughty	0.86
	Shrink-swell	0.50	saturated zone		Depth to	0.08
	Frost action	0.50	Dense layer	0.50	saturated zone	
	Depth to	0.08	Too clayey	0.32		
	saturated zone		Cutbanks cave	0.10		
241G:						
Chatsworth-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to	1.00	Droughty	0.84
	Shrink-swell	0.50	saturated zone		Depth to	0.08
	Frost action	0.50	Dense layer	0.50	saturated zone	
	Depth to	0.08	Too clayey	0.32		
	saturated zone		Cutbanks cave	0.10		

Table 17b.--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
242A: Kendall-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	 1.00 1.00 0.94 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00  0.10	Somewhat limited Depth to saturated zone	 0.94
243A: St. Charles-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
243B: St. Charles-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
243C2: St. Charles-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
244A: Hartsburg-----	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 Cutbanks cave	 1.00 1.00  0.10	Very limited Ponding Depth to saturated zone	 1.00 1.00
278A: Stronghurst-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	 1.00 1.00 0.94 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00  0.10	Somewhat limited Depth to saturated zone	 0.94
278B: Stronghurst-----	Very limited Frost action Low strength Depth to saturated zone Shrink-swell	 1.00 1.00 0.94 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00  0.10	Somewhat limited Depth to saturated zone	 0.94
279B: Rozetta-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.15  0.10	Not limited	

Table 17b.--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
280C2: Fayette-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
290A: Warsaw-----	Somewhat limited Shrink-swell Frost action Low strength	0.50 0.50 0.22	Very limited Cutbanks cave	1.00	Not limited	
290B: Warsaw-----	Somewhat limited Shrink-swell Frost action Low strength	0.50 0.50 0.22	Very limited Cutbanks cave	1.00	Not limited	
290C2: Warsaw-----	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
293A: Andres-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	1.00 0.78 0.50 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.78
293B: Andres-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	1.00 0.78 0.50 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.78
294B: Symerton-----	Somewhat limited Shrink-swell Frost action	0.50 0.50	Very limited Cutbanks cave Depth to saturated zone	1.00 0.97	Not limited	
294C2: Symerton-----	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.99 0.10	Not limited	
295A: Mokena-----	Very limited Low strength Depth to saturated zone Shrink-swell Frost action	1.00 0.75 0.50 0.50	Very limited Depth to saturated zone Too clayey Cutbanks cave	1.00 0.50 0.10	Somewhat limited Depth to saturated zone	0.75

Table 17b.--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
295B: Mokena-----	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to	1.00	Depth to	0.75
	Depth to	0.75	saturated zone		saturated zone	
	saturated zone		Too clayey	0.41		
	Shrink-swell	0.50	Cutbanks cave	0.10		
	Frost action	0.50				
298B: Beecher-----	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	Dense layer	0.50		
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
311B: Ritchey-----	Very limited		Very limited		Very limited	
	Depth to hard	1.00	Depth to hard	1.00	Depth to bedrock	1.00
	bedrock		bedrock		Droughty	0.23
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
314A: Joliet-----	Very limited		Very limited		Very limited	
	Depth to hard	1.00	Depth to hard	1.00	Depth to	1.00
	bedrock		bedrock		saturated zone	
	Depth to	1.00	Depth to	1.00	Depth to bedrock	1.00
	saturated zone		saturated zone		Ponding	1.00
	Frost action	1.00	Ponding	1.00	Droughty	0.05
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
315B: Channahon-----	Very limited		Very limited		Very limited	
	Depth to hard	1.00	Depth to hard	1.00	Depth to bedrock	1.00
	bedrock		bedrock		Droughty	0.12
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	0.50				
	Frost action	0.50				
317A: Millsdale-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to hard	1.00	Depth to	1.00
	saturated zone		bedrock		saturated zone	
	Frost action	1.00	Depth to	1.00	Ponding	1.00
	Low strength	1.00	saturated zone		Depth to bedrock	0.06
	Shrink-swell	1.00	Ponding	1.00		
	Ponding	1.00	Cutbanks cave	0.10		
318B: Lorenzo-----	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Cutbanks cave	1.00	Droughty	0.01
318C2: Lorenzo-----	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Cutbanks cave	1.00	Droughty	0.09

Table 17b.--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
320B:						
Frankfort-----	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	
	Depth to	0.94	Too clayey	0.32		
	saturated zone		Cutbanks cave	0.10		
	Shrink-swell	0.50				
320C2:						
Frankfort-----	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	
	Depth to	0.94	Too clayey	0.32		
	saturated zone		Cutbanks cave	0.10		
	Shrink-swell	0.50				
325B:						
Dresden-----	Somewhat limited		Very limited		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
325C2:						
Dresden-----	Somewhat limited		Very limited		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
327B:						
Fox-----	Somewhat limited		Very limited		Not limited	
	Shrink-swell	0.50	Cutbanks cave	1.00		
	Frost action	0.50				
327C2:						
Fox-----	Somewhat limited		Very limited		Not limited	
	Frost action	0.50	Cutbanks cave	1.00		
327D2:						
Fox-----	Somewhat limited		Very limited		Somewhat limited	
	Shrink-swell	0.50	Cutbanks cave	1.00	Slope	0.04
	Frost action	0.50	Slope	0.04		
	Slope	0.04				
330A:						
Peotone-----	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	Ponding	1.00	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00	Too clayey	0.02		
	Ponding	1.00				
344A:						
Harvard-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
344B:						
Harvard-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				

Table 17b.--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
344C2: Harvard-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Cutbanks cave	 1.00	Not limited	
356A: Elpaso-----	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	 1.00 1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	 1.00 1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	 1.00 1.00
375A: Rutland-----	Very limited Low strength Shrink-swell Depth to saturated zone Frost action	 1.00 1.00 0.75 0.50	Very limited Depth to saturated zone Too clayey Cutbanks cave	 1.00 0.72 0.10	Somewhat limited Depth to saturated zone	 0.75
375B: Rutland-----	Very limited Low strength Shrink-swell Depth to saturated zone Frost action	 1.00 1.00 0.75 0.50	Very limited Depth to saturated zone Too clayey Cutbanks cave	 1.00 0.55 0.10	Somewhat limited Depth to saturated zone	 0.75
375B2: Rutland-----	Very limited Low strength Shrink-swell Depth to saturated zone Frost action	 1.00 1.00 0.75 0.50	Very limited Depth to saturated zone Too clayey Cutbanks cave	 1.00 0.55 0.10	Somewhat limited Depth to saturated zone	 0.75
388B: Wenona-----	Very limited Low strength Shrink-swell Frost action	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Too clayey Cutbanks cave	 0.99 0.50 0.10	Not limited	
388B2: Wenona-----	Very limited Low strength Shrink-swell Frost action	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Too clayey Cutbanks cave	 0.99 0.50 0.10	Not limited	
388C2: Wenona-----	Very limited Low strength Shrink-swell Frost action	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Too clayey Cutbanks cave	 0.99 0.50 0.10	Not limited	

Table 17b.--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
397F: Boone-----	Very limited Slope	1.00	Very limited Slope Cutbanks cave Depth to soft bedrock	1.00 1.00 0.95	Very limited Slope Droughty Depth to bedrock	1.00 1.00 0.95
413B: Gale-----	Very limited Frost action Low strength	1.00 1.00	Very limited Cutbanks cave Depth to soft bedrock	1.00 0.03	Somewhat limited Depth to bedrock	0.03
413C2: Gale-----	Very limited Frost action Low strength	1.00 1.00	Very limited Cutbanks cave Depth to soft bedrock	1.00 0.01	Somewhat limited Depth to bedrock	0.01
435A: Streator-----	Very limited Depth to saturated zone Frost action Low strength Shrink-swell Ponding	1.00 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey Cutbanks cave	1.00 1.00 0.82 0.10	Very limited Depth to saturated zone Ponding	1.00 1.00
448B: Mona-----	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Depth to saturated zone Dense layer Too clayey Cutbanks cave	0.99 0.50 0.12 0.10	Not limited	
448C2: Mona-----	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Depth to saturated zone Dense layer Too clayey Cutbanks cave	0.99 0.50 0.12 0.10	Not limited	
512B: Danabrook-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Dense layer Cutbanks cave	0.99 0.50 0.10	Not limited	
512C2: Danabrook-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Dense layer Cutbanks cave	0.99 0.50 0.10	Not limited	

Table 17b.--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
516A: Faxon-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Low strength	1.00	Ponding	1.00	Depth to bedrock	0.06
	Ponding	1.00	Cutbanks cave	0.10		
	Depth to hard bedrock	0.06				
527C2: Kidami-----	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.99		
	Shrink-swell	0.50	Dense layer	0.50		
	Frost action	0.50	Cutbanks cave	0.10		
527D2: Kidami-----	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	0.99	Slope	0.04
	Shrink-swell	0.50	Dense layer	0.50		
	Frost action	0.50	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		
530B: Ozaukee-----	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.99		
	Shrink-swell	0.50	Dense layer	0.50		
	Frost action	0.50	Cutbanks cave	0.10		
530C2: Ozaukee-----	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.08
	Frost action	0.50	Dense layer	0.50		
	Depth to saturated zone	0.08	Cutbanks cave	0.10		
530C3: Ozaukee-----	Very limited		Somewhat limited		Not limited	
	Low strength	1.00	Depth to saturated zone	0.99		
	Frost action	0.50	Dense layer	0.50		
			Cutbanks cave	0.10		
530D2: Ozaukee-----	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.08
	Frost action	0.50	Dense layer	0.50	Slope	0.04
	Depth to saturated zone	0.08	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		

Table 17b.--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
530D3: Ozaukee-----	Very limited		Very limited		Somewhat limited	
	Low strength	1.00	Depth to	1.00	Depth to	0.19
	Frost action	0.50	saturated zone		saturated zone	
	Depth to	0.19	Dense layer	0.50	Slope	0.04
	saturated zone		Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		
530E2: Ozaukee-----	Very limited		Very limited		Very limited	
	Low strength	1.00	Depth to	1.00	Slope	1.00
	Slope	1.00	saturated zone		Depth to	0.08
	Shrink-swell	0.50	Slope	1.00	saturated zone	
	Frost action	0.50	Dense layer	0.50		
	Depth to	0.08	Cutbanks cave	0.10		
	saturated zone					
530F: Ozaukee-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to	0.99		
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Dense layer	0.50		
			Cutbanks cave	0.10		
541B: Graymont-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.99		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
541B2: Graymont-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.99		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
541C2: Graymont-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Depth to	0.99		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
542A: Rooks-----	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	Cutbanks cave	0.10		
	saturated zone					
	Shrink-swell	0.50				
542B: Rooks-----	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	Cutbanks cave	0.10		
	saturated zone					
	Shrink-swell	0.50				

Table 17b.--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
549B: Marseilles-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.16		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
549C2: Marseilles-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Depth to soft	0.79	Depth to bedrock	0.80
	Low strength	1.00	bedrock			
	Shrink-swell	0.50	Cutbanks cave	0.10		
549D2: Marseilles-----	Very limited		Somewhat limited		Somewhat limited	
	Frost action	1.00	Slope	0.96	Slope	0.96
	Low strength	1.00	Depth to soft	0.71	Depth to bedrock	0.71
	Slope	0.96	bedrock			
	Shrink-swell	0.50	Cutbanks cave	0.10		
549F: Marseilles-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10	Depth to bedrock	0.10
	Low strength	1.00	Depth to soft	0.10		
	Shrink-swell	0.50	bedrock			
549G: Marseilles-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10	Depth to bedrock	0.10
	Low strength	1.00	Depth to soft	0.10		
	Shrink-swell	0.50	bedrock			
554B: Kernan-----	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	0.59		
	Depth to	0.94	Cutbanks cave	0.10		
	saturated zone					
560D2: St. Clair-----	Very limited		Somewhat limited		Somewhat limited	
	Low strength	1.00	Depth to	0.99	Slope	0.04
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Too clayey	0.68		
	Slope	0.04	Dense layer	0.50		
			Cutbanks cave	0.10		
			Slope	0.04		
560E: St. Clair-----	Very limited		Very limited		Very limited	
	Low strength	1.00	Depth to	1.00	Slope	1.00
	Slope	1.00	saturated zone		Droughty	0.14
	Shrink-swell	0.50	Slope	1.00	Depth to	0.08
	Frost action	0.50	Dense layer	0.50	saturated zone	
	Depth to	0.08	Too clayey	0.32		
	saturated zone		Cutbanks cave	0.10		

Table 17b.--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
567B: Elkhart-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.15  0.10	Not limited	
572A: Loran-----	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 Cutbanks cave Too clayey	 1.00  0.10 0.02	Somewhat limited Depth to saturated zone	 0.75
572B: Loran-----	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 Cutbanks cave Too clayey	 1.00  0.10 0.03	Somewhat limited Depth to saturated zone	 0.75
572C2: Loran-----	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 Cutbanks cave Too clayey	 1.00  0.10 0.03	Somewhat limited Depth to saturated zone	 0.75
614A: Chenoa-----	Very limited Low strength Shrink-swell Depth to saturated zone Frost action	 1.00 1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00  0.10	Somewhat limited Depth to saturated zone	 0.75
614B: Chenoa-----	Very limited Low strength Shrink-swell Depth to saturated zone Frost action	 1.00 1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave	 1.00  0.10	Somewhat limited Depth to saturated zone	 0.75
662B: Barony-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Cutbanks cave Depth to saturated zone	 1.00 0.99	Not limited	
663B: Clare-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99  0.10	Not limited	

Table 17b.--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
667B: Kaneville-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Cutbanks cave Depth to saturated zone	 1.00 0.99	Not limited	
668B: Somonauk-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Cutbanks cave Depth to saturated zone	 1.00 0.99	Not limited	
675B: Greenbush-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.15 0.10	Not limited	
675C2: Greenbush-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.15 0.10	Not limited	
679B: Blackberry-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99 0.10	Not limited	
680B: Campton-----	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Very limited Cutbanks cave Depth to saturated zone	 1.00 0.99	Not limited	
712A: Spaulding-----	Very limited Depth to saturated zone Frost action Low strength Ponding Shrink-swell	 1.00  1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding Cutbanks cave	 1.00  1.00 0.10	Very limited Depth to saturated zone Ponding	 1.00  1.00
715A: Arrowsmith-----	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 Cutbanks cave	 1.00 0.10	Somewhat limited Depth to saturated zone	 0.75
732A: Appleriver-----	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 Cutbanks cave	 1.00 0.10	Somewhat limited Depth to saturated zone	 0.75

Table 17b.--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
732B:						
Appleriver-----	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	Cutbanks cave	0.10		
	saturated zone		Too clayey	0.03		
	Shrink-swell	0.50				
791A:						
Rush-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
791B:						
Rush-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
792A:						
Bowes-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
792B:						
Bowes-----	Very limited		Very limited		Not limited	
	Frost action	1.00	Cutbanks cave	1.00		
	Low strength	1.00				
	Shrink-swell	0.50				
794G:						
Marseilles-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	1.00	Cutbanks cave	0.10	Depth to bedrock	0.10
	Low strength	1.00	Depth to soft	0.10		
	Shrink-swell	0.50	bedrock			
Northfield-----	Very limited		Very limited		Very limited	
	Depth to hard	1.00	Depth to hard	1.00	Slope	1.00
	bedrock		bedrock		Depth to bedrock	1.00
	Slope	1.00	Slope	1.00	Droughty	0.53
	Frost action	0.50	Cutbanks cave	0.10		
Ritchey-----	Very limited		Very limited		Very limited	
	Depth to hard	1.00	Depth to hard	1.00	Slope	1.00
	bedrock		bedrock		Depth to bedrock	1.00
	Slope	1.00	Slope	1.00	Droughty	0.12
	Low strength	1.00	Cutbanks cave	0.10		
	Frost action	0.50				
802B:						
Orthents, loamy----	Somewhat limited		Somewhat limited		Not limited	
	Shrink-swell	0.50	Depth to	0.47		
	Frost action	0.50	saturated zone			
	Low strength	0.22	Cutbanks cave	0.10		

Table 17b.--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
802D: Orthents, loamy-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Shrink-swell	0.50	Depth to	0.47	Slope	0.04
	Frost action	0.50	saturated zone			
	Low strength	0.22	Cutbanks cave	0.10		
	Slope	0.04	Slope	0.04		
804D: Orthents, acid-----	Very limited		Somewhat limited		Very limited	
	Low strength	1.00	Depth to	0.47	Too clayey	1.00
	Shrink-swell	0.50	saturated zone		Slope	0.01
	Frost action	0.50	Cutbanks cave	0.10		
	Slope	0.01	Slope	0.01		
804G: Orthents, acid-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Low strength	1.00	Depth to	0.47	Too clayey	1.00
	Shrink-swell	0.50	saturated zone			
	Frost action	0.50	Cutbanks cave	0.10		
805B: Orthents, clayey----	Very limited		Somewhat limited		Very limited	
	Low strength	1.00	Depth to	0.99	Too clayey	1.00
	Shrink-swell	1.00	saturated zone		Droughty	0.48
	Frost action	0.50	Too clayey	0.32		
			Cutbanks cave	0.10		
814A: 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	Cutbanks cave	0.10		
	saturated zone					
	Shrink-swell	0.50				
Buckhart-----	Very limited		Somewhat limited		Not limited	
	Frost action	1.00	Depth to	0.99		
	Low strength	1.00	saturated zone			
	Shrink-swell	0.50	Cutbanks cave	0.10		
817A: Channahon-----	Somewhat limited		Very limited		Very limited	
	Depth to soft	1.00	Depth to soft	1.00	Depth to bedrock	1.00
	bedrock		bedrock		Droughty	0.65
	Frost action	0.50	Cutbanks cave	0.10		
Hesch-----	Somewhat limited		Very limited		Somewhat limited	
	Frost action	0.50	Cutbanks cave	1.00	Depth to bedrock	0.29
			Depth to soft	0.29		
			bedrock			
817B: Channahon-----	Somewhat limited		Very limited		Very limited	
	Depth to soft	1.00	Depth to soft	1.00	Depth to bedrock	1.00
	bedrock		bedrock		Droughty	0.91
	Frost action	0.50	Cutbanks cave	0.10		

Table 17b.--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
817B: Hesch-----	Somewhat limited Frost action	0.50	Somewhat limited Depth to soft bedrock Cutbanks cave	0.95 0.10	Somewhat limited Depth to bedrock Droughty	0.95 0.05
818A: Flanagan-----	Very limited Frost action Low strength Shrink-swell Depth to saturated zone	1.00 1.00 1.00 0.75	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.75
Catlin-----	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.99 0.10	Not limited	
820E: Hennepin-----	Very limited Slope Low strength Frost action	1.00 0.78 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Casco-----	Very limited Slope Frost action	1.00 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope	1.00
820G: Hennepin-----	Very limited Slope Low strength Frost action	1.00 0.78 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Casco-----	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty	1.00 0.17
830: Landfills-----	Not rated		Not rated		Not rated	
864: Pits, quarry-----	Not rated		Not rated		Not rated	
865: Pits, gravel-----	Not rated		Not rated		Not rated	
969E2: Casco-----	Very limited Slope Frost action	1.00 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.05
Rodman-----	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty Gravel content	1.00 0.99 0.02

Table 17b.--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
969F:						
Casco-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Frost action	0.50	Cutbanks cave	1.00	Droughty	0.34
Rodman-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
			Cutbanks cave	1.00	Droughty	0.94
					Gravel content	0.02
1103A:						
Houghton-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Organic matter content	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Subsidence	1.00	Organic matter content	1.00	Ponding	1.00
	Frost action	1.00				
1480A:						
Moundprairie-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
3073A:						
Ross-----	Very limited		Somewhat limited		Very limited	
	Flooding	1.00	Flooding	0.80	Flooding	1.00
	Low strength	1.00	Depth to saturated zone	0.16		
	Frost action	0.50	Cutbanks cave	0.10		
3076A:						
Otter-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
	Flooding	1.00	Cutbanks cave	0.10		
	Low strength	1.00				
3082A:						
Millington-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				
3107A:						
Sawmill-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
	Frost action	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.80	Ponding	1.00
	Low strength	1.00	Cutbanks cave	0.10		
	Ponding	1.00				

Table 17b.--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
3321A: Du Page-----	Very limited Flooding Frost action	1.00 0.50	Somewhat limited Flooding Depth to saturated zone Cutbanks cave	0.80 0.15 0.10	Very limited Flooding	1.00
3451A: Lawson-----	Very limited Frost action Flooding Low strength Depth to saturated zone	1.00 1.00 1.00 0.75	Very limited Depth to saturated zone Cutbanks cave	1.00 0.80 0.10	Very limited Flooding Depth to saturated zone	1.00 0.75
3480A: Moundprairie-----	Very limited Depth to saturated zone Frost action Flooding Low strength Ponding	1.00 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Flooding Cutbanks cave	1.00 1.00 1.00 0.80 0.10	Very limited Flooding Depth to saturated zone Ponding	1.00 1.00 1.00
3800A: Psumments-----	Very limited Flooding	1.00	Very limited Cutbanks cave Flooding Depth to saturated zone	1.00 0.80 0.15	Very limited Flooding Droughty Too sandy	1.00 0.69 0.50
7073A: Ross-----	Very limited Low strength Frost action Flooding	1.00 0.50 0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.15	Not limited	
8073A: Ross-----	Very limited Flooding Frost action Low strength	1.00 0.50 0.22	Somewhat limited Flooding Depth to saturated zone Cutbanks cave	0.60 0.15 0.10	Somewhat limited Flooding	0.60
8107A: Sawmill-----	Very limited Ponding Depth to saturated zone Frost action Flooding Low strength	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Flooding Cutbanks cave	1.00 1.00 0.60 0.10	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.60
8151A: Ridgeville-----	Very limited Flooding Depth to saturated zone Frost action	1.00 0.75 0.50	Very limited Depth to saturated zone Cutbanks cave Flooding	1.00 1.00 0.60	Somewhat limited Depth to saturated zone Flooding	0.75 0.60

Table 17b.--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
8404A: Titus-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Ponding	1.00	Ponding	1.00
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Low strength	1.00	Cutbanks cave	0.10		
	Shrink-swell	1.00				
8451A: Lawson-----	Very limited		Very limited		Somewhat limited	
	Frost action	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
	Flooding	1.00	Flooding	0.60	Flooding	0.60
	Low strength	1.00	Cutbanks cave	0.10		
	Depth to saturated zone	0.75				
8516A: Faxon-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to hard bedrock	1.00	Depth to saturated zone	1.00
	Frost action	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Flooding	1.00	Ponding	1.00	Flooding	0.60
	Low strength	1.00	Flooding	0.60	Depth to bedrock	0.06
	Ponding	1.00	Cutbanks cave	0.10		

Table 18a.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
23B: Blount-----	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.08
51A: Muscatune-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
60C2: La Rose-----	Very limited Slow water movement	1.00	Very limited Slope	1.00
			Seepage	0.53
60D2: La Rose-----	Very limited Slow water movement	1.00	Very limited Slope	1.00
	Slope	0.96	Seepage	0.53
61A: Atterberry-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
61B: Atterberry-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
			Slope	0.18
67A: Harpster-----	Very limited Ponding	1.00	Very limited Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
68A: Sable-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Slow water movement	0.46	Seepage	0.53

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
86B: Osco-----	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
86C2: Osco-----	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53
87A: Dickinson-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
87B: Dickinson-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
			Slope	0.18
87C2: Dickinson-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
			Slope	1.00
88B: Sparta-----	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Slope	0.18
88D: Sparta-----	Very limited		Very limited	
	Filtering capacity	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Slope	1.00
	Slope	0.04		
91A: Swygert-----	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00		
91B: Swygert-----	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.08

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
91B2: Swygert-----	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Slope	1.00 0.08
91C2: Swygert-----	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Slope	1.00 0.68
91C3: Swygert-----	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Slope	1.00 0.68
103A: Houghton-----	Very limited Depth to saturated zone Subsidence Seepage, bottom layer Ponding	1.00 1.00 1.00 1.00	Very limited Organic matter content Depth to saturated zone Seepage Ponding	1.00 1.00 1.00 1.00
104A: Virgil-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 1.00
105A: Batavia-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage	1.00
105B: Batavia-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.32
105C2: Batavia-----	Very limited Seepage, bottom layer Slow water movement Slope	1.00 0.46 0.01	Very limited Slope Seepage	1.00 1.00

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
125A: Selma-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Slow water movement	0.46		
131B: Alvin-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
			Slope	0.18
131C2: Alvin-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
			Slope	1.00
132A: Starks-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
134A: Camden-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
134B: Camden-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.18
134C2: Camden-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	1.00
134D2: Camden-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Slope	1.00
	Slope	0.96	Seepage	1.00
	Slow water movement	0.46		

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
134D3: Camden-----	Very limited Seepage, bottom layer Slope Slow water movement	1.00  0.96 0.46	Very limited Slope Seepage	1.00 1.00
134F: Camden-----	Very limited Slope Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Slope Seepage	1.00 1.00
146A: Elliott-----	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
146B: Elliott-----	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.08
146B2: Elliott-----	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Slope	1.00 0.08
147B2: Clarence-----	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Slope	1.00 0.08
148A: Proctor-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage	1.00
148B: Proctor-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.18

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
148C2: Proctor-----	Very limited Seepage, bottom layer Slow water movement	1.00  0.46	Very limited Slope Seepage	1.00  1.00
149A: Brenton-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00  1.00  0.46	Very limited Depth to saturated zone Seepage	1.00  1.00
151A: Ridgeville-----	Very limited Depth to saturated zone Seepage, bottom layer	1.00  1.00	Very limited Seepage Depth to saturated zone	1.00  1.00
151B: Ridgeville-----	Very limited Depth to saturated zone Seepage, bottom layer	1.00  1.00	Very limited Seepage saturated zone Slope	1.00  0.08
152A: Drummer-----	Very limited Depth to saturated zone Seepage, bottom layer Ponding Slow water movement	1.00  1.00  1.00  0.46	Very limited Depth to saturated zone Seepage Ponding	1.00  1.00  1.00
154A: Flanagan-----	Very limited Depth to saturated zone Slow water movement	1.00  1.00	Very limited Depth to saturated zone Seepage	1.00  0.53
171A: Catlin-----	Very limited Depth to saturated zone Slow water movement	1.00  1.00	Very limited Depth to saturated zone Seepage	1.00  0.53
171B: Catlin-----	Very limited Depth to saturated zone Slow water movement	1.00  1.00	Very limited Depth to saturated zone Seepage Slope	1.00  0.53  0.08

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
171B2: Catlin-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.08
171C2: Catlin-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Slope Seepage	1.00 1.00 0.53
171C3: Catlin-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Slope Seepage	1.00 1.00 0.53
193C2: Mayville-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Slope Seepage Depth to saturated zone	1.00 0.53 0.04
198A: Elburn-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Seepage Depth to saturated zone	1.00 1.00
199A: Plano-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage	1.00
199B: Plano-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.18
199C2: Plano-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 1.00

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
206A: Thorp-----	Very limited Slow water movement Ponding Depth to saturated zone Seepage, bottom layer	1.00 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Seepage	1.00 1.00 1.00
210A: Lena-----	Very limited Depth to saturated zone Subsidence Seepage, bottom layer Ponding	1.00 1.00 1.00 1.00	Very limited Organic matter content Seepage Depth to saturated zone Ponding	1.00 1.00 1.00 1.00
219A: Millbrook-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 1.00
223B: Varna-----	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Somewhat limited Slope Depth to saturated zone	0.08 0.04
223B2: Varna-----	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Somewhat limited Slope Depth to saturated zone	0.08 0.04
223C2: Varna-----	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Somewhat limited Slope Depth to saturated zone	0.68 0.04
223C3: Varna-----	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Somewhat limited Slope Depth to saturated zone	0.68 0.04

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
223D2: Varna-----	Very limited Slow water movement Depth to saturated zone Slope	1.00  1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.04
223D3: Varna-----	Very limited Slow water movement Depth to saturated zone Slope	1.00  1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.04
228B: Nappanee-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone Slope	1.00 0.08
228C2: Nappanee-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone Slope	1.00 0.68
228C3: Nappanee-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone Slope	1.00 0.68
232A: Ashkum-----	Very limited Depth to saturated zone Slow water movement Ponding	1.00  1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
233A: Birkbeck-----	Very limited Depth to saturated zone Slow water movement	1.00  1.00	Somewhat limited Seepage Depth to saturated zone	0.53 0.19
233B: Birkbeck-----	Very limited Depth to saturated zone Slow water movement	1.00  1.00	Somewhat limited Seepage Depth to saturated zone Slope	0.53 0.19 0.18

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
233C2: Birkbeck-----	Very limited Depth to saturated zone Slow water movement	1.00  1.00	Very limited Slope Seepage Depth to saturated zone	1.00 0.53 0.19
234A: Sunbury-----	Very limited Depth to saturated zone Slow water movement	1.00  1.00	Very limited Depth to saturated zone Seepage	1.00  0.53
235A: Bryce-----	Very limited Slow water movement Depth to saturated zone Ponding	1.00  1.00 1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
236A: Sabina-----	Very limited Depth to saturated zone Slow water movement	1.00  1.00	Very limited Depth to saturated zone Seepage	1.00  0.53
238A: Rantoul-----	Very limited Slow water movement Depth to saturated zone Ponding	1.00  1.00 1.00	Very limited Depth to saturated zone Ponding	1.00  1.00
241C3: Chatsworth-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Somewhat limited Slope Depth to saturated zone	0.68 0.56
241D3: Chatsworth-----	Very limited Slow water movement Depth to saturated zone Slope	1.00  1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.56
241E3: Chatsworth-----	Very limited Slow water movement Depth to saturated zone Slope	1.00  1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.56

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
241F: Chatsworth-----	Very limited Slow water movement Depth to saturated zone Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.56
241G: Chatsworth-----	Very limited Slow water movement Depth to saturated zone Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.56
242A: Kendall-----	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 0.53
243A: St. Charles-----	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage	0.53
243B: St. Charles-----	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage Slope	0.53 0.18
243C2: St. Charles-----	Somewhat limited Slow water movement	0.46	Very limited Slope Seepage	1.00 0.53
244A: Hartsburg-----	Very limited Ponding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Ponding Depth to saturated zone Seepage	1.00 1.00 0.53
278A: Stronghurst-----	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 0.53
278B: Stronghurst-----	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.18

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
279B: Rozetta-----	Somewhat limited Slow water movement Depth to saturated zone	0.46  0.40	Somewhat limited Seepage Slope	0.53  0.18
280C2: Fayette-----	Somewhat limited Slow water movement	0.46	Very limited Slope Seepage	1.00  0.53
290A: Warsaw-----	Very limited Seepage, bottom layer Slow water movement	1.00  0.46	Very limited Seepage	1.00
290B: Warsaw-----	Very limited Seepage, bottom layer Slow water movement	1.00  0.46	Very limited Seepage Slope	1.00  0.08
290C2: Warsaw-----	Very limited Seepage, bottom layer Slow water movement	1.00  0.46	Very limited Seepage Slope	1.00  0.68
293A: Andres-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone Seepage	1.00  0.53
293B: Andres-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone Seepage Slope	1.00  0.53  0.18
294B: Symerton-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Somewhat limited Seepage Slope Depth to saturated zone	0.53  0.18  0.01
294C2: Symerton-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Slope Seepage Depth to saturated zone	1.00  0.53  0.12

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
295A: Mokena-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone Seepage	1.00  0.53
295B: Mokena-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone Slope	1.00  0.53 0.08
298B: Beecher-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone Slope	1.00  0.08
311B: Ritchey-----	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Seepage Slope	1.00  0.53 0.08
314A: Joliet-----	Very limited Depth to bedrock Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Depth to hard bedrock Depth to saturated zone Ponding Seepage	1.00  1.00 1.00 0.53
315B: Channahon-----	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Seepage Slope	1.00  0.53 0.08
317A: Millsdale-----	Very limited Depth to saturated zone Slow water movement Depth to bedrock Ponding	1.00 1.00 1.00 1.00	Very limited Depth to hard bedrock Depth to saturated zone Ponding Seepage	1.00  1.00 1.00 0.53
318B: Lorenzo-----	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 0.08

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
318C2: Lorenzo-----	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 0.68
320B: Frankfort-----	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Slope	1.00 0.08
320C2: Frankfort-----	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Slope	1.00 0.68
325B: Dresden-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.08
325C2: Dresden-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.68
327B: Fox-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.08
327C2: Fox-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.68
327D2: Fox-----	Very limited Seepage, bottom layer Slow water movement Slope	1.00 0.46 0.04	Very limited Seepage Slope	1.00 1.00

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
330A: Peotone-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	1.00	Ponding	1.00
	Ponding	1.00		
344A: Harvard-----	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00
	Slow water movement	0.46		
344B: Harvard-----	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00
	Slow water movement	0.46	Slope	0.18
344C2: Harvard-----	Very limited Seepage, bottom layer	1.00	Very limited Slope	1.00
	Slow water movement	0.46	Seepage	1.00
356A: Elpaso-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
	Slow water movement	1.00	Ponding	1.00
	Ponding	1.00	Seepage	0.53
375A: Rutland-----	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
375B: Rutland-----	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.18
375B2: Rutland-----	Very limited Slow water movement	1.00	Very limited Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.18

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
388B: Wenona-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Somewhat limited Seepage Slope Depth to saturated zone	0.53 0.18 0.04
388B2: Wenona-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Somewhat limited Slope Depth to saturated zone	0.18 0.04
388C2: Wenona-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Slope Depth to saturated zone	1.00 0.04
397F: Boone-----	Very limited Slope Seepage, bottom layer Depth to bedrock	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 1.00
413B: Gale-----	Very limited Seepage, bottom layer Depth to bedrock Slow water movement	1.00 1.00 0.46	Very limited Depth to soft bedrock Seepage Slope	1.00 1.00 0.08
413C2: Gale-----	Very limited Seepage, bottom layer Depth to bedrock Slow water movement	1.00 1.00 0.46	Very limited Depth to soft bedrock Seepage Slope	1.00 1.00 0.68
435A: Streator-----	Very limited Slow water movement Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.53
448B: Mona-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Somewhat limited Slope Depth to saturated zone	0.18 0.04

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
448C2: Mona-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Slope Depth to saturated zone	1.00  0.04
512B: Danabrook-----	Very limited Depth to saturated zone Slow water movement	1.00  1.00	Somewhat limited Seepage Slope Depth to saturated zone	0.53  0.18 0.04
512C2: Danabrook-----	Very limited Depth to saturated zone Slow water movement	1.00  1.00	Very limited Slope Seepage Depth to saturated zone	1.00  0.53 0.04
516A: Faxon-----	Very limited Depth to saturated zone Depth to bedrock Ponding Slow water movement	1.00  1.00 1.00 0.46	Very limited Depth to hard bedrock Depth to saturated zone Ponding Seepage	1.00  1.00  1.00 0.53
527C2: Kidami-----	Very limited Depth to saturated zone Slow water movement	1.00  1.00	Somewhat limited Slope Seepage Depth to saturated zone	0.68  0.53 0.04
527D2: Kidami-----	Very limited Depth to saturated zone Slow water movement Slope	1.00  1.00  0.04	Very limited Slope Seepage Depth to saturated zone	1.00  0.53 0.04
530B: Ozaukee-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Somewhat limited Slope Depth to saturated zone	0.08  0.04
530C2: Ozaukee-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Somewhat limited Slope Depth to saturated zone	0.68  0.56

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
530C3: Ozaukee-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Somewhat limited Slope Depth to saturated zone	0.68  0.08
530D2: Ozaukee-----	Very limited Slow water movement Depth to saturated zone Slope	1.00  1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.56
530D3: Ozaukee-----	Very limited Slow water movement Depth to saturated zone Slope	1.00  1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.75
530E2: Ozaukee-----	Very limited Slow water movement Depth to saturated zone Slope	1.00  1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.56
530F: Ozaukee-----	Very limited Slow water movement Depth to saturated zone Slope	1.00  1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.04
541B: Graymont-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Somewhat limited Seepage Slope Depth to saturated zone	0.53 0.18 0.04
541B2: Graymont-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Somewhat limited Seepage Slope Depth to saturated zone	0.53 0.32 0.04
541C2: Graymont-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Slope Seepage Depth to saturated zone	1.00 0.53 0.19

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
542A:				
Rooks-----	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
542B:				
Rooks-----	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Seepage	0.53
			Slope	0.18
549B:				
Marseilles-----	Very limited		Somewhat limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Seepage	0.53
	Depth to saturated zone	0.43	Slope	0.18
549C2:				
Marseilles-----	Very limited		Very limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
			Seepage	0.53
549D2:				
Marseilles-----	Very limited		Very limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Depth to bedrock	1.00	Slope	1.00
	Slope	0.96		
549F:				
Marseilles-----	Very limited		Very limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00		
549G:				
Marseilles-----	Very limited		Very limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00		
554B:				
Kernan-----	Very limited		Very limited	
	Slow water movement	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Slope	0.08

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
560D2: St. Clair-----	Very limited Slow water movement Depth to saturated zone Slope	1.00  1.00 0.04	Very limited Slope Depth to saturated zone	1.00 0.04
560E: St. Clair-----	Very limited Slow water movement Depth to saturated zone Slope	1.00  1.00 1.00	Very limited Slope Depth to saturated zone	1.00 0.56
567B: Elkhart-----	Somewhat limited Slow water movement Depth to saturated zone	0.46  0.40	Somewhat limited Seepage Slope	0.53 0.08
572A: Loran-----	Very limited Slow water movement Depth to saturated zone Depth to bedrock	1.00  1.00 0.63	Very limited Depth to saturated zone Seepage Depth to soft bedrock	1.00 0.53 0.18
572B: Loran-----	Very limited Slow water movement Depth to saturated zone Depth to bedrock	1.00  1.00 0.73	Very limited Depth to saturated zone Seepage Depth to soft bedrock Slope	1.00 0.53 0.32 0.18
572C2: Loran-----	Very limited Slow water movement Depth to saturated zone Depth to bedrock	1.00  1.00 0.27	Very limited Slope Depth to saturated zone Seepage	1.00 1.00 0.53
614A: Chenoa-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone	1.00
614B: Chenoa-----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.18

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
662B: Barony-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.18
663B: Clare-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
			Slope	0.32
667B: Kaneville-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.18
668B: Somonauk-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.18
675B: Greenbush-----	Somewhat limited		Somewhat limited	
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40	Slope	0.18
675C2: Greenbush-----	Somewhat limited		Very limited	
	Slow water movement	0.46	Slope	1.00
	Depth to saturated zone	0.40	Seepage	0.53
679B: Blackberry-----	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
			Slope	0.18

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
680B: Campton-----	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Depth to saturated zone Seepage Slope	1.00 1.00 0.18
712A: Spaulding-----	Very limited Depth to saturated zone Ponding Slow water movement	1.00 1.00 0.46	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.53
715A: Arrowsmith-----	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 0.53
732A: Appleriver-----	Very limited Slow water movement Depth to saturated zone Depth to bedrock	1.00 1.00 0.94	Very limited Depth to saturated zone Depth to soft bedrock Seepage	1.00 0.84 0.53
732B: Appleriver-----	Very limited Slow water movement Depth to saturated zone Depth to bedrock	1.00 1.00 0.36	Very limited Depth to saturated zone Seepage Slope Depth to soft bedrock	1.00 0.53 0.18 0.01
791A: Rush-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage	1.00
791B: Rush-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage Slope	1.00 0.08
792A: Bowes-----	Very limited Seepage, bottom layer Slow water movement	1.00 0.46	Very limited Seepage	1.00

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
792B:				
Bowes-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Slope	0.08
794G:				
Marseilles-----	Very limited		Very limited	
	Slow water movement	1.00	Depth to soft bedrock	1.00
	Slope	1.00	Slope	1.00
	Depth to bedrock	1.00		
Northfield-----	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Slope	1.00	Slope	1.00
			Seepage	0.53
Ritchey-----	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to hard bedrock	1.00
	Slope	1.00	Slope	1.00
			Seepage	0.53
802B:				
Orthents, loamy-----	Very limited		Somewhat limited	
	Slow water movement	1.00	Slope	0.18
	Depth to saturated zone	0.94		
802D:				
Orthents, loamy-----	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	0.94		
	Slope	0.04		
804D:				
Orthents, acid-----	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Depth to saturated zone	0.94		
	Slope	0.01		
804G:				
Orthents, acid-----	Very limited		Very limited	
	Slow water movement	1.00	Slope	1.00
	Slope	1.00		
	Depth to saturated zone	0.94		

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
805B: Orthents, clayey----	Very limited Slow water movement Depth to saturated zone	1.00  1.00	Somewhat limited Slope Depth to saturated zone	0.08  0.04
814A: Muscatune-----	Very limited Depth to saturated zone Slow water movement	1.00  0.46	Very limited Depth to saturated zone Seepage	1.00  0.53
Buckhart-----	Very limited Depth to saturated zone Slow water movement	1.00  0.46	Very limited Depth to saturated zone Seepage	1.00  0.53
817A: Channahon-----	Very limited Depth to bedrock Seepage, bottom layer	1.00 1.00	Very limited Depth to soft bedrock Seepage	1.00  1.00
Hesch-----	Very limited Seepage, bottom layer Depth to bedrock	1.00 1.00	Very limited Depth to soft bedrock Seepage	1.00  1.00
817B: Channahon-----	Very limited Depth to bedrock Seepage, bottom layer	1.00 1.00	Very limited Depth to soft bedrock Seepage Slope	1.00  1.00 0.32
Hesch-----	Very limited Depth to bedrock Seepage, bottom layer	1.00 1.00	Very limited Depth to soft bedrock Seepage Slope	1.00  1.00 0.32
818A: Flanagan-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Seepage	1.00  0.53
Catlin-----	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Seepage	1.00  0.53

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
820E:				
Hennepin-----	Very limited Slow water movement Slope	1.00  1.00	Very limited Slope Seepage	1.00  0.53
Casco-----	Very limited Filtering capacity Seepage, bottom layer Slope	1.00  1.00  1.00	Very limited Slope Seepage	1.00  1.00
820G:				
Hennepin-----	Very limited Slope Slow water movement	1.00  1.00	Very limited Slope Seepage	1.00  0.53
Casco-----	Very limited Filtering capacity Slope Seepage, bottom layer	1.00  1.00  1.00	Very limited Slope Seepage	1.00  1.00
830:				
Landfills-----	Not rated		Not rated	
864:				
Pits, quarry-----	Not rated		Not rated	
865:				
Pits, gravel-----	Not rated		Not rated	
969E2:				
Casco-----	Very limited Filtering capacity Seepage, bottom layer Slope	1.00  1.00  1.00	Very limited Slope Seepage	1.00  1.00
Rodman-----	Very limited Filtering capacity Seepage, bottom layer Slope	1.00  1.00  1.00	Very limited Slope Seepage	1.00  1.00
969F:				
Casco-----	Very limited Filtering capacity Slope Seepage, bottom layer	1.00  1.00  1.00	Very limited Slope Seepage	1.00  1.00

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
969F:				
Rodman-----	Very limited		Very limited	
	Filtering capacity	1.00	Slope	1.00
	Slope	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		
1103A:				
Houghton-----	Very limited		Very limited	
	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Organic matter content	1.00
	Subsidence	1.00	Depth to saturated zone	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
1480A:				
Moundprairie-----	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
3073A:				
Ross-----	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46		
	Depth to saturated zone	0.43		
3076A:				
Otter-----	Very limited		Very limited	
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
3082A:				
Millington-----	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Slow water movement	0.46	Seepage	0.53

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
3107A:				
Sawmill-----	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Slow water movement	0.46	Seepage	0.53
3321A:				
Du Page-----	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Slow water movement	0.46	Seepage	0.53
	Depth to saturated zone	0.40		
3451A:				
Lawson-----	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.46	Seepage	0.53
3480A:				
Moundprairie-----	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Slow water movement	0.46	Seepage	0.53
3800A:				
Psammets-----	Very limited		Very limited	
	Flooding	1.00	Flooding	1.00
	Filtering capacity	1.00	Seepage	1.00
	Seepage, bottom layer	1.00		
	Depth to saturated zone	0.40		
7073A:				
Ross-----	Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00
	Slow water movement	0.46	Flooding	0.40
	Depth to saturated zone	0.40		
	Flooding	0.40		

Table 18a.--Sanitary Facilities--Continued

Map symbol and soil name	Septic tank absorption fields		Sewage lagoons	
	Rating class and limiting features	Value	Rating class and limiting features	Value
8073A: Ross-----	Very limited Flooding Seepage, bottom layer Slow water movement Depth to saturated zone	 1.00 1.00 0.46 0.40	Very limited Flooding Seepage	 1.00 1.00
8107A: Sawmill-----	Very limited Flooding Ponding Depth to saturated zone Slow water movement	 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
8151A: Ridgeville-----	Very limited Flooding Depth to saturated zone Seepage, bottom layer	 1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	 1.00 1.00 1.00
8404A: Titus-----	Very limited Flooding Slow water movement Depth to saturated zone Ponding	 1.00 1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Ponding	 1.00 1.00 1.00
8451A: Lawson-----	Very limited Flooding Depth to saturated zone Slow water movement	 1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	 1.00 1.00 0.53
8516A: Faxon-----	Very limited Flooding Depth to saturated zone Depth to bedrock Ponding Slow water movement	 1.00 1.00 1.00 1.00 0.46	Very limited Depth to hard bedrock Flooding Depth to saturated zone Ponding Seepage	 1.00 1.00 1.00 1.00 0.53

Table 18b.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	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
23B: Blount-----	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
51A: Muscatune-----	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
60C2: La Rose-----	Not limited		Not limited		Not limited	
60D2: La Rose-----	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96	Somewhat limited Slope	0.96
61A: Atterberry-----	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
61B: Atterberry-----	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
67A: Harpster-----	Very limited Depth to saturated zone Ponding Too clayey	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
68A: Sable-----	Very limited Depth to saturated zone Ponding Too clayey	1.00  1.00 0.50	Very limited Depth to saturated zone Ponding	1.00  1.00	Very limited Depth to saturated zone Ponding Too clayey	1.00  1.00 0.50
86B: Osco-----	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
86C2: Osco-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
87A: Dickinson-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
87B: Dickinson-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
87C2: Dickinson-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
88B: Sparta-----	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
88D: Sparta-----	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 0.04	Very limited Seepage Slope	1.00 0.04	Very limited Too sandy Seepage Slope	1.00 1.00 0.04
91A: Swygert-----	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Hard to compact Depth to saturated zone	1.00 1.00 1.00
91B: Swygert-----	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Hard to compact Depth to saturated zone	1.00 1.00 1.00
91B2: Swygert-----	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Hard to compact Depth to saturated zone	1.00 1.00 1.00
91C2: Swygert-----	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Hard to compact Depth to saturated zone	1.00 1.00 1.00

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
91C3: Swygert-----	Very limited Depth to saturated zone Too clayey	1.00 1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Hard to compact Depth to saturated zone	1.00 1.00 1.00
103A: Houghton-----	Very limited Depth to saturated zone Organic matter content Seepage, bottom layer Ponding	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Seepage Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Organic matter content Ponding Seepage	1.00 1.00 1.00 0.16
104A: Virgil-----	Very limited Depth to saturated zone Seepage, bottom layer Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
105A: Batavia-----	Very limited Seepage, bottom layer Too clayey	1.00 0.50	Not limited		Somewhat limited Too clayey	0.50
105B: Batavia-----	Very limited Seepage, bottom layer Too clayey	1.00 0.50	Not limited		Somewhat limited Too clayey	0.50
105C2: Batavia-----	Very limited Seepage, bottom layer Too clayey Slope	1.00 0.50 0.01	Somewhat limited Slope	0.01	Somewhat limited Too clayey Slope	0.50 0.01
125A: Selma-----	Very limited Depth to saturated zone Seepage, bottom layer Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.52
131B: Alvin-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Somewhat limited Seepage Too sandy	0.52 0.50

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
131C2: Alvin-----	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.52
132A: Starks-----	Very limited Depth to saturated zone Seepage, bottom layer Too clayey Too sandy	1.00 1.00 0.50 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey Too sandy Seepage	1.00 0.50 0.50 0.22
134A: Camden-----	Very limited Seepage, bottom layer Too clayey	1.00 0.50	Not limited		Somewhat limited Too clayey	0.50
134B: Camden-----	Very limited Seepage, bottom layer	1.00	Not limited		Somewhat limited Too clayey Seepage	0.50 0.22
134C2: Camden-----	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Not limited		Somewhat limited Too sandy Too clayey Seepage	0.50 0.50 0.22
134D2: Camden-----	Very limited Seepage, bottom layer Slope	1.00 0.96	Somewhat limited Slope	0.96	Somewhat limited Slope Too clayey Seepage	0.96 0.50 0.22
134D3: Camden-----	Very limited Seepage, bottom layer 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
134F: Camden-----	Very limited Slope Seepage, bottom layer Too clayey	1.00 1.00 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Slope Too clayey	1.00 0.50
146A: Elliott-----	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 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
146B: Elliott-----	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
146B2: Elliott-----	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
147B2: Clarence-----	Very limited Depth to saturated zone Too clayey	1.00  1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Hard to compact Depth to saturated zone	1.00  1.00  1.00
148A: Proctor-----	Very limited Seepage, bottom layer	1.00	Not limited		Somewhat limited Too clayey Seepage	0.50  0.22
148B: Proctor-----	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.22
148C2: Proctor-----	Very limited Seepage, bottom layer Too clayey	1.00  0.50	Very limited Seepage	1.00	Somewhat limited Too clayey	0.50
149A: Brenton-----	Very limited Depth to saturated zone Seepage, bottom layer Too clayey	1.00  1.00  0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00  0.50
151A: Ridgeville-----	Very limited Depth to saturated zone Seepage, bottom layer	1.00  1.00	Very limited Depth to saturated zone Seepage	1.00  1.00	Very limited Depth to saturated zone Seepage	1.00  0.22
151B: Ridgeville-----	Very limited Depth to saturated zone Seepage, bottom layer	1.00  1.00	Very limited Depth to saturated zone Seepage	1.00  1.00	Very limited Depth to saturated zone Seepage	1.00  0.22

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
152A: Drummer-----	Very limited Depth to saturated zone Seepage, bottom layer Ponding Too clayey	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50
154A: Flanagan-----	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
171A: Catlin-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.32
171B: Catlin-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.32
171B2: Catlin-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.32
171C2: Catlin-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.32
171C3: Catlin-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.32
193C2: Mayville-----	Somewhat limited Depth to saturated zone	0.68	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Depth to saturated zone	0.24
198A: Elburn-----	Very limited Depth to saturated zone Seepage, bottom layer Too clayey	1.00 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 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
199A: Plano-----	Very limited Seepage, bottom layer Too clayey	1.00  0.50	Not limited		Somewhat limited Too clayey	0.50
199B: Plano-----	Very limited Seepage, bottom layer Too clayey	1.00  0.50	Not limited		Somewhat limited Too clayey	0.50
199C2: Plano-----	Very limited Seepage, bottom layer Too clayey	1.00  0.50	Not limited		Somewhat limited Too clayey	0.50
206A: Thorp-----	Very limited Depth to saturated zone Ponding Seepage, bottom layer 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
210A: Lena-----	Very limited Depth to saturated zone Seepage, bottom layer Organic matter content Ponding	1.00  1.00 1.00 1.00	Very limited Depth to saturated zone Seepage Ponding	1.00  1.00 1.00	Very limited Depth to saturated zone Organic matter content Ponding Seepage	1.00  1.00 1.00 0.52
219A: Millbrook-----	Very limited Depth to saturated zone Seepage, bottom layer Too clayey	1.00  1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00  0.50
223B: Varna-----	Very limited Too clayey Depth to saturated zone	1.00  0.68	Somewhat limited Depth to saturated zone	0.04	Very limited Too clayey Depth to saturated zone	1.00  0.24
223B2: Varna-----	Somewhat limited Depth to saturated zone Too clayey	0.68  0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50  0.24

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
223C2: Varna-----	Somewhat limited Depth to saturated zone Too clayey	0.68  0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50  0.24
223C3: Varna-----	Somewhat limited Depth to saturated zone Too clayey	0.68  0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50  0.24
223D2: Varna-----	Somewhat limited Depth to saturated zone Too clayey Slope	0.68  0.50 0.04	Somewhat limited Slope Depth to saturated zone	0.04 0.04	Somewhat limited Too clayey Depth to saturated zone Slope	0.50 0.24  0.04
223D3: Varna-----	Somewhat limited Depth to saturated zone Too clayey Slope	0.68  0.50 0.04	Somewhat limited Slope Depth to saturated zone	0.04 0.04	Somewhat limited Too clayey Depth to saturated zone Slope	0.50 0.24  0.04
228B: Nappanee-----	Very limited Depth to saturated zone Too clayey	1.00  1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00  1.00
228C2: Nappanee-----	Very limited Depth to saturated zone Too clayey	1.00  1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00  1.00
228C3: Nappanee-----	Very limited Depth to saturated zone Too clayey	1.00  1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey Hard to compact	1.00  1.00 1.00
232A: Ashkum-----	Very limited Depth to saturated zone Ponding Too clayey	1.00  1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey	1.00  1.00 0.50
233A: Birkbeck-----	Somewhat limited Depth to saturated zone Too clayey	0.86  0.50	Somewhat limited Depth to saturated zone	0.19	Somewhat limited Too clayey Depth to saturated zone	0.50  0.47

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
233B: Birkbeck-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.19	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.47
233C2: Birkbeck-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.86	Depth to saturated zone	0.19	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.47
234A: Sunbury-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
					Too clayey	0.50
235A: Bryce-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Ponding	1.00	Too clayey	1.00
	Ponding	1.00			Hard to compact	1.00
					Ponding	1.00
236A: Sabina-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	0.50			Hard to compact	1.00
					Too clayey	0.50
238A: Rantoul-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Too clayey	1.00	Ponding	1.00	Too clayey	1.00
	Ponding	1.00			Hard to compact	1.00
					Ponding	1.00
241C3: Chatsworth-----	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Depth to saturated zone	0.56	Too clayey	1.00
	Depth to saturated zone	0.98			Hard to compact	1.00
					Depth to saturated zone	0.76
241D3: Chatsworth-----	Very limited		Somewhat limited		Very limited	
	Too clayey	1.00	Depth to saturated zone	0.56	Too clayey	1.00
	Depth to saturated zone	0.98	Slope	0.04	Hard to compact	1.00
	Slope	0.04			Depth to saturated zone	0.76
					Slope	0.04

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
241E3: Chatsworth-----	Very limited Too clayey Slope Depth to saturated zone	1.00 1.00 0.98	Very limited Slope Depth to saturated zone	1.00 0.56	Very limited Too clayey Hard to compact Slope Depth to saturated zone	1.00 1.00 1.00 0.76
241F: Chatsworth-----	Very limited Slope Too clayey Depth to saturated zone	1.00 1.00 0.98	Very limited Slope Depth to saturated zone	1.00 0.56	Very limited Slope Too clayey Hard to compact Depth to saturated zone	1.00 1.00 1.00 0.76
241G: Chatsworth-----	Very limited Slope Too clayey Depth to saturated zone	1.00 1.00 0.98	Very limited Slope Depth to saturated zone	1.00 0.56	Very limited Slope Too clayey Hard to compact Depth to saturated zone	1.00 1.00 1.00 0.76
242A: Kendall-----	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
243A: St. Charles-----	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
243B: St. Charles-----	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
243C2: St. Charles-----	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
244A: Hartsburg-----	Very limited Depth to saturated zone Ponding	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
278A: Stronghurst-----	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
278B: Stronghurst-----	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 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
279B: Rozetta-----	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
280C2: Fayette-----	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
290A: Warsaw-----	Very limited Seepage, bottom layer Too sandy	1.00  0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy Gravel content	1.00 0.50 0.21
290B: Warsaw-----	Very limited Seepage, bottom layer Too sandy	1.00  0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy Gravel content	1.00 0.50 0.09
290C2: Warsaw-----	Very limited Seepage, bottom layer Too sandy	1.00  0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy Gravel content	1.00 0.50 0.39
293A: Andres-----	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
293B: Andres-----	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
294B: Symerton-----	Somewhat limited Depth to saturated zone	0.53	Somewhat limited Depth to saturated zone	0.01	Somewhat limited Depth to saturated zone	0.14
294C2: Symerton-----	Somewhat limited Depth to saturated zone Too clayey	0.80  0.50	Somewhat limited Depth to saturated zone	0.12	Somewhat limited Too clayey Depth to saturated zone	0.50  0.38
295A: Mokena-----	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 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
295B: Mokena-----	Very limited Depth to saturated zone Too clayey	1.00  1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
298B: Beecher-----	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
311B: Ritchey-----	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
314A: Joliet-----	Very limited Depth to saturated zone Depth to bedrock Ponding	1.00  1.00 1.00	Very limited Depth to saturated zone Depth to bedrock Ponding	1.00  1.00 1.00	Very limited Depth to bedrock Depth to saturated zone Ponding	1.00  1.00 1.00
315B: Channahon-----	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
317A: Millsdale-----	Very limited Depth to saturated zone Depth to bedrock Ponding Too clayey	1.00  1.00 1.00 0.50	Very limited Depth to saturated zone Depth to bedrock Ponding	1.00  1.00 1.00	Very limited Depth to saturated zone Depth to bedrock Ponding Too clayey	1.00  1.00 1.00 0.50
318B: Lorenzo-----	Very limited Seepage, bottom layer Too sandy	1.00  0.50	Very limited Seepage	1.00	Very limited Seepage Gravel content Too sandy	1.00  0.64 0.50
318C2: Lorenzo-----	Very limited Seepage, bottom layer Too sandy	1.00  0.50	Very limited Seepage	1.00	Very limited Seepage Gravel content Too sandy	1.00  0.73 0.50
320B: Frankfort-----	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
320C2: Frankfort-----	Very limited Depth to saturated zone Too clayey	1.00  1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00  1.00

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
325B: Dresden-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage Gravel content	1.00 1.00 0.01
325C2: Dresden-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
327B: Fox-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage Gravel content	1.00 1.00 0.03
327C2: Fox-----	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage Gravel content	1.00 1.00 0.11
327D2: Fox-----	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 0.04	Very limited Seepage Slope	1.00 0.04	Very limited Too sandy Seepage Slope Gravel content	1.00 1.00 0.04 0.04
330A: Peotone-----	Very limited Depth to saturated zone Too clayey Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Too clayey Hard to compact Ponding	1.00 1.00 1.00 1.00
344A: Harvard-----	Very limited Seepage, bottom layer Too clayey	1.00 0.50	Not limited		Somewhat limited Too clayey	0.50
344B: Harvard-----	Very limited Seepage, bottom layer Too clayey	1.00 0.50	Not limited		Somewhat limited Too clayey	0.50
344C2: Harvard-----	Very limited Seepage, bottom layer Too clayey	1.00 0.50	Not limited		Somewhat limited Too clayey	0.50

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
356A: Elpaso-----	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 1.00 0.50
375A: Rutland-----	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Depth to saturated zone	1.00 1.00
375B: Rutland-----	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Depth to saturated zone	1.00 1.00
375B2: Rutland-----	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
388B: Wenona-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
388B2: Wenona-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
388C2: Wenona-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
397F: Boone-----	Very limited Slope Depth to bedrock Seepage, bottom layer Too sandy	1.00 1.00 1.00 1.00	Very limited Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited Slope Too sandy Seepage Depth to bedrock	1.00 1.00 1.00 1.00
413B: Gale-----	Very limited Depth to bedrock Seepage, bottom layer	1.00 1.00	Very limited Seepage Depth to bedrock	1.00 1.00	Very limited Depth to bedrock	1.00

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
413C2: Gale-----	Very limited Depth to bedrock Seepage, bottom layer	1.00 1.00	Very limited Seepage Depth to bedrock	1.00 1.00	Very limited Depth to bedrock	1.00
435A: Streator-----	Very limited Depth to saturated zone Too clayey Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Too clayey Ponding	1.00 1.00 1.00
448B: Mona-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
448C2: Mona-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
512B: Danabrook-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
512C2: Danabrook-----	Somewhat limited Depth to saturated zone	0.68	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Depth to saturated zone	0.24
516A: Faxon-----	Very limited Depth to saturated zone Depth to bedrock Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Depth to bedrock Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Depth to bedrock Ponding	1.00 1.00 1.00
527C2: Kidami-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
527D2: Kidami-----	Somewhat limited Depth to saturated zone Slope	0.68 0.04	Somewhat limited Slope Depth to saturated zone	0.04 0.04	Somewhat limited Depth to saturated zone Slope	0.24 0.04
530B: Ozaukee-----	Somewhat limited Depth to saturated zone Too clayey	0.68 0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
530C2: Ozaukee-----	Somewhat limited Depth to saturated zone Too clayey	0.98  0.50	Somewhat limited Depth to saturated zone	0.56	Somewhat limited Depth to saturated zone Too clayey	0.76  0.50
530C3: Ozaukee-----	Somewhat limited Depth to saturated zone Too clayey	0.76  0.50	Somewhat limited Depth to saturated zone	0.08	Somewhat limited Too clayey Depth to saturated zone	0.50  0.32
530D2: Ozaukee-----	Somewhat limited Depth to saturated zone Too clayey Slope	0.98  0.50 0.04	Somewhat limited Depth to saturated zone Slope	0.56  0.04	Somewhat limited Depth to saturated zone Too clayey Slope	0.76  0.50 0.04
530D3: Ozaukee-----	Very limited Depth to saturated zone Too clayey Slope	1.00  0.50 0.04	Somewhat limited Depth to saturated zone Slope	0.75  0.04	Somewhat limited Depth to saturated zone Too clayey Slope	0.86  0.50 0.04
530E2: Ozaukee-----	Very limited Slope Depth to saturated zone Too clayey	1.00  0.98 0.50	Very limited Slope Depth to saturated zone	1.00  0.56	Very limited Slope Depth to saturated zone Too clayey	1.00  0.76 0.50
530F: Ozaukee-----	Very limited Slope Depth to saturated zone Too clayey	1.00  0.68 0.50	Very limited Slope Depth to saturated zone	1.00  0.04	Very limited Slope Too clayey Depth to saturated zone	1.00  0.50 0.24
541B: Graymont-----	Somewhat limited Depth to saturated zone Too clayey	0.68  0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50  0.24
541B2: Graymont-----	Somewhat limited Depth to saturated zone Too clayey	0.68  0.50	Somewhat limited Depth to saturated zone	0.04	Somewhat limited Too clayey Depth to saturated zone	0.50  0.24
541C2: Graymont-----	Somewhat limited Depth to saturated zone Too clayey	0.86  0.50	Somewhat limited Depth to saturated zone	0.19	Somewhat limited Too clayey Depth to saturated zone	0.50  0.47

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
542A: Rooks-----	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
542B: Rooks-----	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
549B: Marseilles-----	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  1.00	Somewhat limited Depth to bedrock Too clayey	1.00 0.50
549C2: Marseilles-----	Very limited Depth to bedrock Too clayey	1.00 0.50	Very limited Depth to bedrock	1.00	Very limited Hard to compact Depth to bedrock Too clayey	1.00 1.00 0.50
549D2: Marseilles-----	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 Hard to compact Depth to bedrock Slope Too clayey	1.00 1.00 0.96 0.50
549F: Marseilles-----	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 Slope Hard to compact Depth to bedrock Too clayey	1.00 1.00 1.00 0.50
549G: Marseilles-----	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 Slope Hard to compact Depth to bedrock Too clayey	1.00 1.00 1.00 0.50
554B: Kernan-----	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
560D2: St. Clair-----	Very limited Too clayey Depth to saturated zone Slope	1.00  0.68 0.04	Somewhat limited Slope Depth to saturated zone	0.04  0.04	Very limited Too clayey Depth to saturated zone Slope	1.00  0.24 0.04

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
560E: St. Clair-----	Very limited Too clayey Slope Depth to saturated zone	 1.00 1.00 0.98	Very limited Slope Depth to saturated zone	 1.00 0.56	Very limited Too clayey Slope Depth to saturated zone	 1.00 1.00 0.76
567B: Elkhart-----	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
572A: Loran-----	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 0.18	Very limited Depth to saturated zone Too clayey Depth to bedrock	 1.00 0.50 0.18
572B: Loran-----	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 0.32	Very limited Depth to saturated zone Too clayey Depth to bedrock	 1.00 0.50 0.32
572C2: Loran-----	Very limited Depth to saturated zone Depth to bedrock Too clayey	 1.00 1.00 0.50	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone Too clayey	 1.00 0.50
614A: Chenoa-----	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
614B: Chenoa-----	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
662B: Barony-----	Very limited Depth to saturated zone Seepage, bottom layer Too clayey	 1.00 1.00 0.50	Very limited Depth to saturated zone	 1.00	Somewhat limited Too clayey Depth to saturated zone Seepage	 0.50 0.24 0.22
663B: Clare-----	Very limited Depth to saturated zone Too clayey	 1.00 0.50	Very limited Depth to saturated zone	 1.00	Somewhat limited Too clayey Depth to saturated zone	 0.50 0.24

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
667B: Kaneville-----	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Seepage, bottom layer	1.00			Depth to saturated zone	0.24
	Too clayey	0.50				
668B: Somonauk-----	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.24
	Seepage, bottom layer	1.00				
675B: Greenbush-----	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
675C2: Greenbush-----	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
679B: Blackberry-----	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50			Depth to saturated zone	0.24
680B: Campton-----	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Seepage, bottom layer	1.00			Depth to saturated zone	0.24
	Too clayey	0.50				
712A: Spaulding-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00	Ponding	1.00
					Too clayey	0.50
715A: Arrowsmith-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
732A: Appleriver-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to bedrock	1.00	Depth to bedrock	0.84	Depth to bedrock	0.84
	Too clayey	0.50			Too clayey	0.50

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
732B: Appleriver-----	Very limited Depth to saturated zone Depth to bedrock Too clayey	 1.00 1.00 1.00	Very limited Depth to saturated zone Depth to bedrock	 1.00 0.01	Very limited Too clayey Depth to saturated zone Depth to bedrock	 1.00 1.00 0.01
791A: Rush-----	Very limited Seepage, bottom layer Too clayey	 1.00 0.50	Not limited		Somewhat limited Too clayey	 0.50
791B: Rush-----	Very limited Seepage, bottom layer Too clayey	 1.00 0.50	Not limited		Somewhat limited Too clayey	 0.50
792A: Bowes-----	Very limited Seepage, bottom layer Too clayey	 1.00 0.50	Not limited		Somewhat limited Too clayey	 0.50
792B: Bowes-----	Very limited Seepage, bottom layer Too clayey	 1.00 0.50	Very limited Seepage	 1.00	Somewhat limited Too clayey	 0.50
794G: Marseilles-----	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 Slope Hard to compact Depth to bedrock Too clayey	 1.00 1.00 1.00 0.50
Northfield-----	Very limited Slope Depth to bedrock	 1.00 1.00	Very limited Slope Depth to bedrock	 1.00 1.00	Very limited Depth to bedrock Slope	 1.00 1.00
Ritchey-----	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
802B: Orthents, loamy----	Not limited		Not limited		Not limited	
802D: Orthents, loamy----	Somewhat limited Slope	 0.04	Somewhat limited Slope	 0.04	Somewhat limited Slope	 0.04
804D: Orthents, acid-----	Very limited Too clayey Slope	 1.00 0.01	Somewhat limited Slope	 0.01	Very limited Too clayey Slope	 1.00 0.01

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
804G: Orthents, acid-----	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 1.00
805B: Orthents, clayey----	Very limited Too clayey Depth to saturated zone	1.00 0.68	Somewhat limited Depth to saturated zone	0.04	Very limited Too clayey Depth to saturated zone	1.00 0.24
814A: Muscatune-----	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
Buckhart-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
817A: Channahon-----	Very limited Depth to bedrock Seepage, bottom layer	1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Seepage	1.00 0.22
Hesch-----	Very limited Depth to bedrock Seepage, bottom layer	1.00 1.00	Very limited Seepage Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Seepage	1.00 0.22
817B: Channahon-----	Very limited Depth to bedrock Seepage, bottom layer	1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Seepage	1.00 0.22
Hesch-----	Very limited Depth to bedrock Seepage, bottom layer	1.00 1.00	Very limited Depth to bedrock Seepage	1.00 1.00	Very limited Depth to bedrock Seepage	1.00 0.22
818A: Flanagan-----	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
Catlin-----	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone	0.50 0.32
820E: Hennepin-----	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
820E:						
Casco-----	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Slope	1.00	Seepage	1.00
	Slope	1.00			Slope	1.00
820G:						
Hennepin-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
Casco-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.03
830:						
Landfills-----	Not rated		Not rated		Not rated	
864:						
Pits, quarry-----	Not rated		Not rated		Not rated	
865:						
Pits, gravel-----	Not rated		Not rated		Not rated	
969E2:						
Casco-----	Very limited		Very limited		Very limited	
	Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00	Slope	1.00	Seepage	1.00
	Slope	1.00			Slope	1.00
					Gravel content	0.20
Rodman-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Gravel content	1.00
					Too sandy	0.50
969F:						
Casco-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Too sandy	1.00
	Too sandy	1.00			Seepage	1.00
					Gravel content	0.34
Rodman-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
	Too sandy	0.50			Gravel content	1.00
					Too sandy	0.50
1103A:						
Houghton-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Organic matter content	1.00	Seepage	1.00	Organic matter content	1.00
	Seepage, bottom layer	1.00			Seepage	0.16

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
1480A: Moundprairie-----	Very limited Flooding Depth to saturated zone Ponding Too clayey	 1.00 1.00  1.00 0.50	Very limited Flooding Depth to saturated zone Ponding	 1.00 1.00  1.00	Very limited Depth to saturated zone Ponding Too clayey	 1.00  1.00 0.50
3073A: Ross-----	Very limited Flooding Depth to saturated zone Seepage, bottom layer	 1.00 1.00  1.00	Very limited Flooding Depth to saturated zone	 1.00 1.00  	Not limited	
3076A: Otter-----	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 1.00	Very limited Ponding Depth to saturated zone	 1.00  1.00
3082A: Millington-----	Very limited Flooding Depth to saturated zone Ponding	 1.00 1.00  1.00	Very limited Flooding Depth to saturated zone Ponding	 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00  1.00
3107A: Sawmill-----	Very limited Flooding Depth to saturated zone Ponding Too clayey	 1.00 1.00  1.00 0.50	Very limited Flooding Depth to saturated zone Ponding	 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey	 1.00  1.00 0.50
3321A: Du Page-----	Very limited Flooding Depth to saturated zone	 1.00 1.00  	Very limited Flooding Depth to saturated zone	 1.00 1.00  	Not limited	
3451A: Lawson-----	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
3480A: Moundprairie-----	Very limited Flooding Depth to saturated zone Ponding	 1.00 1.00  1.00	Very limited Flooding Depth to saturated zone Ponding	 1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Ponding	 1.00  1.00

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
3800A:						
Psammments-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Too sandy	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
	Seepage, bottom layer	1.00	Seepage	1.00		
	Too sandy	1.00				
7073A:						
Ross-----	Very limited		Very limited		Somewhat limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.22
	Seepage, bottom layer	1.00	Seepage	1.00		
	Flooding	0.40	Flooding	0.40		
8073A:						
Ross-----	Very limited		Very limited		Not limited	
	Flooding	1.00	Flooding	1.00		
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
	Seepage, bottom layer	1.00				
8107A:						
Sawmill-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Too clayey	0.50
	Too clayey	0.50				
8151A:						
Ridgeville-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	saturated zone	
	Seepage, bottom layer	1.00	Seepage	1.00	Seepage	0.22
8404A:						
Titus-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	saturated zone	
	Ponding	1.00	Ponding	1.00	Hard to compact	1.00
	Too clayey	0.50			Ponding	1.00
					Too clayey	0.50
8451A:						
Lawson-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	saturated zone	

Table 18b.--Sanitary Facilities--Continued

Map symbol and soil name	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
8516A: Faxon-----	Very limited		Very limited		Very limited	
	Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to bedrock	1.00
	Depth to bedrock	1.00	Depth to bedrock	1.00	Ponding	1.00
	Ponding	1.00	Ponding	1.00		

Table 19a.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
23B:				
Blount-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
51A:				
Muscatune-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
60C2, 60D2:				
La Rose-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
61A, 61B:				
Atterberry-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
67A:				
Harpster-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
68A:				
Sable-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
86B, 86C2:				
Osc-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
87A, 87B:				
Dickinson-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.31
87C2:				
Dickinson-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.04
	Thickest layer	0.00	Bottom layer	0.67
88B:				
Sparta-----	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.07
	Thickest layer	0.00	Thickest layer	0.10

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
88D:				
Sparta-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.10
	Thickest layer	0.00	Bottom layer	0.31
91A, 91B, 91B2, 91C2, 91C3:				
Swygert-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
103A:				
Houghton-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
104A:				
Virgil-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
105A, 105B, 105C2:				
Batavia-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
125A:				
Selma-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.01
131B:				
Alvin-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
131C2:				
Alvin-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.03
	Thickest layer	0.00	Bottom layer	0.11
132A:				
Starks-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
134A:				
Camden-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.06
134B:				
Camden-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.08
134C2, 134D2:				
Camden-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.08

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
134D3, 134F: Camden-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.09
146A, 146B, 146B2: Elliott-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
147B2: Clarence-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
148A, 148B: Proctor-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
148C2: Proctor-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.04
149A: Brenton-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
151A: Ridgeville-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.12
151B: Ridgeville-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.10
152A: Drummer-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
154A: Flanagan-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
171A, 171B, 171B2, 171C2, 171C3: Catlin-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
193C2: Mayville-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
198A:				
Elburn-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.05
199A, 199B, 199C2:				
Plano-----	Poor		Poor	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.00
206A:				
Thorp-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.01
210A:				
Lena-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
219A:				
Millbrook-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
223B, 223B2, 223C2, 223C3, 223D2, 223D3:				
Varna-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
228B, 228C2, 228C3:				
Nappanee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
232A:				
Ashkum-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
233A, 233B, 233C2:				
Birkbeck-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
234A:				
Sunbury-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
235A:				
Bryce-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
236A:				
Sabina-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
238A:				
Rantoul-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
241C3, 241D3, 241E3, 241F, 241G:				
Chatsworth-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
242A:				
Kendall-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
243A, 243B, 243C2:				
St. Charles-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
244A:				
Hartsburg-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
278A, 278B:				
Stronghurst-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
279B:				
Rozetta-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
280C2:				
Fayette-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
290A:				
Warsaw-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.24
290B:				
Warsaw-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.24
290C2:				
Warsaw-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.13
293A, 293B:				
Andres-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
294B, 294C2: Symerton-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
295A, 295B: Mokena-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
298B: Beecher-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
311B: Ritchey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
314A: Joliet-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
315B: Channahon-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
317A: Millsdale-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
318B, 318C2: Lorenzo-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.31
320B, 320C2: Frankfort-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
325B, 325C2: Dresden-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.26
327B, 327C2, 327D2: Fox-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.31
330A: Peotone-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
344A, 344B, 344C2: Harvard-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
356A: Elpaso-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
375A, 375B, 375B2: Rutland-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
388B, 388B2, 388C2: Wenona-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
397F: Boone-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.99
413B, 413C2: Gale-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.02
435A: Streator-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
448B, 448C2: Mona-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
512B, 512C2: Danabrook-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
516A: Faxon-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
527C2, 527D2: Kidami-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
530B, 530C2, 530C3, 530D2, 530D3, 530E2, 530F: Ozaukee-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
541B, 541B2, 541C2: Graymont-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
542A, 542B: Rooks-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
549B, 549C2, 549D2, 549F, 549G: Marseilles-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
554B: Kernan-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
560D2, 560E: St. Clair-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
567B: Elkhart-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
572A, 572B, 572C2: Loran-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
614A, 614B: Chenoa-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
662B: Barony-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
663B: Clare-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
667B: Kaneville-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
668B: Somonauk-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
675B, 675C2: Greenbush-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
679B: Blackberry-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
680B: Campton-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
712A: Spaulding-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
715A: Arrowsmith-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
732A, 732B: Appleriver-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
791A, 791B: Rush-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.28
792A, 792B: Bowes-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.17
794G: Marseilles-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Northfield-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Ritchey-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
802B, 802D: Orthents, loamy----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
804D, 804G: Orthents, acid-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
805B: Orthents, clayey----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
814A: Muscatune-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Buckhart-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
817A: Channahon-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.06
Hesch-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.06
817B: Channahon-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Hesch-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
818A: Flanagan-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Catlin-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
820E: Hennepin-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
Casco-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.58
820G: Hennepin-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
820G:				
Casco-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.51
803:				
Landfills-----	Not rated		Not rated	
864:				
Pits, quarry-----	Not rated		Not rated	
865:				
Pits, gravel-----	Not rated		Not rated	
969E2, 969F:				
Casco-----	Poor		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.00	Bottom layer	0.31
Rodman-----	Fair		Fair	
	Thickest layer	0.00	Thickest layer	0.00
	Bottom layer	0.01	Bottom layer	0.63
1103A:				
Houghton-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
1480A:				
Moundprairie-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3073A:				
Ross-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3076A:				
Otter-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3082A:				
Millington-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3107A:				
Sawmill-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3321A:				
Du Page-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19a.--Construction Materials--Continued

Map symbol and soil name	Potential as source of gravel		Potential as source of sand	
	Rating class	Value	Rating class	Value
3451A: Lawson-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3480A: Moundprairie-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
3800A: Psammets-----	Poor		Fair	
	Bottom layer	0.00	Bottom layer	0.97
	Thickest layer	0.00	Thickest layer	0.97
7073A: Ross-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.05
8073A: Ross-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
8107A: Sawmill-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
8151A: Ridgeville-----	Poor		Fair	
	Bottom layer	0.00	Thickest layer	0.00
	Thickest layer	0.00	Bottom layer	0.12
8404A: Titus-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
8451A: Lawson-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00
8516A: Faxon-----	Poor		Poor	
	Bottom layer	0.00	Bottom layer	0.00
	Thickest layer	0.00	Thickest layer	0.00

Table 19b.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23B: Blount-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.12	Wetness	0.01	Wetness	0.01
	Carbonate content	0.68			Hard to reclaim (dense layer)	0.05
	Water erosion	0.90				
	Too acid	0.99				
51A: Muscatune-----	Fair		Poor		Fair	
	Too acid	0.84	Low strength	0.00	Wetness	0.14
	Too clayey	0.92	Wetness	0.14	Too clayey	0.67
	Organic matter content	0.92	Shrink-swell	0.99		
	Water erosion	0.99				
60C2: La Rose-----	Fair		Fair		Fair	
	Organic matter content	0.18	Low strength	0.22	Hard to reclaim (dense layer)	0.01
	Carbonate content	0.80				
	Water erosion	0.99				
60D2: La Rose-----	Fair		Fair		Poor	
	Organic matter content	0.12	Low strength	0.22	Hard to reclaim (dense layer)	0.00
	Carbonate content	0.46			Slope	0.04
	Water erosion	0.99				
61A, 61B: Atterberry-----	Fair		Poor		Fair	
	Organic matter content	0.18	Low strength	0.00	Wetness	0.04
	Too acid	0.74	Wetness	0.04	Too clayey	0.55
	Water erosion	0.90	Shrink-swell	0.99		
	Too clayey	0.92				
67A: Harpster-----	Fair		Poor		Poor	
	Carbonate content	0.80	Wetness	0.00	Wetness	0.00
	Too clayey	0.92	Low strength	0.00	Too clayey	0.72
	Water erosion	0.99	Shrink-swell	0.99	Carbonate content	0.96
68A: Sable-----	Fair		Poor		Poor	
	Organic matter content	0.68	Wetness	0.00	Wetness	0.00
	Too clayey	0.98	Low strength	0.00	Too clayey	0.98
	Water erosion	0.99	Shrink-swell	0.97		

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
86B: Osco-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength Shrink-swell	0.00 0.87	Too clayey	0.64
	Too acid	0.84				
	Too clayey	0.98				
	Water erosion	0.99				
86C2: Osco-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Too clayey	0.64
	Water erosion	0.68				
	Too acid	0.84				
	Too clayey	0.98				
87A: Dickinson-----	Fair		Good		Good	
	Organic matter content	0.12				
	Too acid	0.84				
	Droughty	0.96				
87B: Dickinson-----	Fair		Good		Good	
	Organic matter content	0.12				
	Too acid	0.84				
87C2: Dickinson-----	Fair		Good		Good	
	Organic matter content	0.12				
	Too acid	0.84				
	Droughty	0.93				
88B: Sparta-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Organic matter content	0.60				
	Too acid	0.97				
88D: Sparta-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00			Slope	0.96
	Organic matter content	0.68				
	Too acid	0.74				
91A: Swygert-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.12	Wetness Shrink-swell	0.14 0.24	Wetness	0.14
	Carbonate content	0.80				
	Too acid	0.97				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
91B: Swygert-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.12	Wetness	0.14	Wetness	0.14
	Carbonate content	0.80	Shrink-swell	0.33		
	Too acid	0.97				
91B2: Swygert-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Carbonate content	0.80	Wetness	0.14	Wetness	0.14
	Organic matter content	0.92	Shrink-swell	0.26		
91C2: Swygert-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.08	Wetness	0.14	Wetness	0.14
	Carbonate content	0.80	Shrink-swell	0.47	Hard to reclaim (dense layer)	0.94
	Water erosion	0.99				
91C3: Swygert-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.08	Wetness	0.14	Hard to reclaim (dense layer)	0.10
	Carbonate content	0.80	Shrink-swell	0.69	Wetness	0.14
	Water erosion	0.99				
103A: Houghton-----	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness	0.00	Wetness	0.00
	Too acid	0.88			Organic matter content	0.00
104A: Virgil-----	Fair		Poor		Fair	
	Organic matter content	0.68	Low strength	0.00	Wetness	0.04
	Water erosion	0.90	Wetness	0.04	Too clayey	0.67
	Too acid	0.97	Shrink-swell	0.91		
	Too clayey	0.98				
105A: Batavia-----	Fair		Poor		Good	
	Organic matter content	0.50	Low strength	0.00		
	Too acid	0.84	Shrink-swell	0.99		
	Water erosion	0.99				
105B: Batavia-----	Fair		Poor		Good	
	Organic matter content	0.50	Low strength	0.00		
	Too acid	0.84	Shrink-swell	0.98		
	Water erosion	0.90				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
105C2: Batavia-----	Fair		Poor		Good	
	Organic matter content	0.50	Low strength	0.00		
	Too acid	0.84	Shrink-swell	0.95		
	Water erosion	0.99				
125A: Selma-----	Good		Poor		Poor	
			Wetness	0.00	Hard to reclaim (dense layer)	0.00
			Shrink-swell	0.98	Wetness	0.00
131B: Alvin-----	Fair		Good		Good	
	Organic matter content	0.05				
	Too acid	0.88				
131C2: Alvin-----	Fair		Good		Good	
	Organic matter content	0.12				
	Too acid	0.88				
132A: Starks-----	Fair		Fair		Fair	
	Water erosion	0.68	Wetness	0.04	Wetness	0.04
	Organic matter content	0.68			Too clayey	0.67
	Too clayey	0.98				
	Too acid	0.99				
134A, 134B: Camden-----	Fair		Good		Fair	
	Organic matter content	0.12			Too clayey	0.49
	Water erosion	0.68				
	Too clayey	0.82				
	Too acid	0.97				
134C2: Camden-----	Fair		Good		Fair	
	Organic matter content	0.12			Too clayey	0.49
	Too clayey	0.82				
	Water erosion	0.90				
	Too acid	0.97				
134D2: Camden-----	Fair		Good		Fair	
	Organic matter content	0.12			Slope	0.04
	Too clayey	0.82			Too clayey	0.49
	Water erosion	0.90				
	Too acid	0.97				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
134D3: Camden-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength	0.00	Slope	0.04
	Too acid	0.54	Shrink-swell	0.99	Too clayey	0.64
	Too clayey	0.98			Too acid	0.98
	Water erosion	0.99				
134F: Camden-----	Fair		Poor		Poor	
	Organic matter content	0.50	Low strength	0.00	Slope	0.00
	Too acid	0.54	Slope	0.00	Too clayey	0.64
	Too clayey	0.98			Too acid	0.98
	Water erosion	0.99				
146A: Elliott-----	Fair		Poor		Fair	
	Organic matter content	0.18	Low strength	0.00	Wetness	0.07
	Carbonate content	0.84	Wetness	0.07	Too clayey	0.55
	Too acid	0.84	Shrink-swell	0.97		
	Too clayey	0.92				
	Water erosion	0.99				
146B: Elliott-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Wetness	0.07
	Carbonate content	0.84	Wetness	0.07	Too clayey	0.55
	Water erosion	0.90	Shrink-swell	0.99	Hard to reclaim (dense layer)	0.90
	Too clayey	0.92				
146B2: Elliott-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Wetness	0.07
	Carbonate content	0.84	Wetness	0.07	Hard to reclaim (dense layer)	0.29
	Too acid	0.84			Too clayey	0.55
	Water erosion	0.90				
	Too clayey	0.92				
147B2: Clarence-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.50	Wetness	0.14	Wetness	0.14
	Droughty	0.74	Shrink-swell	0.87	Hard to reclaim (dense layer)	0.90
	Carbonate content	0.97				
	Water erosion	0.99				
148A: Proctor-----	Fair		Fair		Good	
	Organic matter content	0.12	Shrink-swell	0.98		
	Too acid	0.84				
	Water erosion	0.99				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
148B: Proctor-----	Fair		Good		Fair	
	Organic matter content	0.24			Too clayey	0.81
	Too clayey	0.98				
	Water erosion	0.99				
148C2: Proctor-----	Fair		Poor		Fair	
	Too clayey	0.98	Low strength	0.00	Too clayey	0.81
	Water erosion	0.99	Shrink-swell	0.96		
149A: Brenton-----	Fair		Fair		Fair	
	Water erosion	0.99	Wetness	0.14	Wetness	0.14
			Low strength	0.22		
			Shrink-swell	0.99		
151A, 151B: Ridgeville-----	Fair		Fair		Fair	
	Organic matter content	0.68	Wetness	0.14	Wetness	0.14
	Too acid	0.88				
152A: Drummer-----	Fair		Poor		Poor	
	Carbonate content	0.92	Wetness	0.00	Wetness	0.00
	Water erosion	0.99	Low strength	0.00		
			Shrink-swell	0.97		
154A: Flanagan-----	Fair		Poor		Fair	
	Too clayey	0.18	Low strength	0.00	Too clayey	0.13
	Carbonate content	0.68	Wetness	0.14	Wetness	0.14
	Too acid	0.84	Shrink-swell	0.90		
	Organic matter content	0.88				
	Water erosion	0.99				
171A: Catlin-----	Fair		Poor		Fair	
	Too clayey	0.82	Low strength	0.00	Too clayey	0.64
	Too acid	0.97	Wetness	0.95	Wetness	0.95
	Water erosion	0.99	Shrink-swell	0.96		
171B: Catlin-----	Fair		Poor		Fair	
	Too clayey	0.82	Low strength	0.00	Too clayey	0.64
	Water erosion	0.99	Wetness	0.98	Wetness	0.98
			Shrink-swell	0.98		
171B2: Catlin-----	Fair		Poor		Fair	
	Too clayey	0.92	Low strength	0.00	Too clayey	0.79
	Water erosion	0.99	Wetness	0.95	Wetness	0.95
			Shrink-swell	0.99		

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
171C2: Catlin-----	Fair		Poor		Fair	
	Too clayey	0.82	Low strength	0.00	Too clayey	0.70
	Too acid	0.95	Shrink-swell	0.87	Wetness	0.95
	Water erosion	0.99	Wetness	0.95		
171C3: Catlin-----	Fair		Poor		Fair	
	Organic matter content	0.32	Low strength	0.00	Wetness	0.95
	Too acid	0.99	Shrink-swell	0.98		
	Water erosion	0.99				
193C2: Mayville-----	Fair		Fair		Fair	
	Organic matter content	0.12	Wetness	0.98	Hard to reclaim (dense layer)	0.10
	Too acid	0.84			Wetness	0.98
	Water erosion	0.90				
	Carbonate content	0.99				
198A: Elburn-----	Fair		Poor		Fair	
	Too clayey	0.98	Low strength	0.00	Wetness	0.14
	Water erosion	0.99	Wetness	0.14	Too clayey	0.81
			Shrink-swell	0.99		
199A: Plano-----	Fair		Poor		Fair	
	Organic matter content	0.68	Low strength	0.00	Too clayey	0.67
	Too acid	0.97	Shrink-swell	0.98		
	Too clayey	0.98				
	Water erosion	0.99				
199B: Plano-----	Fair		Poor		Fair	
	Organic matter content	0.68	Low strength	0.00	Too clayey	0.67
	Too acid	0.92	Shrink-swell	0.99		
	Too clayey	0.98				
	Water erosion	0.99				
199C2: Plano-----	Fair		Poor		Fair	
	Organic matter content	0.68	Low strength	0.00	Too clayey	0.67
	Too acid	0.97	Shrink-swell	0.99		
	Too clayey	0.98				
	Water erosion	0.99				
206A: Thorp-----	Fair		Poor		Poor	
	Organic matter content	0.68	Wetness	0.00	Wetness	0.00
	Water erosion	0.90	Low strength	0.00		
	Too acid	0.97	Shrink-swell	0.99		

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
210A: Lena-----	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness	0.00	Wetness	0.00
	Carbonate content	0.80			Organic matter content	0.00
					Carbonate content	0.80
219A: Millbrook-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Wetness	0.04
	Water erosion	0.99	Wetness	0.04		
			Shrink-swell	0.93		
223B: Varna-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Carbonate content	0.97	Shrink-swell	0.97	Wetness	0.98
	Water erosion	0.99	Wetness	0.98		
	Too acid	0.99				
223B2: Varna-----	Fair		Poor		Fair	
	Too clayey	0.08	Low strength	0.00	Too clayey	0.06
	Organic matter content	0.12	Wetness	0.98	Wetness	0.98
	Water erosion	0.90	Shrink-swell	0.99	Hard to reclaim (dense layer)	0.99
	Carbonate content	0.97				
223C2: Varna-----	Fair		Poor		Fair	
	Too clayey	0.08	Low strength	0.00	Too clayey	0.06
	Organic matter content	0.68	Shrink-swell	0.95	Wetness	0.98
	Carbonate content	0.97	Wetness	0.98		
	Water erosion	0.99				
223C3: Varna-----	Fair		Poor		Poor	
	Organic matter content	0.12	Low strength	0.00	Hard to reclaim (dense layer)	0.00
	Too clayey	0.76	Wetness	0.98	Too clayey	0.44
	Water erosion	0.90			Wetness	0.98
	Carbonate content	0.97				
223D2: Varna-----	Fair		Poor		Fair	
	Too clayey	0.08	Low strength	0.00	Too clayey	0.06
	Organic matter content	0.12	Wetness	0.98	Hard to reclaim (dense layer)	0.94
	Water erosion	0.90			Slope	0.96
	Carbonate content	0.97			Wetness	0.98
	Too acid	0.99				
223D3: Varna-----	Fair		Poor		Poor	
	Organic matter content	0.24	Low strength	0.00	Hard to reclaim (dense layer)	0.00
	Too clayey	0.68	Wetness	0.98	Too clayey	0.41
	Water erosion	0.90			Slope	0.96
	Carbonate content	0.97			Wetness	0.98

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
228B: Nappanee-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.24	Wetness	0.04	Wetness	0.04
	Carbonate content	0.68	Shrink-swell	0.87		
	Water erosion	0.99				
228C2: Nappanee-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.12	Wetness	0.04	Wetness	0.04
	Carbonate content	0.68	Shrink-swell	0.87	Hard to reclaim (dense layer)	0.05
	Droughty	0.87				
	Water erosion	0.99				
228C3: Nappanee-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.12	Wetness	0.04	Hard to reclaim (dense layer)	0.00
	Droughty	0.17	Shrink-swell	0.87	Wetness	0.04
	Carbonate content	0.68				
	Water erosion	0.99				
232A: Ashkum-----	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Wetness	0.00
	Organic matter content	0.18	Low strength	0.00	Too clayey	0.00
	Carbonate content	0.97	Shrink-swell	0.60		
	Water erosion	0.99				
233A: Birkbeck-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength	0.00	Too clayey	0.54
	Water erosion	0.68	Wetness	0.89	Wetness	0.89
	Too acid	0.74	Shrink-swell	0.91		
	Too clayey	0.82				
	Carbonate content	0.95				
233B: Birkbeck-----	Fair		Poor		Fair	
	Too acid	0.16	Low strength	0.00	Too clayey	0.49
	Organic matter content	0.18	Shrink-swell	0.78	Wetness	0.89
	Water erosion	0.68	Wetness	0.89	Too acid	0.98
	Too clayey	0.82				
	Carbonate content	0.95				
233C2: Birkbeck-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength	0.00	Wetness	0.89
	Too acid	0.88	Wetness	0.89		
	Water erosion	0.90	Shrink-swell	0.96		

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
234A: Sunbury-----	Fair		Fair		Fair	
	Organic matter content	0.05	Wetness	0.04	Wetness	0.04
	Too clayey	0.18	Shrink-swell	0.88	Too clayey	0.11
	Water erosion	0.68			Hard to reclaim (dense layer)	0.94
	Too acid	0.84				
	Carbonate content	0.92				
235A: Bryce-----	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Too clayey	0.00
	Too acid	0.97	Low strength	0.00	Wetness	0.00
	Carbonate content	0.97	Shrink-swell	0.14		
236A: Sabina-----	Fair		Poor		Poor	
	Too clayey	0.08	Low strength	0.00	Hard to reclaim (dense layer)	0.00
	Water erosion	0.37	Wetness	0.04		
	Organic matter content	0.50	Shrink-swell	0.56	Wetness	0.04
	Too acid	0.88			Too clayey	0.05
	Carbonate content	0.92				
238A: Rantoul-----	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Too clayey	0.00
			Low strength	0.00	Wetness	0.00
			Shrink-swell	0.12		
241C3: Chatsworth-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Hard to reclaim (dense layer)	0.00
	Droughty	0.00	Wetness	0.68		
	Organic matter content	0.12	Shrink-swell	0.87	Too clayey	0.00
	Carbonate content	0.97			Wetness	0.68
	Water erosion	0.99				
241D3: Chatsworth-----	Poor		Poor		Poor	
	Droughty	0.00	Low strength	0.00	Too clayey	0.00
	Too clayey	0.00	Wetness	0.68	Hard to reclaim (dense layer)	0.03
	Organic matter content	0.12	Shrink-swell	0.87		
	Carbonate content	0.97			Wetness	0.68
	Water erosion	0.99			Slope	0.96
241E3: Chatsworth-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Droughty	0.02	Wetness	0.68	Slope	0.00
	Organic matter content	0.12	Shrink-swell	0.87	Hard to reclaim (dense layer)	0.01
	Carbonate content	0.97	Slope	0.98		
	Water erosion	0.99			Wetness	0.68

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
241F: Chatsworth-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Slope	0.00
	Droughty	0.03	Slope	0.00	Too clayey	0.00
	Organic matter content	0.12	Wetness	0.68	Hard to reclaim (dense layer)	0.10
	Carbonate content	0.97	Shrink-swell	0.87	Wetness	0.68
241G: Chatsworth-----	Poor		Poor		Poor	
	Too clayey	0.00	Slope	0.00	Slope	0.00
	Droughty	0.04	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.12	Wetness	0.68	Hard to reclaim (dense layer)	0.00
	Carbonate content	0.97	Shrink-swell	0.87	Wetness	0.68
	Water erosion	0.99				
242A: Kendall-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Wetness	0.04
	Too acid	0.61	Wetness	0.04	Too clayey	0.57
	Water erosion	0.68	Shrink-swell	0.95	Too acid	0.99
	Too clayey	0.98				
243A: St. Charles-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Too clayey	0.57
	Too acid	0.88	Shrink-swell	0.94		
	Water erosion	0.90				
	Too clayey	0.98				
243B: St. Charles-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Too clayey	0.57
	Too acid	0.88	Shrink-swell	0.95		
	Water erosion	0.90				
	Too clayey	0.98				
243C2: St. Charles-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Too clayey	0.57
	Too acid	0.88	Shrink-swell	0.99		
	Water erosion	0.90				
	Too clayey	0.98				
244A: Hartsburg-----	Fair		Poor		Poor	
	Organic matter content	0.18	Wetness	0.00	Wetness	0.00
	Water erosion	0.68	Low strength	0.00	Too clayey	0.82
	Carbonate content	0.68				
	Too clayey	0.82				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
278A: Stronghurst-----	Fair		Poor		Fair	
	Water erosion	0.68	Low strength	0.00	Wetness	0.04
	Organic matter content	0.88	Wetness	0.04	Too clayey	0.70
	Too acid	0.97	Shrink-swell	0.97		
	Too clayey	0.98				
278B: Stronghurst-----	Fair		Poor		Fair	
	Organic matter content	0.88	Low strength	0.00	Wetness	0.04
	Water erosion	0.90	Wetness	0.04	Too clayey	0.70
	Too acid	0.97	Shrink-swell	0.96		
	Too clayey	0.98				
279B: Rozetta-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Too clayey	0.57
	Water erosion	0.68	Shrink-swell	0.92		
	Too acid	0.68				
	Too clayey	0.98				
280C2: Fayette-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Too clayey	0.57
	Too acid	0.68	Shrink-swell	0.87		
	Water erosion	0.90				
	Too clayey	0.98				
290A: Warsaw-----	Fair		Good		Poor	
	Organic matter content	0.12			Hard to reclaim (rock fragments)	0.00
	Carbonate content	0.92				
	Too acid	0.92				
290B: Warsaw-----	Fair		Good		Poor	
	Organic matter content	0.12			Hard to reclaim (rock fragments)	0.00
	Too acid	0.84				
	Carbonate content	0.92				
290C2: Warsaw-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Organic matter content	0.12			Rock fragments	0.00
	Carbonate content	0.92			Hard to reclaim (rock fragments)	0.00
	Too acid	0.95				
	Droughty	0.98				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
293A: Andres-----	Fair		Poor		Fair	
	Organic matter content	0.18	Low strength	0.00	Wetness	0.12
	Too clayey	0.82	Wetness	0.12	Too clayey	0.64
	Carbonate content	0.84	Shrink-swell	0.96		
	Water erosion	0.99				
293B: Andres-----	Fair		Poor		Fair	
	Too clayey	0.82	Low strength	0.00	Wetness	0.12
	Carbonate content	0.84	Wetness	0.12	Too clayey	0.64
	Water erosion	0.99	Shrink-swell	0.97		
294B: Symerton-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Rock fragments	0.12
	Too acid	0.84	Wetness	0.99	Wetness	0.99
	Water erosion	0.90				
	Carbonate content	0.97				
294C2: Symerton-----	Fair		Fair		Fair	
	Organic matter content	0.68	Wetness	0.93	Wetness	0.93
	Too acid	0.84	Shrink-swell	0.99		
	Carbonate content	0.97				
	Water erosion	0.99				
295A: Mokena-----	Fair		Poor		Fair	
	Too clayey	0.82	Low strength	0.00	Wetness	0.14
	Carbonate content	0.97	Wetness	0.14	Too clayey	0.64
			Shrink-swell	0.91	Hard to reclaim (dense layer)	0.99
295B: Mokena-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Wetness	0.14
	Carbonate content	0.97	Wetness	0.14		
			Shrink-swell	0.81		
298B: Beecher-----	Fair		Poor		Poor	
	Too clayey	0.02	Wetness	0.00	Wetness	0.00
	Organic matter content	0.08	Low strength	0.00	Too clayey	0.01
	Carbonate content	0.84			Hard to reclaim (dense layer)	0.94
	Too acid	0.88				
	Water erosion	0.90				
311B: Ritchey-----	Poor		Poor		Poor	
	Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Droughty	0.03	Low strength	0.00	Too clayey	0.67
	Organic matter content	0.68	Shrink-swell	0.87		
	Too clayey	0.98				
	Water erosion	0.99				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
314A: Joliet-----	Poor		Poor		Poor	
	Depth to bedrock	0.00	Depth to bedrock	0.00	Wetness	0.00
	Droughty	0.11	Wetness	0.00	Depth to bedrock	0.00
			Low strength	0.00		
315B: Channahon-----	Poor		Poor		Poor	
	Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Droughty	0.06	Low strength	0.00		
			Shrink-swell	0.94		
317A: Millsdale-----	Fair		Poor		Poor	
	Depth to bedrock	0.93	Depth to bedrock	0.00	Wetness	0.00
	Water erosion	0.99	Wetness	0.00	Depth to bedrock	0.93
			Low strength	0.00		
			Shrink-swell	0.33		
318B: Lorenzo-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Organic matter content	0.12			Rock fragments	0.00
	Carbonate content	0.46			Hard to reclaim (rock fragments)	0.00
	Droughty	0.55				
318C2: Lorenzo-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Organic matter content	0.12			Rock fragments	0.00
	Droughty	0.33			Hard to reclaim (rock fragments)	0.00
	Carbonate content	0.46			Carbonate content	0.99
320B: Frankfort-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.12	Wetness	0.04	Wetness	0.04
	Carbonate content	0.84	Shrink-swell	0.89	Hard to reclaim (dense layer)	0.97
	Water erosion	0.99				
320C2: Frankfort-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.12	Wetness	0.04	Wetness	0.04
	Droughty	0.80	Shrink-swell	0.87	Hard to reclaim (dense layer)	0.71
	Carbonate content	0.84				
	Water erosion	0.99				
325B, 325C2: Dresden-----	Fair		Good		Poor	
	Organic matter content	0.12			Hard to reclaim (rock fragments)	0.00
	Carbonate content	0.46				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
327B: Fox-----	Fair		Good		Poor	
	Organic matter content	0.12			Hard to reclaim (rock fragments)	0.00
	Carbonate content	0.68			Too clayey	0.53
	Too clayey	0.92				
	Water erosion	0.99				
327C2: Fox-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Organic matter content	0.12			Rock fragments	0.00
	Carbonate content	0.68			Hard to reclaim (rock fragments)	0.00
	Droughty	0.99				
327D2: Fox-----	Fair		Good		Poor	
	Organic matter content	0.12			Hard to reclaim (rock fragments)	0.00
	Carbonate content	0.68			Too clayey	0.53
	Too clayey	0.92			Slope	0.96
330A: Peotone-----	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Wetness	0.00
	Water erosion	0.99	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.12		
344A: Harvard-----	Fair		Poor		Good	
	Organic matter content	0.68	Low strength	0.00		
	Too acid	0.97	Shrink-swell	0.90		
	Water erosion	0.99				
344B: Harvard-----	Fair		Fair		Good	
	Organic matter content	0.12	Low strength	0.78		
	Too acid	0.97	Shrink-swell	0.90		
	Water erosion	0.99				
344C2: Harvard-----	Fair		Poor		Good	
	Organic matter content	0.68	Low strength	0.00		
	Too acid	0.97	Shrink-swell	0.99		
	Water erosion	0.99				
356A: Elpaso-----	Fair		Poor		Poor	
	Organic matter content	0.24	Wetness	0.00	Wetness	0.00
	Too acid	0.92	Low strength	0.00	Too clayey	0.98
	Too clayey	0.98	Shrink-swell	0.87		
	Carbonate content	0.99				
	Water erosion	0.99				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
375A: Rutland-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Too acid	0.97	Wetness	0.14	Wetness	0.14
	Carbonate content	0.97	Shrink-swell	0.28		
	Water erosion	0.99				
375B: Rutland-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Too acid	0.97	Wetness	0.14	Wetness	0.14
	Carbonate content	0.97	Shrink-swell	0.16		
	Water erosion	0.99				
375B2: Rutland-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.02
	Too acid	0.97	Shrink-swell	0.12	Wetness	0.14
	Carbonate content	0.97	Wetness	0.14		
	Water erosion	0.99				
388B: Wenona-----	Fair		Poor		Fair	
	Too clayey	0.05	Low strength	0.00	Too clayey	0.04
	Too acid	0.97	Shrink-swell	0.23	Wetness	0.98
	Carbonate content	0.97	Wetness	0.98		
	Water erosion	0.99				
388B2, 388C2: Wenona-----	Fair		Poor		Fair	
	Too clayey	0.05	Low strength	0.00	Too clayey	0.04
	Too acid	0.97	Shrink-swell	0.12	Wetness	0.98
	Carbonate content	0.97	Wetness	0.98		
	Water erosion	0.99				
397F: Boone-----	Poor		Poor		Poor	
	Wind erosion	0.00	Depth to bedrock	0.00	Slope	0.00
	Droughty	0.00	Slope	0.00	Depth to bedrock	0.05
	Depth to bedrock	0.05			Too sandy	0.22
	Organic matter content	0.12			Too acid	0.88
	Too sandy	0.22				
	Too acid	0.50				
413B: Gale-----	Fair		Poor		Fair	
	Water erosion	0.68	Depth to bedrock	0.00	Depth to bedrock	0.97
	Too acid	0.68	Low strength	0.00		
	Organic matter content	0.88				
	Depth to bedrock	0.97				
413C2: Gale-----	Fair		Poor		Fair	
	Water erosion	0.68	Depth to bedrock	0.00	Depth to bedrock	0.99
	Too acid	0.68	Low strength	0.00		
	Organic matter content	0.88				
	Depth to bedrock	0.99				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
435A: Streator-----	Poor		Poor		Poor	
	Too clayey	0.00	Wetness	0.00	Wetness	0.00
	Carbonate content	0.97	Low strength	0.00	Too clayey	0.00
	Water erosion	0.99	Shrink-swell	0.12		
448B: Mona-----	Fair		Poor		Fair	
	Organic matter content	0.24	Low strength	0.00	Wetness	0.98
	Carbonate content	0.97	Shrink-swell	0.83		
			Wetness	0.98		
448C2: Mona-----	Fair		Poor		Fair	
	Organic matter content	0.24	Low strength	0.00	Hard to reclaim (dense layer)	0.97
	Carbonate content	0.97	Shrink-swell	0.83		
	Water erosion	0.99	Wetness	0.98	Wetness	0.98
512B: Danabrook-----	Fair		Poor		Fair	
	Carbonate content	0.46	Low strength	0.00	Wetness	0.98
	Water erosion	0.99	Shrink-swell	0.97		
			Wetness	0.98		
512C2: Danabrook-----	Fair		Fair		Fair	
	Organic matter content	0.24	Wetness	0.98	Wetness	0.98
	Carbonate content	0.54	Shrink-swell	0.99		
	Too acid	0.97				
	Water erosion	0.99				
516A: Faxon-----	Fair		Poor		Poor	
	Too acid	0.61	Depth to bedrock	0.00	Wetness	0.00
	Depth to bedrock	0.93	Wetness	0.00	Depth to bedrock	0.93
	Organic matter content	0.96	Low strength	0.00	Too acid	0.99
527C2: Kidami-----	Fair		Poor		Fair	
	Carbonate content	0.16	Low strength	0.00	Wetness	0.98
	Organic matter content	0.68	Wetness	0.98		
	Too acid	0.97				
527D2: Kidami-----	Fair		Fair		Fair	
	Organic matter content	0.12	Wetness	0.98	Hard to reclaim (dense layer)	0.90
	Carbonate content	0.16			Slope	0.96
	Too acid	0.97			Wetness	0.98
	Water erosion	0.99				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
530B: Ozaukee-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength Wetness	0.00 0.98	Too clayey Wetness	0.19 0.98
	Too clayey	0.32	Shrink-swell	0.99	Not hard to reclaim	0.99
	Carbonate content	0.68				
	Water erosion	0.90				
	Too acid	0.95				
530C2: Ozaukee-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Organic matter content	0.12	Wetness	0.68	Hard to reclaim (dense layer)	0.35
	Carbonate content	0.68			Wetness	0.68
	Water erosion	0.90				
530C3: Ozaukee-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength Wetness	0.00 0.95	Hard to reclaim (dense layer)	0.29
	Carbonate content	0.68			Too clayey	0.57
	Water erosion	0.90			Wetness	0.95
	Too clayey	0.98			Rock fragments	0.97
530D2: Ozaukee-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Organic matter content	0.12	Wetness	0.68	Hard to reclaim (dense layer)	0.35
	Carbonate content	0.68			Wetness	0.68
	Water erosion	0.90			Slope	0.96
	Too acid	0.95				
530D3: Ozaukee-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength Wetness	0.00 0.53	Hard to reclaim (dense layer)	0.16
	Carbonate content	0.68			Wetness	0.53
	Water erosion	0.90			Too clayey	0.57
	Too clayey	0.98			Slope	0.96
					Rock fragments	0.97
530E2: Ozaukee-----	Fair		Poor		Poor	
	Too clayey	0.02	Low strength	0.00	Slope	0.00
	Organic matter content	0.12	Wetness	0.68	Too clayey	0.01
	Carbonate content	0.68	Slope	0.98	Hard to reclaim (dense layer)	0.65
	Water erosion	0.90			Wetness	0.68
530F: Ozaukee-----	Fair		Poor		Poor	
	Too clayey	0.02	Low strength	0.00	Slope	0.00
	Organic matter content	0.24	Slope	0.00	Too clayey	0.01
	Carbonate content	0.68	Wetness	0.98	Hard to reclaim (dense layer)	0.94
	Water erosion	0.90			Wetness	0.98

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
541B: Graymont-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength Wetness	0.00 0.98	Wetness	0.98
	Water erosion	0.90	Shrink-swell	0.99		
	Carbonate content	0.97				
	Too acid	0.99				
541B2: Graymont-----	Fair		Poor		Fair	
	Organic matter content	0.08	Low strength Shrink-swell	0.00 0.87	Wetness	0.98
	Water erosion	0.90	Wetness	0.98		
	Carbonate content	0.97				
541C2: Graymont-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength Wetness	0.00 0.89	Wetness	0.89
	Water erosion	0.90	Shrink-swell	0.99		
	Carbonate content	0.97				
542A: Rocks-----	Fair		Poor		Fair	
	Too clayey	0.50	Low strength	0.00	Wetness	0.14
	Carbonate content	0.68	Wetness	0.14	Too clayey	0.50
	Water erosion	0.99				
542B: Rocks-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength Wetness	0.00 0.14	Wetness	0.14
	Too clayey	0.50			Too clayey	0.39
	Carbonate content	0.68				
	Water erosion	0.99				
549B: Marseilles-----	Fair		Poor		Good	
	Too acid	0.50	Low strength	0.00		
	Water erosion	0.68	Depth to bedrock	0.00		
	Organic matter content	0.88	Shrink-swell	0.87		
549C2: Marseilles-----	Fair		Poor		Fair	
	Depth to bedrock	0.21	Depth to bedrock	0.00	Depth to bedrock	0.21
	Too acid	0.50	Low strength	0.00	Too clayey	0.43
	Too clayey	0.59	Shrink-swell	0.87	Too acid	0.88
	Droughty	0.69				
	Organic matter content	0.88				
	Water erosion	0.90				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
549D2: Marseilles-----	Fair		Poor		Fair	
	Organic matter content	0.12	Depth to bedrock	0.00	Slope	0.04
	Depth to bedrock	0.29	Low strength	0.00	Depth to bedrock	0.29
	Too acid	0.50	Shrink-swell	0.87	Too clayey	0.39
	Droughty	0.50			Too acid	0.88
	Too clayey	0.68				
	Water erosion	0.99				
549F: Marseilles-----	Fair		Poor		Poor	
	Organic matter content	0.12	Depth to bedrock	0.00	Slope	0.00
	Too acid	0.50	Low strength	0.00	Too clayey	0.39
	Too clayey	0.68	Slope	0.00	Too acid	0.88
	Depth to bedrock	0.90	Shrink-swell	0.87	Depth to bedrock	0.90
	Droughty	0.99				
	Water erosion	0.99				
549G: Marseilles-----	Fair		Poor		Poor	
	Organic matter content	0.12	Depth to bedrock	0.00	Slope	0.00
	Too acid	0.50	Slope	0.00	Too clayey	0.39
	Too clayey	0.68	Low strength	0.00	Too acid	0.88
	Water erosion	0.90	Shrink-swell	0.87	Depth to bedrock	0.90
	Depth to bedrock	0.90				
	Droughty	0.99				
554B: Kernan-----	Fair		Poor		Fair	
	Too clayey	0.02	Low strength	0.00	Too clayey	0.01
	Too acid	0.61	Wetness	0.04	Wetness	0.04
	Water erosion	0.68	Shrink-swell	0.17	Hard to reclaim (dense layer)	0.94
	Organic matter content	0.68			Too acid	0.99
	Carbonate content	0.97				
560D2: St. Clair-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.12	Shrink-swell	0.87	Hard to reclaim (dense layer)	0.03
	Carbonate content	0.68	Wetness	0.98	Slope	0.96
	Droughty	0.91			Wetness	0.98
	Water erosion	0.99				
560E: St. Clair-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.12	Wetness	0.68	Slope	0.00
	Droughty	0.28	Shrink-swell	0.87	Hard to reclaim (dense layer)	0.20
	Carbonate content	0.68	Slope	0.98	Wetness	0.68
	Water erosion	0.99				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
567B: Elkhart-----	Fair Water erosion Carbonate content	0.68 0.68	Poor Low strength	0.00	Good	
572A: Loran-----	Fair Water erosion	0.90	Poor Low strength Wetness Depth to bedrock Shrink-swell	0.00 0.14 0.82 0.92	Fair Wetness	0.14
572B: Loran-----	Fair Water erosion	0.99	Poor Low strength Wetness Depth to bedrock Shrink-swell	0.00 0.14 0.68 0.90	Fair Wetness	0.14
572C2: Loran-----	Fair Water erosion	0.99	Poor Low strength Depth to bedrock Wetness Shrink-swell	0.00 0.01 0.14 0.87	Fair Wetness	0.14
614A: Chenoa-----	Fair Organic matter content Too clayey Carbonate content Water erosion	0.12 0.18 0.84 0.90	Poor Low strength Wetness Shrink-swell	0.00 0.14 0.90	Fair Too clayey Wetness	0.14 0.14
614B: Chenoa-----	Fair Organic matter content Carbonate content Too acid Water erosion	0.18 0.84 0.92 0.99	Poor Low strength Wetness Shrink-swell	0.00 0.14 0.87	Fair Wetness	0.14
662B: Barony-----	Fair Organic matter content Too acid Water erosion	0.68 0.97 0.99	Fair Shrink-swell Wetness	0.92 0.98	Fair Wetness	0.98
663B: Clare-----	Fair Too clayey Too acid Water erosion	0.82 0.84 0.99	Poor Low strength Wetness Shrink-swell	0.00 0.98 0.99	Fair Too clayey Wetness	0.68 0.98
667B: Kaneville-----	Fair Organic matter content Water erosion	0.82 0.99	Poor Low strength Shrink-swell Wetness	0.00 0.94 0.98	Fair Wetness	0.98

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
668B: Somonauk-----	Fair		Fair		Fair	
	Organic matter content	0.08	Shrink-swell Wetness	0.91 0.98	Wetness	0.98
	Water erosion	0.90				
	Too acid	0.97				
675B: Greenbush-----	Fair		Poor		Fair	
	Organic matter content	0.88	Low strength Shrink-swell	0.00 0.91	Too clayey	0.70
	Too acid	0.97				
	Too clayey	0.98				
	Water erosion	0.99				
675C2: Greenbush-----	Fair		Poor		Fair	
	Organic matter content	0.88	Low strength Shrink-swell	0.00 0.87	Too clayey	0.70
	Too acid	0.97				
	Too clayey	0.98				
	Water erosion	0.99				
679B: Blackberry-----	Fair		Poor		Fair	
	Organic matter content	0.68	Low strength Wetness	0.00 0.98	Too clayey Wetness	0.63 0.98
	Too acid	0.92	Shrink-swell	0.98		
	Too clayey	0.92				
	Water erosion	0.99				
680B: Campton-----	Fair		Poor		Fair	
	Organic matter content	0.50	Low strength Shrink-swell	0.00 0.94	Wetness	0.98
	Too acid	0.88	Wetness	0.98		
	Water erosion	0.90				
712A: Spaulding-----	Fair		Poor		Poor	
	Organic matter content	0.12	Wetness	0.00	Wetness	0.00
	Carbonate content	0.68	Low strength Shrink-swell	0.00 0.98	Carbonate content Too clayey	0.73 0.98
	Too clayey	0.98				
	Water erosion	0.99				
715A: Arrowsmith-----	Fair		Fair		Fair	
	Organic matter content	0.12	Wetness	0.14	Wetness	0.14
	Water erosion	0.37	Low strength	0.22	Too clayey	0.72
	Carbonate content	0.68				
	Too clayey	0.92				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
732A: Appleriver-----	Fair		Poor		Fair	
	Too acid	0.84	Low strength	0.00	Wetness	0.14
	Organic matter content	0.88	Wetness	0.14	Too clayey	0.70
	Water erosion	0.90	Depth to bedrock	0.16		
	Too clayey	0.98	Shrink-swell	0.87		
732B: Appleriver-----	Fair		Poor		Fair	
	Organic matter content	0.12	Low strength	0.00	Wetness	0.14
	Too acid	0.74	Wetness	0.14	Too clayey	0.70
	Water erosion	0.90	Shrink-swell	0.91		
	Too clayey	0.98	Depth to bedrock	0.99		
791A, 791B: Rush-----	Fair		Poor		Fair	
	Water erosion	0.68	Low strength	0.00	Hard to reclaim	0.68
	Too acid	0.68	Shrink-swell	0.98	(rock fragments)	
	Carbonate content	0.80				
	Organic matter content	0.88				
792A: Bowes-----	Fair		Poor		Fair	
	Carbonate content	0.68	Low strength	0.00	Hard to reclaim	0.32
	Organic matter content	0.68	Shrink-swell	0.96	(rock fragments)	
	Too acid	0.74			Too clayey	0.67
	Water erosion	0.90				
	Too clayey	0.98				
792B: Bowes-----	Fair		Poor		Fair	
	Carbonate content	0.68	Low strength	0.00	Hard to reclaim	0.08
	Organic matter content	0.68	Shrink-swell	0.98	(rock fragments)	
	Too acid	0.74			Too clayey	0.67
	Too clayey	0.98				
	Water erosion	0.99				
794G: Marseilles-----	Fair		Poor		Poor	
	Organic matter content	0.12	Depth to bedrock	0.00	Slope	0.00
	Too acid	0.50	Slope	0.00	Too clayey	0.39
	Too clayey	0.68	Low strength	0.00	Too acid	0.88
	Water erosion	0.90	Shrink-swell	0.87	Depth to bedrock	0.90
	Depth to bedrock	0.90				
	Droughty	0.99				
Northfield-----	Poor		Poor		Poor	
	Depth to bedrock	0.00	Depth to bedrock	0.00	Slope	0.00
	Droughty	0.00	Slope	0.00	Depth to bedrock	0.00
	Too acid	0.68				
	Organic matter content	0.92				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
794G: Ritchey-----	Poor		Poor		Poor	
	Depth to bedrock	0.00	Depth to bedrock	0.00	Slope	0.00
	Droughty	0.06	Slope	0.00	Depth to bedrock	0.00
	Water erosion	0.99	Low strength	0.00		
802B: Orthents, loamy----	Fair		Poor		Good	
	Organic matter content	0.68	Low strength	0.00		
	Water erosion	0.90	Shrink-swell	0.87		
802D: Orthents, loamy----	Fair		Poor		Fair	
	Organic matter content	0.68	Low strength	0.00	Slope	0.96
	Water erosion	0.90	Shrink-swell	0.87		
804D: Orthents, acid-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Too clayey	0.00
	Organic matter content	0.00	Shrink-swell	0.87	Too acid	0.00
	Too acid	0.50			Rock fragments	0.88
					Slope	0.99
804G: Orthents, acid-----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Slope	0.00
	Organic matter content	0.00	Slope	0.00	Too clayey	0.00
	Too acid	0.50	Shrink-swell	0.87	Too acid	0.00
					Rock fragments	0.88
805B: Orthents, clayey----	Poor		Poor		Poor	
	Too clayey	0.00	Low strength	0.00	Hard to reclaim	0.00
	Droughty	0.50	Shrink-swell	0.12	(dense layer)	0.00
	Organic matter content	0.68	Wetness	0.98	Wetness	0.98
	Water erosion	0.90			Too clayey	0.00
814A: Muscatune-----	Fair		Poor		Fair	
	Too acid	0.84	Low strength	0.00	Wetness	0.14
	Too clayey	0.92	Wetness	0.14	Too clayey	0.67
	Organic matter content	0.92	Shrink-swell	0.99		
	Water erosion	0.99				
Buckhart-----	Fair		Poor		Fair	
	Organic matter content	0.68	Low strength	0.00	Too clayey	0.67
	Too clayey	0.98	Shrink-swell	0.87	Wetness	0.98
	Water erosion	0.99	Wetness	0.98		
817A: Channahon-----	Poor		Poor		Poor	
	Depth to bedrock	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Droughty	0.00				
	Too acid	0.61				

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
817A: Hesch-----	Fair		Poor		Fair	
	Too acid	0.61	Depth to bedrock	0.00	Depth to bedrock	0.71
	Droughty	0.66				
	Organic matter content	0.68				
	Depth to bedrock	0.71				
817B: Channahon-----	Poor		Poor		Poor	
	Droughty	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Depth to bedrock	0.00			Rock fragments	0.99
	Organic matter content	0.68				
	Too acid	0.97				
Hesch-----	Fair		Poor		Fair	
	Depth to bedrock	0.05	Depth to bedrock	0.00	Depth to bedrock	0.05
	Droughty	0.11				
	Organic matter content	0.68				
	Too acid	0.99				
818A: Flanagan-----	Fair		Poor		Fair	
	Too clayey	0.18	Low strength	0.00	Too clayey	0.13
	Carbonate content	0.68	Wetness	0.14	Wetness	0.14
	Too acid	0.84	Shrink-swell	0.90		
	Organic matter content	0.88				
	Water erosion	0.99				
Catlin-----	Fair		Poor		Fair	
	Too clayey	0.82	Low strength	0.00	Too clayey	0.64
	Too acid	0.97	Shrink-swell	0.96	Wetness	0.98
	Water erosion	0.99	Wetness	0.98		
820E: Hennepin-----	Fair		Fair		Poor	
	Organic matter content	0.12	Low strength	0.22	Hard to reclaim (dense layer)	0.00
	Carbonate content	0.46	Slope	0.32	Slope	0.00
	Water erosion	0.99				
Casco-----	Poor		Fair		Poor	
	Too sandy	0.00	Slope	0.32	Too sandy	0.00
	Organic matter content	0.12			Slope	0.00
	Droughty	0.66			Rock fragments	0.12
820G: Hennepin-----	Fair		Poor		Poor	
	Organic matter content	0.12	Slope	0.00	Slope	0.00
	Carbonate content	0.46	Low strength	0.22	Hard to reclaim (dense layer)	0.00
	Water erosion	0.99			Carbonate content	0.99

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
820G:						
Casco-----	Poor		Poor		Poor	
	Too sandy	0.00	Slope	0.00	Slope	0.00
	Organic matter content	0.12			Too sandy	0.00
	Droughty	0.25			Rock fragments	0.00
					Hard to reclaim (rock fragments)	0.68
830:						
Landfills-----	Not rated		Not rated		Not rated	
864:						
Pits, quarry-----	Not rated		Not rated		Not rated	
865:						
Pits, gravel-----	Not rated		Not rated		Not rated	
969E2:						
Casco-----	Poor		Fair		Poor	
	Too sandy	0.00	Slope	0.98	Too sandy	0.00
	Organic matter content	0.12			Slope	0.00
	Droughty	0.41			Rock fragments	0.00
					Hard to reclaim (rock fragments)	0.00
Rodman-----	Poor		Fair		Poor	
	Too sandy	0.00	Slope	0.98	Too sandy	0.00
	Droughty	0.00			Hard to reclaim (rock fragments)	0.00
	Carbonate content	0.46			Rock fragments	0.00
	Organic matter content	0.50			Slope	0.00
					Carbonate content	0.88
969F:						
Casco-----	Poor		Poor		Poor	
	Too sandy	0.00	Slope	0.00	Slope	0.00
	Organic matter content	0.12			Too sandy	0.00
	Droughty	0.15			Rock fragments	0.00
					Hard to reclaim (rock fragments)	0.00
Rodman-----	Poor		Poor		Poor	
	Too sandy	0.00	Slope	0.00	Slope	0.00
	Droughty	0.00			Too sandy	0.00
	Carbonate content	0.46			Hard to reclaim (rock fragments)	0.00
	Organic matter content	0.50			Rock fragments	0.00
					Carbonate content	0.97
1103A:						
Houghton-----	Poor		Poor		Poor	
	Wind erosion	0.00	Wetness	0.00	Wetness	0.00
					Organic matter content	0.00
1480A:						
Moundprairie-----	Good		Poor		Poor	
			Wetness	0.00	Wetness	0.00
			Low strength	0.00		
			Shrink-swell	0.99		

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3073A: Ross-----	Fair		Poor		Good	
	Organic matter content	0.88	Low strength	0.00		
	Too acid	0.99				
3076A: Otter-----	Fair		Poor		Poor	
	Water erosion	0.68	Wetness	0.00	Wetness	0.00
			Low strength	0.22		
3082A: Millington-----	Fair		Poor		Poor	
	Carbonate content	0.92	Wetness	0.00	Wetness	0.00
			Low strength	0.00		
			Shrink-swell	0.98		
3107A: Sawmill-----	Fair		Poor		Poor	
	Too clayey	0.98	Wetness	0.00	Wetness	0.00
	Too acid	0.99	Low strength	0.00	Too clayey	0.98
			Shrink-swell	0.87		
3321A: Du Page-----	Fair		Good		Fair	
	Organic matter content	0.12			Carbonate content	0.99
	Carbonate content	0.80				
3451A: Lawson-----	Fair		Poor		Fair	
	Water erosion	0.68	Low strength	0.00	Wetness	0.14
			Wetness	0.14		
3480A: Moundprairie-----	Good		Poor		Poor	
			Wetness	0.00	Wetness	0.00
			Low strength	0.00		
3800A: Psamments-----	Poor		Good		Poor	
	Too sandy	0.00			Too sandy	0.00
	Wind erosion	0.00				
	Organic matter content	0.12				
	Too acid	0.88				
	Droughty	0.98				
7073A: Ross-----	Good		Good		Good	
8073A: Ross-----	Good		Fair		Good	
			Low strength	0.78		
8107A: Sawmill-----	Fair		Poor		Poor	
	Too clayey	0.98	Wetness	0.00	Wetness	0.00
			Low strength	0.00	Too clayey	0.98
			Shrink-swell	0.87		

Table 19b.--Construction Materials--Continued

Map symbol and soil name	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8151A: Ridgeville-----	Fair		Fair		Fair	
	Organic matter content	0.68	Wetness	0.14	Wetness	0.14
	Too acid	0.88				
8404A: Titus-----	Fair		Poor		Poor	
	Too clayey	0.02	Wetness	0.00	Wetness	0.00
	Organic matter content	0.68	Low strength Shrink-swell	0.00 0.12	Too clayey	0.01
8451A: Lawson-----	Good		Poor		Fair	
			Low strength Wetness	0.00 0.14	Wetness	0.14
8516A: Faxon-----	Fair		Poor		Poor	
	Too acid	0.61	Depth to bedrock	0.00	Wetness	0.00
	Depth to bedrock	0.93	Wetness	0.00	Depth to bedrock	0.93
	Organic matter content	0.96	Low strength	0.00	Too acid	0.99

Table 20a.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23B: Blount-----	Somewhat limited Seepage	0.02	Very limited Depth to saturated zone Piping	1.00 0.02	Very limited Depth to water	1.00
51A: Muscatune-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.18	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
60C2: La Rose-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.36	Very limited Depth to water	1.00
60D2: La Rose-----	Somewhat limited Seepage Slope	0.72 0.02	Somewhat limited Piping	0.37	Very limited Depth to water	1.00
61A: Atterberry-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.03	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
61B: Atterberry-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
67A: Harpster-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.22	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
68A: Sable-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
86B: Osco-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
86C2: Osco-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.01	Very limited Depth to water	1.00

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
87A, 87B: Dickinson-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.31	Very limited Depth to water	1.00
87C2: Dickinson-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.67	Very limited Depth to water	1.00
88B: Sparta-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
88D: Sparta-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.31	Very limited Depth to water	1.00
91A, 91B: Swygert-----	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.13	Very limited Depth to water	1.00
91B2: Swygert-----	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.21	Very limited Depth to water	1.00
91C2: Swygert-----	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.18	Very limited Depth to water	1.00
91C3: Swygert-----	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.23	Very limited Depth to water	1.00
103A: Houghton-----	Very limited Seepage	1.00	Very limited Organic matter content Depth to saturated zone	1.00 1.00	Somewhat limited Cutbanks cave	0.10
104A: Virgil-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.02	Very limited Cutbanks cave	1.00
105A: Batavia-----	Very limited Seepage	1.00	Somewhat limited Piping	0.47	Very limited Depth to water	1.00
105B: Batavia-----	Very limited Seepage	1.00	Somewhat limited Piping	0.42	Very limited Depth to water	1.00

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
105C2: Batavia-----	Very limited Seepage	1.00	Somewhat limited Piping	0.23	Very limited Depth to water	1.00
125A: Selma-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping Ponding Seepage	1.00 1.00 0.01	Very limited Cutbanks cave	1.00
131B: Alvin-----	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
131C2: Alvin-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.11	Very limited Depth to water	1.00
132A: Starks-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.90	Very limited Cutbanks cave	1.00
134A: Camden-----	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.93 0.06	Very limited Depth to water	1.00
134B: Camden-----	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.98 0.08	Very limited Depth to water	1.00
134C2: Camden-----	Very limited Seepage	1.00	Very limited Piping Seepage	0.99 0.08	Very limited Depth to water	1.00
134D2: Camden-----	Very limited Seepage Slope	1.00 0.02	Very limited Piping Seepage	1.00 0.08	Very limited Depth to water	1.00
134D3: Camden-----	Very limited Seepage Slope	1.00 0.02	Somewhat limited Piping Seepage	0.56 0.09	Very limited Depth to water	1.00
134F: Camden-----	Very limited Seepage Slope	1.00 0.32	Somewhat limited Piping Seepage	0.99 0.09	Very limited Depth to water	1.00
146A: Elliott-----	Not limited		Very limited Depth to saturated zone Piping	1.00 0.41	Very limited Depth to water	1.00

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
146B: Elliott-----	Not limited		Very limited Depth to saturated zone Piping	1.00 0.57	Very limited Depth to water	1.00
146B2: Elliott-----	Not limited		Very limited Depth to saturated zone Piping	1.00 0.43	Very limited Depth to water	1.00
147B2: Clarence-----	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.58	Very limited Depth to water	1.00
148A, 148B: Proctor-----	Very limited Seepage	1.00	Somewhat limited Piping	0.58	Very limited Depth to water	1.00
148C2: Proctor-----	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.40 0.04	Very limited Depth to water	1.00
149A: Brenton-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.63	Very limited Cutbanks cave	1.00
151A: Ridgeville-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.12	Very limited Cutbanks cave	1.00
151B: Ridgeville-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.10	Very limited Cutbanks cave	1.00
152A: Drummer-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Cutbanks cave	1.00
154A: Flanagan-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.42	Very limited Depth to water	1.00

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
171A: Catlin-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.75 0.10	Very limited Depth to water	1.00
171B: Catlin-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.51	Very limited Depth to water	1.00
171B2: Catlin-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.75 0.23	Very limited Depth to water	1.00
171C2: Catlin-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.75 0.11	Very limited Depth to water	1.00
171C3: Catlin-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.75 0.14	Very limited Depth to water	1.00
193C2: Mayville-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.27	Very limited Depth to water	1.00
198A: Elburn-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping Seepage	1.00 0.51 0.05	Very limited Cutbanks cave	1.00
199A: Plano-----	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.48 0.01	Very limited Depth to water	1.00
199B: Plano-----	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.94 0.01	Very limited Depth to water	1.00
199C2: Plano-----	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.32 0.01	Very limited Depth to water	1.00

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
206A: Thorp-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Ponding Piping Seepage	1.00 1.00 0.48 0.01	Very limited Cutbanks cave	1.00
210A: Lena-----	Very limited Seepage	1.00	Very limited Organic matter content Depth to saturated zone	1.00 1.00	Somewhat limited Cutbanks cave	0.10
219A: Millbrook-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.76	Very limited Cutbanks cave	1.00
223B, 223B2, 223C2: Varna-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
223C3: Varna-----	Not limited		Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
223D2: Varna-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
223D3: Varna-----	Somewhat limited Seepage	0.04	Somewhat limited Depth to saturated zone Piping	0.68 0.01	Very limited Depth to water	1.00
228B, 228C2: Nappanee-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
228C3: Nappanee-----	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.24	Very limited Depth to water	1.00
232A: Ashkum-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Ponding	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.96 0.10

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
233A: Birkbeck-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.86 0.54	Very limited Depth to water	1.00
233B: Birkbeck-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.86 0.14	Very limited Depth to water	1.00
233C2: Birkbeck-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.86 0.52	Very limited Depth to water	1.00
234A: Sunbury-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.59	Very limited Depth to water	1.00
235A: Bryce-----	Not limited		Very limited Depth to saturated zone Ponding Hard to pack	1.00 1.00 0.31	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
236A: Sabina-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.01	Very limited Depth to water	1.00
238A: Rantoul-----	Not limited		Very limited Depth to saturated zone Ponding Hard to pack	1.00 1.00 0.27	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
241C3: Chatsworth-----	Not limited		Somewhat limited Depth to saturated zone Hard to pack	0.98 0.37	Very limited Depth to water	1.00
241D3: Chatsworth-----	Not limited		Somewhat limited Depth to saturated zone Hard to pack	0.98 0.43	Very limited Depth to water	1.00
241E3: Chatsworth-----	Somewhat limited Slope	0.04	Somewhat limited Depth to saturated zone Hard to pack	0.98 0.40	Very limited Depth to water	1.00

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
241F: Chatsworth-----	Somewhat limited Slope	0.28	Somewhat limited Depth to saturated zone Hard to pack	0.98 0.38	Very limited Depth to water	1.00
241G: Chatsworth-----	Somewhat limited Slope	0.88	Somewhat limited Depth to saturated zone Hard to pack	0.98 0.33	Very limited Depth to water	1.00
242A: Kendall-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.53	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
243A: St. Charles-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.64	Very limited Depth to water	1.00
243B: St. Charles-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.63	Very limited Depth to water	1.00
243C2: St. Charles-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.19	Very limited Depth to water	1.00
244A: Hartsburg-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.39	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
278A, 278B: Stronghurst-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
279B: Rozetta-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
280C2: Fayette-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
290A, 290B: Warsaw-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.24	Very limited Depth to water	1.00
290C2: Warsaw-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.13	Very limited Depth to water	1.00

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
293A, 293B: Andres-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.75	Very limited Depth to water	1.00
294B: Symerton-----	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.88 0.53	Very limited Depth to water	1.00
294C2: Symerton-----	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.83 0.80	Very limited Depth to water	1.00
295A: Mokena-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.08	Very limited Depth to water	1.00
295B: Mokena-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
298B: Beecher-----	Somewhat limited Seepage	0.02	Very limited Depth to saturated zone Piping	1.00 0.28	Very limited Depth to water	1.00
311B: Ritchey-----	Very limited Depth to bedrock Seepage	1.00 0.02	Very limited Thin layer Piping	1.00 0.37	Very limited Depth to water	1.00
314A: Joliet-----	Very limited Depth to bedrock Seepage	1.00 0.02	Very limited Depth to saturated zone Thin layer Ponding Piping	1.00 1.00 1.00 0.26	Very limited Depth to hard bedrock Slow refill Cutbanks cave	1.00 0.28 0.10
315B: Channahon-----	Very limited Depth to bedrock Seepage	1.00 0.02	Very limited Thin layer Piping	1.00 0.31	Very limited Depth to water	1.00
317A: Millsdale-----	Somewhat limited Depth to bedrock Seepage	0.66 0.04	Very limited Depth to saturated zone Ponding Thin layer	1.00 1.00 0.66	Very limited Depth to hard bedrock Slow refill Cutbanks cave	1.00 0.28 0.10

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
318B, 318C2: Lorenzo-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.31	Very limited Depth to water	1.00
320B, 320C2: Frankfort-----	Not limited		Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
325B, 325C2: Dresden-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.26	Very limited Depth to water	1.00
327B, 327C2, 327D2: Fox-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.31	Very limited Depth to water	1.00
330A: Peotone-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Ponding Hard to pack	1.00 1.00 0.19	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
344A: Harvard-----	Very limited Seepage	1.00	Somewhat limited Piping	0.61	Very limited Depth to water	1.00
344B: Harvard-----	Very limited Seepage	1.00	Somewhat limited Piping	0.77	Very limited Depth to water	1.00
344C2: Harvard-----	Very limited Seepage	1.00	Somewhat limited Piping	0.87	Very limited Depth to water	1.00
356A: Elpaso-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
375A, 375B, 375B2: Rutland-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
388B, 388B2, 388C2: Wenona-----	Somewhat limited Seepage	0.04	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
397F: Boone-----	Very limited Seepage Depth to bedrock Slope	1.00 0.34 0.28	Very limited Seepage Thin layer	0.99 0.99	Very limited Depth to water	1.00

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
413B: Gale-----	Very limited Seepage Depth to bedrock	1.00 0.02	Somewhat limited Piping Thin layer Seepage	0.92 0.61 0.02	Very limited Depth to water	1.00
413C2: Gale-----	Very limited Seepage Depth to bedrock	1.00 0.02	Somewhat limited Piping Thin layer Seepage	0.91 0.58 0.02	Very limited Depth to water	1.00
435A: Streator-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Ponding Hard to pack	1.00 1.00 0.42	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
448B, 448C2: Mona-----	Somewhat limited Seepage	0.04	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
512B: Danabrook-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.60	Very limited Depth to water	1.00
512C2: Danabrook-----	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.75 0.68	Very limited Depth to water	1.00
516A: Faxon-----	Somewhat limited Seepage Depth to bedrock	0.72 0.03	Very limited Depth to saturated zone Ponding Thin layer Piping	1.00 1.00 0.66 0.62	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
527C2: Kidami-----	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.87 0.68	Very limited Depth to water	1.00
527D2: Kidami-----	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.92 0.68	Very limited Depth to water	1.00
530B: Ozaukee-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
530C2: Ozaukee-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to water	1.00
530C3: Ozaukee-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.75	Very limited Depth to water	1.00
530D2: Ozaukee-----	Somewhat limited Seepage	0.02	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to water	1.00
530D3: Ozaukee-----	Somewhat limited Seepage	0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
530E2: Ozaukee-----	Somewhat limited Slope Seepage	0.04 0.02	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to water	1.00
530F: Ozaukee-----	Somewhat limited Slope Seepage	0.28 0.02	Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
541B: Graymont-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.26	Very limited Depth to water	1.00
541B2: Graymont-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.23	Very limited Depth to water	1.00
541C2: Graymont-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.86 0.21	Very limited Depth to water	1.00
542A: Rooks-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.05	Very limited Depth to water	1.00
542B: Rooks-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.02	Very limited Depth to water	1.00

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
549B: Marseilles-----	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Somewhat limited Thin layer Piping	0.46 0.11	Very limited Depth to water	1.00
549C2: Marseilles-----	Somewhat limited Depth to bedrock	0.23	Somewhat limited Thin layer Piping	0.95 0.02	Very limited Depth to water	1.00
549D2: Marseilles-----	Somewhat limited Depth to bedrock Slope	0.19 0.02	Somewhat limited Thin layer Hard to pack	0.93 0.01	Very limited Depth to water	1.00
549F: Marseilles-----	Somewhat limited Slope Depth to bedrock	0.36 0.04	Somewhat limited Thin layer	0.70	Very limited Depth to water	1.00
549G: Marseilles-----	Somewhat limited Slope Depth to bedrock	0.99 0.04	Somewhat limited Thin layer	0.70	Very limited Depth to water	1.00
554B: Kernan-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
560D2: St. Clair-----	Not limited		Somewhat limited Depth to saturated zone	0.68	Very limited Depth to water	1.00
560E: St. Clair-----	Somewhat limited Slope	0.04	Somewhat limited Depth to saturated zone	0.98	Very limited Depth to water	1.00
567B: Elkhart-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.53	Very limited Depth to water	1.00
572A: Loran-----	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Very limited Depth to saturated zone Thin layer Piping	1.00 0.04 0.03	Very limited Depth to water	1.00
572B: Loran-----	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Very limited Depth to saturated zone Thin layer Piping	1.00 0.08 0.04	Very limited Depth to water	1.00

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
572C2: Loran-----	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Very limited Depth to saturated zone Thin layer Piping	1.00 0.42 0.02	Very limited Depth to water	1.00
614A: Chenoa-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Piping	1.00 0.04	Very limited Depth to water	1.00
614B: Chenoa-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.13	Very limited Depth to water	1.00
662B: Barony-----	Very limited Seepage	1.00	Somewhat limited Piping Depth to saturated zone	0.70 0.68	Very limited Cutbanks cave Depth to saturated zone	1.00 0.14
663B: Clare-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.56	Somewhat limited Slow refill Depth to saturated zone Cutbanks cave	0.28 0.14 0.10
667B: Kaneville-----	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Piping	0.68 0.60	Very limited Cutbanks cave Depth to saturated zone	1.00 0.14
668B: Somonauk-----	Very limited Seepage	1.00	Somewhat limited Piping Depth to saturated zone	0.88 0.68	Very limited Cutbanks cave Depth to saturated zone	1.00 0.14
675B: Greenbush-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.17	Very limited Depth to water Slow refill	1.00 0.28
675C2: Greenbush-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.08	Very limited Depth to water	1.00
679B: Blackberry-----	Somewhat limited Seepage	0.72	Somewhat limited Piping Depth to saturated zone	0.74 0.68	Somewhat limited Slow refill Depth to saturated zone Cutbanks cave	0.28 0.14 0.10

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
680B: Campton-----	Very limited Seepage	1.00	Somewhat limited Piping Depth to saturated zone	0.85 0.68	Very limited Cutbanks cave Depth to saturated zone	1.00 0.14
712A: Spaulding-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.46	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
715A: Arrowsmith-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.81	Somewhat limited Cutbanks cave Slow refill	0.50 0.28
732A: Appleriver-----	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Very limited Depth to saturated zone Thin layer Piping	1.00 0.26 0.03	Very limited Depth to water	1.00
732B: Appleriver-----	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Very limited Depth to saturated zone Piping Thin layer	1.00 0.19 0.01	Very limited Depth to water	1.00
791A: Rush-----	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.28	Very limited Depth to water	1.00
791B: Rush-----	Very limited Seepage	1.00	Very limited Piping Seepage	0.99 0.28	Very limited Depth to water	1.00
792A: Bowes-----	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.75 0.17	Very limited Depth to water	1.00
792B: Bowes-----	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.86 0.17	Very limited Depth to water	1.00
794G: Marseilles-----	Somewhat limited Slope Depth to bedrock	0.97 0.04	Somewhat limited Thin layer	0.70	Very limited Depth to water	1.00

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
794G:						
Northfield-----	Somewhat limited		Very limited		Very limited	
	Slope	0.97	Thin layer	1.00	Depth to water	1.00
	Depth to bedrock	0.63	Piping	0.91		
	Seepage	0.54				
Ritchey-----	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Thin layer	1.00	Depth to water	1.00
	Slope	0.97	Piping	0.40		
	Seepage	0.02				
802B, 802D:						
Orthents, loamy----	Somewhat limited		Somewhat limited		Very limited	
	Seepage	0.04	Piping	0.68	Depth to water	1.00
804D:						
Orthents, acid-----	Not limited		Not limited		Very limited	
					Depth to water	1.00
804G:						
Orthents, acid-----	Somewhat limited		Not limited		Very limited	
	Slope	0.88			Depth to water	1.00
805B:						
Orthents, clayey----	Not limited		Somewhat limited		Very limited	
			Depth to saturated zone	0.68	Depth to water	1.00
814A:						
Muscataune-----	Somewhat limited		Very limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
			Piping	0.18	Cutbanks cave	0.10
Buckhart-----	Somewhat limited		Somewhat limited		Somewhat limited	
	Seepage	0.72	Depth to saturated zone	0.68	Slow refill	0.28
			Piping	0.06	Depth to saturated zone	0.14
					Cutbanks cave	0.10
817A:						
Channahon-----	Somewhat limited		Very limited		Very limited	
	Seepage	0.54	Thin layer	1.00	Depth to water	1.00
	Depth to bedrock	0.50	Seepage	0.06		
Hesch-----	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.81	Depth to water	1.00
	Depth to bedrock	0.08	Seepage	0.06		
817B:						
Channahon-----	Somewhat limited		Very limited		Very limited	
	Depth to bedrock	0.66	Thin layer	1.00	Depth to water	1.00
	Seepage	0.54				
Hesch-----	Very limited		Somewhat limited		Very limited	
	Seepage	1.00	Thin layer	0.99	Depth to water	1.00
	Depth to bedrock	0.34				

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
818A:						
Flanagan-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.42	Very limited Depth to water	1.00
Catlin-----	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.68 0.10	Very limited Depth to water	1.00
820E:						
Hennepin-----	Somewhat limited Slope Seepage	0.15 0.04	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
Casco-----	Very limited Seepage Slope	1.00 0.15	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
820G:						
Hennepin-----	Somewhat limited Slope Seepage	0.97 0.04	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
Casco-----	Very limited Seepage Slope	1.00 0.97	Somewhat limited Seepage	0.51	Very limited Depth to water	1.00
830:						
Landfills-----	Not rated		Not rated		Not rated	
864:						
Pits, quarry-----	Not rated		Not rated		Not rated	
865:						
Pits, gravel-----	Not rated		Not rated		Not rated	
969E2:						
Casco-----	Very limited Seepage Slope	1.00 0.04	Somewhat limited Seepage	0.31	Very limited Depth to water	1.00
Rodman-----	Very limited Seepage Slope	1.00 0.04	Somewhat limited Seepage	0.63	Very limited Depth to water	1.00
969F:						
Casco-----	Very limited Seepage Slope	1.00 0.28	Somewhat limited Seepage	0.31	Very limited Depth to water	1.00
Rodman-----	Very limited Seepage Slope	1.00 0.28	Somewhat limited Seepage	0.63	Very limited Depth to water	1.00
1103A:						
Houghton-----	Very limited Seepage	1.00	Very limited Organic matter content Ponding	1.00 1.00	Somewhat limited Cutbanks cave	0.10

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1480A: Moundprairie-----	Somewhat limited Seepage	0.72	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.35	Very limited Cutbanks cave Slow refill	1.00 0.28
3073A: Ross-----	Very limited Seepage	1.00	Somewhat limited Piping	0.98	Very limited Depth to water	1.00
3076A: Otter-----	Somewhat limited Seepage	0.72	Very limited Ponding Depth to saturated zone Piping	1.00 1.00 0.76	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
3082A: Millington-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.67	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
3107A: Sawmill-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.03	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
3321A: Du Page-----	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.97	Very limited Depth to water	1.00
3451A: Lawson-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.87	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
3480A: Moundprairie-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.16	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
3800A: Psammets-----	Very limited Seepage	1.00	Somewhat limited Seepage	0.97	Very limited Depth to water	1.00
7073A: Ross-----	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.05	Very limited Depth to water	1.00
8073A: Ross-----	Very limited Seepage	1.00	Very limited Piping	1.00	Very limited Depth to water	1.00

Table 20a.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8107A: Sawmill-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Ponding Piping	1.00 1.00 0.03	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
8151A: Ridgeville-----	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.12	Very limited Cutbanks cave	1.00
8404A: Titus-----	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Ponding	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
8451A: Lawson-----	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.91	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
8516A: Faxon-----	Somewhat limited Seepage Depth to bedrock	0.72 0.03	Very limited Depth to saturated zone Ponding Thin layer Piping	1.00 1.00 0.66 0.62	Somewhat limited Slow refill Cutbanks cave	0.28 0.10

Table 20b.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. Dashes in the drainage column indicate that drainage is generally not needed. See text for further explanation of ratings in this table)

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23B:						
Blount-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Frost action	1.00
	saturated zone		saturated zone		Restricted	0.91
	Restricted	0.91	Restricted	0.91	permeability	
	permeability		permeability			
51A:						
Muscataune-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Frost action	1.00
	saturated zone		saturated zone			
60C2:						
La Rose-----	Somewhat limited		Somewhat limited		---	
	Restricted	0.22	Restricted	0.22		
	permeability		permeability			
60D2:						
La Rose-----	Very limited		Very limited		---	
	Slope	1.00	Slope	1.00		
	Restricted	0.22	Restricted	0.22		
	permeability		permeability			
61A, 61B:						
Atterberry-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to	1.00	Depth to	1.00		
	saturated zone		saturated zone			
67A:						
Harpster-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Ponding	1.00
	saturated zone		saturated zone		Frost action	1.00
			Ponding	1.00		
68A:						
Sable-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Ponding	1.00
	saturated zone		saturated zone		Frost action	1.00
			Ponding	1.00		
86B:						
Oscosco-----	Not limited		Not limited		---	
86C2:						
Oscosco-----	Very limited		Very limited		---	
	Water erosion	1.00	Water erosion	1.00		
87A:						
Dickinson-----	Not limited		Very limited		---	
			Too sandy	1.00		

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
87B: Dickinson-----	Not limited		Very limited Too sandy	1.00	---	
87C2: Dickinson-----	Not limited		Very limited Too sandy	1.00	---	
88B: Sparta-----	Very limited Droughty	1.00	Very limited Too sandy	1.00	---	
88D: Sparta-----	Very limited Slope Droughty	1.00 1.00	Very limited Too sandy Slope	1.00 1.00	---	
91A, 91B, 91B2: Swygert-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Restricted permeability	0.91
91C2, 91C3: Swygert-----	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Restricted permeability Slope	1.00 0.16
103A: Houghton-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action Subsidence	1.00 1.00 1.00
104A: Virgil-----	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action	1.00
105A: Batavia-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	---	
105B: Batavia-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	---	
105C2: Batavia-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	---	
125A: Selma-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action	1.00 1.00

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
131B: Alvin-----	Not limited		Very limited Too sandy	1.00	---	
131C2: Alvin-----	Not limited		Not limited		---	
132A: Starks-----	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Water erosion Depth to saturated zone Too sandy	1.00 1.00 1.00	Very limited Frost action Cutbanks cave	1.00 1.00
134A, 134B: Camden-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	---	
134C2: Camden-----	Very limited Water erosion	1.00	Very limited Water erosion Too sandy	1.00 1.00	---	
134D2, 134D3, 134F: Camden-----	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	---	
146A, 146B, 146B2: Elliott-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Restricted permeability	0.91
147B2: Clarence-----	Very limited Droughty Depth to saturated zone Restricted permeability	1.00 1.00 1.00	Very limited Depth to saturated zone Restricted permeability	1.00 1.00 1.00	Very limited Restricted permeability	1.00
148A: Proctor-----	Not limited		Not limited		---	
148B: Proctor-----	Not limited		Not limited		---	
148C2: Proctor-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	---	
149A: Brenton-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Frost action	1.00

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151A, 151B: Ridgeville-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
152A: Drummer-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action	1.00 1.00
154A: Flanagan-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Depth to saturated zone permeability	1.00 0.22	Very limited Frost action Restricted permeability	1.00 0.22
171A: Catlin-----	Somewhat limited Depth to saturated zone	0.32	Very limited Depth to saturated zone	1.00	Very limited Frost action	1.00
171B: Catlin-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action	1.00
171B2: Catlin-----	Very limited Water erosion Depth to saturated zone	1.00 0.32	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action	1.00
171C2, 171C3: Catlin-----	Very limited Water erosion Depth to saturated zone	1.00 0.32	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.74
193C2: Mayville-----	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 0.24 0.22	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Very limited Frost action Slope Restricted permeability	1.00 0.74 0.22
198A: Elburn-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Frost action	1.00
199A, 199B: Plano-----	Not limited		Not limited		---	
199C2: Plano-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	---	

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	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 Depth to saturated zone	1.00	Very limited Ponding Frost action	1.00
	Restricted permeability	0.91	Ponding Restricted permeability	1.00 0.91	Restricted permeability	0.91
210A: Lena-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action Subsidence	1.00 1.00 1.00
219A: Millbrook-----	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action	1.00
223B, 223B2: Varna-----	Somewhat limited Restricted permeability Depth to saturated zone	0.91 0.24	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Restricted permeability	0.91
223C2: Varna-----	Somewhat limited Restricted permeability Depth to saturated zone	0.91 0.24	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Restricted permeability Slope	0.91 0.16
223C3: Varna-----	Very limited Water erosion Restricted permeability Depth to saturated zone	1.00 0.91 0.24	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.91	Very limited Restricted permeability Slope	0.91 0.16
223D2: Varna-----	Very limited Slope Restricted permeability Depth to saturated zone	1.00 0.91 0.24	Very limited Slope Depth to saturated zone Restricted permeability	1.00 1.00 0.91	Very limited Slope Restricted permeability	0.96 0.91
223D3: Varna-----	Very limited Water erosion Slope Restricted permeability Depth to saturated zone Content of large stones	1.00 1.00 0.91 0.24 0.02	Very limited Water erosion Slope Depth to saturated zone Restricted permeability Content of large stones	1.00 1.00 1.00 0.91 0.02	Very limited Slope Restricted permeability	0.96 0.91

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
228B: Nappanee-----	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Frost action Restricted permeability	1.00 1.00
228C2, 228C3: Nappanee-----	Very limited Depth to saturated zone Droughty Restricted permeability	1.00 1.00 1.00	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Frost action Restricted permeability Slope	1.00 1.00 0.16
232A: Ashkum-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.22	Very limited Ponding Frost action Restricted permeability	1.00 1.00 0.22
233A: Birkbeck-----	Very limited Water erosion Depth to saturated zone	1.00 0.47	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action	1.00
233B: Birkbeck-----	Very limited Water erosion Depth to saturated zone	1.00 0.47	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.01
233C2: Birkbeck-----	Very limited Water erosion Depth to saturated zone	1.00 0.47	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.74
234A: Sunbury-----	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Somewhat limited Restricted permeability	0.22
235A: Bryce-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.91	Very limited Ponding Frost action Restricted permeability	1.00 1.00 0.91

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
236A: Sabina-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.22
	Restricted permeability	0.22	Restricted permeability	0.22		
238A: Rantoul-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted permeability	1.00	Ponding	1.00	Frost action	1.00
			Restricted permeability	1.00	Restricted permeability	1.00
241C3: Chatsworth-----	Very limited		Very limited		Very limited	
	Droughty	1.00	Depth to	1.00	Restricted	1.00
	Restricted permeability	1.00	saturated zone		permeability	
	Depth to saturated zone	0.76	Restricted permeability	1.00	Slope	0.16
241D3: Chatsworth-----	Very limited		Very limited		Very limited	
	Droughty	1.00	Slope	1.00	Restricted	1.00
	Slope	1.00	Depth to	1.00	permeability	
	Restricted permeability	1.00	saturated zone		Slope	0.96
	Depth to saturated zone	0.76	Restricted permeability	1.00		
241E3, 241F, 241G: Chatsworth-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Droughty	1.00	Depth to	1.00	Restricted	1.00
	Restricted permeability	1.00	saturated zone		permeability	
	Depth to saturated zone	0.76	Restricted permeability	1.00		
242A: Kendall-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00		
243A, 243B: St. Charles-----	Very limited		Very limited		---	
	Water erosion	1.00	Water erosion	1.00		
243C2: St. Charles-----	Very limited		Very limited		---	
	Water erosion	1.00	Water erosion	1.00		
244A: Hartsburg-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
			Ponding	1.00	Frost action	1.00

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
278A, 278B: Stronghurst-----	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action	1.00
279B: Rozetta-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	---	
280C2: Fayette-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	---	
290A, 290B: Warsaw-----	Not limited		Very limited Too sandy	1.00	---	
290C2: Warsaw-----	Not limited		Very limited Too sandy	1.00	---	
293A, 293B: Andres-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Somewhat limited Restricted permeability	0.22
294B: Symerton-----	Somewhat limited Restricted permeability Depth to saturated zone	0.91 0.14	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Restricted permeability Slope	0.91 0.01
294C2: Symerton-----	Somewhat limited Depth to saturated zone Restricted permeability	0.38 0.22	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Slope Restricted permeability	0.74 0.22
295A, 295B: Mokena-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Restricted permeability	0.91
298B: Beecher-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Frost action Restricted permeability	1.00 0.91

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
311B: Ritchey-----	Very limited Depth to hard bedrock Droughty	1.00 1.00	Very limited Depth to hard bedrock	1.00	---	
314A: Joliet-----	Very limited Depth to hard bedrock Depth to saturated zone Droughty	1.00 1.00 1.00	Very limited Depth to hard bedrock Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Ponding Frost action Depth to bedrock	1.00 1.00 0.54
315B: Channahon-----	Very limited Depth to hard bedrock Droughty	1.00 1.00	Very limited Depth to hard bedrock	1.00	---	
317A: Millsdale-----	Very limited Depth to hard bedrock Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Very limited Depth to saturated zone Ponding Restricted permeability Depth to hard bedrock	1.00 1.00 0.22 0.06	Very limited Ponding Frost action Restricted permeability Depth to bedrock	1.00 1.00 0.22 0.02
318B: Lorenzo-----	Very limited Droughty Content of large stones	1.00 0.23	Very limited Too sandy Content of large stones	1.00 0.23	---	
318C2: Lorenzo-----	Very limited Droughty Content of large stones	1.00 0.30	Very limited Too sandy Content of large stones	1.00 0.30	---	
320B: Frankfort-----	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Frost action Restricted permeability	1.00 1.00
320C2: Frankfort-----	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Frost action Restricted permeability Slope	1.00 1.00 0.16
325B: Dresden-----	Somewhat limited Content of large stones	0.03	Very limited Too sandy Content of large stones	1.00 0.03	---	

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
325C2: Dresden-----	Somewhat limited Content of large stones	0.01	Very limited Too sandy Content of large stones	1.00 0.01	---	
327B: Fox-----	Not limited		Very limited Too sandy	1.00	---	
327C2: Fox-----	Not limited		Very limited Too sandy	1.00	---	
327D2: Fox-----	Very limited Slope	1.00	Very limited Too sandy Slope	1.00 1.00	---	
330A: Peotone-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Very limited Ponding Frost action Restricted permeability	1.00 1.00 1.00
344A, 344B: Harvard-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	---	
344C2: Harvard-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	---	
356A: Elpaso-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action	1.00 1.00
375A, 375B: Rutland-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Somewhat limited Restricted permeability	0.22
375B2: Rutland-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.40	Very limited Depth to saturated zone Restricted permeability	1.00 0.40	Somewhat limited Restricted permeability Slope	0.40 0.01
388B: Wenona-----	Somewhat limited Restricted permeability Depth to saturated zone	0.40 0.24	Very limited Depth to saturated zone Restricted permeability	1.00 0.40	Somewhat limited Restricted permeability Slope	0.40 0.01

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
388B2:						
Wenona-----	Very limited		Very limited		Somewhat limited	
	Water erosion	1.00	Water erosion	1.00	Restricted	0.22
	Depth to saturated zone	0.24	Depth to saturated zone	1.00	permeability	
	Restricted	0.22	Restricted	0.22	Slope	0.01
	permeability		permeability			
388C2:						
Wenona-----	Somewhat limited		Very limited		Very limited	
	Depth to saturated zone	0.24	Depth to saturated zone	1.00	Slope	0.74
	Restricted	0.22	Restricted	0.22	Restricted	0.22
	permeability		permeability		permeability	
397F:						
Boone-----	Very limited		Very limited		---	
	Slope	1.00	Slope	1.00		
	Droughty	1.00	Too sandy	1.00		
	Depth to soft bedrock	0.95	Depth to soft bedrock	0.95		
413B:						
Gale-----	Very limited		Very limited		---	
	Water erosion	1.00	Water erosion	1.00		
	Depth to soft bedrock	0.03	Depth to soft bedrock	0.03		
413C2:						
Gale-----	Very limited		Very limited		---	
	Water erosion	1.00	Water erosion	1.00		
	Depth to soft bedrock	0.01	Depth to soft bedrock	0.01		
435A:						
Streator-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
	Restricted	0.22	Ponding	1.00	Frost action	1.00
	permeability		Restricted	0.22	Restricted	1.00
			permeability		permeability	
448B:						
Mona-----	Somewhat limited		Very limited		Very limited	
	Restricted	0.91	Depth to saturated zone	1.00	Restricted	0.91
	permeability		Restricted	0.91	permeability	
	Depth to saturated zone	0.24	permeability		Slope	0.01
448C2:						
Mona-----	Somewhat limited		Very limited		Very limited	
	Restricted	1.00	Depth to saturated zone	1.00	Restricted	1.00
	permeability		Restricted	1.00	permeability	
	Depth to saturated zone	0.24	permeability		Slope	0.74
512B:						
Danabrook-----	Somewhat limited		Very limited		Very limited	
	Depth to saturated zone	0.24	Depth to saturated zone	1.00	Frost action	1.00
					Slope	0.01

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
512C2: Danabrook-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.74
516A: Faxon-----	Very limited Depth to saturated zone Depth to soft bedrock	1.00 0.06	Very limited Depth to saturated zone Ponding Depth to soft bedrock	1.00 1.00 1.00 0.06	Very limited Ponding Frost action Depth to bedrock	1.00 1.00 0.02
527C2: Kidami-----	Somewhat limited Depth to saturated zone	0.24	Very limited Depth to saturated zone	1.00	Somewhat limited Slope	0.16
527D2: Kidami-----	Very limited Slope Depth to saturated zone Restricted permeability	1.00 0.24 0.22	Very limited Slope Depth to saturated zone Restricted permeability	1.00 1.00 0.22	Very limited Slope Restricted permeability	0.96 0.22
530B: Ozaukee-----	Somewhat limited Restricted permeability Depth to saturated zone	0.91 0.24	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Restricted permeability	0.91
530C2: Ozaukee-----	Somewhat limited Restricted permeability Depth to saturated zone	0.91 0.76	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Restricted permeability Slope	0.91 0.16
530C3: Ozaukee-----	Very limited Water erosion Restricted permeability Depth to saturated zone	1.00 0.91 0.32	Very limited Water erosion Depth to saturated zone Restricted permeability	1.00 1.00 0.91	Very limited Restricted permeability Slope	0.91 0.16
530D2: Ozaukee-----	Very limited Slope Restricted permeability Depth to saturated zone	1.00 0.91 0.76	Very limited Slope Depth to saturated zone Restricted permeability	1.00 1.00 0.91	Very limited Slope Restricted permeability	0.96 0.91

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
530D3: Ozaukee-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Slope	0.96
	Slope	1.00	Slope	1.00	Restricted	0.91
	Restricted	0.91	Depth to	1.00	permeability	
	permeability		saturated zone			
	Depth to	0.86	Restricted	0.91		
	saturated zone		permeability			
530E2: Ozaukee-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted	0.91	Depth to	1.00	Restricted	0.91
	permeability		saturated zone		permeability	
	Depth to	0.76	Restricted	0.91		
	saturated zone		permeability			
530F: Ozaukee-----	Very limited		Very limited		Very limited	
	Slope	1.00	Slope	1.00	Slope	1.00
	Restricted	0.91	Depth to	1.00	Restricted	0.91
	permeability		saturated zone		permeability	
	Depth to	0.24	Restricted	0.91		
	saturated zone		permeability			
541B: Graymont-----	Somewhat limited		Very limited		Very limited	
	Restricted	0.91	Depth to	1.00	Frost action	1.00
	permeability		saturated zone		Restricted	0.91
	Depth to	0.24	Restricted	0.91	permeability	
	saturated zone		permeability		Slope	0.01
541B2: Graymont-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Restricted	0.91	Depth to	1.00	Restricted	0.91
	permeability		saturated zone		permeability	
	Depth to	0.24	Restricted	0.91	Slope	0.04
	saturated zone		permeability			
541C2: Graymont-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Restricted	0.91	Depth to	1.00	Restricted	0.91
	permeability		saturated zone		permeability	
	Depth to	0.47	Restricted	0.91	Slope	0.74
	saturated zone		permeability			
542A, 542B: Rooks-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Frost action	1.00
	saturated zone		saturated zone		Restricted	0.22
	Restricted	0.22	Restricted	0.22	permeability	
	permeability		permeability			
549B: Marseilles-----	Very limited		Very limited		---	
	Water erosion	1.00	Water erosion	1.00		
	Restricted	0.91	Restricted	0.91		
	permeability		permeability			

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
549C2: Marseilles-----	Very limited Water erosion Restricted permeability Depth to soft bedrock	1.00 0.91 0.79	Very limited Water erosion Restricted permeability Depth to soft bedrock	1.00 0.91 0.79	---	
549D2: Marseilles-----	Very limited Slope Restricted permeability Depth to soft bedrock	1.00 0.91 0.71	Very limited Slope Restricted permeability Depth to soft bedrock	1.00 0.91 0.71	---	
549F: Marseilles-----	Very limited Slope Restricted permeability Depth to soft bedrock	1.00 0.91 0.10	Very limited Slope Restricted permeability Depth to soft bedrock	1.00 0.91 0.10	---	
549G: Marseilles-----	Very limited Slope Water erosion Restricted permeability Depth to soft bedrock	1.00 1.00 0.91 0.10	Very limited Water erosion Slope Restricted permeability Depth to soft bedrock	1.00 1.00 0.91 0.10	---	
554B: Kernan-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.40	Very limited Depth to saturated zone Restricted permeability	1.00 0.40	Very limited Frost action Restricted permeability	1.00 0.40
560D2: St. Clair-----	Very limited Slope Restricted permeability Depth to saturated zone	1.00 1.00 0.24	Very limited Slope Depth to saturated zone Restricted permeability	1.00 1.00 1.00	Very limited Restricted permeability Slope	1.00 0.96
560E: St. Clair-----	Very limited Slope Droughty Restricted permeability Depth to saturated zone	1.00 1.00 1.00 0.76	Very limited Slope Depth to saturated zone Restricted permeability	1.00 1.00 1.00	Very limited Slope Restricted permeability	1.00 1.00
567B: Elkhart-----	Not limited		Not limited		---	

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
572A, 572B: Loran-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Frost action	1.00
572C2: Loran-----	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.74
614A: Chenoa-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Restricted permeability	0.91
614B: Chenoa-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Very limited Depth to saturated zone Restricted permeability	1.00 0.22	Somewhat limited Restricted permeability Slope	0.22 0.01
662B: Barony-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.01
663B: Clare-----	Somewhat limited Depth to saturated zone	0.24	Very limited Depth to saturated zone	1.00	Very limited Frost action Slope	1.00 0.04
667B: Kaneville-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.01
668B: Somonauk-----	Very limited Water erosion Depth to saturated zone	1.00 0.24	Very limited Water erosion Depth to saturated zone	1.00 1.00	Very limited Frost action Slope	1.00 0.01
675B: Greenbush-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	---	
675C2: Greenbush-----	Very limited Water erosion	1.00	Very limited Water erosion	1.00	---	
679B: Blackberry-----	Somewhat limited Depth to saturated zone	0.24	Very limited Depth to saturated zone	1.00	Very limited Frost action Slope	1.00 0.01

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
680B:						
Campton-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	0.24	Depth to saturated zone	1.00	Slope	0.01
712A:						
Spaulding-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
			Ponding	1.00	Frost action	1.00
715A:						
Arrowsmith-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
732A, 732B:						
Appleriver-----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Frost action	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Restricted permeability	0.94
	Restricted permeability	0.94	Restricted permeability	0.94		
791A, 791B:						
Rush-----	Very limited		Very limited		---	
	Water erosion	1.00	Water erosion	1.00		
792A, 792B:						
Bowes-----	Very limited		Very limited		---	
	Water erosion	1.00	Water erosion	1.00		
794G:						
Marseilles-----	Very limited		Very limited		---	
	Slope	1.00	Water erosion	1.00		
	Water erosion	1.00	Slope	1.00		
	Restricted permeability	0.91	Restricted permeability	0.91		
	Depth to soft bedrock	0.10	Depth to soft bedrock	0.10		
Northfield-----	Very limited		Very limited		---	
	Depth to soft bedrock	1.00	Slope	1.00		
	Slope	1.00	Depth to soft bedrock	1.00		
	Droughty	1.00				
Ritchey-----	Very limited		Very limited		---	
	Slope	1.00	Slope	1.00		
	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00		
	Droughty	1.00				
802B:						
Orthents, loamy----	Very limited		Very limited		---	
	Water erosion	1.00	Water erosion	1.00		
	Restricted permeability	0.22	Restricted permeability	0.22		

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
802D: Orthents, loamy-----	Very limited		Very limited		---	
	Water erosion	1.00	Water erosion	1.00		
	Slope	1.00	Slope	1.00		
	Restricted permeability	0.22	Restricted permeability	0.22		
804D: Orthents, acid-----	Very limited		Very limited		---	
	Slope	1.00	Slope	1.00		
	Restricted permeability	0.94	Restricted permeability	0.94		
804G: Orthents, acid-----	Very limited		Very limited		---	
	Slope	1.00	Slope	1.00		
	Restricted permeability	0.94	Restricted permeability	0.94		
805B: Orthents, clayey----	Very limited		Very limited		Very limited	
	Water erosion	1.00	Water erosion	1.00	Restricted	1.00
	Droughty	1.00	Depth to	1.00	permeability	
	Restricted permeability	1.00	saturated zone			
	Depth to saturated zone	0.24	Restricted permeability	1.00		
814A: Muscatune-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Frost action	1.00
Buckhart-----	Somewhat limited		Very limited		Very limited	
	Depth to saturated zone	0.24	Depth to saturated zone	1.00	Frost action	1.00
817A: Channahon-----	Very limited		Very limited		---	
	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00		
	Droughty	1.00				
Hesch-----	Somewhat limited		Somewhat limited		---	
	Depth to soft bedrock	0.29	Depth to soft bedrock	0.29		
817B: Channahon-----	Very limited		Very limited		---	
	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00		
	Droughty	1.00				
Hesch-----	Very limited		Somewhat limited		---	
	Droughty	1.00	Depth to soft bedrock	0.95		
	Depth to soft bedrock	0.95				

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
818A:						
Flanagan-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Frost action	1.00
Catlin-----	Somewhat limited Depth to saturated zone	0.24	Very limited Depth to saturated zone	1.00	Very limited Frost action	1.00
820E:						
Hennepin-----	Very limited Slope Restricted permeability	1.00 0.22	Very limited Slope Restricted permeability	1.00 0.22	---	
Casco-----	Very limited Slope Content of large stones	1.00 0.01	Very limited Slope Too sandy Content of large stones	1.00 1.00 0.01	---	
820G:						
Hennepin-----	Very limited Slope Restricted permeability	1.00 0.22	Very limited Slope Restricted permeability	1.00 0.22	---	
Casco-----	Very limited Slope Droughty Content of large stones	1.00 1.00 0.01	Very limited Slope Too sandy Content of large stones	1.00 1.00 0.01	---	
830:						
Landfills-----	Not rated		Not rated		Not rated	
864:						
Pits, quarry-----	Not rated		Not rated		Not rated	
865:						
Pits, gravel-----	Not rated		Not rated		Not rated	
969E2:						
Casco-----	Very limited Slope Droughty Content of large stones	1.00 1.00 0.09	Very limited Slope Too sandy Content of large stones	1.00 1.00 0.09	---	
Rodman-----	Very limited Slope Droughty	1.00 1.00	Very limited Slope Too sandy	1.00 1.00	---	
969F:						
Casco-----	Very limited Slope Droughty Content of large stones	1.00 1.00 0.20	Very limited Slope Too sandy Content of large stones	1.00 1.00 0.20	---	

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
969F: Rodman-----	Very limited Slope Droughty	1.00 1.00	Very limited Slope Too sandy	1.00 1.00	---	
1103A: Houghton-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action Subsidence	1.00 1.00 1.00
1480A: Moundprairie-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action Flooding	1.00 1.00 1.00
3073A: Ross-----	Not limited		Not limited		---	
3076A: Otter-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action Flooding	1.00 1.00 1.00
3082A: Millington-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action Flooding	1.00 1.00 1.00
3107A: Sawmill-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action Flooding	1.00 1.00 1.00
3321A: Du Page-----	Not limited		Not limited		---	
3451A: Lawson-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Frost action Flooding	1.00 1.00
3480A: Moundprairie-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action Flooding	1.00 1.00 1.00
3800A: Psammets-----	Very limited Droughty	1.00	Very limited Too sandy	1.00	---	
7073A: Ross-----	Not limited		Not limited		---	

Table 20b.--Water Management--Continued

Map symbol and soil name	Constructing grassed waterways		Constructing terraces and diversions		Drainage	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
8073A: Ross-----	Not limited		Not limited		---	
8107A: Sawmill-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Ponding Frost action Flooding	1.00 1.00 1.00
8151A: Ridgeville-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Flooding	1.00
8404A: Titus-----	Very limited Depth to saturated zone Restricted permeability	1.00 0.91	Very limited Depth to saturated zone Ponding Restricted permeability	1.00 1.00 0.91	Very limited Ponding Frost action Flooding Restricted permeability	1.00 1.00 1.00 0.91
8451A: Lawson-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Frost action Flooding	1.00 1.00
8516A: Faxon-----	Very limited Depth to saturated zone Depth to soft bedrock	1.00 0.06	Very limited Depth to saturated zone Ponding Depth to soft bedrock	1.00 1.00 0.06	Very limited Ponding Frost action Flooding	1.00 1.00 1.00

Table 20c.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23B: Blount-----	Very limited Depth to saturated zone Restricted permeability Too acid	1.00 1.00 0.01	Very limited Depth to saturated zone Water erosion	1.00 1.00	Very limited Depth to saturated zone	1.00
51A: Muscatune-----	Very limited Depth to saturated zone Too acid	1.00 0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
60C2: La Rose-----	Somewhat limited Slope Restricted permeability	0.98 0.31	Somewhat limited Droughty Slope	0.08 0.06	Not limited	
60D2: La Rose-----	Very limited Slope Restricted permeability	1.00 0.31	Somewhat limited Slope Droughty	0.98 0.11	Not limited	
61A: Atterberry-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
61B: Atterberry-----	Very limited Depth to saturated zone Slope	1.00 0.02	Very limited Depth to saturated zone Water erosion	1.00 1.00	Very limited Depth to saturated zone	1.00
67A: Harpster-----	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
68A: Sable-----	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
86B: Osco-----	Somewhat limited Slope	0.02	Not limited		Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
86C2: Osco-----	Somewhat limited Slope	0.98	Very limited Water erosion Slope	1.00 0.06	Not limited	
87A: Dickinson-----	Somewhat limited Droughty	0.04	Somewhat limited Droughty	0.54	Not limited	
87B: Dickinson-----	Somewhat limited Slope	0.02	Somewhat limited Droughty	0.26	Not limited	
87C2: Dickinson-----	Somewhat limited Slope Droughty	0.98 0.08	Somewhat limited Droughty Slope	0.67 0.06	Not limited	
88B: Sparta-----	Somewhat limited Too acid Slope	0.08 0.02	Very limited Sandy textures Wind erosion Droughty	1.00 1.00 1.00	Not limited	
88D: Sparta-----	Very limited Slope Too acid Droughty	1.00 0.08 0.01	Very limited Sandy textures Wind erosion Droughty Slope	1.00 1.00 1.00 0.22	Not limited	
91A: Swygert-----	Very limited Restricted permeability Depth to saturated zone Too acid	1.00 1.00 0.08	Very limited Depth to saturated zone Droughty	1.00 0.07	Very limited Depth to saturated zone	1.00
91B: Swygert-----	Very limited Restricted permeability Depth to saturated zone Too acid	1.00 1.00 0.08	Very limited Depth to saturated zone Droughty	1.00 0.11	Very limited Depth to saturated zone	1.00
91B2: Swygert-----	Very limited Restricted permeability Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Droughty	1.00 0.31	Very limited Depth to saturated zone	1.00
91C2: Swygert-----	Very limited Restricted permeability Depth to saturated zone Slope	1.00 1.00 0.32	Very limited Depth to saturated zone Droughty	1.00 0.52	Very limited Depth to saturated zone	1.00

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
91C3: Swygert-----	Very limited Restricted permeability Depth to saturated zone Slope	1.00 1.00 0.32	Very limited Water erosion Depth to saturated zone Restricted permeability Droughty	1.00 1.00 1.00 0.86	Very limited Depth to saturated zone Restricted permeability	1.00 1.00
103A: Houghton-----	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
104A: Virgil-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
105A: Batavia-----	Not limited		Not limited		Not limited	
105B: Batavia-----	Somewhat limited Slope	0.08	Very limited Water erosion	1.00	Not limited	
105C2: Batavia-----	Very limited Slope	1.00	Very limited Water erosion Slope	1.00 0.10	Not limited	
125A: Selma-----	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
131B: Alvin-----	Somewhat limited Too acid Slope	0.32 0.02	Somewhat limited Droughty	0.01	Not limited	
131C2: Alvin-----	Somewhat limited Slope Too acid	0.98 0.32	Somewhat limited Slope	0.06	Not limited	
132A: Starks-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
134A: Camden-----	Somewhat limited Too acid	0.08	Not limited		Not limited	
134B: Camden-----	Somewhat limited Too acid Slope	0.08 0.02	Very limited Water erosion	1.00	Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
134C2: Camden-----	Somewhat limited Slope Too acid	 0.98 0.08	Very limited Water erosion Slope	 1.00 0.06	Not limited	
134D2, 134D3: Camden-----	Very limited Slope Too acid	 1.00 0.08	Very limited Water erosion Slope	 1.00 0.98	Not limited	
134F: Camden-----	Very limited Slope Too acid	 1.00 0.08	Very limited Slope Water erosion	 1.00 1.00	Not limited	
146A: Elliott-----	Very limited Depth to saturated zone Restricted permeability Too acid	 1.00 1.00 0.44	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	1.00
146B: Elliott-----	Very limited Depth to saturated zone Restricted permeability	 1.00 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	1.00
146B2: Elliott-----	Very limited Depth to saturated zone Restricted permeability Too acid	 1.00 1.00 0.44	Very limited Depth to saturated zone Droughty	 1.00 0.16	Very limited Depth to saturated zone	1.00
147B2: Clarence-----	Very limited Restricted permeability Depth to saturated zone Droughty	 1.00 1.00 0.30	Very limited Depth to saturated zone Droughty	 1.00 1.00	Very limited Depth to saturated zone	1.00
148A: Proctor-----	Not limited		Not limited		Not limited	
148B: Proctor-----	Somewhat limited Slope	 0.02	Not limited		Not limited	
148C2: Proctor-----	Somewhat limited Slope	 0.98	Very limited Water erosion Slope	 1.00 0.06	Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
149A: Brenton-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
151A, 151B: Ridgeville-----	Very limited Depth to saturated zone Too acid	1.00 0.01	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
152A: Drummer-----	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
154A: Flanagan-----	Very limited Depth to saturated zone Restricted permeability Too acid	1.00 0.31 0.08	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
171A: Catlin-----	Somewhat limited Depth to saturated zone Restricted permeability Too acid	0.76 0.31 0.08	Not limited		Not limited	
171B: Catlin-----	Somewhat limited Depth to saturated zone Restricted permeability	0.68 0.31	Very limited Water erosion	1.00	Not limited	
171B2: Catlin-----	Somewhat limited Depth to saturated zone Restricted permeability	0.76 0.31	Very limited Water erosion	1.00	Not limited	
171C2, 171C3: Catlin-----	Somewhat limited Slope Depth to saturated zone Restricted permeability	0.98 0.76 0.31	Very limited Water erosion Slope	1.00 0.06	Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
193C2: Mayville-----	Somewhat limited Slope Depth to saturated zone Restricted permeability Too acid	 0.98 0.68  0.31  0.08	Very limited Water erosion Slope	 1.00 0.06	Not limited	
198A: Elburn-----	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
199A: Plano-----	Not limited		Not limited		Not limited	
199B: Plano-----	Somewhat limited Slope	 0.02	Not limited		Not limited	
199C2: Plano-----	Somewhat limited Slope	 0.98	Very limited Water erosion Slope	 1.00 0.06	Not limited	
206A: Thorp-----	Very limited Ponding Depth to saturated zone Restricted permeability	 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
210A: Lena-----	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
219A: Millbrook-----	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	 1.00
223B, 223B2: Varna-----	Very limited Restricted permeability Depth to saturated zone	 1.00  0.68	Not limited		Not limited	
223C2: Varna-----	Very limited Restricted permeability Depth to saturated zone Slope	 1.00  0.68 0.32	Not limited		Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
223C3: Varna-----	Very limited Restricted permeability Depth to saturated zone Slope	1.00 0.68 0.32	Very limited Water erosion Droughty	1.00 0.89	Not limited	
223D2: Varna-----	Very limited Restricted permeability Slope Depth to saturated zone Too acid	1.00 1.00 0.68 0.01	Somewhat limited Slope	0.22	Not limited	
223D3: Varna-----	Very limited Restricted permeability Slope Depth to saturated zone	1.00 1.00 0.68	Very limited Water erosion Droughty Slope	1.00 0.52 0.22	Not limited	
228B: Nappanee-----	Very limited Restricted permeability Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Water erosion Droughty	1.00 1.00 0.44	Very limited Depth to saturated zone	1.00
228C2: Nappanee-----	Very limited Restricted permeability Depth to saturated zone Slope Droughty	1.00 1.00 0.32 0.16	Very limited Depth to saturated zone Droughty	1.00 1.00	Very limited Depth to saturated zone	1.00
228C3: Nappanee-----	Very limited Restricted permeability Depth to saturated zone Droughty Slope	1.00 1.00 0.88 0.32	Very limited Droughty Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
232A: Ashkum-----	Very limited Ponding Depth to saturated zone Restricted permeability	1.00 1.00 0.31	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
233A: Birkbeck-----	Somewhat limited		Not limited		Not limited	
	Depth to saturated zone	0.86				
	Restricted permeability	0.31				
	Too acid	0.14				
233B: Birkbeck-----	Somewhat limited		Very limited		Not limited	
	Depth to saturated zone	0.86	Water erosion	1.00		
	Too acid	0.14				
	Slope	0.02				
233C2: Birkbeck-----	Somewhat limited		Very limited		Not limited	
	Slope	0.98	Water erosion	1.00		
	Depth to saturated zone	0.86	Slope	0.06		
	Restricted permeability	0.31				
	Too acid	0.08				
234A: Sunbury-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.31				
	Too acid	0.08				
235A: Bryce-----	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Droughty	0.68		
	Too acid	0.08				
236A: Sabina-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	0.31				
	Too acid	0.08				
238A: Rantoul-----	Very limited		Very limited		Very limited	
	Restricted permeability	1.00	Ponding	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Depth to saturated zone	1.00	Droughty	0.08		

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
241C3: Chatsworth-----	Very limited Restricted permeability Droughty Depth to saturated zone Slope	1.00 1.00 0.98 0.32	Very limited Restricted permeability Droughty Water erosion	1.00 1.00 1.00	Very limited Restricted permeability	1.00
241D3: Chatsworth-----	Very limited Restricted permeability Droughty Slope Depth to saturated zone	1.00 1.00 1.00 0.98	Very limited Restricted permeability Droughty Water erosion Slope	1.00 1.00 1.00 0.22	Very limited Restricted permeability	1.00
241E3: Chatsworth-----	Very limited Restricted permeability Slope Droughty Depth to saturated zone	1.00 1.00 0.99 0.98	Very limited Restricted permeability Droughty Water erosion Slope	1.00 1.00 1.00 1.00	Very limited Restricted permeability	1.00
241F, 241G: Chatsworth-----	Very limited Restricted permeability Slope Droughty Depth to saturated zone	1.00 1.00 0.99 0.98	Very limited Restricted permeability Droughty Slope	1.00 1.00 1.00	Very limited Restricted permeability	1.00
242A: Kendall-----	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
243A: St. Charles-----	Not limited		Not limited		Not limited	
243B: St. Charles-----	Somewhat limited Slope	0.02	Very limited Water erosion	1.00	Not limited	
243C2: St. Charles-----	Somewhat limited Slope	0.98	Very limited Water erosion Slope	1.00 0.06	Not limited	
244A: Hartsburg-----	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

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
278A: Stronghurst-----	Very limited Depth to saturated zone Too acid	1.00  0.08	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
278B: Stronghurst-----	Very limited Depth to saturated zone Too acid Slope	1.00  0.08 0.02	Very limited Depth to saturated zone Water erosion	1.00 1.00	Very limited Depth to saturated zone	1.00
279B: Rozetta-----	Somewhat limited Slope	0.02	Very limited Water erosion	1.00	Not limited	
280C2: Fayette-----	Somewhat limited Slope	0.98	Very limited Water erosion Slope	1.00 0.06	Not limited	
290A, 290B: Warsaw-----	Not limited		Not limited		Not limited	
290C2: Warsaw-----	Somewhat limited Slope Too acid Droughty	0.32 0.14 0.02	Somewhat limited Droughty	0.41	Not limited	
293A: Andres-----	Very limited Depth to saturated zone Restricted permeability	1.00  1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
293B: Andres-----	Very limited Depth to saturated zone Restricted permeability Slope	1.00  1.00 0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
294B: Symerton-----	Very limited Restricted permeability Depth to saturated zone Too acid Slope	1.00  0.53 0.08 0.02	Not limited		Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
294C2: Symerton-----	Very limited Restricted permeability Slope Depth to saturated zone Too acid	1.00 0.98 0.80 0.44	Somewhat limited Slope Droughty	0.06 0.05	Not limited	
295A, 295B: Mokena-----	Very limited Restricted permeability Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
298B: Beecher-----	Very limited Depth to saturated zone Restricted permeability Too acid	1.00 1.00 0.08	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
311B: Ritchey-----	Very limited Depth to bedrock Droughty	1.00 0.99	Very limited Depth to bedrock Droughty Water erosion	1.00 1.00 1.00	Very limited Depth to bedrock	1.00
314A: Joliet-----	Very limited Ponding Depth to saturated zone Depth to bedrock Droughty	1.00 1.00 1.00 0.93	Very limited Ponding Depth to saturated zone Depth to bedrock Droughty	1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Depth to bedrock	1.00 1.00 1.00
315B: Channahon-----	Very limited Depth to bedrock Droughty	1.00 0.97	Very limited Depth to bedrock Droughty	1.00 1.00	Very limited Depth to bedrock	1.00
317A: Millsdale-----	Very limited Ponding Depth to saturated zone Restricted permeability Depth to bedrock	1.00 1.00 0.31 0.06	Very limited Ponding Depth to saturated zone Depth to bedrock	1.00 1.00 0.80	Very limited Ponding Depth to saturated zone	1.00 1.00
318B: Lorenzo-----	Somewhat limited Droughty	0.51	Very limited Droughty	1.00	Not limited	
318C2: Lorenzo-----	Somewhat limited Droughty Slope	0.73 0.32	Very limited Droughty	1.00	Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
320B: Frankfort-----	Very limited Restricted permeability Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Droughty	1.00 0.14	Very limited Depth to saturated zone	1.00
320C2: Frankfort-----	Very limited Restricted permeability Depth to saturated zone Slope Droughty	1.00 1.00 0.32 0.23	Very limited Depth to saturated zone Droughty	1.00 0.91	Very limited Depth to saturated zone	1.00
325B: Dresden-----	Somewhat limited Droughty	0.01	Somewhat limited Droughty	0.21	Not limited	
325C2: Dresden-----	Somewhat limited Slope	0.32	Somewhat limited Droughty	0.09	Not limited	
327B: Fox-----	Not limited		Very limited Water erosion Droughty	1.00 0.24	Not limited	
327C2: Fox-----	Somewhat limited Slope Droughty	0.32 0.01	Very limited Water erosion Droughty	1.00 0.71	Not limited	
327D2: Fox-----	Very limited Slope	1.00	Very limited Water erosion Droughty Slope	1.00 0.35 0.22	Not limited	
330A: Peotone-----	Very limited Ponding Depth to saturated zone Restricted permeability	1.00 1.00 0.31	Very limited Ponding Depth to saturated zone	1.00 1.00	Very limited Ponding Depth to saturated zone	1.00 1.00
344A: Harvard-----	Not limited		Not limited		Not limited	
344B: Harvard-----	Somewhat limited Slope	0.02	Very limited Water erosion	1.00	Not limited	
344C2: Harvard-----	Somewhat limited Slope	0.98	Very limited Water erosion Slope	1.00 0.06	Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
356A: Elpaso-----	Very limited Ponding Depth to saturated zone Too acid	 1.00 1.00  0.22	Very limited Ponding Depth to saturated zone	 1.00 1.00  	Very limited Ponding Depth to saturated zone	 1.00 1.00  
375A: Rutland-----	Very limited Restricted permeability Depth to saturated zone Too acid	 1.00  1.00  0.08	Very limited Depth to saturated zone	 1.00  	Very limited Depth to saturated zone	 1.00  
375B: Rutland-----	Very limited Restricted permeability Depth to saturated zone Too acid Slope	 1.00  1.00  0.08 0.02	Very limited Depth to saturated zone	 1.00  	Very limited Depth to saturated zone	 1.00  
375B2: Rutland-----	Very limited Restricted permeability Depth to saturated zone Too acid Slope	 1.00  1.00  0.08 0.02	Very limited Depth to saturated zone Water erosion	 1.00 1.00  	Very limited Depth to saturated zone	 1.00  
388B: Wenona-----	Very limited Restricted permeability Depth to saturated zone Too acid Slope	 1.00  0.68  0.08 0.02	Not limited		Not limited	
388B2: Wenona-----	Very limited Restricted permeability Depth to saturated zone Too acid Slope	 1.00  0.68  0.08 0.02	Very limited Water erosion	 1.00  	Not limited	
388C2: Wenona-----	Very limited Restricted permeability Slope Depth to saturated zone Too acid	 1.00  0.98 0.68 0.08	Very limited Water erosion Slope	 1.00 0.06  	Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
397F: Boone-----	Very limited Droughty Slope Depth to bedrock Too acid	 1.00 1.00 0.95 0.44	Very limited Depth to bedrock Wind erosion Droughty Slope	 1.00 1.00 1.00 1.00	Not limited	
413B: Gale-----	Somewhat limited Too acid Depth to bedrock	 0.32 0.03	Very limited Water erosion Depth bedrock	 1.00 0.71	Not limited	
413C2: Gale-----	Somewhat limited Slope Too acid Depth to bedrock	 0.32 0.32 0.01	Very limited Water erosion Depth bedrock	 1.00 0.65	Not limited	
435A: Streator-----	Very limited Ponding Depth to saturated zone Restricted permeability	 1.00 1.00 0.61	Very limited Ponding Depth to saturated zone	 1.00 1.00	Very limited Ponding Depth to saturated zone	 1.00 1.00
448B: Mona-----	Very limited Restricted permeability Depth to saturated zone Slope	 1.00 0.68 0.02	Not limited		Not limited	
448C2: Mona-----	Very limited Restricted permeability Slope Depth to saturated zone	 1.00 0.98 0.68	Somewhat limited Slope	 0.06	Not limited	
512B: Danabrook-----	Somewhat limited Depth to saturated zone Restricted permeability Slope	 0.68 0.31 0.02	Not limited		Not limited	
512C2: Danabrook-----	Somewhat limited Slope Depth to saturated zone Restricted permeability	 0.98 0.68 0.31	Very limited Water erosion Slope	 1.00 0.06	Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
516A: Faxon-----	Very limited Ponding Depth to saturated zone Too acid Depth to bedrock	 1.00 1.00  0.08 0.06	Very limited Ponding Depth to saturated zone Depth bedrock	 1.00 1.00  0.80	Very limited Ponding Depth to saturated zone	 1.00 1.00  
527C2: Kidami-----	Somewhat limited Depth to saturated zone Slope Restricted permeability Too acid	 0.68  0.32 0.31 0.08	Very limited Water erosion	 1.00	Not limited	
527D2: Kidami-----	Very limited Slope Depth to saturated zone Restricted permeability Too acid	 1.00 0.68  0.31 0.08	Very limited Water erosion Slope	 1.00 0.22	Not limited	
530B: Ozaukee-----	Very limited Restricted permeability Depth to saturated zone	 1.00  0.68	Very limited Water erosion	 1.00	Not limited	
530C2: Ozaukee-----	Very limited Restricted permeability Depth to saturated zone Slope	 1.00  0.98 0.32	Very limited Water erosion Droughty	 1.00 0.06	Not limited	
530C3: Ozaukee-----	Very limited Restricted permeability Depth to saturated zone Slope	 1.00  0.76 0.32	Very limited Water erosion Droughty	 1.00 0.30	Not limited	
530D2: Ozaukee-----	Very limited Restricted permeability Slope Depth to saturated zone Too acid	 1.00  1.00 0.98 0.14	Very limited Water erosion Slope Droughty	 1.00 0.22 0.06	Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
530D3: Ozaukee-----	Very limited Restricted permeability Slope Depth to saturated zone	 1.00  1.00 0.99	Very limited Water erosion Droughty Slope	 1.00 0.42 0.22	Not limited	
530E2: Ozaukee-----	Very limited Slope Restricted permeability Depth to saturated zone	 1.00 1.00 0.98	Very limited Water erosion Slope Droughty	 1.00 1.00 0.01	Not limited	
530F: Ozaukee-----	Very limited Slope Restricted permeability Depth to saturated zone	 1.00 1.00 0.68	Very limited Water erosion	 1.00	Not limited	
541B: Graymont-----	Very limited Restricted permeability Depth to saturated zone Slope Too acid	 1.00 0.68 0.02 0.01	Not limited		Not limited	
541B2: Graymont-----	Very limited Restricted permeability Depth to saturated zone Slope	 1.00 0.68 0.08	Very limited Water erosion	 1.00	Not limited	
541C2: Graymont-----	Very limited Restricted permeability Slope Depth to saturated zone	 1.00 0.98 0.86	Very limited Water erosion Slope	 1.00 0.06	Not limited	
542A: Rooks-----	Very limited Depth to saturated zone Restricted permeability	 1.00 1.00	Very limited Depth to saturated zone	 1.00	Very limited Depth to saturated zone	1.00

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
542B: Rooks-----	Very limited Depth to saturated zone Restricted permeability Slope	1.00 1.00 0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
549B: Marseilles-----	Very limited Restricted permeability Too acid Slope	1.00 0.08 0.02	Very limited Water erosion Depth to bedrock	1.00 0.42	Not limited	
549C2: Marseilles-----	Very limited Restricted permeability Slope Depth to bedrock Too acid Droughty	1.00 0.98 0.80 0.44 0.35	Very limited Depth to bedrock Water erosion Droughty Slope	1.00 1.00 0.66 0.06	Not limited	
549D2: Marseilles-----	Very limited Slope Restricted permeability Depth to bedrock Droughty	1.00 1.00 0.71 0.57	Very limited Depth to bedrock Water erosion Slope Droughty	1.00 1.00 0.98 0.87	Not limited	
549F, 549G: Marseilles-----	Very limited Slope Restricted permeability Too acid Depth to bedrock	1.00 1.00 0.44 0.10	Very limited Slope Water erosion Depth to bedrock Droughty	1.00 1.00 0.84 0.02	Not limited	
554B: Kernan-----	Very limited Restricted permeability Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
560D2: St. Clair-----	Very limited Restricted permeability Slope Depth to saturated zone Droughty	1.00 1.00 0.68 0.11	Somewhat limited Droughty Slope	0.84 0.22	Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
560E: St. Clair-----	Very limited Restricted permeability Slope Depth to saturated zone Droughty	1.00 1.00 0.98 0.79	Very limited Droughty Slope	1.00 1.00	Not limited	
567B: Elkhart-----	Not limited		Very limited Water erosion	1.00	Not limited	
572A: Loran-----	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
572B: Loran-----	Very limited Depth to saturated zone Restricted permeability Slope	1.00 1.00 0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
572C2: Loran-----	Very limited Depth to saturated zone Slope	1.00 0.98	Very limited Water erosion Depth to saturated zone Depth to bedrock Slope	1.00 1.00 0.35 0.06	Very limited Depth to saturated zone	1.00
614A: Chenoa-----	Very limited Depth to saturated zone Restricted permeability	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
614B: Chenoa-----	Very limited Depth to saturated zone Restricted permeability Slope	1.00 1.00 0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
662B: Barony-----	Somewhat limited Depth to saturated zone Slope	0.68 0.02	Very limited Water erosion	1.00	Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
663B: Clare-----	Somewhat limited		Not limited		Not limited	
	Depth to saturated zone	0.68				
	Slope	0.08				
	Too acid	0.01				
667B: Kaneville-----	Somewhat limited		Very limited		Not limited	
	Depth to saturated zone	0.68	Water erosion	1.00		
	Slope	0.02				
668B: Somonauk-----	Somewhat limited		Very limited		Not limited	
	Depth to saturated zone	0.68	Water erosion	1.00		
	Too acid	0.08				
	Slope	0.02				
675B: Greenbush-----	Somewhat limited		Very limited		Not limited	
	Too acid	0.08	Water erosion	1.00		
	Slope	0.02				
675C2: Greenbush-----	Somewhat limited		Very limited		Not limited	
	Slope	0.98	Water erosion	1.00		
	Too acid	0.08	Slope	0.06		
679B: Blackberry-----	Somewhat limited		Not limited		Not limited	
	Depth to saturated zone	0.68				
	Slope	0.02				
680B: Campton-----	Somewhat limited		Very limited		Not limited	
	Depth to saturated zone	0.68	Water erosion	1.00		
	Slope	0.02				
712A: Spaulding-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
715A: Arrowsmith-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
732A: Appleriver-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00	Depth bedrock	0.10		
	Too acid	0.44				

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
732B: Appleriver-----	Very limited Depth to saturated zone Restricted permeability Slope	1.00 1.00 0.02	Very limited Depth to saturated zone Water erosion	1.00 1.00	Very limited Depth to saturated zone	1.00
791A: Rush-----	Somewhat limited Too acid	0.08	Not limited		Not limited	
791B: Rush-----	Somewhat limited Too acid	0.08	Very limited Water erosion	1.00	Not limited	
792A: Bowes-----	Somewhat limited Too acid	0.68	Not limited		Not limited	
792B: Bowes-----	Somewhat limited Too acid	0.68	Very limited Water erosion	1.00	Not limited	
794G: Marseilles-----	Very limited Slope Restricted permeability Too acid Depth to bedrock	1.00 1.00 0.44 0.10	Very limited Slope Water erosion Depth to bedrock Droughty	1.00 1.00 0.84 0.02	Not limited	
Northfield-----	Very limited Depth to bedrock Slope Droughty	1.00 1.00 1.00	Very limited Depth bedrock Droughty Slope Water erosion	1.00 1.00 1.00 1.00	Very limited Depth to bedrock	1.00
Ritchey-----	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.97	Very limited Depth to bedrock Droughty Slope Water erosion	1.00 1.00 1.00 1.00	Very limited Depth to bedrock	1.00
802B: Orthents, loamy----	Somewhat limited Restricted permeability Slope	0.31 0.02	Very limited Water erosion	1.00	Not limited	
802D: Orthents, loamy----	Very limited Slope Restricted permeability	1.00 0.31	Very limited Water erosion Slope	1.00 0.22	Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
804D: Orthents, acid-----	Very limited		Very limited		Very limited	
	Low adsorption	1.00	Restricted	1.00	Restricted	1.00
	Restricted	1.00	permeability		permeability	
	permeability		Water erosion	1.00		
	Slope	1.00	Droughty	0.30		
			Slope	0.15		
804G: Orthents, acid-----	Very limited		Very limited		Very limited	
	Low adsorption	1.00	Slope	1.00	Restricted	1.00
	Slope	1.00	Water erosion	1.00	permeability	
	Restricted	1.00	Restricted	1.00		
	permeability		permeability			
			Droughty	0.30		
805B: Orthents, clayey----	Very limited		Very limited		Very limited	
	Restricted	1.00	Restricted	1.00	Restricted	1.00
	permeability		permeability		permeability	
	Depth to	0.68	Droughty	1.00		
	saturated zone		Water erosion	1.00		
	Droughty	0.57				
814A: Muscatune-----	Very limited		Very limited		Very limited	
	Depth to	1.00	Depth to	1.00	Depth to	1.00
	saturated zone		saturated zone		saturated zone	
	Too acid	0.04				
Buckhart-----	Somewhat limited		Not limited		Not limited	
	Depth to	0.68				
	saturated zone					
817A: Channahon-----	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Droughty	1.00	Droughty	1.00		
	Too acid	0.68				
Hesch-----	Somewhat limited		Somewhat limited		Not limited	
	Too acid	0.86	Depth to bedrock	0.97		
	Droughty	0.39	Droughty	0.71		
	Depth to bedrock	0.29				
817B: Channahon-----	Very limited		Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
	Droughty	1.00	Droughty	1.00		
	Too acid	0.08				
	Slope	0.08				
Hesch-----	Somewhat limited		Very limited		Not limited	
	Depth to bedrock	0.95	Depth to bedrock	1.00		
	Droughty	0.93	Droughty	1.00		
	Slope	0.08				
	Too acid	0.01				

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
818A: Flanagan-----	Very limited Depth to saturated zone Restricted permeability Too acid	1.00  0.31  0.08	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Catlin-----	Somewhat limited Depth to saturated zone Restricted permeability Too acid	0.68  0.31  0.08	Not limited		Not limited	
820E: Hennepin-----	Very limited Slope Restricted permeability	1.00  1.00	Very limited Water erosion Slope	1.00  1.00	Not limited	
Casco-----	Very limited Slope Droughty	1.00  0.39	Very limited Water erosion Slope Droughty	1.00  1.00  0.99	Not limited	
820G: Hennepin-----	Very limited Slope Restricted permeability	1.00  1.00	Very limited Slope Water erosion	1.00  1.00	Not limited	
Casco-----	Very limited Slope Droughty	1.00  0.81	Very limited Slope Water erosion Droughty	1.00  1.00  1.00	Not limited	
830: Landfills-----	Not rated		Not rated		Not rated	
864: Pits, quarry-----	Not rated		Not rated		Not rated	
865: Pits, gravel-----	Not rated		Not rated		Not rated	
969E2: Casco-----	Very limited Slope Droughty	1.00  0.66	Very limited Water erosion Slope Droughty	1.00  1.00  1.00	Not limited	
Rodman-----	Very limited Slope Droughty	1.00  1.00	Very limited Droughty Slope	1.00  1.00	Not limited	

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
969F:						
Casco-----	Very limited Slope Droughty	1.00 0.90	Very limited Slope Water erosion Droughty	1.00 1.00 1.00	Not limited	
Rodman-----	Very limited Slope Droughty	1.00 1.00	Very limited Droughty Slope	1.00 1.00	Not limited	
1103A:						
Houghton-----	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
1480A:						
Moundprairie-----	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.80	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3073A:						
Ross-----	Somewhat limited Flooding	0.80	Very limited Flooding	1.00	Very limited Flooding	1.00
3076A:						
Otter-----	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.80	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3082A:						
Millington-----	Very limited Ponding Depth to saturated zone Flooding	1.00 1.00 0.80	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3107A:						
Sawmill-----	Very limited Ponding Depth to saturated zone Flooding Too acid	1.00 1.00 0.80 0.01	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	1.00 1.00 1.00
3321A:						
Du Page-----	Somewhat limited Flooding	0.80	Very limited Flooding	1.00	Very limited Flooding	1.00
3451A:						
Lawson-----	Very limited Depth to saturated zone Flooding	1.00 0.80	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00

Table 20c.--Water Management--Continued

Map symbol and soil name	Irrigation (all application methods)		Sprinkler irrigation		Drip or trickle irrigation	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3480A: Moundprairie-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Flooding	1.00	Flooding	1.00
	Flooding	0.80	Depth to saturated zone	1.00	Depth to saturated zone	1.00
3800A: Psamments-----	Somewhat limited		Very limited		Very limited	
	Flooding	0.80	Sandy textures	1.00	Flooding	1.00
	Too acid	0.32	Flooding	1.00		
	Droughty	0.03	Wind erosion	1.00		
			Droughty	1.00		
7073A: Ross-----	Not limited		Not limited		Not limited	
8073A: Ross-----	Somewhat limited		Not limited		Not limited	
	Flooding	0.60				
8107A: Sawmill-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	0.60				
8151A: Ridgeville-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	0.60				
	Too acid	0.01				
8404A: Titus-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Restricted permeability	1.00				
	Flooding	0.60				
8451A: Lawson-----	Very limited		Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	0.60				
8516A: Faxon-----	Very limited		Very limited		Very limited	
	Ponding	1.00	Ponding	1.00	Ponding	1.00
	Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	0.60	Depth to bedrock	0.80		
	Too acid	0.08				
	Depth to bedrock	0.06				

Table 21.--Engineering Index Properties

(Absence of an entry indicates that 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	
<b>23B:</b>												
Blount-----	0-6	Silt loam	CL	A-4, A-6	0	0-5	95-100	95-100	90-100	80-95	25-40	8-20
	6-10	Silt loam	CL	A-4, A-6	0	0-5	95-100	95-100	90-100	80-95	20-35	8-18
	10-23	Silty clay loam, silty clay, clay loam	CL, CH	A-6, A-7-6	0-1	0-5	95-100	85-98	70-97	65-95	35-60	15-35
	23-34	Silty clay loam, clay loam, silty clay	CL, ML, CH, MH	A-6, A-7-6	0-1	0-5	95-100	80-95	65-93	60-90	35-55	10-30
	34-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-10	90-100	80-93	65-92	60-90	30-50	10-25
<b>51A:</b>												
Muscataune-----	0-16	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	97-100	95-100	24-37	4-14
	16-22	Silty clay loam, silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	35-40	14-20
	22-46	Silty clay loam	ML, CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	46-60	Silt loam, silty clay loam	ML, CL	A-6, A-4	0	0	100	100	96-100	93-100	24-37	7-18
<b>60C2:</b>												
La Rose-----	0-7	Loam	CL	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	8-15
	7-21	Clay loam	CL	A-6, A-7-6	0	0	95-100	90-100	85-100	60-85	30-45	15-25
	21-60	Loam, silt loam	CL	A-6, A-4	0	0-5	95-100	85-100	75-95	50-80	25-40	10-20
<b>60D2:</b>												
La Rose-----	0-7	Loam	CL	A-4, A-6	0	0	100	95-100	85-100	60-85	30-40	8-15
	7-20	Clay loam	CL	A-6, A-7-6	0	0	95-100	90-100	85-100	60-85	30-45	15-25
	20-60	Loam, silt loam	CL	A-6, A-4	0	0-5	95-100	85-100	75-95	50-80	25-40	10-20
<b>61A:</b>												
Atterberry-----	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	95-100	24-37	6-16
	9-17	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	24-37	7-18
	17-48	Silty clay loam, silt loam	ML, CL	A-6, A-7-6	0	0	100	100	95-100	95-100	37-46	16-25
	48-60	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	95-100	24-37	7-18
<b>61B:</b>												
Atterberry-----	0-9	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	24-37	6-16
	9-13	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	24-37	7-18
	13-48	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	95-100	37-46	16-25
	48-60	Silt loam	ML, CL	A-6, A-4	0	0	100	100	95-100	95-100	24-37	7-18

Table 21.--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	
67A: Harpster-----	0-18	Silty clay loam	ML, CL	A-7-6	0	0	100	97-100	95-100	85-100	40-46	15-19
	18-41	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	95-100	85-100	37-46	17-24
	41-56	Silt loam	CL	A-6, A-4	0	0	100	97-100	95-100	85-100	24-37	7-18
	56-60	Loam, silt loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	70-90	50-70	22-33	4-14
68A: Sable-----	0-19	Silty clay loam	CH, CL	A-6, A-7-6	0	0	100	100	98-100	95-100	30-55	15-30
	19-23	Silty clay loam	CH, CL	A-6, A-7-6	0	0	100	100	98-100	95-100	35-60	15-35
	23-47	Silty clay loam, silt loam	CL, CH	A-6, A-7-6	0	0	100	100	98-100	95-100	35-55	15-35
	47-60	Silt loam, silty clay loam	CL	A-6	0	0	100	100	98-100	95-100	25-40	10-20
86B: Osc-----	0-14	Silt loam	CL, ML	A-6, A-4	0	0	100	100	100	95-100	35-45	7-20
	14-55	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	40-50	15-25
	55-60	Silt loam, silty clay loam	ML, CL	A-6, A-4	0	0	100	100	100	95-100	35-45	7-25
86C2: Osc-----	0-9	Silt loam	CL, ML	A-6, A-4	0	0	100	100	95-100	95-100	35-45	10-20
	9-34	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	40-50	15-25
	34-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	95-100	95-100	35-45	7-25
87A: Dickinson-----	0-8	Sandy loam	SC-SM, SC, SM	A-4, A-2-4	0	0	100	100	63-76	24-50	17-26	3-11
	8-20	Fine sandy loam, sandy loam	SC, SC-SM, SM	A-4, A-2-4	0	0	100	100	63-87	24-50	17-26	4-11
	20-31	Fine sandy loam, sandy loam	SC-SM, SC, SM	A-4	0	0	100	100	63-87	24-50	17-26	4-12
	31-36	Loamy sand, loamy fine sand, fine sand	SM, SC-SM, SP-SM	A-2-4, A-3	0	0	100	100	55-80	7-25	9-15	NP-5
	36-60	Sand, loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-3	0	0	100	100	50-80	7-25	9-14	NP-5

Table 21.--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	SM, SC-SM, SC	A-2-4, A-4	0	0	100	100	63-76	24-50	19-25	2-8
	9-17	Sandy loam, fine sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	100	100	63-87	24-50	19-25	3-9
	17-33	Sandy loam, fine sandy loam	SC, SC-SM	A-4	0	0	100	100	65-87	25-50	17-22	4-9
	33-41	Loamy sand, loamy fine sand, fine sand	SC-SM, SM	A-2-4, A-3	0	0	100	100	58-80	7-25	10-20	NP-5
	41-60	Sand, loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-3	0	0	100	100	50-80	7-25	6-16	NP-5
87C2: Dickinson-----	0-11	Sandy loam	SC-SM, SC, SM	A-4, A-2-4	0	0	100	100	63-76	24-50	17-30	3-11
	11-29	Fine sandy loam, sandy loam	SC-SM, SC, SM	A-4	0	0	100	100	63-87	24-50	17-30	4-12
	29-35	Loamy sand, loamy fine sand, fine sand	SM, SC-SM, SP-SM	A-2-4, A-3	0	0	100	100	55-80	7-25	9-20	NP-5
	35-60	Sand, loamy fine sand, loamy sand	SP-SM, SM	A-2-4, A-3	0	0	100	100	50-80	7-25	9-14	NP-5
88B: Sparta-----	0-14	Loamy sand	SM	A-4, A-2-4	0	0	85-100	85-100	50-95	10-50	0-14	NP
	14-47	Loamy sand, fine sand, sand	SM, SP-SM	A-2-4, A-3, A-4	0	0	85-100	85-100	50-95	5-50	0-14	NP
	47-72	Stratified sand to loamy sand	SP-SM, SP, SM	A-2-4, A-3	0	0	85-100	85-100	50-95	4-50	0-14	NP-4
88D: Sparta-----	0-8	Loamy sand	SM	A-4, A-2-4	0	0	85-100	85-100	50-95	10-50	0-14	NP
	8-17	Loamy sand	SM	A-4, A-2-4	0	0	85-100	85-100	50-95	10-50	0-14	NP
	17-33	Loamy sand, fine sand, sand	SP-SM, SM	A-2-4, A-3, A-4	0	0	85-100	85-100	50-95	5-50	0-14	NP
	33-72	Stratified sand to loamy sand	SP, SM, SP-SM	A-2-4, A-3	0	0	85-100	85-100	50-95	4-50	0-14	NP-4
91A: Swygert-----	0-12	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	98-100	95-100	85-98	35-45	15-21
	12-26	Silty clay, clay	CH, CL, MH	A-7-6	0	0	100	98-100	95-100	85-98	45-60	22-35
	26-51	Silty clay, clay	CL, CH, MH	A-7-6	0	0-2	97-100	90-100	85-100	75-95	45-55	20-32
	51-60	Silty clay, clay, silty clay loam	CL, CH, MH	A-7-6	0	0-3	95-100	85-100	80-100	70-95	45-60	20-32

Table 21.--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		
91B:													
Swygart-----	0-11	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	98-100	95-100	85-98	35-45	15-21	
	11-23	Silty clay, clay	CH, CL, MH	A-7-6	0	0	100	98-100	95-100	85-98	45-60	22-35	
	23-45	Silty clay, clay	CL, CH, MH	A-7-6	0	0-2	97-100	90-100	85-100	75-95	45-55	20-32	
	45-60	Silty clay, clay, silty clay loam	CL, CH, MH	A-7-6	0	0-3	95-100	85-100	80-100	70-95	45-60	20-32	
91B2:													
Swygart-----	0-7	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	98-100	95-100	85-98	39-46	18-25	
	7-30	Silty clay, clay	CH, CL, MH	A-7-6	0	0	100	98-100	95-100	85-98	45-60	22-35	
	30-48	Silty clay, clay	CL, CH, MH	A-7-6	0	0-2	97-100	90-100	85-100	75-95	45-55	20-32	
	48-60	Silty clay, clay, silty clay loam	CL, CH, MH	A-7-6	0	0-3	95-100	85-100	80-100	70-95	45-60	20-32	
91C2:													
Swygart-----	0-7	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	98-100	95-100	85-98	39-46	18-25	
	7-18	Silty clay, clay	CH, CL, MH	A-7-6	0	0	100	98-100	95-100	85-98	45-60	22-35	
	18-36	Silty clay, clay	CL, CH, MH	A-7-6	0	0-2	97-100	90-100	85-100	75-95	45-55	20-32	
	36-60	Silty clay, clay, silty clay loam	CL, CH, MH	A-7-6	0	0-3	95-100	85-100	80-100	70-95	45-60	20-32	
91C3:													
Swygart-----	0-6	Silty clay loam	CL	A-7-6	0	0	100	98-100	95-100	85-98	41-48	20-25	
	6-24	Silty clay, clay	CH, CL, MH	A-7-6	0	0	100	98-100	95-100	85-98	48-62	25-40	
	24-60	Silty clay, clay, silty clay loam	CH, CL, MH	A-7-6	0	0-3	95-100	85-100	80-100	70-95	46-62	23-40	
103A:													
Houghton-----	0-11	Muck	PT	A-8	0	0	---	---	---	---	0-0	NP	
	11-60	Muck	PT	A-8	0	0	---	---	---	---	0-0	NP	
104A:													
Virgil-----	0-7	Silt loam	CL	A-4, A-6	0	0	100	100	98-100	90-100	20-35	8-20	
	7-13	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	98-100	90-100	20-35	5-20	
	13-49	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	98-100	90-100	30-50	15-30	
	49-58	Loam, sandy loam, silty clay loam	CL, CL-ML, SC-SM	A-4, A-6, A- 7-6	0	0-3	95-100	90-100	75-100	40-85	25-45	5-25	
	58-60	Stratified loamy sand to clay loam	SC, SC-SM, CL-ML, CL	A-2-4, A-4, A-6	0	0-5	90-100	85-100	70-95	20-80	20-35	5-15	

Table 21.--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	
105A: Batavia-----	0-9	Silt loam	ML, CL-ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	23-38	5-15
	9-41	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	90-100	27-47	12-28
	41-60	Stratified clay loam to sandy loam	SC, SC-SM, CL, CL-ML	A-4, A-2-6, A-6	0	0-5	90-100	80-90	60-90	30-70	20-35	4-15
105B: Batavia-----	0-9	Silt loam	ML, CL-ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	23-38	5-15
	9-12	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	95-100	23-38	5-15
	12-45	Silty clay loam, silt loam	ML, CL	A-6, A-7-6	0	0	100	100	95-100	90-100	27-47	12-28
	45-60	Stratified clay loam to sandy loam	CL-ML, SC-SM, SC, CL	A-6, A-2-6, A-4	0	0-5	90-100	80-90	60-90	30-70	20-35	4-15
105C2: Batavia-----	0-10	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	95-100	23-38	5-15
	10-50	Silty clay loam, silt loam	CL, ML	A-7-6, A-6	0	0	100	100	95-100	90-100	27-47	12-28
	50-60	Stratified clay loam to sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6, A- 2-6	0	0-5	90-100	80-90	60-90	30-70	20-35	4-15
125A: Selma-----	0-6	Loam	ML, CL	A-4, A-6	0	0	100	95-100	80-100	55-85	25-35	8-15
	6-13	Clay loam	ML, CL	A-6, A-7-6	0	0	100	95-100	80-100	55-85	30-43	11-21
	13-44	Loam, silty clay loam, sandy loam	CL, SC	A-6, A-4	0	0	100	85-100	80-95	38-85	23-41	7-20
	44-80	Stratified sand to silt loam	SC, ML, CL- ML, SM, SC- SM	A-4, A-2-4	0	0	90-100	80-100	60-90	10-70	15-28	1-9
131B: Alvin-----	0-8	Fine sandy loam	SM, SC-SM	A-4, A-2-4	0	0	100	100	80-95	30-45	15-25	NP-4
	8-11	Fine sandy loam, sandy loam, loamy fine sand	SM, SC-SM	A-4, A-2-4	0	0	100	100	80-95	30-45	15-25	NP-4
	11-25	Fine sandy loam, sandy loam, loam	SC, SM, CL	A-4, A-2-4, A-6	0	0	100	95-100	70-100	30-55	15-40	NP-15
	25-80	Very fine sand, fine sandy loam, loamy fine sand	SM, SP, SC-SM	A-1-b, A-2-4	0	0	95-100	95-100	45-95	4-35	15-20	NP-4

Table 21.--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	
131C2:												
Alvin-----	0-7	Fine sandy loam	SM, ML	A-2-4, A-4	0	0	100	100	80-95	30-60	15-25	NP-4
	7-42	Fine sandy loam, sandy loam, loam	SM, SC, ML, CL	A-2-4, A-4, A-6	0	0	100	95-100	70-100	30-55	15-40	NP-15
	42-80	Very fine sand, fine sandy loam, loamy fine sand	SP, SM, SP-SM	A-1-b, A-2-4	0	0	95-100	95-100	45-95	4-35	15-20	NP-4
132A:												
Starks-----	0-10	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	85-100	20-35	5-15
	10-14	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	85-100	20-35	5-15
	14-31	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	85-100	30-45	10-25
	31-43	Clay loam, silt loam, sandy loam	CL, SC, ML, SM	A-6, A-4	0	0	95-100	90-100	70-95	40-85	25-40	8-20
	43-60	Stratified loamy sand to clay loam	SC, CL, SC- SM, SM	A-2-4, A-4, A-6, A-2-6	0-1	0-5	90-100	80-100	65-90	15-80	5-30	NP-15
134A:												
Camden-----	0-7	Silt loam	ML, CL-ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	24-37	6-15
	7-12	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	24-35	6-15
	12-26	Silt loam, silty clay loam	CL	A-7-6	0	0	100	97-100	95-100	90-100	35-46	14-24
	26-53	Clay loam, sandy loam, silt loam	SC, ML, CL	A-4, A-6	0	0-5	90-100	90-100	70-85	45-70	25-33	8-14
	53-60	Stratified loamy sand to sandy loam	SM, SC-SM	A-2-4	0	0-5	90-100	70-100	35-60	14-40	19-25	1-7
134B:												
Camden-----	0-9	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	24-37	6-15
	9-15	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	95-100	24-35	6-15
	15-34	Silt loam, silty clay loam	CL	A-7-6	0	0	100	97-100	95-100	90-100	35-46	14-24
	34-40	Clay loam, sandy loam, silt loam	SC, ML, CL	A-4, A-6	0	0-5	90-100	90-100	70-85	45-70	25-33	8-14
	40-60	Stratified loamy sand to sandy loam	SM, SC-SM	A-2-4	0	0-5	90-100	70-100	35-60	14-40	19-25	1-7

Table 21.--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	
134C2:												
Camden-----	0-7	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	24-37	6-15
	7-34	Silt loam, silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	95-100	91-100	35-46	14-24
	34-43	Loam, clay loam	CL, SC	A-4, A-6	0	0-5	90-100	90-100	77-96	48-77	25-33	8-14
	43-80	Stratified loamy sand to sandy loam	SM, SC-SM	A-2-4, A-4, A-1-b	0	0-5	90-100	80-100	40-89	15-40	19-25	1-7
134D2:												
Camden-----	0-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	95-100	24-37	6-15
	7-34	Silt loam, silty clay loam	CL	A-7-6	0	0	100	97-100	95-100	95-100	35-46	14-24
	34-43	Loam, clay loam	CL, SC, ML	A-4, A-6	0	0-5	90-100	90-100	70-85	45-70	25-33	8-14
	43-80	Stratified loamy sand to sandy loam	SC-SM, SM	A-2-4, A-4, A-1-b	0	0-5	90-100	80-100	35-60	15-40	19-25	1-7
134D3:												
Camden-----	0-7	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	35-45	15-25
	7-37	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	35-45	15-25
	37-53	Sandy loam, loam	SC, SC-SM	A-4, A-2-4	0	0	100	95-100	80-90	35-50	20-30	5-10
	53-60	Loamy fine sand, loamy sand, fine sand	SP-SM, SM, SC-SM	A-2-4, A-4, A-3	0	0	100	95-100	70-90	5-40	6-20	NP-5
134F:												
Camden-----	0-9	Silt loam	CL-ML, CL	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-7-6	0	0	100	100	95-100	95-100	35-45	15-25
	31-40	Sandy loam, loam, clay loam	SC-SM, SC	A-4, A-2-4	0	0	100	95-100	80-90	35-50	20-30	5-10
	40-60	Sandy loam, loamy sand, sand	SC-SM, SP-SM, SM	A-2-4, A-3, A-4	0	0	100	95-100	70-90	5-40	6-20	NP-5
146A:												
Elliott-----	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	29-37	7-15
	6-11	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	85-100	40-46	15-19
	11-16	Silty clay	CH, CL	A-7-6	0	0	100	95-100	90-100	85-100	42-56	18-30
	16-41	Silty clay loam	CL	A-6, A-7-6	0	0-1	95-100	85-98	80-95	70-95	33-42	12-20
	41-60	Silty clay loam	CL	A-6	0	0-3	95-100	85-98	80-95	70-95	31-37	10-17

Table 21.--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		
146B: Elliott-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	29-37	7-15
	9-13	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	85-100	40-46	15-19
	13-17	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	95-100	90-100	85-100	40-52	15-28
	17-35	Silty clay loam	CL	A-6, A-7-6	0	0-1	95-100	85-98	80-95	70-95	33-42	12-20
	35-60	Silty clay loam	CL	A-6	0	0-3	95-100	85-98	80-95	70-95	31-37	10-17
146B2: Elliott-----	0-8	Silty clay loam	CL, ML	A-7-6	0	0	100	100	95-100	85-100	40-46	15-19
	8-14	Silty clay loam, silty clay	CL, MH, CH	A-7-6	0	0	100	95-100	90-100	85-100	40-52	15-28
	14-27	Silty clay loam	ML, CL	A-6, A-7-6	0	0-1	95-100	85-98	80-95	70-95	33-42	12-20
	27-60	Silty clay loam	ML, CL	A-6	0	0-3	95-100	85-98	80-95	70-95	31-37	10-17
147B2: Clarence-----	0-8	Silty clay loam	CL	A-6, A-7-6	0	0	95-100	95-100	90-100	85-100	30-45	15-25
	8-35	Silty clay, clay	MH, CH	A-7-6	0	0-5	95-100	95-100	90-100	85-100	50-65	25-40
	35-60	Silty clay, clay	CL, MH, CH	A-7-6	0	0-5	95-100	95-100	90-100	85-100	45-65	25-40
148A: Proctor-----	0-11	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	10-20
	11-27	Silty clay loam, silt loam	CL	A-6, A-4, A- 7-6	0	0	100	100	95-100	85-100	25-50	10-25
	27-44	Clay loam, sandy loam, silt loam	CL-ML, CL, SC-SM, SC	A-4, A-6, A- 7-6, A-2-6	0	0	95-100	85-100	75-95	30-85	20-45	5-25
	44-73	Stratified loamy sand to loam	SC-SM, SC, CL-ML, CL	A-6, A-4, A- 2-6	0	0	90-100	80-98	65-95	15-85	20-35	5-20
148B: Proctor-----	0-11	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	90-100	25-40	10-20
	11-28	Silty clay loam, silt loam	CL	A-6, A-7-6, A-4	0	0	100	100	95-100	90-100	25-50	10-25
	28-33	Loam, clay loam, sandy loam	CL, CL-ML, SC, SC-SM	A-2-4, A-2-6, A-4, A-6, A-	0	0	90-100	85-100	75-100	30-85	20-45	5-25
	33-60	Stratified loam to sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6, A- 2-4, A-2-6	0	0	85-100	80-100	50-100	15-85	20-40	5-20
148C2: Proctor-----	0-8	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	85-100	25-40	10-20
	8-32	Silty clay loam, silt loam	CL	A-6, A-7-6, A-4	0	0	95-100	90-100	85-100	85-100	25-50	10-25
	32-48	Clay loam, sandy loam, loam	SC-SM, CL, CL-ML, SC	A-2-4, A-4, A-6, A-7-6, A-2-6	0	0	90-100	85-100	75-100	30-80	20-45	5-25
	48-60	Stratified loam to sandy loam	SC-SM, CL-ML, CL, SC	A-6, A-4, A- 2-4, A-2-6	0	0	85-100	80-100	50-100	25-80	20-40	5-20

Table 21.--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	
149A: Brenton-----	0-12	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	85-100	30-40	8-15
	12-28	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	85-100	35-50	10-25
	28-44	Clay loam, silt loam, sandy loam	CL, SC, ML, SM	A-6, A-7-6	0	0	100	95-100	90-100	40-85	30-45	10-20
	44-60	Stratified loamy sand to clay loam	CL, SC, SC- SM, CL-ML	A-2-4, A-2-6, A-4, A-6	0	0	95-100	80-100	80-100	15-85	20-35	5-20
151A: Ridgeville-----	0-16	Fine sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	100	100	75-100	20-50	15-25	2-10
	16-40	Fine sandy loam, loam, sandy clay loam	SC, SC-SM, CL, CL-ML	A-4, A-6	0	0	98-100	95-100	75-95	35-60	20-35	5-15
	40-60	Loamy sand, sandy loam, fine sand	SC, SC-SM, SM, SP-SM	A-2-4, A-4	0	0	95-100	90-100	65-95	5-45	15-20	NP-8
151B: Ridgeville-----	0-14	Fine sandy loam	SC-SM, SC, SM	A-2-4, A-4	0	0	100	100	75-100	20-50	15-25	2-10
	14-56	Sandy loam, loam, sandy clay loam	SC, SC-SM, CL, CL-ML	A-4, A-6	0	0	98-100	95-100	75-95	35-60	20-35	5-15
	56-60	Loamy sand, sandy loam, fine sand	SC-SM, SC, SM, SP-SM	A-2-4, A-4	0	0	95-100	90-100	65-95	5-45	15-20	NP-8
152A: Drummer-----	0-14	Silty clay loam	CL	A-6, A-7-6	0	0	100	95-100	95-100	85-100	30-50	15-30
	14-41	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	95-100	95-100	85-100	30-50	15-30
	41-47	Loam, clay loam, sandy loam	CL, SC	A-6, A-7-6	0	0-5	95-100	90-100	75-95	40-85	30-50	15-30
	47-60	Stratified loamy sand to silty clay loam	SC-SM, SC, CL-ML, CL	A-2-6, A-4, A-6, A-2-4	0	0-5	95-100	80-98	75-95	15-85	20-35	7-20
154A: Flanagan-----	0-18	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	24-37	4-14
	18-38	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	95-100	45-52	22-28
	38-45	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	95-100	35-40	14-20
	45-49	Silt loam, loam	CL	A-6, A-4	0	0-3	85-100	80-100	75-90	60-90	25-33	9-13
	49-60	Loam	SC, SC-SM, CL, CL-ML	A-4, A-6	0-1	0-5	85-100	80-100	75-90	45-70	22-33	4-14

Table 21.--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	
171A: Catlin-----	0-11	Silt loam	CL-ML, CL	A-4, A-6, A-7-6	0	0	100	100	95-100	90-100	25-45	5-20
	11-44	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	95-100	90-100	90-100	30-50	15-30
	44-49	Clay loam, silty clay loam, loam	CL	A-6	0	0-3	90-100	85-100	70-95	50-80	25-40	10-20
	49-60	Loam, clay loam, silty clay loam	CL-ML, CL	A-4, A-6	0	0-3	90-100	85-100	70-90	45-70	20-35	5-15
171B: Catlin-----	0-11	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	97-100	95-100	24-37	5-15
	11-16	Silty clay loam	CL	A-7-6	0	0	100	100	97-100	95-100	40-46	16-21
	16-41	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	85-100	37-46	16-24
	41-45	Clay loam	CL	A-6	0	0	90-98	85-98	76-95	54-83	33-39	12-18
	45-60	Loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0-1	0-3	90-100	85-95	70-90	45-70	22-33	4-14
171B2: Catlin-----	0-8	Silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	29-37	10-16
	8-41	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	41-47	Loam	CL, ML	A-6, A-4	0	0	90-98	85-98	80-95	60-75	25-36	8-16
	47-60	Loam	CL, CL-ML, SC-SM, SC, ML	A-4, A-6	0-1	0-3	90-98	85-95	70-90	50-70	25-36	8-16
171C2: Catlin-----	0-9	Silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	29-37	10-16
	9-40	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	40-50	Silty clay loam, silt loam	CL	A-6	0	0	100	97-100	95-100	85-100	35-40	14-20
	50-55	Clay loam	CL	A-6	0	0	90-98	85-98	76-95	55-85	33-39	12-18
	55-60	Clay loam	CL	A-6	0-1	0-2	90-98	80-95	70-90	50-80	33-39	13-18
171C3: Catlin-----	0-5	Silty clay loam	CL, ML	A-6	0	0	100	100	97-100	95-100	36-43	16-21
	5-44	Silty clay loam, silt loam	CL, ML	A-6	0	0	100	97-100	95-100	85-100	35-43	15-21
	44-49	Silt loam, silty clay loam	CL, ML	A-6	0	0	90-100	85-98	80-95	77-90	35-43	15-21
	49-60	Silty clay loam	CL, ML	A-6	0	0-2	90-100	80-98	80-90	80-90	36-43	16-21

Table 21.--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	
193C2: Mayville-----	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-98	20-30	4-15
	6-24	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	90-100	85-98	35-55	15-35
	24-34	Clay loam, sandy clay loam, loam	CL, SC	A-6, A-7-6	0-1	0-2	90-100	85-95	70-95	35-75	35-50	15-30
	34-60	Gravelly sandy loam, loam, gravelly loam	CL, CL-ML, SC, SC-SM	A-2-4, A-4, A-6	0-1	0-5	85-98	80-95	60-95	30-70	15-35	4-15
198A: Elburn-----	0-16	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	97-100	95-100	24-37	4-14
	16-49	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	97-100	95-100	37-46	16-24
	49-58	Stratified sandy loam to silt loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	85-100	55-75	20-30	5-15
	58-62	Stratified sandy loam to loamy sand	SC-SM, SM	A-2-4, A-4	0	0	95-100	90-100	50-85	20-45	19-25	1-7
199A: Plano-----	0-14	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	90-100	20-30	5-15
	14-49	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	10-25
	49-60	Loam, clay loam, sandy loam	CL, SC, SM, ML	A-4, A-6	0	0-1	90-100	85-95	60-90	40-65	30-45	10-25
	60-72	Stratified loamy sand to silt loam	CL-ML, SC-SM, ML, CL, SM, SC	A-2-4, A-4	0	0-5	90-100	70-95	40-80	15-55	20-25	NP-10
199B: Plano-----	0-15	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	27-35	7-15
	15-45	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	29-40	11-25
	45-55	Clay loam, loam, sandy loam	CL	A-4, A-6	0	0	85-100	80-97	55-95	50-85	25-35	7-25
	55-72	Stratified loamy sand to silt loam	CL, SM, SC, 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 21.--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	
199C2: Plano-----	0-8	Silt loam	CL-ML, CL	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	SC, SC-SM, CL, CL-ML	A-6, A-4, A- 7-6	0	0-1	90-100	85-95	60-90	35-75	20-45	5-25
	53-60	Stratified loamy sand to silt loam	SC, CL-ML, SC-SM, SM	A-2-4, A-4	0	0-5	90-100	70-95	60-90	15-70	0-25	NP-10
206A: Thorpe-----	0-14	Silt loam	CL	A-4, A-6	0	0	100	95-100	90-100	85-100	20-40	8-20
	14-19	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	90-100	85-100	15-35	7-15
	19-43	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	95-100	90-100	85-100	35-50	15-30
	43-50	Loam, clay loam, sandy clay loam	SC, CL	A-4, A-6	0	0	90-100	85-100	70-95	40-90	20-40	10-20
	50-65	Stratified loamy sand to loam	SC-SM, SM	A-2-4, A-4	0	0	85-100	80-95	35-80	25-50	15-25	2-7
210A: Lena-----	0-8	Muck	PT	A-8	0	0	---	---	---	---	0-0	NP
	8-60	Muck	PT	A-8	0	0	---	---	---	---	0-0	NP
219A: Millbrook-----	0-7	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	95-100	85-100	20-35	5-15
	7-24	Silty clay loam, silt loam	ML, CL	A-6, A-7-6	0	0	100	100	95-100	85-100	30-45	10-25
	24-53	Clay loam, loam, sandy loam	SM, ML, CL, SC	A-6, A-7-6	0	0-3	95-100	85-100	70-95	40-85	25-50	10-25
	53-80	Stratified loamy sand to clay loam	SC, SM, CL- ML, CL	A-2-6, A-2-4, A-4, A-6	0-1	0-5	90-100	80-100	65-90	15-80	5-30	NP-15
223B: Varna-----	0-12	Silt loam	CL, ML	A-4, A-6	0	0-1	98-100	95-100	90-100	80-95	25-40	8-20
	12-30	Silty clay, silty clay loam, clay	CL, CH, MH	A-6, A-7-6	0-1	0-3	95-100	90-100	85-100	80-95	35-55	20-35
	30-48	Silty clay, silty clay loam	CL, ML	A-6, A-7-6	0-1	0-5	95-100	85-100	80-100	75-95	30-50	15-30
	48-60	Silty clay loam, clay loam	CL, ML	A-6, A-7-6	0-1	0-5	90-100	85-100	80-100	70-95	30-45	13-25

Table 21.--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	
223B2: Varna-----	0-7	Silt loam	CL, ML	A-4, A-6	0	0-1	98-100	95-100	90-100	80-95	25-40	8-20
	7-26	Silty clay, silty clay loam, clay	CL, CH, MH	A-6, A-7-6	0-1	0-3	95-100	90-100	85-100	80-95	35-55	20-35
	26-38	Silty clay, silty clay loam	CL, ML	A-6, A-7-6	0-1	0-5	95-100	85-100	80-100	75-95	30-50	15-30
	38-60	Silty clay loam, clay loam	CL, ML	A-6, A-7-6	0-1	0-5	90-100	85-100	80-100	70-95	30-45	13-25
223C2: Varna-----	0-9	Silt loam	CL, ML	A-4, A-6	0	0-1	98-100	95-100	90-100	80-95	25-40	8-20
	9-29	Silty clay, silty clay loam, clay	CL, CH, MH	A-6, A-7-6	0-1	0-3	95-100	90-100	85-100	80-95	35-55	20-35
	29-50	Silty clay, silty clay loam	CL, ML	A-6, A-7-6	0-1	0-5	95-100	85-100	80-100	75-95	30-50	15-30
	50-60	Silty clay loam, clay loam	CL, ML	A-6, A-7-6	0-1	0-5	90-100	85-100	80-100	70-95	30-45	13-25
223C3: Varna-----	0-6	Silty clay loam	CL	A-6, A-7-6	0	0-1	98-100	95-100	90-100	80-95	30-45	12-25
	6-16	Silty clay, silty clay loam, clay	CL, CH, MH	A-6, A-7-6	0-1	0-3	95-100	90-100	85-100	80-95	35-55	20-35
	16-19	Silty clay, silty clay loam	CL, ML	A-6, A-7-6	0-1	0-5	95-100	85-100	80-100	75-95	30-50	15-30
	19-60	Silty clay loam, clay loam	CL, ML	A-6, A-7-6	0-1	0-5	90-100	85-100	80-100	70-95	30-45	13-25
223D2: Varna-----	0-9	Silt loam	CL, ML	A-4, A-6	0	0-1	98-100	95-100	90-100	80-95	25-40	8-20
	9-31	Silty clay, silty clay loam, clay	CL, CH, MH	A-6, A-7-6	0-1	0-3	95-100	90-100	85-100	80-95	35-55	20-35
	31-36	Silty clay, silty clay loam	CL, ML	A-6, A-7-6	0-1	0-5	95-100	85-100	80-100	75-95	30-50	15-30
	36-60	Silty clay loam, clay loam	CL, ML	A-6, A-7-6	0-1	0-5	90-100	85-100	80-100	70-95	30-45	13-25
223D3: Varna-----	0-8	Silty clay loam	CL	A-6, A-7-6	0-1	0-10	95-100	90-100	85-100	75-95	30-50	12-25
	8-20	Silty clay, silty clay loam, clay	CH, CL	A-6, A-7-6	0-1	0-10	95-100	85-100	80-100	75-95	35-56	15-29
	20-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-10	95-100	85-100	80-100	70-95	30-45	13-26

Table 21.--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>228B:</b>												
Nappanee-----	0-4	Silt loam	CL	A-4, A-6	0	0-1	95-100	95-100	90-100	80-95	25-40	8-20
	4-9	Silt loam	CL, CL-ML	A-4, A-6	0	0-1	95-100	95-100	90-100	80-95	20-35	5-18
	9-23	Silty clay, clay	CL, CH	A-7-5, A-7-6	0	0-2	95-100	90-100	85-100	80-95	40-70	20-40
	23-46	Silty clay, clay	CL, CH	A-6, A-7-6	0	0-2	95-100	90-100	85-100	75-95	30-50	15-30
	46-60	Silty clay loam, silty clay, clay	CL, CH	A-6, A-7-6	0-1	0-3	95-100	85-100	80-100	70-95	30-50	10-30
<b>228C2:</b>												
Nappanee-----	0-5	Silty clay loam	CL	A-6, A-7-6	0	0-1	95-100	95-100	90-100	80-95	30-45	10-30
	5-8	Silty clay loam	CL	A-6, A-7-6	0	0-1	95-100	95-100	90-100	80-95	30-45	10-30
	8-23	Silty clay, clay	CL, CH	A-7-5, A-7-6	0	0-2	95-100	90-100	85-100	80-95	40-70	20-40
	23-27	Silty clay, clay	CL, CH	A-6, A-7-6	0	0-2	95-100	90-100	85-100	75-95	30-50	15-30
	27-80	Silty clay, silty clay loam, clay	CL, CH	A-6, A-7-6	0-1	0-3	95-100	85-100	80-100	70-95	30-50	10-30
<b>228C3:</b>												
Nappanee-----	0-7	Silty clay loam	CL	A-6, A-7-6	0	0-1	95-100	95-100	90-100	80-95	36-48	16-25
	7-16	Silty clay, clay	CL, CH	A-7-6	0	0-2	95-100	90-100	85-100	80-95	53-66	29-39
	16-20	Silty clay, clay	CL, CH	A-7-6	0	0-2	95-100	90-100	85-100	75-95	48-61	25-35
	20-60	Silty clay, clay	CL, CH	A-7-6	0-1	0-3	95-100	85-100	80-100	70-95	48-57	25-32
<b>232A:</b>												
Ashkum-----	0-12	Silty clay loam	CL, CH	A-7-6	0	0	100	100	95-100	85-100	45-52	22-28
	12-29	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	97-100	95-100	85-100	45-57	22-32
	29-54	Silty clay loam	CL	A-6	0	0-1	95-100	85-98	80-95	70-95	33-45	12-22
	54-60	Silty clay loam	CL	A-6	0	0-3	95-100	85-98	80-95	70-95	33-39	12-17
<b>233A:</b>												
Birkbeck-----	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-11	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	25-35	7-20
	11-46	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	100	100	95-100	35-45	15-25
	46-56	Loam, silty clay loam, clay loam	CL, SC-SM, SC, ML	A-4, A-6	0-1	0-5	85-100	80-100	70-90	45-70	25-35	8-15
	56-60	Loam, silt loam, clay loam	CL, SC-SM, SC, ML	A-4, A-6	0-1	0-5	85-100	80-100	70-90	45-70	25-35	5-15
<b>233B:</b>												
Birkbeck-----	0-4	Silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	29-37	11-18
	4-9	Silt loam	CL	A-6, A-4	0	0	100	100	97-100	95-100	24-37	7-18
	9-54	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-25
	54-60	Loam	CL, SC	A-6, A-4	0	0-1	85-100	85-100	70-90	45-70	25-33	8-14
	60-68	Loam	CL, SC, SC- SM, CL-ML	A-4, A-6	0-1	0-3	85-100	85-100	70-90	45-70	22-33	4-14

Table 21.--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	
233C2:												
Birkbeck-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	20-35	5-15
	9-42	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	95-100	95-100	90-100	30-50	10-25
	42-48	Loam, silty clay loam, clay loam	CL, CL-ML, ML	A-4, A-6	0-1	0-5	95-100	80-100	70-100	50-85	25-40	5-20
	48-60	Loam, silt loam, clay loam	CL, CL-ML	A-4, A-6	0-1	0-5	95-100	80-100	70-100	50-85	20-40	5-20
234A:												
Sunbury-----	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	24-37	4-14
	8-15	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	24-37	4-14
	15-36	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	95-100	45-52	22-28
	36-43	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	95-100	35-40	14-20
	43-47	Silt loam, loam	CL	A-6, A-4	0	0	100	90-100	75-90	60-90	25-33	9-13
	47-72	Loam	CL, CL-ML	A-4, A-6	0	0	100	90-100	70-90	50-70	22-33	4-13
235A:												
Bryce-----	0-13	Silty clay	CH, CL, MH	A-7-6, A-7-5	0	0	100	100	95-100	85-98	45-60	20-30
	13-45	Silty clay, clay	CH, MH	A-7-6	0-1	0-2	95-100	95-100	95-100	80-95	50-60	25-35
	45-58	Silty clay, clay	MH, CH, CL	A-7-6	0-1	0-3	95-100	90-100	90-100	75-95	45-60	20-35
	58-66	Silty clay, silty clay loam, clay	CH, CL, MH	A-7-6, A-7-5	0-1	0-5	95-100	85-100	80-100	75-95	40-60	20-30
236A:												
Sabina-----	0-8	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	8-15
	8-12	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	25-35	8-20
	12-43	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	95-100	45-60	25-35
	43-50	Clay loam, loam, silt loam, silty clay loam	CL	A-6	0-1	0-3	95-100	90-100	70-95	50-80	30-40	10-20
	50-80	Clay loam, loam, silt loam	CL	A-6	0-1	0-5	90-100	85-95	70-95	50-80	25-35	10-15
238A:												
Rantoul-----	0-17	Silty clay	MH, CL, CH	A-7-6, A-7-5	0	0	100	98-100	90-100	90-100	40-60	18-30
	17-40	Silty clay, clay	CH, CL, MH	A-7-5, A-7-6	0	0	98-100	95-100	90-100	85-100	45-70	20-40
	40-60	Silty clay loam, silty clay, clay	CL, MH, CH	A-6, A-7-6, A-7-5	0	0-2	95-100	90-100	90-100	85-100	38-65	16-38

Table 21.--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	
241C3:												
Chatsworth-----	0-5	Silty clay	MH, CH	A-7-6, A-7-5	0	0	100	100	95-100	90-100	50-65	25-35
	5-16	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	95-100	90-100	45-75	20-45
	16-60	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	90-100	80-95	45-65	20-35
241D3:												
Chatsworth-----	0-2	Silty clay	MH, CH	A-7-6, A-7-5	0	0	100	100	95-100	90-100	50-65	25-35
	2-22	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	95-100	90-100	45-75	20-45
	22-60	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	90-100	80-95	45-65	20-35
241E3:												
Chatsworth-----	0-7	Silty clay	CH, MH	A-7-6, A-7-5	0	0	100	100	95-100	90-100	50-65	25-35
	7-21	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	95-100	90-100	45-75	20-45
	21-60	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	90-100	80-95	45-65	20-35
241F:												
Chatsworth-----	0-4	Silty clay loam	CL, MH, CH	A-7-6, A-6	0	0	100	100	95-100	90-100	30-55	10-30
	4-24	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	95-100	90-100	45-75	20-45
	24-60	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	90-100	80-95	45-65	20-35
241G:												
Chatsworth-----	0-5	Silty clay loam	CL, MH, CH	A-7-6, A-6	0	0	100	100	95-100	90-100	30-55	10-30
	5-20	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	95-100	90-100	45-75	20-45
	20-60	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6, A-7-5	0	0	100	95-100	90-100	80-95	45-65	20-35
242A:												
Kendall-----	0-7	Silt loam	CL, CL-ML, ML	A-6, A-4	0	0	100	100	95-100	90-100	20-35	5-15
	7-11	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	90-100	20-35	5-15
	11-51	Silty clay loam	CL	A-7-6, A-6	0	0	100	100	95-100	90-100	35-45	16-25
	51-58	Loam, clay loam	CL, SC	A-6, A-4	0	0	95-100	80-98	65-98	40-80	25-35	8-15
	58-80	Stratified sandy loam to silt loam	CL-ML, CL, SC-SM, SC	A-4	0	0-3	90-100	80-98	60-95	40-80	20-30	4-10

Table 21.--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	
243A:												
St. Charles-----	0-9	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	22-35	7-15
	9-51	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-40	10-20
	51-60	Stratified sandy loam, to clay loam	SC, CL	A-4, A-6	0	0	90-100	75-100	75-95	40-80	20-35	8-20
243B:												
St. Charles-----	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	22-35	7-15
	8-50	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-40	10-20
	50-60	Clay loam, silt loam, sandy loam, loam, stratified sandy loam to silt loam	CL, SC	A-4, A-6	0	0	90-100	75-100	75-95	40-80	20-35	8-20
243C2:												
St. Charles-----	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	95-100	95-100	22-35	7-15
	8-41	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-40	10-25
	41-60	Clay loam, silt loam, sandy loam, loam	CL, SC	A-4, A-6	0	0	90-100	75-100	75-95	40-80	20-35	8-20
244A:												
Hartsburg-----	0-17	Silty clay loam	ML, CL	A-7-6	0	0	100	100	97-100	95-100	40-46	15-19
	17-34	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	34-60	Silt loam	CL	A-6, A-4	0	0	95-100	90-100	90-100	85-100	24-37	7-18
278A:												
Stronghurst-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	7-11	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	20-35	5-15
	11-47	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	40-55	20-35
	47-60	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-40	5-20
278B:												
Stronghurst-----	0-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	10-48	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	40-55	20-35
	48-60	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-20

Table 21.--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-7-6	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
280C2: Fayette-----	0-8	Silt loam	CL	A-6, A-7-6, A-4	0	0	100	100	100	95-100	30-45	10-25
	8-64	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	35-45	15-25
	64-80	Silt loam	CL	A-6, A-4	0	0	100	100	100	95-100	30-40	10-20
290A: Warsaw-----	0-11	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	85-98	70-95	20-30	4-15
	11-28	Sandy clay loam, loam, clay loam, silty clay loam	CL, ML, SC, SM	A-4, A-6	0	0-3	90-100	85-100	70-95	40-90	20-40	8-20
	28-32	Gravelly loam, gravelly sandy clay loam, gravelly clay loam, gravelly sandy loam	CL, GC, SC, SC-SM	A-2-4, A-2-6, A-4, A-6	0-1	0-5	70-90	60-75	55-70	30-60	20-35	5-20
	32-80	Stratified gravelly loamy sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a	0-3	1-5	30-80	15-75	7-20	2-10	0-15	NP

Table 21.--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	
290B: Warsaw-----	0-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	85-98	70-95	20-30	4-15
	10-24	Sandy clay loam, loam, clay loam, silty clay loam	CL, ML, SC, SM	A-4, A-6	0	0-3	90-100	85-100	70-95	40-90	20-40	8-20
	24-34	Gravelly loam, gravelly sandy clay loam, gravelly clay loam, gravelly sandy loam	CL, GC, SC, SC-SM	A-2-4, A-2-6, A-4, A-6	0-1	0-5	70-90	60-75	55-70	30-60	20-35	5-20
	34-60	Stratified gravelly loamy sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a	0-3	1-5	30-80	15-75	7-20	2-10	0-15	NP
290C2: Warsaw-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	85-98	70-95	20-30	4-15
	8-16	Sandy clay loam, loam, clay loam, silty clay loam	CL, ML, SC, SM	A-4, A-6	0	0-3	90-100	85-100	70-95	40-90	20-40	8-20
	16-27	Gravelly loam, gravelly sandy clay loam, gravelly clay loam, gravelly sandy loam	CL, GC, SC, SC-SM	A-2-4, A-2-6, A-4, A-6	0-1	0-5	70-90	60-75	55-70	30-60	20-35	5-20
	27-60	Stratified gravelly loamy sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a	0-3	1-5	30-80	15-75	7-20	2-10	0-15	NP
293A: Andres-----	0-11	Silt loam	ML, CL	A-4, A-6	0	0	95-100	90-100	80-95	65-90	29-33	7-13
	11-26	Clay loam, sandy, clay loam, loam	ML, CL	A-6	0	0-1	95-100	85-100	75-95	50-80	31-39	11-18
	26-50	Silty clay loam	ML, CL	A-6	0	0-1	95-100	85-100	80-95	70-95	33-39	12-17
	50-60	Silty clay loam silt loam	CL, ML	A-6	0	0-3	95-100	85-100	80-95	70-95	30-39	10-17

Table 21.--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	
293B:												
Andres-----	0-10	Silt loam	ML, CL	A-4, A-6	0	0	95-100	90-100	80-95	65-90	29-33	7-13
	10-36	Clay loam, sandy clay loam, loam	ML, CL	A-6	0	0-1	95-100	85-100	75-95	50-80	31-39	11-18
	36-47	Silty clay loam, silt loam	ML, CL	A-6	0	0-1	95-100	85-100	80-95	70-95	33-39	12-17
	47-60	Silty clay loam, silt loam	ML, CL	A-6	0	0-3	95-100	85-100	80-95	70-95	30-39	10-17
294B:												
Symerton-----	0-15	Silt loam	ML, CL	A-4, A-6	0	0	95-100	90-100	80-100	65-90	29-33	7-13
	15-19	Silty clay loam	ML, CL	A-6	0	0	95-100	90-100	80-100	70-95	31-37	10-15
	19-35	Gravelly clay loam, loam, clay loam, gravelly loam	CL, ML, SC, SM	A-6, A-4	0	0-3	85-100	70-95	60-85	40-60	29-39	9-20
	35-39	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	28-39	7-18
	39-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	24-37	7-18
294C2:												
Symerton-----	0-8	Silt loam	ML, CL	A-6, A-4	0	0	95-100	90-100	80-100	65-90	29-33	7-13
	8-31	Gravelly clay loam, loam, clay loam, gravelly loam	CL, ML, SC, SM	A-6, A-4	0	0-3	85-100	70-95	60-85	40-60	29-39	9-20
	31-40	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	28-39	7-18
	40-60	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0-1	95-100	90-100	85-100	75-95	24-37	7-18
295A:												
Mokena-----	0-5	Silt loam	CL, ML	A-4, A-6	0	0	95-100	90-100	80-95	65-90	25-35	8-15
	5-15	Loam	CL, ML	A-6, A-4	0	0	95-100	90-100	80-95	60-80	25-35	8-15
	15-38	Clay loam, sandy clay loam, loam	CL, ML	A-6	0	0-1	95-100	85-100	75-95	50-80	30-40	11-19
	38-42	Silty clay, clay	CL, MH, CH	A-7-6	0	0-2	95-100	90-100	85-100	80-100	45-60	20-35
	42-60	Silty clay, clay	CH, CL, MH	A-7-6	0	0-5	90-100	85-100	85-100	80-100	40-55	20-31
295B:												
Mokena-----	0-15	Silt loam	CL, ML	A-4, A-6	0	0	95-100	90-100	80-95	65-90	29-33	7-13
	15-31	Loam, silt loam, silty clay loam	CL, ML	A-6	0	0-1	95-100	85-100	75-95	50-80	31-39	11-18
	31-44	Silty clay, clay	CL, CH, MH	A-7-6	0	0-2	95-100	90-100	85-100	80-100	45-60	20-35
	44-80	Silty clay, clay	CH, CL, MH	A-7-6	0	0-5	90-100	85-100	80-100	80-100	40-55	20-31

Table 21.--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											
298B:												
Beecher-----	0-7	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	85-100	29-37	7-15
	7-24	Silty clay loam, silty clay	MH, CH, CL	A-7-6, A-6	0	0	100	95-100	90-100	85-100	35-55	15-30
	24-36	Silty clay loam	ML, CL	A-6, A-7-6	0	0-1	95-100	85-98	80-95	70-95	33-42	12-20
	36-60	Silty clay loam	CL, ML	A-6	0	0-3	95-100	85-98	80-95	70-95	31-37	10-17
311B:												
Ritchey-----	0-5	Silt loam	ML, CL	A-4, A-6	0	0	95-100	95-100	90-100	70-95	25-40	7-20
	5-9	Silt loam, loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	95-100	90-100	70-95	20-35	5-15
	9-17	Silty clay loam, clay loam, loam	CL, ML	A-6, A-7-6	0-2	0-5	90-100	85-100	70-100	50-85	30-45	15-25
	17-60	Bedrock	---	---	---	---	---	---	---	---	---	---
314A:												
Joliet-----	0-15	Silt loam	CL	A-6, A-4	0-1	0-5	90-100	80-100	75-95	70-90	25-40	7-20
	15-19	Loam, clay loam, silty clay loam	CL	A-6, A-7-6	0-1	0-5	90-100	80-100	60-98	55-90	30-50	20-35
	19-60	Bedrock	---	---	---	---	---	---	---	---	---	---
315B:												
Channahon-----	0-11	Silt loam	ML, CL	A-4, A-6	0-1	0-5	90-100	80-100	75-95	70-90	20-40	7-20
	11-18	Loam, silt loam, clay loam, silty clay loam	CL	A-6, A-7-6	0-2	0-10	90-100	80-100	75-95	50-85	30-45	15-25
	18-60	Bedrock	---	---	---	---	---	---	---	---	---	---
317A:												
Millsdale-----	0-18	Silty clay loam	CL, ML	A-6, A-7-6	0	0	90-100	85-100	80-100	75-95	30-50	12-25
	18-36	Silty clay, silty clay loam, clay loam	CL, CH, MH	A-7-6	0	0-5	85-100	80-100	75-100	60-95	40-60	20-35
	36-60	Bedrock	---	---	---	---	---	---	---	---	---	---
318B:												
Lorenzo-----	0-9	Loam	CL, ML	A-6	0	0-5	95-100	90-100	75-90	60-75	25-40	10-20
	9-18	Loam, clay loam, gravelly sandy clay loam	CL, ML, SC, SM	A-2-6, A-6, A-7-6	0	2-10	85-100	50-95	35-85	20-70	30-45	10-25
	18-60	Stratified gravelly loamy sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a	0	5-20	25-80	10-70	5-40	1-15	0-15	NP-5

Table 21.--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>318C2:</b>												
Lorenzo-----	0-7	Loam	CL, ML	A-6	0	0-5	95-100	90-100	75-90	60-75	25-40	10-20
	7-16	Loam, clay loam, gravelly sandy clay loam	CL, ML, SC, SM	A-2-6, A-6, A-7-6	0	2-10	85-100	50-95	35-85	20-70	30-45	10-25
	16-60	Stratified gravelly loamy sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a	0	5-20	25-80	10-70	5-40	1-15	0-15	NP-5
<b>320B:</b>												
Frankfort-----	0-8	Silt loam	CL, ML	A-4, A-6	0	0	98-100	95-100	90-100	80-95	25-40	8-20
	8-12	Silty clay loam	CL, ML	A-6, A-7-6	0	0	98-100	95-100	90-100	80-95	25-45	10-25
	12-32	Silty clay, clay	CL, CH, MH	A-7-5, A-7-6	0	0-2	95-100	90-100	85-100	80-95	40-70	20-40
	32-37	Silty clay, clay	CL, ML	A-6, A-7-6	0	0-2	95-100	90-100	85-100	75-95	30-50	15-30
	37-60	Silty clay loam, silty clay, clay	CL, ML	A-6, A-7-6	0-1	0-3	95-100	85-100	80-100	70-95	30-50	10-30
<b>320C2:</b>												
Frankfort-----	0-7	Silty clay loam	CL, ML	A-6, A-7-6	0	0	98-100	95-100	90-100	80-95	25-45	10-25
	7-28	Silty clay, clay	CL, CH, MH	A-7-5, A-7-6	0	0-2	95-100	90-100	85-100	80-95	40-70	20-40
	28-32	Silty clay, clay	CL, ML	A-6, A-7-6	0	0-2	95-100	90-100	85-100	75-95	30-50	15-30
	32-60	Silty clay loam, silty clay, clay	CL, ML	A-6, A-7-6	0-1	0-3	95-100	85-100	80-100	70-95	30-50	10-30
<b>325B:</b>												
Dresden-----	0-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	90-100	70-98	20-40	5-15
	7-16	Silty clay loam, clay loam, loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	80-100	70-100	50-95	30-45	10-25
	16-30	Clay loam, gravelly clay loam, sandy clay loam, very gravelly loam	CL, ML, SC, SM	A-2-6, A-6, A-7-6	0-1	0-5	60-100	40-100	35-90	30-70	25-45	10-25
	30-60	Stratified gravelly loamy sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a, A-1-b	0-5	5-35	45-90	15-70	10-50	1-20	0-14	NP

Table 21.--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	
325C2: Dresden-----	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	90-100	70-98	20-40	5-15
	9-15	Silty clay loam, clay loam, loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	80-100	70-100	50-95	30-45	10-25
	15-32	Clay loam, gravelly clay loam, loam, very gravelly loam	CL, ML, SC, SM	A-2-6, A-6, A-7-6	0-1	0-5	60-100	40-100	35-90	30-70	25-45	10-25
	32-60	Stratified gravelly loamy sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a, A-1-b	0-5	5-35	45-90	15-70	10-50	1-20	0-14	NP
327B: Fox-----	0-4	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	95-100	85-98	70-95	15-30	3-15
	4-7	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	95-100	85-98	70-95	15-30	3-15
	7-13	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0-1	95-100	85-100	75-100	70-95	25-50	10-25
	13-28	Clay loam, sandy clay loam, gravelly loam	CL, ML, SC, SM	A-2-6, A-6, A-7-6	0-1	0-5	65-100	50-100	35-95	30-80	25-45	10-25
	28-60	Stratified gravelly sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a, A-1-b, A-3	0-3	0-10	30-100	15-85	10-70	2-10	0-14	NP
327C2: Fox-----	0-4	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	95-100	85-98	70-95	15-30	3-15
	4-12	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0-1	95-100	85-100	75-100	70-95	25-50	10-25
	12-24	Clay loam, sandy clay loam, gravelly loam	CL, ML, SC, SM	A-2-6, A-6, A-7-6	0-1	0-5	65-100	50-100	35-95	30-80	25-45	10-25
	24-60	Stratified gravelly sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a, A-1-b, A-3	0-3	0-10	30-100	15-85	10-70	2-10	0-14	NP

Table 21.--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	
327D2: Fox-----	0-8	Loam	CL, CL-ML, ML	A-4, A-6	0	0	95-100	95-100	85-98	60-80	15-30	3-15
	8-28	Clay loam, sandy clay loam, gravelly loam	CL, ML, SC, SM	A-2-6, A-6, A-7-6	0-1	0-5	65-100	50-100	35-95	30-80	25-45	10-25
	28-60	Stratified gravelly sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a, A-1-b, A-3	0-3	0-10	30-100	15-85	10-70	2-10	0-14	NP
330A: Peotone-----	0-13	Silty clay loam	CL, CH, MH	A-7-6, A-7-5	0	0	100	95-100	95-100	90-100	40-65	15-35
	13-50	Silty clay loam, silty clay	CL, CH, MH	A-7-6, A-7-5	0	0-3	98-100	95-100	90-100	85-100	40-70	15-40
	50-60	Silty clay loam, silt loam, silty clay	CL, CH, MH	A-6, A-7-6, A-7-5	0	0-5	95-100	95-100	90-100	75-100	30-60	15-30
344A: Harvard-----	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	95-100	90-100	85-100	20-35	8-15
	9-36	Silty clay loam, silt loam	CL, ML	A-6, A-4, A- 7-6	0	0	100	95-100	90-100	85-100	30-45	10-25
	36-56	Clay loam, silt loam, sandy loam	SM, SC, ML, CL	A-4, A-6, A- 7-6	0	0-3	95-100	85-100	75-90	40-85	25-45	5-25
	56-60	Stratified sand to clay loam	SC-SM, CL-ML, CL, SC	A-4, A-6, A- 2-4, A-2-6	0	0-5	90-100	80-98	40-90	15-70	20-35	5-15
344B: Harvard-----	0-9	Silt loam	CL, ML	A-4, A-6	0	0	100	95-100	90-100	85-100	20-35	8-15
	9-30	Silty clay loam, silt loam	ML, CL	A-6, A-4, A- 7-6	0	0	100	95-100	90-100	85-100	30-45	10-25
	30-56	Clay loam, silt loam, sandy loam	ML, CL, SM, SC	A-4, A-6, A- 7-6	0	0-3	95-100	85-100	75-90	40-85	25-45	5-25
	56-69	Stratified sand to clay loam	CL-ML, SC-SM, CL, SC	A-4, A-6, A- 2-4, A-2-6	0	0-5	90-100	80-98	40-90	15-70	20-35	5-15
344C2: Harvard-----	0-7	Silt loam	CL, ML	A-4, A-6	0	0	100	95-100	90-100	85-100	30-40	8-15
	7-32	Silty clay loam, silt loam	CL, ML	A-6, A-7-6, A-4	0	0	100	95-100	90-100	85-100	35-45	10-20
	32-40	Clay loam, silt loam, sandy loam	CL, ML, SM, SC	A-4, A-6, A- 7-6	0	0-3	95-100	85-100	75-90	40-85	30-45	5-20
	40-60	Stratified sand to clay loam	SC-SM, CL, CL-ML, SC	A-4, A-6, A- 2-4, A-2-6	0	0-5	90-100	80-98	40-90	15-70	20-40	NP-20

Table 21.--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	
356A:												
Elpaso-----	0-21	Silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	90-100	35-50	15-30
	21-44	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	90-100	30-50	15-30
	44-69	Clay loam, silt loam, silty clay loam	CL, ML	A-6, A-7-6	0	0	100	85-100	80-100	70-100	25-45	10-25
	69-80	Clay loam, silt loam, silty clay loam	CL	A-6	0	0-5	95-100	85-100	75-100	70-98	20-35	10-20
375A:												
Rutland-----	0-14	Silty clay loam	ML, CL	A-6, A-4	0	0	100	100	95-100	90-100	30-40	10-20
	14-36	Silty clay, silty clay loam	CH, CL, MH, ML	A-6, A-7-6	0	0	100	100	95-100	90-100	35-55	15-35
	36-44	Silt loam, silty clay loam	ML, CL	A-6, A-7-6	0	0	100	100	95-100	85-100	30-50	15-30
	44-52	Silty clay, clay	CH, CL, MH	A-7-6	0	0	98-100	95-100	90-100	85-100	45-65	25-40
	52-60	Clay, silty clay	CH, CL, MH	A-7-6, A-6	0	0-3	95-100	90-100	90-100	85-100	40-60	20-35
375B:												
Rutland-----	0-13	Silty clay loam	CL, ML	A-6, A-4	0	0	100	100	95-100	90-100	30-40	10-20
	13-40	Silty clay, silty clay loam	CL, CH, MH, ML	A-6, A-7-6	0	0	100	100	95-100	90-100	35-55	15-35
	40-50	Silty clay, clay	CH, CL, MH	A-7-6	0	0	98-100	95-100	90-100	85-100	45-65	25-40
	50-60	Silty clay, clay clay	CH, CL, MH	A-7-6, A-6	0	0-3	95-100	90-100	90-100	85-100	40-60	20-35
375B2:												
Rutland-----	0-9	Silty clay loam	CL, ML	A-6, A-4	0	0	100	100	95-100	90-100	30-40	10-20
	9-37	Silty clay loam, silty clay	CL, MH, ML, CH	A-6, A-7-6	0	0	100	100	95-100	90-100	35-55	15-35
	37-46	Silty clay, clay	MH, CL, CH	A-7-6	0	0	98-100	95-100	90-100	85-100	45-65	25-40
	46-80	Silty clay, clay	MH, CL, CH	A-7-6, A-6	0	0-3	95-100	90-100	90-100	85-100	40-60	20-35
388B:												
Wenona-----	0-14	Silt loam	CL, ML	A-6	0	0	100	100	95-100	90-100	30-39	11-18
	14-37	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	44-50	22-27
	37-50	Silty clay, clay	CL, MH, CH	A-7-6	0	0	98-100	95-100	90-100	85-100	48-66	25-39
	50-60	Silty clay, clay	CL, CH	A-7-6	0	0-3	95-100	90-100	90-100	85-98	48-53	25-29

Table 21.--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							
					Pct	Pct					Pct		
<b>388B2:</b>													
Wenona-----	0-9	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-36	11-16	
	9-42	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	90-100	44-50	22-27	
	42-52	Silty clay, clay	CH, CL, MH	A-7-6	0	0	98-100	95-100	90-100	85-100	48-66	25-39	
	52-60	Silty clay, clay	CH, CL	A-7-6	0	0-3	95-100	90-100	90-100	85-98	48-53	25-29	
<b>388C2:</b>													
Wenona-----	0-6	Silty clay loam	ML, CL	A-7-6, A-6	0	0	100	100	95-100	90-100	30-47	11-24	
	6-45	Silty clay loam, silty clay	CH, CL	A-7-6	0	0	100	100	95-100	90-100	44-50	22-27	
	45-54	Silty clay, clay	CH, CL, MH	A-7-6	0	0	98-100	95-100	90-100	85-100	48-66	25-39	
	54-60	Silty clay, clay	CL, CH	A-7-6	0	0-3	95-100	90-100	90-100	85-98	48-53	25-29	
<b>397F:</b>													
Boone-----	0-6	Loamy fine sand	SP-SM, SM	A-2-4, A-3	0	0	95-100	90-100	65-90	5-30	0-14	NP	
	6-15	Loamy fine sand, fine sand	SM, SW-SM, SC-SM	A-2-4, A-3	0	0	95-100	90-100	65-85	5-30	4-14	NP-5	
	15-23	Fine sand, sand	SP-SM, SW-SM, SM, SP	A-3, A-2-4	0	0	100	95-100	73-83	0-13	8-15	NP-2	
	23-60	Bedrock	---	---	---	---	---	---	---	---	---	---	
<b>413B:</b>													
Gale-----	0-4	Silt loam	CL, ML	A-4, A-6	0	0	100	100	90-100	85-95	26-36	8-16	
	4-7	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-95	23-36	6-16	
	7-30	Silt loam, silty clay loam	CL, ML	A-6, A-7-6	0	0	100	100	90-100	85-95	30-43	11-21	
	30-37	Loamy fine sand, loam	SC-SM, SM	A-4, A-2-4, A-1-b	0	0-3	90-100	85-100	45-75	5-40	14-25	NP-7	
	37-60	Bedrock	---	---	---	---	---	---	---	---	---	---	
<b>413C2:</b>													
Gale-----	0-6	Silt loam	ML, CL	A-4, A-6	0	0	100	100	90-100	85-95	26-36	8-16	
	6-9	Silt loam	CL-ML, CL, ML	A-4, A-6	0	0	100	100	90-100	85-95	23-36	6-16	
	9-31	Silt loam, silty clay loam	ML, CL	A-6, A-7-6	0	0	100	100	90-100	85-95	30-43	11-21	
	31-38	Loamy fine sand, loam	SC-SM, SM	A-4, A-2-4, A-1-b	0	0-3	90-100	85-100	45-75	5-50	14-25	NP-7	
	38-60	Bedrock	---	---	---	---	---	---	---	---	---	---	
<b>435A:</b>													
Streator-----	0-13	Silty clay loam	ML, CL	A-6, A-7-6	0	0	100	100	95-100	90-100	36-48	16-25	
	13-42	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	95-100	90-100	44-53	22-29	
	42-68	Clay, silty clay	CL, MH, CH	A-7-6	0	0	98-100	95-100	90-100	85-98	48-66	25-39	
	68-80	Silty clay, clay	MH, CL, CH	A-7-6	0	0-3	95-100	90-100	90-100	85-98	48-66	25-39	

Table 21.--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	
448B: Mona-----	0-11	Silt loam	CL, ML	A-4, A-6, A-7-6	0	0	100	95-100	95-100	85-100	25-45	8-25
	11-39	Clay loam, silty clay loam, sandy clay loam	CL, SM, SC, ML	A-6, A-7-6	0	0-5	95-100	85-100	75-90	40-85	35-50	11-25
	39-44	Silty clay, clay	ML, MH, CH, CL	A-7-6, A-6	0-1	0-5	95-100	85-95	80-95	75-95	40-60	15-35
	44-60	Silty clay, clay	ML, MH, CH, CL	A-7-6, A-6	0-1	0-5	95-100	85-95	80-95	75-95	40-60	15-35
448C2: Mona-----	0-7	Silt loam	CL, ML	A-4, A-6, A-7-6	0	0	100	95-100	95-100	85-100	25-45	8-25
	7-33	Clay loam, silty clay loam, sandy clay loam	ML, CL	A-6, A-7-6	0	0-5	95-100	85-100	75-90	40-85	35-50	11-25
	33-37	Silty clay, clay	CH, CL, MH, ML	A-7-6, A-6	0-1	0-5	95-100	85-95	80-95	75-95	40-60	15-35
	37-60	Silty clay, clay	MH, CL, CH, ML	A-7-6, A-6	0-1	0-5	95-100	85-95	80-95	75-95	40-60	15-35
512B: Danabrook-----	0-13	Silt loam	CL	A-4, A-6	0	0	100	100	90-100	85-100	25-40	5-20
	13-33	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	98-100	90-100	85-100	30-45	10-25
	33-50	Clay loam, loam, sandy clay loam	CL	A-6, A-7-6	0	0-2	95-100	80-98	75-95	50-80	25-45	10-20
	50-60	Loam, sandy loam	CL, SC	A-4, A-6	0	0-3	90-100	80-98	65-90	40-70	20-40	5-15
512C2: Danabrook-----	0-8	Silt loam	CL	A-4, A-6	0	0	100	100	90-100	85-100	25-40	5-20
	8-27	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	98-100	90-100	85-100	30-45	10-25
	27-40	Clay loam, loam, sandy clay loam	CL	A-6, A-7-6	0	0-2	95-100	80-98	75-95	50-80	25-45	10-20
	40-65	Loam, sandy loam	CL, SC	A-4, A-6	0	0-3	90-100	80-98	65-90	40-70	20-40	5-15
516A: Faxon-----	0-12	Loam	CL	A-6, A-4	0	0	100	95-100	80-95	55-85	28-37	9-16
	12-36	Loam, clay loam	CL	A-7-6, A-6	0	0-5	95-100	80-100	70-97	55-85	32-44	13-22
	36-60	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 21.--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>527C2:</b>												
Kidami-----	0-9	Loam	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	80-95	60-85	20-35	5-15
	9-30	Loam, clay loam	CL	A-6, A-7-6	0	0-2	95-100	85-98	75-95	55-75	25-45	10-25
	30-40	Loam	CL	A-4, A-6	0	0-2	90-100	80-98	70-90	55-70	25-35	8-15
	40-60	Loam, sandy loam	CL, CL-ML, ML, SC, SC- SM	A-4, A-6	0	0-3	90-100	80-95	65-90	40-65	15-30	3-15
<b>527D2:</b>												
Kidami-----	0-10	Loam	CL, CL-ML	A-4, A-6	0	0	95-100	90-100	80-95	60-85	20-35	5-15
	10-27	Loam, clay loam	CL	A-6, A-7-6	0	0-2	95-100	85-98	75-95	55-75	25-45	10-25
	27-35	Loam	CL	A-4, A-6	0	0-2	90-100	80-98	70-90	55-70	25-35	8-15
	35-60	Loam, sandy loam	CL, CL-ML, ML, SC, SC- SM	A-4, A-6	0	0-3	90-100	80-95	65-90	40-65	15-30	3-15
<b>530B:</b>												
Ozaukee-----	0-4	Silt loam	ML, CL	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	4-10	Silt loam	ML, CL-ML, CL	A-4, A-6	0	0-2	95-100	95-100	90-100	85-95	20-35	5-15
	10-21	Silty clay loam, clay, silty clay	MH, CL, CH	A-7-6	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	21-39	Silty clay loam, silty clay	CL, CH	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	39-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
<b>530C2:</b>												
Ozaukee-----	0-6	Silt loam	ML, CL	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	6-21	Silty clay loam, clay, silty clay	CL, MH, CH	A-7-6	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	21-28	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	28-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
<b>530C3:</b>												
Ozaukee-----	0-9	Silty clay loam	CL, ML	A-6, A-7-6	0	0-1	90-98	85-98	85-95	80-95	35-50	15-25
	9-21	Silty clay loam, clay, silty clay	CL, MH, CH	A-7-6	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	21-27	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	27-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25

Table 21.--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	
530D2: Ozaukee-----	0-6	Silt loam	ML, CL	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	6-20	Silty clay loam, clay, silty clay	CH, CL, MH	A-7-6	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	20-28	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	28-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
530D3: Ozaukee-----	0-9	Silty clay loam	CL, ML	A-6, A-7-6	0	0-1	90-98	85-98	85-95	80-95	35-50	15-25
	9-21	Silty clay loam, clay, silty clay	CL, CH, MH	A-7-6	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	21-25	Silty clay loam, silty clay	CL, CH	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	25-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
530E2: Ozaukee-----	0-6	Silt loam	ML, CL	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	6-27	Silty clay loam, clay, silty clay	CL, CH, MH	A-7-6	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	27-31	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	31-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
530F: Ozaukee-----	0-5	Silt loam	CL, ML	A-4, A-6	0	0-1	98-100	98-100	90-100	85-95	25-35	7-15
	5-29	Silty clay loam, clay, silty clay	CL, CH, MH	A-7-6	0-1	0-3	95-100	90-98	85-95	85-95	45-65	25-40
	29-36	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0-1	0-5	90-98	85-98	80-95	75-95	35-55	20-35
	36-60	Silty clay loam, clay loam	CL	A-6, A-7-6	0-1	0-5	90-98	80-95	75-95	70-90	35-45	15-25
541B: Graymont-----	0-12	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
	12-33	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	90-100	30-50	10-25
	33-38	Silty clay loam, silt loam	CH, MH, ML, CL	A-6, A-7-6	0	0-5	90-100	85-99	80-95	80-90	30-55	10-30
	38-60	Silty clay loam, silt loam	ML, CL	A-4, A-6, A- 7-6	0	0-5	90-100	80-98	80-95	80-90	25-50	8-25

Table 21.--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	
541B2: Graymont-----	0-8	Silt loam	ML, CL	A-4, A-6, A-7-5	0	0	100	100	95-100	90-100	28-47	6-17
	8-24	Silty clay loam, silt loam	MH, ML, CL	A-4, A-7-5, A-6	0	0	100	100	95-100	90-100	33-58	8-27
	24-35	Silty clay loam, silt loam	MH, ML, CL	A-4, A-6, A-7-6	0	0-5	90-100	85-99	80-95	80-90	30-55	9-27
	35-60	Silty clay loam, silt loam	CL, ML	A-4, A-6, A-7-6	0	0-5	90-100	80-98	80-95	80-90	25-50	9-25
541C2: Graymont-----	0-9	Silt loam	ML, CL-ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-20
	9-30	Silty clay loam, silt loam	ML, CL	A-6, A-7-6	0	0	100	100	95-100	90-100	30-50	10-25
	30-38	Silty clay loam, silt loam	CH, MH, CL, ML	A-6, A-7-6	0	0-5	90-100	85-99	80-95	80-90	30-55	10-30
	38-60	Silty clay loam, silt loam	ML, CL	A-4, A-6, A-7-6	0	0-5	90-100	80-98	80-95	80-90	25-50	8-25
542A: Rooks-----	0-15	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	37-43	16-21
	15-30	Silty clay loam, silty clay	CL, ML, MH, CH	A-6, A-7-6	0	0	100	100	95-100	90-100	37-53	16-29
	30-45	Silt loam, silty clay loam	ML, CL-ML, CL	A-4, A-6	0	0	100	95-100	95-100	85-95	21-39	4-18
	45-60	Silty clay loam, silty clay	CH, ML, MH, CL	A-6, A-7-6	0	0-5	95-100	90-95	85-95	80-95	37-53	16-29
542B: Rooks-----	0-10	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	37-43	16-21
	10-28	Silty clay loam, silty clay	ML, MH, CH, CL	A-6, A-7-6	0	0	100	100	95-100	90-100	37-53	16-29
	28-49	Silty clay loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	95-100	85-95	21-39	4-18
	49-60	Silty clay loam, silty clay	CL, CH, ML, MH	A-6, A-7-6	0	0-5	95-100	90-95	85-95	80-95	37-53	16-29
549B: Marseilles-----	0-5	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-37	11-16
	5-9	Silt loam, silty clay loam	ML, CL	A-6, A-4	0	0	100	100	95-100	90-100	26-37	8-16
	9-28	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	100	90-100	85-100	34-44	14-22
	28-40	Silty clay loam, silty clay, clay loam	CL, ML	A-7-6, A-6	0-1	0-5	95-100	90-100	85-100	80-95	37-50	16-27
	40-60	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 21.--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	
549C2: Marseilles-----	0-5	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-15
	5-16	Silty clay loam, silt loam	ML, CL	A-6, A-7-6	0	0	100	100	90-100	85-100	35-50	15-25
	16-26	Silty clay loam, clay loam, silty clay, silt loam	ML, CH, CL, MH	A-7-6, A-6, A-7-5	0-5	0-20	90-100	90-100	85-100	70-100	40-60	15-30
	26-60	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	CL, CH	A-7-6, A-7-5, A-6	0-1	0-5	95-100	90-100	85-100	80-95	40-60	15-30
	27-60	Bedrock	---	---	---	---	---	---	---	---	---	---
549F: Marseilles-----	0-10	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-15
	10-35	Silty clay loam, silty clay, clay loam	CL, CH	A-7-6, A-7-5, A-6	0-1	0-5	95-100	90-100	85-100	80-95	40-60	15-30
	35-60	Bedrock	---	---	---	---	---	---	---	---	---	---
549G: 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	Clay loam, silty clay, silty clay loam	CH, CL	A-7-6, A-7-5, A-6	0-1	0-5	95-100	90-100	85-100	80-95	40-60	15-30
	35-60	Bedrock	---	---	---	---	---	---	---	---	---	---
554B: Kernan-----	0-5	Silt loam	CL	A-6	0	0	100	100	95-100	90-100	30-37	11-16
	5-12	Silt loam	ML, CL	A-6, A-4	0	0	100	100	95-100	90-100	26-37	8-16
	12-36	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	90-100	44-53	22-29
	36-43	Silty clay loam, silty clay, clay	MH, CL, CH	A-7-6	0	0	98-100	95-100	90-100	85-100	44-71	22-43
	43-60	Silty clay, clay	CL, CH, MH	A-7-6	0	0-3	95-100	90-100	90-100	85-100	48-71	25-43

Table 21.--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	
560D2: St. Clair-----	0-5	Silty clay loam	CL, ML	A-6, A-7-6, A-4	0	0-1	95-100	95-100	90-100	80-98	30-45	10-30
	5-8	Silty clay loam	CL, ML	A-6, A-7-6	0	0-1	95-100	95-100	90-100	80-98	30-45	10-30
	8-22	Silty clay, clay	CL, CH, MH	A-7-5, A-7-6, A-6	0	0-2	95-100	90-100	85-100	80-98	40-70	20-40
	22-37	Silty clay, clay	CL, ML	A-6, A-7-6	0	0-2	90-100	85-100	80-100	75-95	30-50	15-30
	37-65	Silty clay loam, silty clay, clay	CL, ML	A-6, A-7-6, A-4	0-1	0-3	90-100	80-98	75-97	70-95	30-50	10-30
560E: St. Clair-----	0-5	Silty clay loam	CL, ML	A-6, A-7-6, A-4	0	0-1	95-100	95-100	90-100	80-98	30-45	10-30
	5-12	Silty clay, clay	CL, CH, MH	A-7-5, A-7-6, A-6	0	0-2	95-100	90-100	85-100	80-98	40-70	20-40
	12-26	Silty clay, clay	CL, ML	A-6, A-7-6	0	0-2	90-100	85-100	80-100	75-95	30-50	15-30
	26-60	Silty clay loam, silty clay, clay	CL, ML	A-6, A-4, A- 7-6	0-1	0-3	90-100	80-98	75-97	70-95	30-50	10-30
567B: Elkhart-----	0-13	Silt loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	97-100	95-100	24-37	5-15
	13-37	Silty clay loam, silt loam	CL, ML	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	37-52	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	97-100	95-100	24-37	7-17
	52-60	Silt loam	CL, ML	A-6, A-4	0	0	100	100	97-100	95-100	24-37	7-18
572A: Loran-----	0-14	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	30-40	6-15
	14-39	Silty clay loam, silt loam, loam	ML, CL	A-6, A-7-6	0	0	100	95-100	95-100	80-100	35-50	15-25
	39-53	Silty clay, clay, channery clay	CL, ML	A-6, A-7-6	0	0-5	95-100	95-100	90-100	80-100	30-50	15-35
	53-60	Bedrock	---	---	---	---	---	---	---	---	---	---
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, ML	A-6, A-7-6	0	0	100	95-100	95-100	80-100	35-50	15-25
	43-51	Channery clay, channery silty clay, clay	CL, ML	A-6, A-7-6	0-15	0-10	95-100	95-100	90-100	80-100	30-50	15-35
	51-60	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 21.--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	
572C2:												
Loran-----	0-9	Silt loam	ML, CL	A-7-6, A-6	0	0	100	100	95-100	90-100	37-47	13-18
	9-41	Silty clay loam, silt loam, loam	CL, ML	A-6, A-7-6	0	0	100	95-100	95-100	80-100	35-50	15-25
	41-60	Channery clay, channery silty clay, clay	CL, ML	A-6, A-7-6	0	0-5	95-100	95-100	90-100	80-100	30-50	15-35
614A:												
Chenoa-----	0-12	Silty clay loam	ML, CL	A-7-6	0	0	100	100	97-100	93-100	40-46	15-19
	12-32	Silty clay loam, silty clay	CL, CH, MH	A-7-6	0	0	100	100	97-100	93-100	45-52	22-28
	32-36	Silty clay loam, silt loam	CL, ML	A-7-6, A-6	0	0-1	95-100	85-98	80-95	70-95	33-43	12-20
	36-60	Silty clay loam, silt loam	ML, CL	A-6	0	0-3	95-100	85-98	80-95	70-95	33-39	12-17
614B:												
Chenoa-----	0-15	Silty clay loam	CL, ML	A-7-6	0	0	100	100	97-100	93-100	40-46	15-19
	15-28	Silty clay loam, silty clay	CH, MH, CL	A-7-6	0	0	100	100	97-100	93-100	45-52	22-28
	28-47	Silty clay loam, silt loam	ML, CL	A-7-6, A-6	0	0-1	95-100	85-98	80-95	70-95	33-43	12-20
	47-60	Silty clay loam, silt loam	ML, CL	A-6	0	0-3	95-100	85-98	80-95	70-95	33-39	12-17
662B:												
Barony-----	0-8	Silt loam	CL	A-4, A-6	0	0	100	98-100	95-100	85-100	25-35	7-16
	8-34	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	95-100	95-100	85-100	25-45	11-25
	34-54	Clay loam, silt loam, sandy loam	CL, CL-ML	A-4, A-6, A- 7-6	0	0-3	95-100	80-98	75-90	45-85	20-45	5-25
	54-85	Stratified sand to clay loam	CL, ML, SC, SM	A-2-4, A-4, A-6	0	0-5	90-100	80-95	40-90	10-80	15-35	NP-20
663B:												
Clare-----	0-14	Silt loam	CL, ML, CL-ML	A-6, A-4	0	0	100	100	95-100	85-100	25-40	5-15
	14-36	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-45	15-30
	36-44	Clay loam, silty clay loam, loam, silt loam	CL	A-6	0	0	95-100	85-99	70-98	50-90	30-40	10-20
	44-60	Stratified sandy loam to loam	SC, CL, SC- SM, CL-ML	A-4, A-6	0	0	90-100	80-99	60-98	35-65	20-30	4-15

Table 21.--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	
667B:												
Kaneville-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-35	5-15
	9-44	Silty clay loam, silt loam	CL	A-6, A-7-6, A-4	0	0	100	100	95-100	90-100	25-45	10-30
	44-52	Clay loam, silt loam, sandy loam	CL-ML, CL, SC-SM, SC	A-4, A-6	0	0-3	90-100	85-100	60-90	35-85	20-35	5-20
	52-80	Stratified clay loam to loamy sand	SC-SM, SC, CL-ML, CL	A-2-4, A-4, A-6	0	0-5	90-100	80-98	55-90	20-80	10-25	4-15
668B:												
Somonauk-----	0-9	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	20-35	5-15
	9-26	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	90-100	25-40	15-25
	26-55	Clay loam, loam, sandy loam	CL, SC	A-2-4, A-4, A-6	0	0-3	90-100	85-100	60-95	30-85	20-40	5-15
	55-60	Stratified silt loam to gravelly sand	SC-SM, SC, CL, SM, ML	A-2-4, A-4, A-1-b	0	0-5	85-100	70-98	50-90	15-80	0-25	NP-10
675B:												
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, silt loam	CL	A-6, A-7-6	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
675C2:												
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-7-6	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
679B:												
Blackberry-----	0-16	Silt loam	CL, ML	A-4, A-6	0	0	100	100	95-100	90-100	27-37	8-15
	16-47	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	90-100	35-45	15-25
	47-62	Stratified loam to silt loam	CL, CL-ML, ML	A-4	0	0	90-100	85-100	70-99	50-75	25-35	5-10
	62-70	Stratified silt loam to loam to sandy loam	CL-ML, CL, ML, SC-SM, SM, SC	A-4	0	0	95-100	80-100	60-99	40-75	15-30	NP-10

Table 21.--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		
680B:												
Campton-----	0-8	Silt loam	ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	20-35	7-15
	8-45	Silty clay loam, silt loam	ML, CL	A-6, A-4	0	0	100	100	95-100	90-100	30-40	10-20
	45-51	Loam, clay loam, sandy loam	CL, SC	A-4, A-6	0	0	90-100	80-100	75-90	35-80	20-35	8-20
	51-80	Stratified loamy sand to gravelly loam	SC-SM, SC, CL-ML, CL	A-2-4, A-4, A-6	0	0-5	90-100	70-100	60-90	20-75	15-35	5-15
712A:												
Spaulding-----	0-22	Silty clay loam	CL	A-7-6	0	0	100	100	95-100	95-100	40-46	15-19
	22-38	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	95-100	95-100	37-46	17-24
	38-44	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	95-100	95-100	37-46	17-24
	44-80	Silt loam	CL	A-6, A-4	0	0	100	100	95-100	95-100	24-37	7-14
715A:												
Arrowsmith-----	0-12	Silt loam	ML, CL, CL-ML	A-6, A-4	0	0	100	100	97-100	95-100	24-37	5-15
	12-30	Silty clay loam	ML, CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24
	30-39	Silt loam	CL, ML	A-4, A-6	0	0	100	100	96-100	94-100	22-37	7-18
	39-60	Silt loam, silt	ML, CL, CL-ML	A-4, A-6	0	0	100	100	96-100	95-100	20-35	3-15
732A:												
Appleriver-----	0-8	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-15
	8-35	Silty clay loam, silt loam	CL, ML	A-6, A-7-6	0	0	100	100	95-100	90-100	35-50	15-25
	35-45	Silty clay loam, silty clay	ML, CL, MH, CH	A-6, A-7-6	0-1	0-5	95-100	90-100	85-100	80-95	30-55	15-30
	45-60	Bedrock	---	---	---	---	---	---	---	---	---	---
732B:												
Appleriver-----	0-14	Silt loam	ML, CL-ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	25-40	5-15
	14-34	Silty clay loam, silt loam	ML, CL	A-6, A-4	0	0	100	100	95-100	90-100	25-40	10-20
	34-58	Silty clay, silty clay loam, clay	MH, ML, CL, CH	A-6, A-7-6	0-1	0-5	95-100	90-100	85-100	80-95	30-55	15-30
	58-60	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 21.--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	
791A: Rush-----	0-4	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	20-30	5-15
	4-11	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	20-30	5-15
	11-38	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-100	30-40	10-20
	38-45	Clay loam, loam, gravelly sandy loam	CL, SC	A-2-6, A-6	0	1-5	80-100	50-100	40-90	25-75	30-40	10-20
	45-60	Stratified extremely gravelly coarse sand to gravelly loamy sand	GP, GP-GM, SP, SP-SM	A-1-a, A-1-b	0-1	1-5	30-85	15-75	10-40	2-15	0-14	NP
791B: Rush-----	0-7	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	20-30	5-15
	7-11	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	85-100	20-30	5-15
	11-35	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-100	30-40	10-20
	35-46	Clay loam, loam, gravelly sandy loam	CL, SC	A-2-6, A-6	0	1-5	80-100	50-100	40-90	25-75	30-40	10-20
	46-60	Stratified extremely gravelly coarse sand to gravelly loamy sand	GP, GP-GM, SP, SP-SM	A-1-a, A-1-b	0-1	1-5	30-85	15-75	10-40	2-15	0-14	NP
792A: Bowes-----	0-9	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	25-35	5-20
	9-13	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	90-100	20-30	5-15
	13-43	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	98-100	95-100	90-100	90-100	35-45	15-25
	43-51	Gravelly clay loam, gravelly sandy loam, very gravelly loamy sand	CL, SM, CL- ML, SC	A-2-4, A-4, A-6	0-2	0-20	45-90	30-80	25-75	15-70	10-30	NP-15
	51-61	Stratified extremely gravelly coarse sand to gravelly sandy loam	GM, GP-GM, SP, SP-SM	A-1-a, A-1-b	0-2	5-35	30-85	15-80	10-50	2-20	0-20	NP-3

Table 21.--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	
792B:												
Bowes-----	0-7	Silt loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	25-35	5-20
	7-37	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	98-100	95-100	90-100	90-100	35-45	15-25
	37-43	Gravelly clay loam, gravelly sandy loam, very gravelly loamy sand	CL, SM, CL- ML, SC	A-2-4, A-4, A-6	0-2	0-20	45-90	30-80	25-75	15-70	10-30	NP-15
	43-60	Stratified extremely gravelly coarse sand to gravelly sandy loam	GM, GP-GM, SP, SP-SM	A-1-a, A-1-b	0-2	5-35	30-85	15-80	10-50	2-20	0-20	NP-3
794G:												
Marseilles-----	0-10	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	85-100	25-40	5-15
	10-35	Silty clay loam, silty clay, clay loam	CH, CL	A-7-6, A-6, A-7-5	0-1	0-5	95-100	90-100	85-100	80-95	40-60	15-30
	35-60	Bedrock	---	---	---	---	---	---	---	---	---	---
Northfield-----	0-3	Silt loam	SC, CL-ML, SC-SM, CL	A-4, A-6	0	0	85-100	80-100	70-100	45-90	21-30	4-11
	3-16	Loam, silt loam	ML, CL, SC, SM	A-4, A-6	0-1	0-5	90-100	80-100	60-100	40-85	26-37	8-16
	16-60	Bedrock	---	---	---	---	---	---	---	---	---	---
Ritchey-----	0-4	Silt loam	ML, CL	A-4, A-6	0	0	95-100	95-100	90-100	70-95	28-37	9-16
	4-18	Silty clay loam, silt loam	CL-ML, ML, CL	A-7-6, A-6	0-2	0-5	95-100	90-100	85-95	70-95	30-44	11-22
	18-60	Bedrock	---	---	---	---	---	---	---	---	---	---
802B:												
Orthents, loamy	0-6	Loam	ML, CL	A-6, A-4	0-1	0-5	95-100	85-100	80-95	50-80	20-40	8-20
	6-60	Loam, silt loam, clay loam	CL, ML	A-6, A-4	0-1	0-5	95-100	80-100	75-95	50-80	20-40	8-20
802D:												
Orthents, loamy	0-6	Loam	ML, CL	A-4, A-6	0-1	0-5	95-100	85-100	80-95	50-80	20-40	8-20
	6-60	Loam, silt loam, clay loam	ML, CL	A-6, A-4	0-1	0-5	95-100	80-100	75-95	50-80	20-40	8-20

Table 21.--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							
				Pct	Pct					Pct			
804D: Orthents, acid--	In												
	0-3	Silty clay, silty clay loam	CH, MH, CL	A-7-6	0	0	95-100	90-100	85-100	80-98	44-62	22-36	
	3-60	Silty clay, clay, silty clay loam	MH, CH, CL	A-7-6	0	0	85-95	80-90	75-85	70-80	44-62	22-36	
804G: Orthents, acid--	In												
	0-3	Silty clay, silty clay loam	CH, CL, MH	A-7-6	0	0	95-100	90-100	85-100	80-98	44-62	22-36	
	3-60	Silty clay, clay, silty clay loam	CH, MH, CL	A-7-6	0	0	85-95	80-90	75-85	70-80	44-62	22-36	
805B: Orthents, clayey	In												
	0-6	Silty clay	CH, MH, CL	A-7-6	0	0	98-100	90-100	85-100	80-98	45-55	20-40	
	6-60	Silty clay, clay, silty clay loam	CL, CH	A-7-6	0	0	98-100	85-100	80-98	75-95	40-55	25-45	
814A: Muscatune-----	In												
	0-16	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	97-100	95-100	24-37	4-14	
	16-22	Silty clay loam, silt loam	CL, ML	A-6	0	0	100	100	97-100	95-100	35-40	14-20	
	22-46	Silty clay loam	ML, CL	A-7-6, A-6	0	0	100	100	97-100	95-100	37-46	16-24	
	46-60	Silt loam, silty clay loam	ML, CL	A-6, A-4	0	0	100	100	96-100	93-100	24-37	7-18	
Buckhart-----	In												
	0-15	Silt loam	ML, CL	A-6, A-7-6, A-4	0	0	100	100	100	95-100	35-45	10-20	
	15-67	Silty clay loam, silt loam	CL	A-7-6, A-6	0	0	100	100	100	95-100	40-50	15-25	
	67-80	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	11-20	
817A: Channahon-----	In												
	0-11	Fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0-2	90-100	85-100	65-85	25-50	15-25	NP-7	
	11-16	Fine sandy loam, loam, sandy loam, gravelly fine sandy loam	CL, CL-ML, SC, SC-SM	A-2-4, A-4	0	0-5	90-100	85-100	50-90	25-65	18-30	4-9	
	16-19	Gravelly loamy fine sand, fine sandy loam, loamy fine sand, sand	SM, SP-SM	A-1-b, A-2-4, A-3, A-4	0	0-5	85-100	80-100	40-95	5-40	0-15	NP-2	
	19-60	Bedrock	---	---	---	---	---	---	---	---	---	---	

Table 21.--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	
817A:												
Hesch-----	0-12	Fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0	95-100	90-100	65-85	25-50	15-25	NP-7
	12-27	Fine sandy loam, loam, sandy loam	CL, CL-ML, SC, SC-SM	A-2-4, A-4	0	0-2	90-100	85-100	50-90	25-65	18-30	4-9
	27-32	Loamy fine sand, fine sandy loam, sand	SM, SP-SM	A-1-b, A-2-4, A-3, A-4	0	0-5	90-100	80-100	40-95	5-40	0-15	NP-2
	32-60	Bedrock	---	---	---	---	---	---	---	---	---	---
817B:												
Channahon-----	0-7	Fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0-2	90-100	85-100	65-85	25-50	15-25	NP-7
	7-15	Fine sandy loam, loam, sandy loam, gravelly fine sandy loam	CL, CL-ML, SC, SC-SM	A-2-4, A-4	0	0-5	90-100	85-100	50-90	25-65	18-30	4-9
	15-60	Bedrock	---	---	---	---	---	---	---	---	---	---
Hesch-----	0-11	Fine sandy loam	SC-SM, SM	A-2-4, A-4	0	0	95-100	90-100	65-85	25-50	15-25	NP-7
	11-23	Fine sandy loam, loam, sandy loam	CL, CL-ML, SC, SC-SM	A-2-4, A-4	0	0-2	90-100	85-100	50-90	25-65	18-30	4-9
	23-60	Bedrock	---	---	---	---	---	---	---	---	---	---
818A:												
Flanagan-----	0-18	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	90-100	24-37	4-14
	18-38	Silty clay loam, silty clay	CL, CH	A-7-6	0	0	100	100	95-100	95-100	45-52	22-28
	38-45	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	95-100	35-40	14-20
	45-49	Silt loam, loam	CL	A-6, A-4	0	0-3	85-100	80-100	75-90	60-90	25-33	9-13
	49-60	Loam	CL, CL-ML, SC-SM, SC	A-4, A-6	0-1	0-5	85-100	80-100	70-90	45-70	22-33	4-14
Catlin-----	0-11	Silt loam	CL-ML, CL	A-4, A-6, A- 7-6	0	0	100	100	95-100	90-100	25-45	5-20
	11-44	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	95-100	90-100	90-100	30-50	15-30
	44-49	Clay loam, silty clay loam, loam	CL	A-6, A-4	0	0-3	90-100	85-100	70-95	50-80	25-40	10-20
	49-60	Loam, clay loam, silty clay loam	CL-ML, CL	A-4, A-6	0	0-3	90-100	85-100	70-90	45-70	20-35	5-15

Table 21.--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	
820E: Hennepin-----	0-5	Loam	CL, ML, SM, SC	A-6, A-7-6	0-1	0-3	95-100	90-100	70-90	50-85	31-45	13-21
	5-18	Loam, clay loam, silt loam	CL, SC	A-6	0-1	0-5	85-100	80-100	70-90	50-85	27-40	12-21
	18-60	Loam, clay loam, silt loam	CL, SC	A-6	0-1	0-5	85-100	80-100	70-90	50-85	27-40	12-21
Casco-----	0-6	Silt loam	ML, CL-ML, CL	A-4	0	0	95-100	90-100	80-95	70-85	20-30	3-10
	6-22	Gravelly clay loam, loam, gravelly sandy clay loam	CL, SM, SC, ML	A-6, A-7-6, A-2-6, A-2-7	0-1	0-9	60-100	55-100	40-90	30-75	25-46	11-26
	22-60	Gravelly sand	GP, SP-SM, SP, GP-GM	A-1-a, A-2-4, A-3, A-1-b	0-3	0-10	50-100	50-100	30-95	2-20	0-14	NP
820G: Hennepin-----	0-5	Loam	ML, CL, SM, SC	A-6, A-7-6	0-1	0-5	90-100	85-100	70-90	50-85	31-45	13-21
	5-16	Loam, clay loam, silt loam	SC, CL	A-6	0-1	0-5	85-100	80-100	70-90	50-85	27-40	12-21
	16-60	Loam, clay loam, silt loam	CL, SC	A-6	0-1	0-5	85-100	80-100	70-90	50-85	27-40	12-21
Casco-----	0-7	Silt loam	CL-ML, ML, CL	A-4	0	0	95-100	90-100	80-100	70-85	20-30	3-10
	7-15	Gravelly loam, loam, clay loam	SM, SC, CL, ML	A-2-6, A-6, A-7-6, A-2-7	0-1	0-9	50-100	45-100	40-90	35-80	25-46	11-26
	15-60	Gravelly sand	GP, GP-GM, SP, SP-SM	A-1-b, A-2-4, A-3, A-1-a	0-3	0-10	30-100	30-100	20-80	1-15	0-14	NP
830. Landfills												
864. Pits, quarry												
865. Pits, gravel												

Table 21.--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	
969E2:												
Casco-----	0-5	Loam	CL, CL-ML, ML	A-4	0	0-5	90-100	85-100	70-95	50-80	20-30	3-10
	5-19	Clay loam, sandy clay loam, gravelly loam	CL, ML, GC, SC	A-2-6, A-6, A-7-6	0-1	0-5	65-100	50-100	40-90	30-80	25-46	11-26
	19-60	Stratified sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a, A-1-b, A-3	0-3	0-30	25-100	15-85	10-75	2-10	0-14	NP
Rodman-----	0-6	Gravelly loam	CL-ML, ML, SC-SM, SC	A-4	0	0-2	75-95	65-80	60-75	35-65	0-30	3-9
	6-10	Gravelly loam, sandy loam, loam	CL-ML, SM, ML, SC, SC- SM	A-1-b, A-2-4, A-4	0	0-2	70-95	50-80	40-75	20-55	0-30	NP-10
	10-60	Stratified very gravelly loamy sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a	0-1	1-5	30-70	15-50	7-20	2-15	0-14	NP
969F:												
Casco-----	0-4	Loam	CL, CL-ML, ML	A-4	0	0-5	90-100	85-100	70-95	50-80	20-30	3-10
	4-15	Clay loam, sandy clay loam, gravelly loam	CL, ML, GC, SC	A-2-6, A-6, A-7-6	0-1	0-5	65-100	50-100	40-90	30-80	25-46	11-26
	15-60	Stratified sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a, A-1-b, A-3	0-3	0-30	25-100	15-85	10-75	2-10	0-14	NP
Rodman-----	0-11	Gravelly loam	CL-ML, ML, SC-SM, SC	A-4	0	0-2	75-95	65-80	60-75	35-65	0-30	3-9
	11-14	Gravelly loam, sandy loam, loam	CL-ML, SM, ML, SC, SC- SM	A-1-b, A-2-4, A-4	0	0-2	70-95	50-80	40-75	20-55	0-30	NP-10
	14-60	Stratified very gravelly loamy sand to extremely gravelly coarse sand	GP, GP-GM, SP, SP-SM	A-1-a	0-1	1-5	30-70	15-50	7-20	2-15	0-14	NP

Table 21.--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	
1103A:												
Houghton-----	0-12	Muck	PT	A-8	0	0	---	---	---	---	0-0	NP
	12-60	Muck	PT	A-8	0	0	---	---	---	---	0-0	NP
1480A:												
Moundprairie----	0-9	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	80-100	37-44	16-22
	9-37	Stratified silt loam to silty clay loam	SC, SM, ML, CL	A-4, A-6, A- 7-6	0	0	100	100	85-95	40-95	28-44	9-22
	37-60	Silty clay loam, silt loam	ML, CL, CL-ML	A-4, A-6, A- 7-6	0	0	100	100	85-100	60-95	21-44	4-22
3073A:												
Ross-----	0-23	Loam	CL, CL-ML, ML	A-4, A-6	0	0	90-100	90-100	80-100	65-95	20-35	5-15
	23-54	Loam, silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6, A- 7-6	0	0	90-100	85-100	70-100	55-95	22-45	5-20
	54-60	Stratified sandy loam to silt loam	CL, CL-ML, ML, SC, SC- SM	A-4, A-6	0	0-3	90-100	80-100	55-100	40-80	5-35	NP-15
3076A:												
Otter-----	0-27	Silt loam	CL	A-4, A-6, A- 7-6	0	0	100	95-100	90-100	85-100	25-45	7-20
	27-41	Silt loam, loam, silty clay loam	CL	A-6, A-7-6	0	0	100	95-100	90-100	75-100	30-45	10-20
	41-65	Silt loam, sandy loam, silty clay loam	CL, CL-ML, SC, SC-SM	A-4, A-6, A- 7-6	0	0	90-100	80-100	55-95	50-85	25-45	5-20
3082A:												
Millington-----	0-26	Silt loam	CL-ML, ML, CL	A-4, A-6	0	0	95-100	90-100	80-100	70-95	25-35	5-20
	26-53	Loam, silt loam, clay loam	CL, ML	A-6, A-7-6	0	0	95-100	80-100	75-100	65-90	28-50	10-22
	53-60	Stratified sandy loam to silty clay loam	ML, CL	A-4, A-7-6, A-6	0	0	90-100	80-100	60-95	40-85	20-45	5-20
3107A:												
Sawmill-----	0-29	Silty clay loam	CL, ML	A-7-6	0	0	100	97-100	95-100	85-100	40-46	16-21
	29-48	Silty clay loam	CL, ML	A-7-6, A-6	0	0	100	97-100	85-100	80-95	37-46	16-22
	48-60	Silty clay loam, clay loam, silt loam	CL, ML	A-7-6, A-6	0	0	100	90-100	85-100	80-95	37-46	16-22

Table 21.--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	
3321A:												
Du Page-----	0-17	Silt loam	CL	A-6	0	0	95-100	90-100	80-100	55-90	27-37	11-18
	17-34	Sandy loam, loam, gravelly sandy clay loam	CL	A-6	0	0	85-100	65-100	50-95	35-85	27-39	12-19
	34-60	Stratified loam to sandy loam	SC, SC-SM, CL, CL-ML	A-4, A-6	0	0	85-100	65-100	50-95	35-85	17-35	3-16
3451A:												
Lawson-----	0-14	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	85-100	20-37	5-16
	14-33	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	85-100	20-39	5-18
	33-80	Silt loam, silty clay loam, loam	CL, ML	A-4, A-6	0	0	100	100	90-100	60-100	23-40	7-20
3480A:												
Moundprairie---	0-9	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	80-100	37-44	16-22
	9-43	Stratified silt loam to silty clay loam	SC, SM, ML, CL	A-4, A-6, A- 7-6	0	0	100	100	85-95	40-95	28-44	9-22
	43-60	Silty clay loam, silt loam	ML, CL-ML, CL	A-4, A-6, A- 7-6	0	0	100	100	85-100	60-95	21-44	4-22
3800A:												
Psamments-----	0-60	Sand, loamy sand	SP-SM, SP, SM	A-3, A-2-4, A-1-b	0	0	85-100	85-100	50-75	2-30	0-14	NP
	60-80	Sand, fine sand	SP-SM, SP, SM	A-3, A-2-4, A-1-b	0	0	85-100	85-100	50-75	2-30	0-9	NP
7073A:												
Ross-----	0-20	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	90-100	90-100	80-100	65-95	20-35	NP-12
	20-36	Loam, silt loam, silty clay loam	ML, CL-ML, CL	A-4, A-6, A- 7-6	0	0	90-100	85-100	70-100	55-95	22-45	3-20
	36-60	Stratified gravelly sandy loam to silt loam, stratified loamy sand to sandy loam	ML, GM, CL, SM	A-2-4, A-4, A-6	0	0-5	65-100	45-100	30-100	20-80	0-30	NP-12
8073A:												
Ross-----	0-32	Loam	CL, CL-ML, ML	A-4, A-6	0	0	90-100	90-100	80-100	65-95	20-35	5-15
	32-50	Loam, silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6, A- 7-6	0	0	90-100	85-100	70-100	55-95	22-45	5-20
	50-60	Stratified sandy loam to silt loam	CL, CL-ML, ML, SC, SC- SM	A-4, A-6	0	0-3	90-100	80-100	55-100	40-80	5-35	NP-15

Table 21.--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	
8107A:												
Sawmill-----	0-26	Silty clay loam	CL, ML	A-7-6	0	0	100	97-100	95-100	85-100	40-46	16-21
	26-53	Silty clay loam	CL	A-7-6, A-6	0	0	100	97-100	85-100	80-95	37-46	16-22
	53-60	Stratified silty clay loam to clay loam	CL	A-7-6, A-6	0	0	100	97-100	85-100	80-95	37-46	16-22
8151A:												
Ridgeville-----	0-16	Fine sandy loam	SC-SM, SC, SM	A-2-4, A-4	0	0	100	100	75-100	20-50	15-25	2-10
	16-40	Fine sandy loam, loam, sandy clay loam	SC, SC-SM, CL, CL-ML	A-4, A-6	0	0	98-100	95-100	75-95	35-60	20-35	5-15
	40-60	Loamy sand, sandy loam, fine sand	SC-SM, SC, SM, SP-SM	A-2-4, A-4	0	0	95-100	90-100	65-95	5-45	15-20	NP-8
8404A:												
Titus-----	0-13	Silty clay loam	CH, CL, MH	A-7-5, A-7-6	0	0	100	100	95-100	90-100	49-60	20-30
	13-68	Silty clay loam, silty clay	CH, CL, MH	A-7-6	0	0	100	100	95-100	90-100	46-57	20-30
	68-80	Silty clay loam, silt loam, loam	CL	A-6	0	0	100	90-100	70-90	55-85	20-40	10-25
8451A:												
Lawson-----	0-13	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	85-100	20-37	5-16
	13-53	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	90-100	85-100	20-39	5-18
	53-80	Silt loam, silty clay loam, loam	CL, ML	A-4, A-6	0	0	100	100	90-100	60-100	23-40	7-20
8516A:												
Faxon-----	0-12	Loam	CL	A-6, A-4	0	0	100	95-100	80-95	55-85	28-37	9-16
	12-36	Clay loam, loam	CL	A-7-6, A-6	0	0-5	95-100	80-100	70-97	55-85	32-44	13-22
	36-60	Bedrock	---	---	---	---	---	---	---	---	---	---

Table 22.--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. Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>23B:</b>														
Blount-----	0-6	5-20	53-77	18-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	4	6	48
	6-10	5-20	53-80	15-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.37	.37			
	10-23	5-25	27-60	35-48	1.40-1.70	0.06-0.6	0.12-0.19	3.0-5.9	0.2-1.0	.37	.37			
	23-34	5-30	25-63	27-45	1.50-1.70	0.06-0.2	0.12-0.19	3.0-5.9	0.0-0.5	.37	.37			
	34-60	5-30	30-63	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
<b>51A:</b>														
Muscataune-----	0-16	2-7	66-74	24-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	16-22	2-7	58-73	25-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	22-46	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
	46-60	2-7	66-83	15-30	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.0-0.2	.49	.49			
<b>60C2:</b>														
La Rose-----	0-7	20-40	33-60	18-27	1.10-1.35	0.6-2	0.20-0.24	0.0-2.9	2.0-3.0	.28	.28	5	6	48
	7-21	20-45	20-50	27-35	1.35-1.55	0.6-2	0.15-0.20	3.0-5.9	0.0-1.0	.32	.32			
	21-60	20-50	28-65	15-25	1.70-1.90	0.2-0.6	0.05-0.10	0.0-2.9	0.0-0.5	.37	.37			
<b>60D2:</b>														
La Rose-----	0-7	20-40	33-60	18-27	1.10-1.35	0.6-2	0.20-0.24	0.0-2.9	2.0-3.0	.28	.28	5	6	48
	7-20	20-45	20-50	27-35	1.35-1.55	0.6-2	0.15-0.20	3.0-5.9	0.0-1.0	.32	.32			
	20-60	20-50	28-65	15-25	1.70-1.90	0.2-0.6	0.05-0.10	0.0-2.9	0.0-0.5	.37	.37			
<b>61A:</b>														
Atterberry-----	0-9	2-7	68-78	15-27	1.25-1.45	0.6-2	0.19-0.26	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	9-17	2-7	69-83	15-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	0.1-1.0	.43	.43			
	17-48	2-7	60-73	25-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	48-60	2-7	66-80	15-27	1.30-1.50	0.6-2	0.17-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>61B:</b>														
Atterberry-----	0-9	2-7	68-78	15-27	1.25-1.45	0.6-2	0.19-0.26	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	9-13	2-7	69-83	15-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	0.1-1.0	.43	.43			
	13-48	2-7	60-74	25-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.1-0.5	.37	.37			
	48-60	2-7	45-80	15-27	1.30-1.50	0.6-2	0.17-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>67A:</b>														
Harpster-----	0-18	3-15	50-70	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	3.5-6.0	.24	.24	5	4L	86
	18-41	3-15	50-70	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.8-1.5	.37	.37			
	41-56	3-27	58-82	15-27	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.5-1.0	.49	.49			
	56-60	30-50	28-55	15-27	1.45-1.65	0.6-2	0.10-0.20	0.0-2.9	0.1-0.5	.37	.37			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>68A:</b>														
Sable-----	0-19	0-7	58-73	27-35	1.15-1.35	0.6-2	0.21-0.23	3.0-5.9	5.0-6.0	.24	.24	5	6	48
	19-23	0-7	58-73	27-35	1.20-1.40	0.6-2	0.18-0.20	3.0-5.9	2.0-4.0	.28	.28			
	23-47	0-7	58-76	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	47-60	0-7	65-80	20-28	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>86B:</b>														
Osc-----	0-14	0-7	67-80	20-26	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	14-55	0-7	58-76	24-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	55-60	0-7	63-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>86C2:</b>														
Osc-----	0-9	0-7	67-80	20-26	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.37	.37	5	6	48
	9-34	0-7	58-76	24-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	34-60	0-7	63-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>87A:</b>														
Dickinson-----	0-8	52-70	12-38	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	1.0-2.0	.15	.15	4	3	86
	8-20	52-70	12-38	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.5	.15	.15			
	20-31	52-75	10-38	10-15	1.45-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.24	.24			
	31-36	75-90	1-20	4-10	1.55-1.65	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.15	.15			
	36-60	75-95	1-20	4-10	1.60-1.70	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.05			
<b>87B:</b>														
Dickinson-----	0-9	52-75	12-38	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	1.0-2.0	.15	.15	4	3	86
	9-17	52-70	12-38	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.5	.15	.15			
	17-33	52-75	10-38	10-15	1.45-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.24	.24			
	33-41	75-90	1-20	4-10	1.55-1.65	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.15	.15			
	41-60	75-95	1-20	4-10	1.60-1.70	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.05			
<b>87C2:</b>														
Dickinson-----	0-11	52-70	12-38	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	0.5-2.0	.17	.17	4	3	86
	11-29	52-75	10-38	10-15	1.45-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.15	.15			
	29-35	75-90	1-20	4-10	1.55-1.65	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.17	.17			
	35-60	75-95	1-20	4-10	1.60-1.70	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.15	.15			
<b>88B:</b>														
Sparta-----	0-14	75-95	0-22	0-10	1.20-1.40	2-6	0.09-0.12	0.0-2.9	1.0-2.0	.02	.02	5	2	134
	14-47	72-95	0-27	1-8	1.40-1.60	6-20	0.05-0.11	0.0-2.9	0.1-1.0	.10	.10			
	47-72	52-100	0-29	3-16	1.40-1.60	6-20	0.06-0.08	0.0-2.9	0.1-1.0	.17	.17			
<b>88D:</b>														
Sparta-----	0-8	75-95	0-22	0-10	1.20-1.40	2-6	0.09-0.12	0.0-2.9	1.0-2.0	.02	.02	5	2	134
	8-17	75-95	0-22	0-10	1.20-1.40	2-6	0.09-0.12	0.0-2.9	0.5-1.0	.02	.02			
	17-33	72-95	0-27	1-8	1.40-1.60	6-20	0.05-0.11	0.0-2.9	0.1-1.0	.10	.10			
	33-72	52-100	0-29	3-16	1.40-1.60	6-20	0.06-0.08	0.0-2.9	0.1-1.0	.17	.17			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
91A: Swygart-----	0-12	2-15	50-71	27-35	1.30-1.50	0.2-0.6	0.19-0.22	3.0-5.9	3.0-5.0	.20	.20	4	6	48
	12-26	1-15	30-59	40-55	1.40-1.60	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.5	.32	.32			
	26-51	1-20	30-59	40-50	1.45-1.65	0.06-0.2	0.10-0.13	6.0-8.9	0.1-1.0	.32	.32			
	51-60	1-20	25-59	38-55	1.65-1.85	0.02-0.06	0.05-0.09	3.0-5.9	0.0-0.5	.37	.37			
91B: Swygart-----	0-11	2-15	50-71	27-35	1.30-1.50	0.2-0.6	0.19-0.22	3.0-5.9	3.0-5.0	.20	.20	4	6	48
	11-23	1-15	30-59	40-55	1.40-1.60	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.5	.32	.32			
	23-45	1-20	30-59	40-50	1.45-1.65	0.06-0.2	0.10-0.13	6.0-8.9	0.1-1.0	.32	.32			
	45-60	1-20	25-59	38-55	1.65-1.85	0.02-0.06	0.05-0.09	3.0-5.9	0.0-0.5	.37	.37			
91B2: Swygart-----	0-7	2-15	47-68	30-38	1.35-1.55	0.2-0.6	0.18-0.21	3.0-5.9	2.0-4.0	.24	.24	4	6	48
	7-30	1-15	30-59	40-55	1.40-1.60	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.5	.32	.32			
	30-48	1-20	30-59	40-50	1.45-1.65	0.06-0.2	0.10-0.13	6.0-8.9	0.1-1.0	.32	.32			
	48-60	1-20	25-59	38-55	1.65-1.85	0.02-0.06	0.05-0.09	3.0-5.9	0.0-0.5	.37	.37			
91C2: Swygart-----	0-7	2-15	47-68	30-38	1.35-1.55	0.2-0.6	0.18-0.21	3.0-5.9	2.0-4.0	.24	.24	4	6	48
	7-18	1-15	30-59	40-55	1.40-1.60	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.5	.32	.32			
	18-36	1-20	30-59	40-50	1.45-1.65	0.06-0.2	0.10-0.13	6.0-8.9	0.1-1.0	.32	.32			
	36-60	1-20	25-59	38-55	1.65-1.85	0.02-0.06	0.05-0.09	3.0-5.9	0.0-0.5	.37	.37			
91C3: Swygart-----	0-6	2-15	45-66	32-40	1.38-1.58	0.06-0.2	0.16-0.20	6.0-8.9	0.8-2.0	.32	.32	3	4	86
	6-24	1-15	30-59	40-55	1.40-1.65	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.5	.32	.32			
	24-60	1-20	25-59	38-55	1.65-1.85	0.02-0.06	0.05-0.09	3.0-5.9	0.0-0.5	.37	.37			
103A: Houghton-----	0-11	---	---	---	0.20-0.35	0.2-6	0.35-0.45	---	70-99	---	---	3	2	134
	11-60	---	---	---	0.15-0.25	0.2-6	0.35-0.45	---	70-99	---	---			
104A: Virgil-----	0-7	0-10	63-85	15-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	7-13	0-10	63-85	15-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	0.2-0.5	.43	.43			
	13-49	0-10	55-73	27-35	1.35-1.55	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	49-58	15-60	10-70	15-30	1.40-1.70	0.6-2	0.11-0.19	3.0-5.9	0.2-0.5	.32	.32			
	58-60	20-80	0-75	5-30	1.45-1.75	0.6-6	0.05-0.11	0.0-2.9	0.0-0.5	.28	.28			
105A: Batavia-----	0-9	0-5	68-80	20-27	1.35-1.55	0.6-2	0.22-0.25	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	9-41	0-10	55-80	20-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	41-60	20-70	10-55	15-30	1.50-1.80	0.6-6	0.07-0.11	0.0-2.9	0.0-0.5	.32	.32			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
105B:														
Batavia-----	0-9	0-5	68-80	20-27	1.35-1.55	0.6-2	0.22-0.25	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	9-12	0-5	69-85	15-26	1.35-1.55	0.6-2	0.21-0.24	0.0-2.9	0.5-1.0	.43	.43			
	12-45	0-10	55-80	20-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	45-60	20-70	10-55	15-30	1.50-1.80	0.6-6	0.07-0.11	0.0-2.9	0.0-0.5	.32	.32			
105C2:														
Batavia-----	0-10	0-5	68-80	20-27	1.35-1.55	0.6-2	0.22-0.25	0.0-2.9	1.0-2.0	.37	.37	5	6	48
	10-50	0-10	55-80	20-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	50-60	20-70	10-55	15-30	1.50-1.80	0.6-6	0.07-0.11	0.0-2.9	0.0-0.5	.32	.32			
125A:														
Selma-----	0-6	20-45	28-60	20-27	1.40-1.60	0.6-2	0.20-0.24	0.0-2.9	4.0-6.0	.24	.24	5	6	48
	6-13	20-45	20-53	27-35	1.40-1.60	0.6-2	0.17-0.19	3.0-5.9	3.0-5.0	.17	.17			
	13-44	15-62	6-67	18-32	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.0-2.0	.32	.32			
	44-80	30-90	0-63	7-18	1.60-1.90	2-6	0.07-0.19	0.0-2.9	0.0-1.0	.24	.24			
131B:														
Alvin-----	0-8	55-70	15-35	10-15	1.45-1.65	2-6	0.14-0.17	0.0-2.9	0.5-1.5	.20	.20	5	3	86
	8-11	55-75	10-35	10-15	1.45-1.65	2-6	0.10-0.17	0.0-2.9	0.0-0.5	.24	.24			
	11-25	45-70	12-40	15-18	1.40-1.65	2-6	0.14-0.18	0.0-2.9	0.0-0.5	.24	.24			
	25-80	65-95	0-32	3-10	1.45-1.65	2-6	0.10-0.15	0.0-2.9	0.0-0.3	.20	.20			
131C2:														
Alvin-----	0-7	55-70	15-35	10-15	1.45-1.65	2-6	0.14-0.17	0.0-2.9	0.5-1.0	.20	.20	5	3	86
	7-42	45-70	12-40	15-18	1.40-1.65	2-6	0.14-0.18	0.0-2.9	0.0-0.5	.24	.24			
	42-80	65-95	2-32	3-10	1.45-1.65	2-6	0.10-0.15	0.0-2.9	0.0-0.3	.15	.15			
132A:														
Starks-----	0-10	0-15	58-82	18-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	10-14	0-15	58-85	15-27	1.30-1.50	0.6-2	0.21-0.23	0.0-2.9	0.5-1.0	.49	.49			
	14-31	0-15	50-73	27-35	1.40-1.60	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	31-43	15-60	10-75	10-30	1.45-1.65	0.6-2	0.12-0.19	0.0-2.9	0.2-0.5	.32	.32			
	43-60	15-85	0-75	5-30	1.50-1.75	0.6-6	0.10-0.18	0.0-2.9	0.0-0.5	.28	.28			
134A:														
Camden-----	0-7	2-7	66-83	14-27	1.35-1.55	0.6-2	0.21-0.25	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	7-12	2-7	66-83	14-27	1.35-1.55	0.6-2	0.21-0.25	0.0-2.9	0.1-0.5	.49	.49			
	12-26	2-7	58-71	22-35	1.40-1.60	0.6-2	0.14-0.24	3.0-5.9	0.1-0.5	.37	.37			
	26-53	30-50	28-50	18-30	1.45-1.65	0.6-2	0.11-0.22	0.0-2.9	0.0-0.5	.32	.32			
	53-60	65-80	14-25	5-20	1.40-1.70	0.6-6	0.12-0.22	0.0-2.9	0.0-0.5	.28	.28			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
134B:														
Camden-----	0-9	2-7	66-83	14-27	1.35-1.55	0.6-2	0.21-0.25	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	9-15	2-7	66-83	14-27	1.35-1.55	0.6-2	0.21-0.25	0.0-2.9	0.1-0.5	.49	.49			
	15-34	2-7	58-71	22-35	1.40-1.60	0.6-2	0.14-0.24	3.0-5.9	0.1-0.5	.37	.37			
	34-40	30-50	28-50	18-30	1.45-1.65	0.6-2	0.11-0.22	0.0-2.9	0.0-0.5	.32	.32			
	40-60	65-85	1-25	5-20	1.40-1.70	0.6-6	0.12-0.22	0.0-2.9	0.0-0.5	.28	.28			
134C2:														
Camden-----	0-7	2-7	66-83	15-27	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	7-34	2-7	58-71	25-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.37	.37			
	34-43	30-50	28-48	22-30	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.0-0.5	.32	.32			
	43-80	65-80	10-25	5-15	1.45-1.65	2-6	0.06-0.10	0.0-2.9	0.0-0.3	.28	.28			
134D2:														
Camden-----	0-7	2-7	66-83	15-27	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	1.0-2.5	.43	.43	5	6	48
	7-34	2-7	58-71	25-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.37	.37			
	34-43	30-50	28-50	22-30	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.0-0.5	.32	.32			
	43-80	65-80	10-25	5-15	1.45-1.65	2-6	0.06-0.10	0.0-2.9	0.0-0.5	.28	.28			
134D3:														
Camden-----	0-7	1-10	58-71	28-32	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37	4	6	48
	7-37	1-15	50-74	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	37-53	50-65	15-35	15-20	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.24	.24			
	53-60	60-90	5-37	3-10	1.30-1.35	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
134F:														
Camden-----	0-9	1-10	65-84	15-25	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.37	.37	5	5	56
	9-31	1-15	50-74	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	31-40	50-65	15-35	15-20	1.30-1.35	2-6	0.11-0.17	0.0-2.9	0.0-0.5	.24	.24			
	40-60	60-90	5-37	3-10	1.30-1.35	6-20	0.05-0.10	0.0-2.9	0.0-0.5	.17	.17			
146A:														
Elliott-----	0-6	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.24	.24	4	6	48
	6-11	2-15	50-71	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	2.5-4.0	.20	.20			
	11-16	1-20	30-61	40-50	1.40-1.60	0.06-0.6	0.10-0.13	6.0-8.9	0.5-1.5	.32	.32			
	16-41	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	41-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
146B:														
Elliott-----	0-9	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.24	.24	4	6	48
	9-13	2-15	50-71	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	2.5-4.0	.20	.20			
	13-17	1-20	35-61	38-45	1.40-1.60	0.06-0.6	0.11-0.14	6.0-8.9	0.5-1.5	.32	.32			
	17-35	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	35-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>146B2:</b>														
Elliott-----	0-8	2-15	50-71	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	2.5-4.0	.24	.24	4	6	48
	8-14	1-20	35-61	38-45	1.40-1.60	0.06-0.6	0.11-0.14	6.0-8.9	0.5-1.5	.32	.32			
	14-27	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	27-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
<b>147B2:</b>														
Clarence-----	0-8	1-15	45-72	27-40	1.20-1.45	0.2-0.6	0.16-0.20	3.0-5.9	2.0-4.0	.24	.24	3	6	48
	8-35	1-15	25-49	50-60	1.40-1.60	0.0-0.06	0.07-0.09	3.0-5.9	0.0-1.0	.32	.32			
	35-60	1-15	25-59	40-60	1.65-1.85	0.0-0.06	0.03-0.07	3.0-5.9	0.0-0.5	.37	.37			
<b>148A:</b>														
Proctor-----	0-11	0-15	58-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	11-27	0-15	50-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	27-44	15-70	5-67	18-35	1.30-1.55	0.6-2	0.13-0.19	3.0-5.9	0.2-1.0	.32	.32			
	44-73	15-85	0-80	5-25	1.40-1.70	0.6-6	0.07-0.17	0.0-2.9	0.0-0.5	.28	.28			
<b>148B:</b>														
Proctor-----	0-11	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	11-28	0-10	55-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	28-33	15-70	0-67	18-32	1.30-1.55	0.6-2	0.13-0.16	3.0-5.9	0.2-1.0	.32	.32			
	33-60	15-85	0-80	5-20	1.40-1.70	0.6-6	0.07-0.19	0.0-2.9	0.2-0.5	.28	.28			
<b>148C2:</b>														
Proctor-----	0-8	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-3.5	.37	.37	5	6	48
	8-32	0-10	55-75	25-35	1.20-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	32-48	20-70	0-64	16-35	1.30-1.55	0.6-6	0.13-0.16	3.0-5.9	0.2-1.0	.32	.32			
	48-60	15-85	0-80	10-20	1.40-1.70	0.6-6	0.07-0.19	0.0-2.9	0.2-0.5	.28	.28			
<b>149A:</b>														
Brenton-----	0-12	0-15	58-80	20-27	1.25-1.45	0.6-2	0.22-0.26	0.0-2.9	3.0-5.0	.28	.28	5	6	48
	12-28	0-15	50-75	25-35	1.30-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
	28-44	15-60	10-67	18-30	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.32	.32			
	44-60	15-85	0-80	5-30	1.50-1.70	0.6-6	0.11-0.20	0.0-2.9	0.0-0.5	.28	.28			
<b>151A:</b>														
Ridgeville-----	0-16	50-80	10-38	10-15	1.30-1.65	0.6-6	0.15-0.18	0.0-2.9	2.0-4.0	.17	.17	5	3	86
	16-40	45-70	8-43	12-22	1.45-1.70	0.6-6	0.15-0.19	0.0-2.9	0.2-1.0	.24	.24			
	40-60	60-95	0-37	3-10	1.55-1.90	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
<b>151B:</b>														
Ridgeville-----	0-14	50-80	10-38	10-15	1.30-1.65	0.6-6	0.15-0.18	0.0-2.9	2.0-4.0	.17	.17	5	3	86
	14-56	45-70	8-43	12-22	1.45-1.70	0.6-6	0.15-0.19	0.0-2.9	0.2-1.0	.24	.24			
	56-60	60-95	0-37	3-10	1.55-1.90	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
152A:														
Drummer-----	0-14	0-15	50-73	27-35	1.10-1.30	0.6-2	0.21-0.23	3.0-5.9	4.0-7.0	.24	.24	5	6	48
	14-41	0-15	50-80	20-35	1.20-1.45	0.6-2	0.21-0.24	3.0-5.9	0.5-2.0	.37	.37			
	41-47	15-55	12-70	15-33	1.30-1.55	0.6-2	0.17-0.20	3.0-5.9	0.2-0.5	.32	.32			
	47-60	15-80	0-75	10-32	1.40-1.70	0.6-6	0.11-0.19	0.0-2.9	0.0-0.2	.28	.28			
154A:														
Flanagan-----	0-18	2-7	66-78	20-27	1.25-1.45	0.6-2	0.16-0.22	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	18-38	2-7	53-63	35-40	1.30-1.50	0.2-0.6	0.11-0.17	6.0-8.9	0.5-1.8	.37	.37			
	38-45	3-15	50-72	25-35	1.30-1.50	0.6-2	0.13-0.19	3.0-5.9	0.1-0.5	.37	.37			
	45-49	15-30	45-65	20-27	1.40-1.60	0.6-2	0.13-0.19	0.0-2.9	0.1-0.5	.37	.37			
	49-60	30-50	28-50	10-27	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.5	.37	.37			
171A:														
Catlin-----	0-11	0-8	65-82	18-27	1.25-1.45	0.6-2	0.23-0.26	0.0-2.9	2.5-4.0	.28	.28	5	6	48
	11-44	0-8	57-76	24-35	1.25-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-1.5	.37	.37			
	44-49	20-45	20-53	20-35	1.40-1.70	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.32	.32			
	49-60	20-50	28-50	10-27	1.60-1.85	0.2-0.6	0.05-0.10	0.0-2.9	0.0-0.5	.37	.37			
171B:														
Catlin-----	0-11	1-7	66-81	18-27	1.30-1.40	0.6-2	0.19-0.23	0.0-2.9	2.5-4.0	.37	.37	5	6	48
	11-16	1-7	58-72	27-35	1.25-1.40	0.6-2	0.17-0.20	3.0-5.9	1.5-3.5	.37	.37			
	16-41	2-8	58-70	27-35	1.35-1.45	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	41-45	20-40	25-53	27-35	1.45-1.55	0.6-2	0.12-0.16	3.0-5.9	0.1-0.5	.28	.28			
	45-60	30-40	33-50	15-27	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.5	.37	.37			
171B2:														
Catlin-----	0-8	2-7	66-78	20-27	1.40-1.60	0.6-2	0.18-0.22	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	8-41	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	41-47	25-40	25-50	15-27	1.50-1.70	0.6-2	0.14-0.18	0.0-2.9	0.1-0.5	.32	.32			
	47-60	30-45	28-50	15-27	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.0-0.5	.37	.37			
171C2:														
Catlin-----	0-9	2-7	66-78	20-27	1.40-1.60	0.6-2	0.18-0.22	0.0-2.9	1.5-3.5	.37	.37	5	6	48
	9-40	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	40-50	3-15	58-72	25-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.37	.37			
	50-55	20-40	25-53	27-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.1-0.5	.28	.32			
	55-60	20-40	30-53	27-30	1.65-1.85	0.2-0.6	0.06-0.12	3.0-5.9	0.0-0.5	.37	.37			
171C3:														
Catlin-----	0-5	2-7	58-71	27-35	1.40-1.60	0.6-2	0.18-0.21	3.0-5.9	0.8-2.0	.37	.37	4	6	48
	5-44	3-15	50-72	25-35	1.40-1.60	0.6-2	0.18-0.21	3.0-5.9	0.1-0.5	.37	.37			
	44-49	10-23	42-65	25-35	1.35-1.55	0.6-2	0.19-0.22	0.0-2.9	0.1-0.5	.37	.37			
	49-60	10-20	45-63	27-35	1.60-1.80	0.2-0.6	0.07-0.13	0.0-2.0	0.0-0.5	.43	.43			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>193C2:</b>														
Mayville-----	0-6	2-15	60-88	10-25	1.35-1.55	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	6-24	2-15	50-73	25-35	1.55-1.65	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	24-34	25-65	5-52	20-32	1.55-1.65	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.32	.32			
	34-60	30-70	5-50	10-25	1.70-1.90	0.2-0.6	0.05-0.10	0.0-2.9	0.0-0.5	.37	.37			
<b>198A:</b>														
Elburn-----	0-16	2-7	66-76	22-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	16-49	2-7	58-73	25-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	49-58	30-55	30-55	15-20	1.45-1.65	0.6-2	0.14-0.17	0.0-2.9	0.1-0.5	.37	.37			
	58-62	60-80	10-25	5-15	1.50-1.70	2-6	0.06-0.10	0.0-2.9	0.1-0.5	.24	.24			
<b>199A:</b>														
Plano-----	0-14	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
	14-49	0-10	55-80	20-35	1.20-1.40	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	49-60	15-70	0-70	15-32	1.30-1.55	0.6-6	0.09-0.16	0.0-2.9	0.1-0.5	.32	.32			
	60-72	15-80	0-80	5-20	1.50-1.70	2-6	0.11-0.22	0.0-2.9	0.1-0.5	.28	.28			
<b>199B:</b>														
Plano-----	0-15	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.28	.28	5	6	48
	15-45	0-10	55-80	20-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.2-1.0	.37	.37			
	45-55	20-55	30-50	15-30	1.50-1.70	0.6-6	0.11-0.16	0.0-2.9	0.1-0.5	.32	.32			
	55-72	15-80	0-80	5-20	1.50-1.70	2-6	0.11-0.22	0.0-2.9	0.1-0.5	.28	.28			
<b>199C2:</b>														
Plano-----	0-8	0-10	63-82	18-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	8-41	0-10	55-80	20-35	1.20-1.40	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	41-53	15-70	0-70	15-32	1.30-1.55	0.6-6	0.09-0.16	0.0-2.9	0.1-0.5	.32	.32			
	53-60	45-75	18-60	10-20	1.50-1.70	2-6	0.11-0.22	0.0-2.9	0.1-0.5	.28	.28			
<b>206A:</b>														
Thorp-----	0-14	0-10	63-80	20-27	1.15-1.35	0.6-2	0.16-0.22	0.0-2.9	4.0-6.0	.28	.28	5	6	48
	14-19	0-10	65-82	18-25	1.30-1.50	0.2-0.6	0.16-0.22	0.0-2.9	0.2-1.0	.43	.43			
	19-43	0-10	55-78	22-35	1.35-1.55	0.06-0.2	0.13-0.19	3.0-5.9	0.2-1.0	.37	.37			
	43-50	10-55	15-72	18-30	1.40-1.60	0.6-2	0.10-0.20	0.0-5.9	0.2-0.5	.32	.32			
	50-65	50-75	10-40	5-20	1.50-1.70	0.6-6	0.05-0.13	0.0-2.9	0.0-0.1	.24	.24			
<b>210A:</b>														
Lena-----	0-8	---	---	---	0.15-0.45	2-6	0.35-0.45	---	60-99	---	---	3	2	134
	8-60	---	---	---	0.15-0.45	2-6	0.35-0.45	---	60-99	---	---			
<b>219A:</b>														
Millbrook-----	0-7	0-15	58-82	18-27	1.40-1.60	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	7-24	0-15	50-75	25-35	1.45-1.65	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	24-53	15-60	8-67	18-32	1.45-1.70	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.32	.32			
	53-80	20-85	0-70	10-30	1.50-1.75	0.6-6	0.11-0.19	0.0-2.9	0.0-0.5	.28	.28			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
223B:														
Varna-----	0-12	5-20	53-75	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.5-4.0	.24	.24	4	6	48
	12-30	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.19	3.0-5.9	0.5-1.5	.37	.37			
	30-48	5-20	30-60	30-45	1.50-1.70	0.06-0.2	0.10-0.19	3.0-5.9	0.2-1.0	.37	.37			
	48-60	5-22	40-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
223B2:														
Varna-----	0-7	5-20	53-75	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.28	.28	4	6	48
	7-26	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.19	3.0-5.9	0.5-1.5	.37	.37			
	26-38	5-20	30-60	30-45	1.50-1.70	0.06-0.2	0.10-0.19	3.0-5.9	0.2-1.0	.37	.37			
	38-60	5-22	40-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
223C2:														
Varna-----	0-9	5-20	53-75	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.28	.28	4	6	48
	9-29	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.19	3.0-5.9	0.5-1.5	.37	.37			
	29-50	5-20	30-60	30-45	1.50-1.70	0.06-0.2	0.10-0.19	3.0-5.9	0.2-1.0	.37	.37			
	50-60	5-22	40-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
223C3:														
Varna-----	0-6	5-20	45-68	27-35	1.30-1.50	0.2-0.6	0.10-0.21	3.0-5.9	0.5-2.0	.37	.37	3	6	48
	6-16	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.19	3.0-5.9	0.5-1.5	.37	.37			
	16-19	5-20	30-60	30-45	1.50-1.70	0.06-0.2	0.10-0.19	3.0-5.9	0.2-1.0	.37	.37			
	19-60	5-22	40-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
223D2:														
Varna-----	0-9	5-20	53-75	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.28	.28	4	6	48
	9-31	5-20	30-60	35-50	1.40-1.60	0.06-0.6	0.10-0.19	3.0-5.9	0.5-1.5	.37	.37			
	31-36	5-20	30-60	30-45	1.50-1.70	0.06-0.2	0.10-0.19	3.0-5.9	0.2-1.0	.37	.37			
	36-60	5-22	40-68	27-40	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
223D3:														
Varna-----	0-8	5-20	45-68	27-35	1.20-1.40	0.2-0.6	0.20-0.22	3.0-5.9	0.5-2.0	.37	.37	3	6	48
	8-20	5-20	30-60	35-50	1.30-1.60	0.2-0.6	0.09-0.19	3.0-5.9	0.5-1.0	.37	.37			
	20-60	5-25	35-68	27-40	1.65-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.2-0.5	.43	.43			
228B:														
Nappanee-----	0-4	5-20	53-75	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.32	.32	4	6	48
	4-9	5-20	53-77	18-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.37	.37			
	9-23	5-20	20-50	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32	.32			
	23-46	5-25	20-55	40-55	1.60-1.80	0.02-0.06	0.06-0.12	3.0-5.9	0.1-0.5	.32	.32			
	46-60	5-25	30-65	30-45	1.70-1.90	0.02-0.06	0.01-0.05	3.0-5.9	0.0-0.5	.37	.37			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>228C2:</b>														
Nappanee-----	0-5	5-20	42-68	27-38	1.30-1.50	0.6-2	0.18-0.22	3.0-5.9	1.0-2.5	.28	.28	4	6	48
	5-8	5-20	45-68	27-35	1.30-1.50	0.6-2	0.16-0.21	3.0-5.9	0.2-1.0	.37	.37			
	8-23	5-20	20-50	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32	.32			
	23-27	5-25	20-55	40-55	1.60-1.80	0.02-0.06	0.06-0.12	3.0-5.9	0.1-0.5	.32	.32			
	27-80	5-25	30-65	30-45	1.70-1.90	0.02-0.06	0.01-0.05	3.0-5.9	0.0-0.5	.37	.37			
<b>228C3:</b>														
Nappanee-----	0-7	5-20	40-68	27-40	1.38-1.58	0.2-0.6	0.16-0.20	3.0-5.9	0.2-1.5	.28	.28	3	6	48
	7-16	5-20	20-50	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32	.32			
	16-20	5-25	20-55	40-55	1.40-1.65	0.02-0.06	0.06-0.12	3.0-5.9	0.1-0.5	.32	.32			
	20-60	5-25	20-55	40-50	1.70-1.90	0.02-0.06	0.01-0.05	3.0-5.9	0.0-0.5	.37	.37			
<b>232A:</b>														
Ashkum-----	0-12	1-15	45-64	35-40	1.20-1.45	0.2-0.6	0.18-0.21	6.0-8.9	3.0-7.0	.20	.20	5	4	86
	12-29	2-15	40-63	35-45	1.30-1.50	0.2-0.6	0.15-0.18	6.0-8.9	0.5-2.5	.32	.32			
	29-54	5-20	40-65	30-40	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	54-60	5-20	45-68	27-35	1.55-1.75	0.2-0.6	0.07-0.15	3.0-5.9	0.0-0.5	.43	.43			
<b>233A:</b>														
Birkbeck-----	0-8	0-10	63-85	15-27	1.20-1.40	0.6-2	0.21-0.29	0.0-2.9	1.5-4.5	.43	.43	5	5	56
	8-11	0-10	63-85	15-27	1.35-1.55	0.6-2	0.17-0.22	0.0-2.9	0.1-1.5	.49	.49			
	11-46	0-10	55-74	26-35	1.35-1.45	0.6-2	0.16-0.20	3.0-5.9	0.1-1.0	.37	.37			
	46-56	20-40	33-60	20-27	1.45-1.55	0.6-2	0.11-0.16	0.0-2.9	0.1-0.5	.32	.32			
	56-60	30-40	33-53	17-27	1.60-1.85	0.2-0.6	0.10-0.15	0.0-2.9	0.0-0.5	.37	.37			
<b>233B:</b>														
Birkbeck-----	0-4	2-7	66-78	20-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	4-9	2-7	66-83	15-27	1.40-1.60	0.6-2	0.17-0.21	0.0-2.9	0.3-1.0	.49	.49			
	9-54	2-7	58-71	27-35	1.35-1.55	0.6-2	0.16-0.20	3.0-5.9	0.2-0.5	.37	.37			
	54-60	30-50	28-50	20-27	1.45-1.65	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.32			
	60-68	30-50	28-50	17-27	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.5	.37	.37			
<b>233C2:</b>														
Birkbeck-----	0-9	0-10	63-85	15-27	1.20-1.50	0.6-2	0.22-0.25	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	9-42	0-10	55-75	25-35	1.35-1.55	0.6-2	0.14-0.24	3.0-5.9	0.0-1.0	.37	.37			
	42-48	15-40	25-65	20-35	1.35-1.60	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.32	.32			
	48-60	15-40	30-68	17-30	1.60-1.85	0.2-0.6	0.05-0.10	0.0-2.9	0.0-0.5	.37	.37			
<b>234A:</b>														
Sunbury-----	0-8	2-7	66-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	8-15	2-7	66-78	20-30	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.49	.49			
	15-36	2-7	53-63	35-42	1.30-1.50	0.2-0.6	0.17-0.21	6.0-8.9	0.1-0.5	.37	.37			
	36-43	3-15	50-72	25-35	1.30-1.50	0.6-2	0.17-0.21	3.0-5.9	0.1-0.5	.37	.37			
	43-47	15-30	45-65	20-27	1.40-1.60	0.6-2	0.10-0.17	0.0-2.9	0.1-0.5	.37	.37			
	47-72	30-45	28-50	20-27	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.3	.37	.37			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>235A:</b>														
Bryce-----	0-13	2-15	40-58	40-50	1.30-1.50	0.2-0.6	0.12-0.16	6.0-8.9	4.0-7.0	.17	.17	5	4	86
	13-45	5-20	28-53	42-52	1.35-1.60	0.06-0.2	0.09-0.13	6.0-8.9	0.5-3.0	.32	.32			
	45-58	5-20	20-55	40-60	1.50-1.70	0.02-0.06	0.07-0.11	6.0-8.9	0.1-0.5	.32	.32			
	58-66	5-20	25-57	38-55	1.60-1.75	0.02-0.06	0.03-0.05	3.0-5.9	0.0-0.5	.37	.37			
<b>236A:</b>														
Sabina-----	0-8	2-10	63-78	20-27	1.25-1.55	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	8-12	2-10	65-80	18-25	1.35-1.55	0.2-0.6	0.20-0.22	0.0-2.9	0.1-1.0	.55	.55			
	12-43	2-10	48-63	35-42	1.35-1.55	0.2-0.6	0.15-0.19	6.0-8.9	0.1-1.0	.37	.37			
	43-50	15-35	30-65	20-35	1.50-1.75	0.6-2	0.14-0.17	3.0-5.9	0.1-0.5	.32	.32			
	50-80	20-40	28-65	15-32	1.65-1.85	0.2-0.6	0.08-0.12	0.0-2.9	0.1-0.3	.32	.32			
<b>238A:</b>														
Rantoul-----	0-17	0-10	40-60	40-50	1.35-1.55	0.2-0.6	0.12-0.23	6.0-8.9	4.0-7.0	.20	.20	5	4	86
	17-40	0-15	25-58	42-60	1.45-1.65	0.02-0.06	0.09-0.13	6.0-8.9	0.5-3.0	.32	.32			
	40-60	0-20	25-65	35-55	1.50-1.70	0.02-0.06	0.08-0.18	6.0-8.9	0.0-1.0	.37	.37			
<b>241C3:</b>														
Chatsworth-----	0-5	0-10	30-60	40-60	1.35-1.60	0.02-0.06	0.09-0.16	3.0-5.9	0.5-1.0	.32	.32	2	4	86
	5-16	0-10	30-65	35-60	1.50-1.70	0.02-0.06	0.05-0.07	3.0-5.9	0.0-0.5	.32	.32			
	16-60	5-15	35-60	35-50	1.70-1.90	0.02-0.06	0.03-0.05	3.0-5.9	0.0-0.5	.37	.37			
<b>241D3:</b>														
Chatsworth-----	0-2	0-10	30-60	40-60	1.35-1.60	0.02-0.06	0.09-0.16	3.0-5.9	0.5-1.0	.32	.32	2	4	86
	2-22	0-10	30-65	35-60	1.50-1.70	0.02-0.06	0.05-0.07	3.0-5.9	0.0-0.5	.32	.32			
	22-60	5-15	35-60	35-50	1.70-1.90	0.02-0.06	0.03-0.05	3.0-5.9	0.0-0.5	.37	.37			
<b>241E3:</b>														
Chatsworth-----	0-7	0-10	30-60	40-60	1.35-1.60	0.02-0.06	0.09-0.16	3.0-5.9	0.5-1.0	.32	.32	2	4	86
	7-21	0-10	30-65	35-60	1.50-1.70	0.02-0.06	0.05-0.07	3.0-5.9	0.0-0.5	.32	.32			
	21-60	5-15	35-60	35-50	1.70-1.90	0.02-0.06	0.03-0.05	3.0-5.9	0.0-0.5	.37	.37			
<b>241F:</b>														
Chatsworth-----	0-4	0-10	50-73	27-40	1.40-1.65	0.02-0.06	0.14-0.19	3.0-5.9	1.0-2.0	.28	.28	3	6	48
	4-24	0-10	30-65	35-60	1.50-1.70	0.02-0.06	0.05-0.07	3.0-5.9	0.0-0.5	.32	.32			
	24-60	5-15	35-60	35-50	1.70-1.90	0.02-0.06	0.03-0.05	3.0-5.9	0.0-0.5	.32	.32			
<b>241G:</b>														
Chatsworth-----	0-5	0-10	50-73	27-40	1.40-1.65	0.02-0.06	0.14-0.19	3.0-5.9	1.0-2.0	.28	.28	3	6	48
	5-20	0-10	30-65	35-60	1.50-1.70	0.02-0.06	0.05-0.07	3.0-5.9	0.0-0.5	.32	.32			
	20-60	5-15	35-60	35-50	1.70-1.90	0.02-0.06	0.03-0.05	3.0-5.9	0.0-0.5	.37	.37			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>242A:</b>														
Kendall-----	0-7	0-10	65-86	14-25	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	7-11	0-10	65-86	14-25	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.1-1.0	.49	.49			
	11-51	0-10	55-73	27-35	1.30-1.50	0.6-2	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	51-58	30-50	33-50	15-27	1.45-1.55	0.6-2	0.11-0.14	0.0-2.9	0.1-0.5	.32	.32			
	58-80	30-55	25-50	10-20	1.55-1.75	0.6-2	0.11-0.15	0.0-2.9	0.1-0.3	.32	.32			
<b>243A:</b>														
St. Charles-----	0-9	0-10	63-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	9-51	0-10	55-73	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	51-60	30-65	33-50	15-30	1.30-1.50	0.6-6	0.11-0.16	0.0-2.9	0.0-0.5	.32	.32			
<b>243B:</b>														
St. Charles-----	0-8	0-10	63-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	8-50	0-10	55-73	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	50-60	30-50	33-50	15-30	1.30-1.50	0.6-6	0.11-0.16	0.0-2.9	0.0-0.5	.32	.32			
<b>243C2:</b>														
St. Charles-----	0-8	0-10	63-80	20-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	8-41	0-10	55-73	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	41-60	30-50	33-50	15-30	1.30-1.50	0.6-2	0.11-0.16	0.0-2.9	0.0-0.5	.32	.32			
<b>244A:</b>														
Hartsburg-----	0-17	2-7	58-71	27-35	1.20-1.40	0.6-2	0.12-0.18	3.0-5.9	4.5-6.0	.24	.24	5	6	48
	17-34	2-7	58-71	25-35	1.35-1.55	0.6-2	0.13-0.19	3.0-5.9	0.5-2.0	.37	.37			
	34-60	3-15	66-82	15-27	1.45-1.65	0.6-2	0.16-0.22	0.0-2.9	0.1-0.5	.49	.49			
<b>278A:</b>														
Stronghurst-----	0-7	1-5	66-85	15-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	7-11	1-5	65-82	18-25	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.49	.49			
	11-47	1-4	58-78	22-35	1.30-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	47-60	1-4	66-80	20-27	1.35-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>278B:</b>														
Stronghurst-----	0-10	1-5	66-85	15-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	10-48	1-4	58-78	22-35	1.30-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	48-60	1-4	66-80	20-27	1.35-1.60	0.6-2	0.20-0.22	0.0-2.9	0.2-0.5	.49	.49			
<b>279B:</b>														
Rozetta-----	0-7	0-7	66-85	15-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	7-11	0-7	66-88	12-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.1-1.0	.49	.49			
	11-55	0-7	58-73	27-35	1.35-1.55	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
	55-60	0-7	63-80	20-30	1.40-1.60	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>280C2:</b>														
Fayette-----	0-8	0-7	66-75	25-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43	5	6	48
	8-64	0-7	58-75	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
	64-80	0-7	67-78	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
<b>290A:</b>														
Warsaw-----	0-11	10-30	50-75	15-25	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	2.5-4.0	.24	.24	4	5	56
	11-28	10-60	8-70	20-32	1.35-1.60	0.6-2	0.16-0.19	3.0-5.9	0.5-2.0	.32	.32			
	28-32	30-70	0-50	18-30	1.40-1.65	0.6-2	0.10-0.16	3.0-5.9	0.2-1.5	.28	.32			
	32-80	80-98	0-18	2-8	1.50-1.70	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
<b>290B:</b>														
Warsaw-----	0-10	10-30	50-75	15-25	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	2.5-4.0	.24	.24	4	5	56
	10-24	10-60	8-70	20-32	1.35-1.60	0.6-2	0.16-0.19	3.0-5.9	0.5-2.0	.32	.32			
	24-34	30-70	0-50	18-30	1.40-1.65	0.6-2	0.10-0.16	3.0-5.9	0.2-1.5	.28	.32			
	34-60	80-98	0-18	2-8	1.50-1.70	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
<b>290C2:</b>														
Warsaw-----	0-8	10-30	50-75	15-25	1.30-1.50	0.6-2	0.20-0.24	0.0-2.9	2.0-3.0	.28	.28	4	5	56
	8-16	10-60	8-70	20-32	1.35-1.60	0.6-2	0.16-0.19	3.0-5.9	0.5-2.0	.32	.32			
	16-27	30-70	0-50	18-30	1.40-1.65	0.6-2	0.10-0.16	3.0-5.9	0.2-1.5	.28	.32			
	27-60	80-98	0-18	2-8	1.50-1.70	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
<b>293A:</b>														
Andres-----	0-11	10-30	50-70	20-27	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	3.5-5.0	.24	.24	5	6	48
	11-26	20-50	15-53	24-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.5-1.5	.32	.32			
	26-50	5-20	45-68	27-35	1.55-1.75	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	50-60	5-20	45-73	22-35	1.65-1.85	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
<b>293B:</b>														
Andres-----	0-10	10-30	50-70	20-27	1.35-1.55	0.6-2	0.17-0.21	0.0-2.9	3.5-5.0	.24	.24	5	6	48
	10-36	20-50	15-53	24-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.5-1.5	.32	.32			
	36-47	5-20	45-73	22-35	1.55-1.75	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	47-60	5-20	45-73	22-35	1.65-1.85	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
<b>294B:</b>														
Symerton-----	0-15	10-30	50-70	20-27	1.30-1.50	0.6-2	0.17-0.21	0.0-2.9	2.5-4.0	.24	.24	5	6	48
	15-19	10-20	45-63	27-35	1.40-1.60	0.6-2	0.17-0.22	3.0-5.9	1.0-3.0	.24	.24			
	19-35	25-50	15-50	24-35	1.45-1.70	0.6-2	0.10-0.15	3.0-5.9	0.1-1.0	.28	.32			
	35-39	2-20	45-74	24-35	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	39-60	2-20	48-78	20-32	1.60-1.80	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>294C2:</b>														
Symerton-----	0-8	10-30	50-70	20-27	1.30-1.50	0.6-2	0.17-0.21	0.0-2.9	2.0-3.0	.28	.28	5	6	48
	8-31	25-50	15-50	24-35	1.45-1.70	0.6-2	0.10-0.15	3.0-5.9	0.1-1.0	.32	.32			
	31-40	2-20	45-74	24-35	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	40-60	2-20	48-78	20-32	1.60-1.80	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
<b>295A:</b>														
Mokena-----	0-5	10-30	50-70	20-27	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	3.5-5.0	.24	.24	4	6	48
	5-15	25-45	28-50	20-27	1.40-1.55	0.6-2	0.17-0.21	0.0-2.9	3.0-4.0	.24	.24			
	15-38	20-50	15-53	24-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.5-1.5	.32	.32			
	38-42	1-20	20-59	40-60	1.55-1.75	0.06-0.2	0.05-0.12	6.0-8.9	0.1-0.5	.32	.32			
	42-60	1-20	20-59	40-60	1.65-1.85	0.02-0.06	0.03-0.07	3.0-5.0	0.0-0.5	.37	.37			
<b>295B:</b>														
Mokena-----	0-15	10-30	50-70	20-27	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	3.5-5.0	.24	.24	4	6	48
	15-31	20-50	15-53	24-35	1.50-1.70	0.6-2	0.12-0.16	3.0-5.9	0.5-1.5	.32	.32			
	31-44	1-20	20-59	40-60	1.55-1.75	0.06-0.2	0.05-0.12	6.0-8.9	0.1-0.5	.32	.32			
	44-80	1-20	20-59	40-60	1.65-1.85	0.02-0.06	0.03-0.07	3.0-5.0	0.0-0.5	.37	.37			
<b>298B:</b>														
Beecher-----	0-7	2-15	58-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.28	.28	4	6	48
	7-24	2-15	35-63	35-50	1.40-1.60	0.06-0.6	0.11-0.15	3.0-5.9	0.2-1.0	.37	.37			
	24-36	5-20	40-65	27-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	36-60	5-20	45-65	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
<b>311B:</b>														
Ritchey-----	0-5	5-30	50-77	18-27	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	2	6	48
	5-9	5-30	45-77	18-25	1.25-1.45	0.6-2	0.20-0.23	0.0-2.9	0.5-1.5	.37	.37			
	9-17	15-50	20-60	25-35	1.35-1.60	0.6-2	0.14-0.20	3.0-5.9	0.2-1.0	.32	.32			
	17-60	---	---	---	---	0.06-0.6	---	---	---	---	---			
<b>314A:</b>														
Joliet-----	0-15	10-30	50-72	18-27	1.15-1.35	0.6-2	0.17-0.23	0.0-2.9	4.0-5.0	.24	.24	2	6	48
	15-19	15-50	17-62	23-33	1.35-1.55	0.6-2	0.14-0.20	3.0-5.9	0.5-2.0	.32	.32			
	19-60	---	---	---	---	0.06-0.6	---	---	---	---	---			
<b>315B:</b>														
Channahon-----	0-11	10-30	50-72	18-27	1.20-1.40	0.6-2	0.17-0.23	0.0-2.9	2.0-4.0	.24	.24	2	6	48
	11-18	15-50	15-60	25-35	1.35-1.60	0.6-2	0.14-0.22	3.0-5.9	0.0-1.5	.32	.32			
	18-60	---	---	---	---	0.06-0.6	---	---	---	---	---			
<b>317A:</b>														
Millsdale-----	0-18	5-20	45-68	27-35	1.30-1.50	0.6-2	0.17-0.22	3.0-5.9	4.0-7.0	.20	.20	3	6	48
	18-36	5-35	30-60	35-45	1.40-1.65	0.2-0.6	0.12-0.18	6.0-8.9	0.2-2.5	.37	.37			
	36-60	---	---	---	---	0.06-0.6	---	---	---	---	---			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>318B:</b>														
Lorenzo-----	0-9	25-40	33-50	18-27	1.25-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-4.0	.24	.24	3	6	48
	9-18	30-80	5-50	20-35	1.60-1.70	2-6	0.10-0.19	3.0-5.9	0.0-1.0	.28	.32			
	18-60	85-99	0-14	1-5	1.60-1.80	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
<b>318C2:</b>														
Lorenzo-----	0-7	25-40	33-50	18-27	1.25-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.28	.28	3	6	48
	7-16	30-80	5-50	20-35	1.60-1.70	2-6	0.10-0.19	3.0-5.9	0.0-1.0	.28	.32			
	16-60	85-99	0-14	1-5	1.60-1.80	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
<b>320B:</b>														
Frankfort-----	0-8	5-20	53-75	20-27	1.25-1.45	0.6-2	0.21-0.24	0.0-2.9	2.0-4.0	.28	.28	4	6	48
	8-12	5-20	48-68	27-32	1.30-1.50	0.6-2	0.19-0.22	0.0-2.9	0.5-2.0	.37	.37			
	12-32	5-20	20-50	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32	.32			
	32-37	5-25	20-55	40-55	1.60-1.75	0.02-0.06	0.06-0.12	3.0-5.9	0.1-0.5	.32	.32			
	37-60	5-25	25-60	35-50	1.65-1.85	0.02-0.06	0.01-0.05	3.0-5.9	0.0-0.5	.37	.37			
<b>320C2:</b>														
Frankfort-----	0-7	5-20	45-68	27-35	1.30-1.50	0.6-2	0.19-0.22	3.0-5.9	2.0-3.0	.24	.24	4	6	48
	7-28	5-20	20-50	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32	.32			
	28-32	5-25	20-55	40-55	1.60-1.75	0.02-0.06	0.06-0.12	3.0-5.9	0.1-0.5	.32	.32			
	32-60	5-25	25-60	35-50	1.65-1.85	0.02-0.06	0.01-0.05	3.0-5.9	0.0-0.5	.37	.37			
<b>325B:</b>														
Dresden-----	0-7	2-30	50-80	18-27	1.25-1.40	0.6-2	0.20-0.24	0.0-2.9	2.0-4.0	.28	.28	4	6	48
	7-16	5-50	20-70	25-35	1.35-1.55	0.6-2	0.15-0.20	3.0-5.9	0.2-1.0	.32	.32			
	16-30	30-70	5-50	20-30	1.45-1.70	0.6-2	0.08-0.18	3.0-5.9	0.0-0.5	.28	.32			
	30-60	80-99	0-19	1-5	1.60-1.70	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
<b>325C2:</b>														
Dresden-----	0-9	2-30	50-80	18-27	1.25-1.40	0.6-2	0.20-0.24	0.0-2.9	2.0-3.0	.28	.28	4	6	48
	9-15	5-50	20-70	25-35	1.35-1.55	0.6-2	0.15-0.20	3.0-5.9	0.2-1.0	.32	.32			
	15-32	30-70	5-50	20-30	1.45-1.70	0.6-2	0.08-0.18	3.0-5.9	0.0-0.5	.28	.32			
	32-60	80-99	0-19	1-5	1.60-1.70	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
<b>327B:</b>														
Fox-----	0-4	5-30	50-80	15-25	1.30-1.50	0.6-2	0.17-0.24	0.0-2.9	1.0-3.0	.32	.32	4	5	56
	4-7	5-30	50-80	15-25	1.35-1.55	0.6-2	0.16-0.23	0.0-2.9	0.2-1.0	.37	.37			
	7-13	5-30	50-77	18-35	1.50-1.65	0.6-2	0.10-0.22	3.0-5.9	0.2-0.5	.32	.32			
	13-28	20-75	5-50	18-35	1.55-1.65	0.6-2	0.10-0.19	3.0-5.9	0.0-0.5	.28	.32			
	28-60	90-98	0-10	0-2	1.45-1.70	20-100	0.02-0.07	0.0-2.9	0.0-0.5	.02	.05			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>327C2:</b>														
Fox-----	0-4	5-30	50-80	15-25	1.30-1.50	0.6-2	0.17-0.24	0.0-2.9	1.0-2.0	.32	.32	4	5	56
	4-12	5-30	50-77	18-35	1.50-1.65	0.6-2	0.10-0.22	3.0-5.9	0.2-0.5	.32	.32			
	12-24	20-75	5-50	18-35	1.55-1.65	0.6-2	0.10-0.19	3.0-5.9	0.0-0.5	.28	.32			
	24-60	90-98	0-10	0-2	1.45-1.70	20-100	0.02-0.07	0.0-2.9	0.0-0.5	.02	.05			
<b>327D2:</b>														
Fox-----	0-8	25-45	30-50	15-25	1.35-1.55	0.6-2	0.15-0.22	0.0-2.9	1.0-2.0	.32	.32	4	5	56
	8-28	20-75	5-50	18-35	1.55-1.65	0.6-2	0.10-0.19	3.0-5.9	0.0-0.5	.28	.32			
	28-60	90-98	0-10	0-2	1.45-1.70	20-100	0.02-0.07	0.0-2.9	0.0-0.5	.02	.05			
<b>330A:</b>														
Peotone-----	0-13	0-10	50-67	33-40	1.20-1.40	0.2-0.6	0.21-0.23	6.0-8.9	5.0-7.0	.24	.24	5	4	86
	13-50	0-10	45-65	35-45	1.30-1.60	0.2-0.6	0.11-0.20	6.0-8.9	0.5-3.0	.37	.37			
	50-60	0-20	38-75	25-42	1.40-1.65	0.2-0.6	0.10-0.20	6.0-8.9	0.2-0.5	.43	.43			
<b>344A:</b>														
Harvard-----	0-9	0-15	58-80	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	9-36	0-15	50-75	25-35	1.25-1.55	0.6-2	0.15-0.20	3.0-5.9	0.2-1.0	.37	.37			
	36-56	15-60	10-70	15-35	1.30-1.60	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.32	.32			
	56-60	30-87	0-65	5-30	1.40-1.70	0.6-6	0.05-0.15	0.0-2.9	0.0-0.5	.28	.28			
<b>344B:</b>														
Harvard-----	0-9	0-15	58-80	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	9-30	0-15	50-75	25-35	1.25-1.55	0.6-2	0.15-0.20	3.0-5.9	0.2-1.0	.37	.37			
	30-56	15-60	10-70	15-35	1.30-1.60	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.32	.32			
	56-69	30-87	0-65	5-30	1.40-1.70	0.6-6	0.05-0.15	0.0-2.9	0.0-0.5	.28	.28			
<b>344C2:</b>														
Harvard-----	0-7	0-15	58-80	20-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	7-32	0-15	50-75	25-35	1.25-1.55	0.6-2	0.15-0.20	3.0-5.9	0.2-1.0	.37	.37			
	32-40	15-60	10-70	15-35	1.30-1.60	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.32	.32			
	40-60	30-87	0-65	5-30	1.40-1.70	0.6-6	0.05-0.15	0.0-2.9	0.0-0.5	.28	.28			
<b>356A:</b>														
Elpaso-----	0-21	1-10	55-72	27-35	1.15-1.35	0.6-2	0.21-0.23	3.0-5.9	4.0-7.0	.24	.24	5	6	48
	21-44	1-10	50-75	24-40	1.20-1.40	0.6-2	0.22-0.24	3.0-5.9	0.2-2.0	.37	.37			
	44-69	2-30	30-78	20-40	1.35-1.60	0.6-2	0.18-0.22	3.0-5.9	0.2-0.5	.37	.37			
	69-80	2-30	40-83	15-30	1.60-1.85	0.2-0.6	0.05-0.15	0.0-2.9	0.0-0.5	.43	.43			
<b>375A:</b>														
Rutland-----	0-14	0-10	55-73	27-35	1.20-1.40	0.6-2	0.22-0.24	3.0-5.9	3.0-5.0	.28	.28	4	6	48
	14-36	0-10	45-65	35-45	1.30-1.55	0.2-0.6	0.18-0.20	6.0-8.9	0.2-2.0	.37	.37			
	36-44	0-15	50-80	20-35	1.35-1.55	0.2-0.6	0.18-0.22	3.0-5.9	0.2-1.0	.37	.37			
	44-52	1-15	25-59	40-60	1.45-1.70	0.06-0.6	0.08-0.12	6.0-8.9	0.0-0.5	.32	.32			
	52-60	1-15	20-59	40-65	1.65-1.85	0.02-0.06	0.03-0.07	6.0-8.9	0.0-0.5	.37	.37			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>375B:</b>														
Rutland-----	0-13	0-10	55-73	27-35	1.20-1.40	0.6-2	0.22-0.24	3.0-5.9	3.0-4.5	.28	.28	4	6	48
	13-40	0-10	45-65	35-45	1.30-1.55	0.2-0.6	0.16-0.18	6.0-8.9	0.2-2.0	.37	.37			
	40-50	1-15	25-59	40-60	1.45-1.70	0.06-0.6	0.08-0.12	6.0-8.9	0.0-0.5	.32	.32			
	50-60	1-15	20-59	40-65	1.65-1.85	0.02-0.06	0.03-0.07	6.0-8.9	0.0-0.5	.37	.37			
<b>375B2:</b>														
Rutland-----	0-9	0-10	55-73	27-35	1.20-1.40	0.6-2	0.20-0.22	3.0-5.9	2.0-4.0	.32	.32	4	6	48
	9-37	0-10	45-65	35-45	1.30-1.55	0.2-0.6	0.18-0.20	6.0-8.9	0.2-2.0	.37	.37			
	37-46	1-15	25-59	40-60	1.45-1.70	0.06-0.6	0.08-0.12	6.0-8.9	0.0-0.5	.32	.32			
	46-80	1-15	20-59	40-65	1.65-1.85	0.02-0.06	0.03-0.07	6.0-8.9	0.0-0.5	.37	.37			
<b>388B:</b>														
Wenona-----	0-14	1-10	60-79	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.5-4.5	.28	.28	5	6	48
	14-37	1-10	50-64	35-42	1.30-1.55	0.2-0.6	0.18-0.20	6.0-8.9	0.2-2.0	.37	.37			
	37-50	1-15	25-59	40-60	1.45-1.70	0.06-0.6	0.08-0.12	6.0-8.9	0.0-0.5	.32	.32			
	50-60	2-15	30-58	40-45	1.65-1.85	0.02-0.06	0.05-0.08	6.0-8.9	0.0-0.5	.37	.37			
<b>388B2:</b>														
Wenona-----	0-9	1-10	60-79	20-27	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	9-42	1-10	50-64	35-42	1.30-1.55	0.2-0.6	0.18-0.20	6.0-8.9	0.2-2.0	.37	.37			
	42-52	1-15	25-59	40-60	1.45-1.70	0.06-0.6	0.08-0.12	6.0-8.9	0.0-0.5	.32	.32			
	52-60	2-15	30-58	40-45	1.65-1.85	0.02-0.06	0.05-0.08	6.0-8.9	0.0-0.5	.37	.37			
<b>388C2:</b>														
Wenona-----	0-6	1-10	60-72	27-39	1.20-1.40	0.6-2	0.20-0.22	3.0-5.9	2.0-4.0	.32	.32	5	4	86
	6-45	1-10	50-64	35-42	1.30-1.55	0.2-0.6	0.18-0.20	6.0-8.9	0.2-2.0	.37	.37			
	45-54	1-15	25-59	40-60	1.45-1.70	0.06-0.6	0.08-0.12	6.0-8.9	0.0-0.5	.32	.32			
	54-60	2-15	30-58	40-45	1.65-1.85	0.02-0.06	0.05-0.08	6.0-8.9	0.0-0.5	.37	.37			
<b>397F:</b>														
Boone-----	0-6	70-90	0-27	2-6	1.45-1.65	6-20	0.11-0.12	0.0-2.9	0.0-1.0	.02	.02	2	2	134
	6-15	75-100	0-27	0-6	1.55-1.70	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.15	.15			
	15-23	85-100	0-10	0-10	1.40-1.65	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
	23-60	---	---	---	---	0.2-2	---	---	---	---	---			
<b>413B:</b>														
Gale-----	0-4	5-15	58-80	15-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	4	5	56
	4-7	5-15	58-83	12-27	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	0.5-1.0	.49	.49			
	7-30	5-15	50-75	20-35	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	0.5-1.0	.49	.49			
	30-37	50-88	1-33	2-14	1.40-1.65	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.15	.15			
	37-60	---	---	---	---	0.2-2	---	---	---	---	---			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>413C2:</b>														
Gale-----	0-6	5-15	58-80	15-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	0.5-2.0	.43	.43	3	5	56
	6-9	5-15	58-83	12-27	1.30-1.50	0.6-2	0.18-0.22	0.0-2.9	0.5-1.0	.49	.49			
	9-31	5-15	50-75	20-35	1.35-1.55	0.6-2	0.18-0.22	0.0-2.9	0.5-1.0	.49	.49			
	31-38	42-88	1-33	2-28	1.40-1.65	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.15	.15			
	38-60	---	---	---	---	0.2-2	---	---	---	---	---			
<b>435A:</b>														
Streator-----	0-13	1-10	50-72	27-40	1.20-1.40	0.6-2	0.22-0.24	6.0-8.9	4.0-7.0	.24	.24	5	4	86
	13-42	1-10	45-64	35-45	1.30-1.55	0.2-0.6	0.18-0.20	6.0-8.9	0.5-2.0	.37	.37			
	42-68	2-15	25-58	40-60	1.45-1.70	0.06-0.6	0.08-0.12	6.0-8.9	0.0-0.5	.32	.32			
	68-80	2-15	20-58	40-60	1.65-1.85	0.02-0.06	0.03-0.07	6.0-8.9	0.0-0.5	.37	.37			
<b>448B:</b>														
Mona-----	0-11	0-15	58-80	20-27	1.10-1.30	0.6-2	0.17-0.24	0.0-2.9	2.5-4.0	.24	.24	4	6	48
	11-39	15-50	15-60	25-35	1.35-1.55	0.2-0.6	0.15-0.20	3.0-5.9	0.2-0.5	.32	.32			
	39-44	0-10	30-60	40-50	1.40-1.65	0.06-0.2	0.05-0.08	6.0-8.0	0.2-0.5	.32	.32			
	44-60	0-10	30-60	40-50	1.70-1.90	0.02-0.06	0.03-0.05	3.0-5.9	0.0-0.5	.37	.37			
<b>448C2:</b>														
Mona-----	0-7	0-15	58-80	20-27	1.10-1.30	0.6-2	0.17-0.22	0.0-2.9	2.0-4.0	.28	.28	4	6	48
	7-33	15-50	15-60	25-35	1.35-1.55	0.2-0.6	0.15-0.20	3.0-5.9	0.2-0.5	.32	.32			
	33-37	1-10	30-59	40-50	1.40-1.65	0.06-0.2	0.05-0.08	6.0-8.9	0.2-0.5	.32	.32			
	37-60	1-10	30-59	40-50	1.70-1.90	0.02-0.06	0.03-0.05	3.0-5.9	0.0-0.5	.37	.37			
<b>512B:</b>														
Danabrook-----	0-13	0-15	58-82	18-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	4.0-5.0	.28	.28	5	6	48
	13-33	0-15	50-76	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	33-50	25-50	10-50	20-34	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.2-0.5	.32	.32			
	50-60	35-60	20-45	15-20	1.70-1.90	0.2-0.6	0.05-0.10	0.0-2.9	0.2-0.5	.37	.37			
<b>512C2:</b>														
Danabrook-----	0-8	0-15	58-82	18-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.37	.37	5	6	48
	8-27	0-15	50-76	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	27-40	25-50	10-50	20-34	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.2-0.5	.32	.32			
	40-65	35-60	20-45	15-20	1.70-1.90	0.2-0.6	0.05-0.10	0.0-2.9	0.2-0.5	.37	.37			
<b>516A:</b>														
Faxon-----	0-12	20-45	28-60	18-27	1.30-1.45	0.6-2	0.22-0.24	0.0-2.9	4.0-6.0	.24	.24	3	6	48
	12-36	20-50	20-55	18-35	1.40-1.55	0.6-2	0.15-0.19	0.0-2.9	0.2-1.5	.32	.32			
	36-60	---	---	---	---	0.2-2	---	---	---	---	---			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
527C2:														
Kidami-----	0-9	20-45	31-55	10-24	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	9-30	25-45	21-55	20-34	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.2-1.0	.32	.32			
	30-40	30-45	28-53	17-27	1.45-1.65	0.6-2	0.15-0.19	0.0-2.9	0.0-0.5	.32	.32			
	40-60	35-60	20-50	15-20	1.70-1.90	0.2-0.6	0.05-0.10	0.0-2.9	0.0-0.5	.37	.37			
527D2:														
Kidami-----	0-10	20-45	31-55	10-24	1.30-1.45	0.6-2	0.20-0.24	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	10-27	25-45	21-55	20-34	1.40-1.60	0.6-2	0.15-0.19	3.0-5.9	0.2-1.0	.32	.32			
	27-35	30-45	28-53	17-27	1.45-1.65	0.6-2	0.15-0.19	0.0-2.9	0.0-0.5	.32	.32			
	35-60	35-60	20-50	15-20	1.70-1.90	0.2-0.6	0.05-0.10	0.0-2.9	0.0-0.5	.37	.37			
530B:														
Ozaukee-----	0-4	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.32	.32	4	6	48
	4-10	5-15	58-80	15-27	1.35-1.55	0.6-2	0.20-0.22	0.0-2.9	0.2-1.0	.37	.37			
	10-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	21-39	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	39-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530C2:														
Ozaukee-----	0-6	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.32	.32	4	6	48
	6-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	21-28	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	28-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530C3:														
Ozaukee-----	0-9	5-15	45-68	27-40	1.45-1.60	0.2-0.6	0.10-0.21	3.0-5.9	0.5-1.0	.37	.37	3	6	48
	9-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	21-27	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	27-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530D2:														
Ozaukee-----	0-6	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.32	.32	4	6	48
	6-20	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	20-28	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	28-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
530D3:														
Ozaukee-----	0-9	5-15	45-68	27-40	1.45-1.60	0.2-0.6	0.10-0.21	3.0-5.9	0.5-1.0	.37	.37	3	6	48
	9-21	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	21-25	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	25-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>530E2:</b>														
Ozaukee-----	0-6	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.32	.32	4	6	48
	6-27	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	27-31	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	31-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
<b>530F:</b>														
Ozaukee-----	0-5	5-15	58-80	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.32	.32	4	6	48
	5-29	5-15	35-60	35-50	1.60-1.70	0.06-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.37	.37			
	29-36	5-20	38-65	30-42	1.65-1.75	0.06-0.2	0.10-0.20	3.0-5.9	0.1-0.5	.37	.37			
	36-60	5-23	42-68	27-35	1.70-1.90	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
<b>541B:</b>														
Graymont-----	0-12	0-10	63-78	22-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.28	.28	5	6	48
	12-33	0-10	55-75	25-35	1.30-1.50	0.6-2	0.16-0.20	3.0-5.9	0.2-2.0	.37	.37			
	33-38	10-20	40-68	22-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	38-60	10-20	50-66	24-34	1.60-1.80	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
<b>541B2:</b>														
Graymont-----	0-8	0-10	63-78	22-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.37	.37	5	6	48
	8-24	0-10	55-75	25-35	1.25-1.45	0.6-2	0.16-0.20	3.0-5.9	0.0-2.0	.37	.37			
	24-35	10-20	40-68	22-40	1.50-1.75	0.06-0.6	0.14-0.18	3.0-5.9	0.0-0.5	.37	.37			
	35-60	10-20	46-66	24-34	1.50-1.75	0.06-0.2	0.05-0.10	3.0-5.9	0.0-0.5	.43	.43			
<b>541C2:</b>														
Graymont-----	0-9	0-10	63-78	22-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.37	.37	5	6	48
	9-30	0-10	55-75	25-35	1.30-1.50	0.6-2	0.16-0.20	3.0-5.9	0.2-2.0	.37	.37			
	30-38	10-20	40-68	22-40	1.50-1.70	0.06-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	38-60	10-20	50-66	24-34	1.60-1.80	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
<b>542A:</b>														
Rooks-----	0-15	1-10	55-72	27-35	1.20-1.40	0.6-2	0.22-0.24	3.0-5.9	3.0-5.0	.24	.24	5	6	48
	15-30	1-10	45-72	27-45	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
	30-45	5-15	55-85	10-30	1.45-1.65	0.2-0.6	0.17-0.20	0.0-2.9	0.0-0.5	.37	.37			
	45-60	5-15	40-68	27-45	1.65-1.85	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
<b>542B:</b>														
Rooks-----	0-10	1-10	55-72	27-35	1.20-1.40	0.6-2	0.22-0.24	3.0-5.9	3.0-5.0	.24	.24	5	6	48
	10-28	1-10	45-72	27-45	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
	28-49	5-15	55-85	10-30	1.45-1.65	0.2-0.6	0.16-0.19	0.0-2.9	0.0-0.5	.37	.37			
	49-60	5-15	40-68	27-45	1.65-1.85	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
549B:														
Marseilles-----	0-5	0-10	63-80	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	5-9	0-10	63-85	15-27	1.20-1.40	0.6-2	0.18-0.20	0.0-2.9	0.5-1.0	.49	.49			
	9-28	0-15	50-76	24-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	28-40	1-25	33-73	27-42	1.35-1.60	0.06-0.2	0.09-0.20	3.0-5.9	0.0-0.5	.43	.43			
	40-60	---	---	---	---	0.01-0.2	---	---	---	---	---			
549C2:														
Marseilles-----	0-5	0-15	58-80	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	0.5-2.0	.43	.43	3	6	48
	5-16	0-15	43-73	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	16-26	0-25	33-75	25-42	1.35-1.60	0.06-0.2	0.09-0.20	3.0-5.9	0.5-1.0	.37	.37			
	26-60	---	---	---	---	0.01-0.2	---	---	---	---	---			
549D2:														
Marseilles-----	0-5	0-25	58-80	20-27	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	0.5-2.0	.32	.32	3	6	48
	5-27	0-25	43-73	27-42	1.35-1.60	0.06-0.2	0.09-0.20	3.0-5.9	0.0-0.5	.37	.37			
	27-60	---	---	---	---	0.01-0.2	---	---	---	---	---			
549F:														
Marseilles-----	0-10	0-15	58-80	20-27	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	3	5	56
	10-35	0-25	43-73	27-42	1.35-1.60	0.06-0.2	0.09-0.20	3.0-5.9	0.0-0.5	.37	.37			
	35-60	---	---	---	---	0.01-0.2	---	---	---	---	---			
549G:														
Marseilles-----	0-10	0-15	58-80	20-27	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	10-35	0-25	43-73	27-42	1.35-1.60	0.06-0.2	0.09-0.20	3.0-5.9	0.0-0.5	.37	.37			
	35-60	---	---	---	---	0.01-0.2	---	---	---	---	---			
554B:														
Kernan-----	0-5	0-10	63-80	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.28	.28	4	5	56
	5-12	0-10	63-85	15-27	1.30-1.55	0.6-2	0.18-0.22	0.0-2.9	0.2-1.0	.49	.49			
	12-36	0-10	45-64	35-45	1.35-1.55	0.2-0.6	0.18-0.20	6.0-8.9	0.2-1.0	.37	.37			
	36-43	1-15	25-64	35-60	1.45-1.70	0.06-0.6	0.08-0.12	6.0-8.9	0.1-0.5	.32	.32			
	43-60	1-15	20-59	40-65	1.65-1.85	0.02-0.06	0.03-0.07	6.0-8.9	0.0-0.5	.37	.37			
560D2:														
St. Clair-----	0-5	2-20	42-71	27-38	1.30-1.50	0.6-2	0.18-0.22	3.0-5.9	1.0-2.5	.28	.28	4	6	48
	5-8	2-20	45-71	27-35	1.30-1.50	0.6-2	0.16-0.21	3.0-5.9	0.2-1.0	.37	.37			
	8-22	2-20	20-53	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32	.32			
	22-37	5-25	20-55	40-55	1.60-1.80	0.02-0.06	0.06-0.12	3.0-5.9	0.1-0.5	.32	.32			
	37-65	5-25	20-60	35-55	1.70-1.90	0.02-0.06	0.01-0.05	3.0-5.9	0.0-0.5	.37	.37			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
560E: St. Clair-----	0-5	2-20	42-71	27-38	1.30-1.50	0.6-2	0.18-0.22	3.0-5.9	1.0-3.0	.28	.28	4	6	48
	5-12	2-20	20-53	45-60	1.40-1.65	0.06-0.2	0.08-0.14	3.0-5.9	0.2-1.0	.32	.32			
	12-26	5-25	20-55	40-55	1.60-1.80	0.02-0.06	0.06-0.12	3.0-5.9	0.1-0.5	.32	.32			
	26-60	5-25	20-60	35-55	1.70-1.90	0.02-0.06	0.01-0.05	3.0-5.9	0.0-0.5	.37	.37			
567B: Elkhart-----	0-13	1-7	66-85	15-27	1.30-1.50	0.6-2	0.22-0.24	0.0-2.9	2.5-4.0	.32	.32	5	6	48
	13-37	1-7	58-77	22-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-2.0	.37	.37			
	37-52	1-7	63-85	15-30	1.30-1.50	0.6-2	0.18-0.23	0.0-2.9	0.1-0.5	.49	.49			
	52-60	1-7	66-85	15-27	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.0-0.5	.49	.49			
572A: Loran-----	0-14	0-7	66-80	20-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	4.0-5.0	.28	.28	4	6	48
	14-39	0-7	45-78	22-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.43	.43			
	39-53	5-35	15-60	40-50	1.50-1.70	0.06-0.2	0.04-0.08	3.0-5.9	0.0-0.5	.32	.32			
	53-60	---	---	---	---	0.01-0.2	---	---	---	---	---			
572B: Loran-----	0-12	0-7	66-80	20-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	4.0-5.0	.28	.28	4	6	48
	12-43	0-7	45-78	22-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	43-51	5-35	15-60	40-50	1.50-1.70	0.06-0.2	0.04-0.08	3.0-5.9	0.0-0.5	.32	.32			
	51-60	---	---	---	---	0.01-0.2	---	---	---	---	---			
572C2: Loran-----	0-9	0-7	66-80	20-27	1.10-1.30	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.37	.37	4	6	48
	9-41	0-7	45-78	22-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.37	.37			
	41-60	5-35	14-60	40-50	1.50-1.70	0.06-0.2	0.04-0.08	3.0-5.9	0.0-0.5	.32	.32			
614A: Chenoa-----	0-12	1-8	57-72	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	3.5-5.0	.28	.28	5	6	48
	12-32	1-8	47-64	35-45	1.30-1.50	0.2-0.6	0.18-0.21	6.0-8.9	0.5-1.5	.37	.37			
	32-36	5-20	40-70	25-40	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	36-60	5-20	45-71	24-35	1.60-1.80	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
614B: Chenoa-----	0-15	1-8	57-72	27-35	1.20-1.40	0.6-2	0.19-0.22	3.0-5.9	3.5-5.0	.28	.28	5	6	48
	15-28	1-8	47-64	35-45	1.30-1.50	0.6-2	0.18-0.21	6.0-8.9	0.5-1.5	.37	.37			
	28-47	5-20	40-70	25-40	1.50-1.70	0.2-0.6	0.14-0.18	3.0-5.9	0.1-0.5	.37	.37			
	47-60	5-20	45-71	24-35	1.60-1.80	0.06-0.2	0.05-0.10	0.0-2.9	0.0-0.5	.43	.43			
662B: Barony-----	0-8	0-15	58-85	15-27	1.15-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-4.0	.37	.37	5	6	48
	8-34	0-15	50-75	25-35	1.25-1.55	0.6-2	0.15-0.20	3.0-5.9	0.2-1.0	.37	.37			
	34-54	15-60	10-70	15-32	1.30-1.60	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.32	.32			
	54-85	20-90	0-75	5-28	1.40-1.70	0.6-6	0.05-0.15	0.0-2.9	0.0-0.5	.28	.28			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
663B: Clare-----	0-14	2-15	63-80	18-27	1.30-1.40	0.6-2	0.22-0.24	0.0-2.9	2.5-4.0	.28	.28	5	6	48
	14-36	1-10	55-74	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
	36-44	15-45	23-58	20-32	1.40-1.55	0.6-2	0.13-0.19	3.0-5.9	0.2-0.5	.32	.32			
	44-60	40-60	25-45	10-20	1.50-1.75	0.6-2	0.13-0.19	0.0-2.9	0.1-0.5	.32	.32			
667B: Kaneville-----	0-9	0-10	63-85	15-27	1.25-1.45	0.6-2	0.22-0.25	0.0-2.9	2.0-4.0	.37	.37	5	5	56
	9-44	0-10	56-75	25-34	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	44-52	15-60	8-70	15-32	1.30-1.50	0.6-2	0.11-0.16	3.0-5.9	0.2-0.5	.32	.32			
	52-80	20-80	0-70	10-30	1.40-1.70	0.6-6	0.07-0.11	0.0-2.9	0.0-0.2	.28	.28			
668B: Somonauk-----	0-9	0-10	63-86	14-27	1.25-1.45	0.6-2	0.21-0.25	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	9-26	0-10	55-78	22-35	1.35-1.55	0.6-2	0.14-0.24	3.0-5.9	0.2-1.0	.37	.37			
	26-55	15-70	5-70	15-32	1.45-1.65	0.6-2	0.12-0.19	3.0-5.9	0.0-0.5	.32	.32			
	55-60	20-90	0-75	5-20	1.55-1.70	0.6-6	0.07-0.17	0.0-2.9	0.0-0.5	.20	.28			
675B: Greenbush-----	0-14	0-7	68-82	18-25	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	14-60	0-7	58-74	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	60-80	0-7	66-82	18-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
675C2: Greenbush-----	0-6	0-7	68-82	18-25	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	1.0-3.0	.37	.37	5	6	48
	6-46	0-7	58-74	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	46-60	0-7	66-82	18-27	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.49	.49			
679B: Blackberry-----	0-16	0-10	63-82	18-27	1.10-1.30	0.6-2	0.18-0.22	0.0-2.9	3.0-5.0	.28	.28	5	6	48
	16-47	1-10	55-75	25-35	1.20-1.40	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	47-62	30-50	35-55	15-25	1.50-1.70	0.6-2	0.11-0.22	0.0-2.9	0.1-0.5	.32	.32			
	62-70	30-50	35-55	5-20	1.50-1.70	0.6-2	0.13-0.17	0.0-2.9	0.1-0.5	.37	.37			
680B: Campton-----	0-8	0-10	63-85	15-27	1.15-1.30	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	8-45	0-10	55-75	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.37	.37			
	45-51	20-65	5-65	15-30	1.30-1.50	0.6-2	0.11-0.16	3.0-5.9	0.0-0.5	.32	.32			
	51-80	25-80	0-70	5-25	1.55-1.75	0.6-6	0.11-0.16	0.0-2.9	0.0-0.5	.24	.28			
712A: Spaulding-----	0-22	1-7	58-73	27-35	1.05-1.25	0.6-2	0.21-0.24	3.0-5.9	4.0-6.0	.24	.24	5	4L	86
	22-38	1-7	58-73	25-35	1.20-1.50	0.6-2	0.18-0.22	3.0-5.9	0.5-2.0	.37	.37			
	38-44	1-7	66-75	22-35	1.25-1.55	0.6-2	0.17-0.22	3.0-5.9	0.5-1.0	.37	.37			
	44-80	1-7	66-79	20-27	1.30-1.55	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.49	.49			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
715A:														
Arrowsmith-----	0-12	1-7	66-84	15-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	12-30	1-7	58-72	27-35	1.35-1.55	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	30-39	1-7	66-87	12-27	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.0-0.5	.43	.43			
	39-60	1-7	75-91	8-18	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.0-0.5	.55	.55			
732A:														
Appleriver-----	0-8	0-10	63-80	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	4	5	56
	8-35	0-10	55-80	20-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	35-45	5-20	30-72	37-50	1.40-1.60	0.06-0.2	0.09-0.17	3.0-5.9	0.0-0.5	.32	.32			
	45-60	---	---	---	---	0.01-0.2	---	---	---	---	---			
732B:														
Appleriver-----	0-14	0-10	63-80	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	4	5	56
	14-34	0-10	55-80	20-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	34-58	5-20	30-60	37-50	1.40-1.60	0.06-0.2	0.08-0.17	3.0-5.9	0.0-0.5	.32	.32			
	58-60	---	---	---	---	0.01-0.2	---	---	---	---	---			
791A:														
Rush-----	0-4	0-15	58-88	12-27	1.20-1.35	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	4	5	56
	4-11	0-15	58-88	12-27	1.25-1.40	0.6-2	0.21-0.23	0.0-2.9	0.5-1.0	.49	.49			
	11-38	0-15	51-78	22-34	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	38-45	25-75	5-50	18-30	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.2-1.0	.28	.32			
	45-60	85-98	0-13	2-6	1.60-1.80	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
791B:														
Rush-----	0-7	0-15	58-88	12-27	1.20-1.35	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.43	.43	4	5	56
	7-11	0-15	58-88	12-27	1.25-1.40	0.6-2	0.21-0.23	0.0-2.9	0.5-1.0	.49	.49			
	11-35	0-15	51-78	22-34	1.35-1.50	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
	35-46	25-75	5-50	18-30	1.40-1.55	0.6-2	0.15-0.19	3.0-5.9	0.2-1.0	.28	.32			
	46-60	85-98	0-13	2-6	1.60-1.80	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
792A:														
Bowes-----	0-9	0-10	63-82	18-27	1.30-1.50	0.6-2	0.22-0.25	0.0-2.9	2.0-4.0	.37	.37	4	6	48
	9-13	0-10	65-85	15-25	1.35-1.55	0.6-2	0.21-0.24	0.0-2.9	0.5-1.5	.43	.43			
	13-43	0-10	55-75	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	43-51	30-85	2-50	10-32	1.55-1.75	0.6-6	0.10-0.16	3.0-5.9	0.1-0.5	.28	.32			
	51-61	75-98	0-23	2-10	1.60-1.80	20-100	0.02-0.08	0.0-2.9	0.0-0.5	.02	.05			
792B:														
Bowes-----	0-7	0-10	63-82	18-27	1.30-1.50	0.6-2	0.22-0.25	0.0-2.9	2.0-4.0	.37	.37	4	6	48
	7-37	0-10	55-75	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	37-43	30-85	2-50	10-32	1.55-1.75	0.6-6	0.10-0.16	3.0-5.9	0.1-0.5	.28	.32			
	43-60	75-98	0-23	2-10	1.60-1.80	20-100	0.02-0.08	0.0-2.9	0.0-0.5	.02	.05			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>794G:</b>														
Marseilles-----	0-10	0-15	58-80	20-27	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.43	.43	3	5	56
	10-35	0-25	43-73	27-42	1.35-1.60	0.06-0.2	0.09-0.20	3.0-5.9	0.0-0.5	.37	.37			
	35-60	---	---	---	---	0.01-0.2	---	---	---	---	---			
Northfield-----	0-3	10-55	30-70	10-20	1.35-1.55	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	2	5	56
	3-16	15-60	25-60	15-27	1.55-1.65	0.6-2	0.14-0.22	0.0-2.9	0.2-1.5	.32	.32			
	16-60	---	---	---	---	0.2-2	---	---	---	---	---			
Ritchey-----	0-4	5-30	50-77	18-27	1.20-1.40	0.6-2	0.20-0.24	0.0-2.9	1.0-3.0	.32	.32	2	6	48
	4-18	5-30	42-75	20-35	1.35-1.60	0.6-2	0.18-0.20	0.0-2.9	0.2-1.5	.37	.37			
	18-60	---	---	---	---	0.06-0.6	---	---	---	---	---			
<b>802B:</b>														
Orthents, loamy----	0-6	23-50	28-50	22-27	1.70-1.75	0.2-0.6	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	6-60	20-52	25-58	22-30	1.70-1.80	0.2-0.6	0.12-0.20	3.0-5.9	0.2-1.0	.43	.43			
<b>802D:</b>														
Orthents, loamy----	0-6	23-52	28-50	22-27	1.70-1.75	0.2-0.6	0.18-0.22	0.0-2.9	0.5-2.0	.43	.43	5	6	48
	6-60	20-52	25-58	22-30	1.70-1.80	0.2-0.6	0.12-0.20	3.0-5.9	0.2-1.0	.43	.43			
<b>804D:</b>														
Orthents, acid-----	0-3	2-20	25-63	35-55	1.20-1.40	0.01-0.2	0.12-0.16	3.0-5.9	0.5-2.0	.32	.32	5	4	86
	3-60	10-25	20-65	35-55	1.35-1.55	0.01-0.2	0.08-0.16	3.0-5.9	0.0-0.5	.28	.28			
<b>804G:</b>														
Orthents, acid-----	0-3	2-20	25-63	35-55	1.20-1.40	0.01-0.2	0.12-0.16	3.0-5.9	0.5-2.0	.32	.32	5	4	86
	3-60	10-25	20-65	35-55	1.35-1.55	0.01-0.2	0.08-0.16	3.0-5.9	0.0-0.5	.28	.28			
<b>805B:</b>														
Orthents, clayey----	0-6	2-20	40-58	40-55	1.50-1.65	0.02-0.06	0.08-0.14	6.0-8.9	0.5-2.0	.43	.43	5	4	86
	6-60	2-30	10-60	35-60	1.60-1.90	0.02-0.06	0.03-0.10	6.0-8.9	0.2-1.0	.43	.43			
<b>814A:</b>														
Muscatune-----	0-16	2-7	66-74	24-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	16-22	2-7	58-73	25-35	1.30-1.50	0.6-2	0.18-0.21	3.0-5.9	0.5-1.5	.37	.37			
	22-46	2-7	58-71	27-35	1.35-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.5	.37	.37			
	46-60	2-7	66-83	15-30	1.40-1.60	0.6-2	0.19-0.26	0.0-2.9	0.0-0.2	.49	.49			
Buckhart-----	0-15	0-7	67-80	20-26	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48
	15-67	0-7	58-75	25-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.2-1.0	.37	.37			
	67-80	0-7	66-82	18-27	1.35-1.45	0.6-2	0.20-0.22	3.0-5.9	0.0-0.5	.49	.49			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>817A:</b>														
Channahon-----	0-11	53-75	7-40	5-15	1.40-1.70	0.6-6	0.14-0.18	0.0-2.9	2.0-4.0	.20	.20	2	3	86
	11-16	35-75	7-50	10-18	1.50-1.70	0.6-6	0.12-0.19	0.0-2.9	0.2-1.0	.20	.20			
	16-19	60-95	0-35	1-8	1.55-1.70	2-20	0.05-0.12	0.0-2.9	0.0-0.5	.10	.15			
	19-60	---	---	---	---	0.2-2	---	---	---	---	---			
Hesch-----	0-12	53-75	7-40	5-15	1.40-1.70	0.6-6	0.14-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
	12-27	35-75	7-50	10-18	1.50-1.70	0.6-6	0.12-0.19	0.0-2.9	0.2-1.0	.24	.24			
	27-32	60-95	0-35	1-8	1.55-1.70	2-20	0.05-0.12	0.0-2.9	0.0-0.5	.15	.15			
	32-60	---	---	---	---	0.2-2	---	---	---	---	---			
<b>817B:</b>														
Channahon-----	0-7	53-75	7-40	5-15	1.40-1.70	0.6-6	0.14-0.18	0.0-2.9	2.0-4.0	.20	.20	2	3	86
	7-15	35-75	7-50	10-18	1.50-1.70	0.6-6	0.12-0.19	0.0-2.9	0.2-1.0	.20	.20			
	15-60	---	---	---	---	0.2-2	---	---	---	---	---			
Hesch-----	0-11	53-75	7-40	5-15	1.40-1.70	0.6-6	0.14-0.18	0.0-2.9	2.0-4.0	.20	.20	3	3	86
	11-23	35-75	7-50	10-18	1.50-1.70	0.6-6	0.12-0.19	0.0-2.9	0.2-1.0	.24	.24			
	23-60	---	---	---	---	0.2-2	---	---	---	---	---			
<b>818A:</b>														
Flanagan-----	0-18	2-7	66-78	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	3.5-5.0	.28	.28	5	6	48
	18-38	2-7	53-63	35-40	1.30-1.50	0.6-2	0.18-0.20	6.0-8.9	0.5-1.8	.37	.37			
	38-45	3-15	50-72	25-35	1.30-1.50	0.6-2	0.18-0.20	3.0-5.9	0.1-0.5	.37	.37			
	45-49	15-30	45-65	20-27	1.40-1.60	0.6-2	0.16-0.20	0.0-2.9	0.1-0.5	.37	.37			
	49-60	30-50	28-50	10-27	1.65-1.85	0.2-0.6	0.05-0.10	0.0-2.9	0.1-0.5	.37	.37			
Catlin-----	0-11	0-8	65-82	18-27	1.25-1.45	0.6-2	0.23-0.26	0.0-2.9	2.5-4.0	.28	.28	5	6	48
	11-44	0-8	57-76	24-35	1.25-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-1.5	.37	.37			
	44-49	20-45	20-53	20-35	1.40-1.70	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.32	.32			
	49-60	20-50	28-50	10-27	1.60-1.85	0.2-0.6	0.05-0.10	0.0-2.9	0.0-0.5	.37	.37			
<b>820E:</b>														
Hennepin-----	0-5	15-55	20-65	20-30	1.20-1.40	0.6-2	0.18-0.24	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	5-18	15-55	20-67	18-30	1.30-1.60	0.6-2	0.14-0.22	0.0-2.9	0.0-0.5	.32	.32			
	18-60	15-55	20-67	18-30	1.70-1.85	0.2-0.6	0.10-0.15	0.0-2.9	0.0-0.5	.37	.37			
Casco-----	0-6	15-30	43-67	18-27	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	1.0-3.0	.32	.32	3	5	56
	6-22	20-60	5-62	18-35	1.55-1.65	0.6-2	0.09-0.19	3.0-5.9	0.2-1.0	.28	.32			
	22-60	75-98	1-24	0-10	1.30-1.70	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
<b>820G:</b>														
Hennepin-----	0-5	15-55	20-65	20-30	1.20-1.40	0.6-2	0.18-0.24	0.0-2.9	1.0-3.0	.32	.32	5	6	48
	5-16	15-55	20-67	18-30	1.30-1.60	0.6-2	0.14-0.22	0.0-2.9	0.0-0.5	.32	.32			
	16-60	15-55	20-67	18-30	1.70-1.85	0.2-0.6	0.10-0.15	0.0-2.9	0.0-0.5	.37	.37			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
820G:														
Casco-----	0-7	15-30	50-70	18-27	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	1.0-3.0	.32	.32	3	5	56
	7-15	25-50	20-50	18-35	1.55-1.65	0.6-2	0.09-0.19	0.0-2.9	0.2-1.0	.28	.32			
	15-60	85-99	1-14	0-10	1.30-1.70	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
830. Landfills														
864. Pits, quarry														
865. Pits, gravel														
969E2:														
Casco-----	0-5	25-50	28-50	12-25	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	1.0-2.0	.32	.32	3	5	56
	5-19	20-60	10-50	18-35	1.55-1.65	0.6-2	0.09-0.19	3.0-5.9	0.2-1.0	.28	.32			
	19-60	87-98	0-13	0-5	1.45-1.70	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
Rodman-----	0-6	30-52	23-55	8-25	1.20-1.50	2-6	0.10-0.12	0.0-2.9	2.0-3.0	.20	.24	3	8	0
	6-10	40-80	0-55	5-25	1.10-1.50	2-6	0.09-0.12	0.0-2.9	0.0-2.0	.24	.28			
	10-60	85-98	0-15	0-10	1.60-1.70	20-100	0.02-0.04	0.0-2.9	0.0-1.0	.02	.05			
969F:														
Casco-----	0-4	25-50	28-50	12-25	1.35-1.55	0.6-2	0.19-0.24	0.0-2.9	1.0-3.0	.32	.32	3	5	56
	4-15	20-60	10-50	18-35	1.55-1.65	0.6-2	0.09-0.19	3.0-5.9	0.2-1.0	.28	.32			
	15-60	87-98	0-13	0-5	1.45-1.70	20-100	0.02-0.04	0.0-2.9	0.0-0.5	.02	.05			
Rodman-----	0-11	30-52	23-55	8-25	1.20-1.50	2-6	0.10-0.12	0.0-2.9	2.0-4.0	.20	.24	3	8	0
	11-14	40-80	0-55	5-25	1.10-1.50	2-6	0.09-0.12	0.0-2.9	0.0-2.0	.24	.28			
	14-60	85-98	0-15	0-10	1.60-1.70	20-100	0.02-0.04	0.0-2.9	0.0-1.0	.02	.05			
1103A:														
Houghton-----	0-12	---	---	---	0.20-0.35	0.2-6	0.35-0.45	---	70-99	---	---	3	2	134
	12-60	---	---	---	0.15-0.25	0.2-6	0.35-0.45	---	70-99	---	---			
1480A:														
Moundprairie-----	0-9	0-20	45-72	28-35	1.30-1.40	0.6-2	0.18-0.22	3.0-5.9	2.0-4.0	.28	.28	5	4L	86
	9-37	5-60	20-75	18-35	1.35-1.45	0.6-2	0.18-0.22	0.0-2.9	1.0-2.0	.32	.32			
	37-60	5-40	25-70	15-35	1.35-1.50	0.6-2	0.16-0.22	3.0-5.9	2.0-3.0	.32	.32			
3073A:														
Ross-----	0-23	23-50	35-50	15-27	1.20-1.45	0.6-2	0.19-0.24	0.0-2.9	3.0-5.0	.32	.32	5	6	48
	23-54	10-42	40-58	18-32	1.20-1.50	0.6-2	0.16-0.22	0.0-2.9	0.5-1.0	.32	.32			
	54-60	20-60	35-55	5-25	1.35-1.60	0.6-6	0.05-0.18	0.0-2.9	0.1-0.5	.32	.32			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>3076A:</b>														
Otter-----	0-27	0-15	58-82	18-27	1.10-1.25	0.6-2	0.22-0.24	0.0-2.9	3.0-7.0	.32	.32	5	6	48
	27-41	0-25	46-82	18-29	1.20-1.45	0.6-2	0.17-0.22	3.0-5.9	1.0-3.0	.49	.49			
	41-65	15-55	17-70	15-28	1.30-1.55	0.6-2	0.15-0.20	0.0-2.9	0.5-2.0	.49	.49			
<b>3082A:</b>														
Millington-----	0-26	5-30	50-75	20-27	1.35-1.55	0.6-2	0.20-0.24	0.0-2.9	4.0-6.0	.32	.32	5	4L	86
	26-53	10-40	30-70	20-35	1.40-1.60	0.6-2	0.17-0.20	3.0-5.9	1.0-3.0	.32	.32			
	53-60	15-60	5-67	18-35	1.50-1.70	0.6-2	0.14-0.20	3.0-5.9	0.1-2.0	.28	.28			
<b>3107A:</b>														
Sawmill-----	0-29	3-15	58-70	27-35	1.25-1.40	0.6-2	0.19-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
	29-48	5-20	45-68	27-35	1.30-1.45	0.6-2	0.17-0.20	3.0-5.9	1.0-3.5	.32	.32			
	48-60	5-25	40-70	25-35	1.35-1.50	0.6-2	0.17-0.20	3.0-5.9	0.2-2.0	.32	.32			
<b>3321A:</b>														
Du Page-----	0-17	15-40	50-80	18-27	1.40-1.60	0.6-2	0.22-0.24	3.0-5.9	3.0-5.0	.32	.32	5	4L	86
	17-34	30-60	20-50	18-27	1.45-1.65	0.6-2	0.10-0.20	0.0-2.9	0.0-1.0	.32	.32			
	34-60	20-60	20-60	6-24	1.50-1.70	0.6-2	0.08-0.20	0.0-2.9	0.0-0.5	.32	.32			
<b>3451A:</b>														
Lawson-----	0-14	0-15	58-85	15-27	1.20-1.50	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.32	.32	5	5	56
	14-33	0-15	55-85	15-30	1.20-1.50	0.6-2	0.18-0.22	0.0-2.9	2.0-4.0	.32	.32			
	33-80	5-40	30-77	18-30	1.45-1.65	0.6-2	0.18-0.20	3.0-5.9	0.2-2.0	.49	.49			
<b>3480A:</b>														
Moundprairie-----	0-9	0-20	45-75	28-35	1.30-1.40	0.6-2	0.18-0.22	3.0-5.9	2.0-4.0	.28	.28	5	4L	86
	9-43	5-40	20-75	18-35	1.35-1.45	0.6-2	0.18-0.22	0.0-2.9	1.0-2.0	.32	.32			
	43-60	5-40	25-70	15-35	1.35-1.50	0.6-2	0.16-0.22	3.0-5.9	2.0-3.0	.32	.32			
<b>3800A:</b>														
Psamments-----	0-60	85-100	0-25	0-10	1.50-1.70	6-20	0.04-0.09	0.0-2.9	0.0-0.5	.02	.02	5	1	220
	60-80	85-100	0-10	0-10	1.50-1.70	6-20	0.04-0.09	0.0-2.9	0.0-0.3	.02	.02			
<b>7073A:</b>														
Ross-----	0-20	10-50	40-80	15-27	1.20-1.45	0.6-2	0.19-0.24	0.0-2.9	3.0-5.0	.32	.32	5	6	48
	20-36	20-45	35-70	18-32	1.20-1.50	0.6-2	0.16-0.22	0.0-2.9	1.0-3.0	.32	.32			
	36-60	30-90	5-60	5-25	1.35-1.60	0.6-6	0.05-0.18	0.0-2.9	0.5-2.0	.20	.24			
<b>8073A:</b>														
Ross-----	0-32	23-50	35-50	15-27	1.20-1.45	0.6-2	0.19-0.24	0.0-2.9	3.0-5.0	.32	.32	5	6	48
	32-50	10-42	40-58	18-32	1.20-1.50	0.6-2	0.16-0.22	3.0-5.9	0.5-1.0	.32	.32			
	50-60	20-60	35-55	5-25	1.35-1.60	0.6-6	0.05-0.18	0.0-2.9	0.1-0.5	.32	.32			

Table 22.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind	Wind
										Kw	Kf	T	erodi- bility group	erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
<b>8107A:</b>														
Sawmill-----	0-26	2-15	58-70	27-35	1.25-1.45	0.6-2	0.19-0.22	3.0-5.9	4.0-7.0	.28	.28	5	6	48
	26-53	5-20	45-68	27-35	1.30-1.50	0.6-2	0.17-0.20	3.0-5.9	2.0-7.0	.32	.32			
	53-60	5-21	44-68	27-35	1.30-1.50	0.6-2	0.17-0.20	3.0-5.9	1.0-3.0	.28	.28			
<b>8151A:</b>														
Ridgeville-----	0-16	50-80	10-38	10-15	1.30-1.65	0.6-6	0.15-0.18	0.0-2.9	2.0-4.0	.17	.17	5	3	86
	16-40	45-70	8-43	12-22	1.45-1.70	0.6-6	0.15-0.19	0.0-2.9	0.2-1.0	.24	.24			
	40-60	60-95	0-37	3-10	1.55-1.90	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.15	.15			
<b>8404A:</b>														
Titus-----	0-13	2-9	51-63	35-40	1.30-1.50	0.06-0.2	0.18-0.22	6.0-8.9	2.0-4.0	.28	.28	5	4	86
	13-68	2-15	40-63	35-45	1.30-1.60	0.06-0.2	0.11-0.22	6.0-8.9	0.2-1.0	.32	.32			
	68-80	15-30	40-65	20-30	1.45-1.75	0.2-0.6	0.10-0.20	3.0-5.9	0.2-0.5	.32	.32			
<b>8451A:</b>														
Lawson-----	0-13	0-15	58-85	15-27	1.20-1.50	0.6-2	0.22-0.24	0.0-2.9	3.0-5.0	.32	.32	5	5	56
	13-53	0-15	55-85	15-30	1.20-1.50	0.6-2	0.18-0.22	0.0-2.9	2.0-4.0	.32	.32			
	53-80	5-40	30-77	18-30	1.45-1.65	0.6-2	0.18-0.20	3.0-5.9	0.2-2.0	.49	.49			
<b>8516A:</b>														
Faxon-----	0-12	20-45	28-60	18-27	1.30-1.45	0.6-2	0.22-0.24	0.0-2.9	4.0-6.0	.24	.24	3	6	48
	12-36	20-50	20-55	18-35	1.40-1.55	0.6-2	0.15-0.19	0.0-2.9	0.2-1.5	.32	.32			
	36-60	---	---	---	---	0.2-2	---	---	---	---	---			

Table 23.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
<b>23B:</b>					
Blount-----	0-6	13-20	---	5.1-7.3	0
	6-10	7.0-16	---	5.1-7.3	0
	10-23	17-26	---	4.5-6.5	0
	23-34	13-24	---	6.1-7.8	0-25
	34-60	13-21	---	7.4-8.4	15-35
<b>51A:</b>					
Muscataune-----	0-16	16-32	---	6.1-7.3	0
	16-22	16-27	---	5.6-7.3	0
	22-46	17-31	---	5.6-7.3	0
	46-60	9.0-22	---	6.6-7.8	0-15
<b>60C2:</b>					
La Rose-----	0-7	13-20	---	6.1-7.8	0
	7-21	13-20	---	6.1-7.8	0-20
	21-60	7.0-14	---	7.4-8.4	15-40
<b>60D2:</b>					
La Rose-----	0-7	13-20	---	6.1-7.8	0
	7-20	13-20	---	6.1-7.8	0-20
	20-60	7.0-14	---	7.4-8.4	15-40
<b>61A:</b>					
Atterberry-----	0-9	11-28	---	6.1-7.3	0
	9-17	9.0-24	---	5.6-6.5	0
	17-48	16-29	---	5.1-6.0	0
	48-60	9.0-23	---	5.6-7.8	0-8
<b>61B:</b>					
Atterberry-----	0-9	11-28	---	6.1-7.3	0
	9-13	9.0-24	---	5.6-6.5	0
	13-48	16-29	---	5.1-6.0	0
	48-60	9.0-23	---	5.6-7.8	0-8
<b>67A:</b>					
Harpster-----	0-18	27-40	---	7.9-8.4	15-40
	18-41	18-27	---	7.4-8.4	5-40
	41-56	9.0-23	---	7.9-8.4	5-40
	56-60	4.0-16	---	7.9-8.4	10-40
<b>68A:</b>					
Sable-----	0-19	26-33	---	5.6-7.3	0
	19-23	20-29	---	5.6-7.3	0
	23-47	15-23	---	5.6-7.8	0
	47-60	12-18	---	6.6-8.4	0-30
<b>86B:</b>					
Oscosco-----	0-14	18-25	---	5.1-7.3	0
	14-55	15-23	---	5.1-6.5	0
	55-60	12-18	---	5.6-7.8	0-15
<b>86C2:</b>					
Oscosco-----	0-9	18-25	---	5.1-7.3	0
	9-34	15-23	---	5.1-6.5	0
	34-60	12-18	---	5.1-7.8	0-15

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil	Calcium
		exchange capacity	cation- exchange capacity	reaction	carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
87A:					
Dickinson-----	0-8	15-20	---	5.6-7.3	0
	8-20	7.0-17	---	5.6-7.3	0
	20-31	9.0-17	---	5.1-6.5	0
	31-36	0.0-10	---	5.1-6.5	0
	36-60	0.0-10	---	5.6-6.5	0
87B:					
Dickinson-----	0-9	10-20	---	5.6-7.3	0
	9-17	7.0-17	---	5.6-7.3	0
	17-33	9.0-17	---	5.1-6.5	0
	33-41	0.0-10	---	5.1-6.5	0
	41-60	0.0-10	---	5.6-6.5	0
87C2:					
Dickinson-----	0-11	15-20	---	5.6-7.3	0
	11-29	15-20	---	5.1-6.5	0
	29-35	5.0-10	---	5.1-6.5	0
	35-60	5.0-10	---	5.6-6.5	0
88B:					
Sparta-----	0-14	2.0-12	---	5.1-7.3	0
	14-47	1.0-6.0	---	5.1-7.3	0
	47-72	1.0-9.0	---	5.1-6.0	0
88D:					
Sparta-----	0-8	2.0-12	---	5.1-7.3	0
	8-17	2.0-12	---	5.1-7.3	0
	17-33	1.0-6.0	---	5.1-7.3	0
	33-72	1.0-9.0	---	5.1-6.0	0
91A:					
Swygert-----	0-12	20-31	---	5.6-7.3	0
	12-26	20-31	---	5.6-7.3	0
	26-51	10-25	---	7.4-8.4	2-20
	51-60	9.0-20	---	7.9-8.4	15-30
91B:					
Swygert-----	0-11	20-31	---	5.6-7.3	0
	11-23	20-31	---	5.6-7.3	0
	23-45	10-25	---	7.4-8.4	2-20
	45-60	9.0-20	---	7.9-8.4	15-30
91B2:					
Swygert-----	0-7	20-31	---	5.6-7.3	0
	7-30	20-31	---	5.6-7.3	0
	30-48	10-25	---	7.4-8.4	2-20
	48-60	9.0-20	---	7.9-8.4	15-30
91C2:					
Swygert-----	0-7	20-31	---	5.6-7.3	0
	7-18	20-31	---	5.6-7.3	0
	18-36	10-25	---	7.4-8.4	2-20
	36-60	9.0-20	---	7.9-8.4	15-30
91C3:					
Swygert-----	0-6	17-21	---	5.6-7.3	0
	6-24	21-29	---	6.6-8.4	2-10
	24-60	19-29	---	7.9-8.4	15-30

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
103A:					
Houghton-----	0-11	140-200	---	5.1-7.3	0
	11-60	100-200	---	5.1-7.3	0
104A:					
Virgil-----	0-7	13-24	---	6.1-7.8	0
	7-13	9.0-17	---	5.1-7.3	0
	13-49	16-23	---	5.1-7.8	0
	49-58	9.0-19	---	5.6-7.8	0-10
	58-60	6.0-19	---	6.1-8.4	0-20
105A:					
Batavia-----	0-9	16-22	---	5.6-7.3	0
	9-41	12-23	---	5.1-6.5	0
	41-60	9.0-19	---	5.6-7.3	0
105B:					
Batavia-----	0-9	16-22	---	5.6-7.3	0
	9-12	10-18	---	5.6-7.3	0
	12-45	12-23	---	5.1-6.5	0
	45-60	9.0-19	---	5.6-7.3	0
105C2:					
Batavia-----	0-10	16-22	---	5.6-7.3	0
	10-50	12-23	---	5.1-6.5	0
	50-60	9.0-19	---	5.6-7.3	0
125A:					
Selma-----	0-6	20-28	---	6.1-7.8	0
	6-13	22-31	---	6.1-7.8	0
	13-44	11-23	---	6.1-8.4	0-20
	44-80	7.0-20	---	6.6-8.4	0-20
131B:					
Alvin-----	0-8	7.0-11	---	4.5-7.3	0
	8-11	6.0-10	---	4.5-7.3	0
	11-25	9.0-12	---	4.5-7.3	0
	25-80	2.0-7.0	---	5.1-8.4	0-25
131C2:					
Alvin-----	0-7	7.0-11	---	5.0-7.3	0
	7-42	9.0-12	---	5.0-7.3	0
	42-80	2.0-7.0	---	5.1-8.4	0-25
132A:					
Starks-----	0-10	12-22	---	5.1-7.3	0
	10-14	10-18	---	5.1-7.3	0
	14-31	16-23	---	5.1-6.5	0
	31-43	6.0-19	---	5.6-7.8	0-5
	43-60	3.0-19	---	6.1-8.4	0-10
134A:					
Camden-----	0-7	10-20	---	5.1-7.3	0
	7-12	10-20	---	5.1-7.3	0
	12-26	13-22	---	5.1-7.3	0
	26-53	10-19	---	5.1-7.3	0
	53-60	3.0-12	---	5.1-8.4	0-5

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
134B:					
Camden-----	0-9	10-20	---	5.1-7.3	0
	9-15	10-20	---	5.1-7.3	0
	15-34	13-22	---	5.1-7.3	0
	34-40	10-19	---	5.1-7.3	0
	40-60	3.0-12	---	5.1-8.4	0-25
134C2:					
Camden-----	0-7	12-22	---	5.1-7.3	0
	7-34	19-27	---	5.1-7.3	0
	34-43	15-23	---	5.1-7.3	0
	43-80	4.1-12	---	6.1-7.8	0-25
134D2:					
Camden-----	0-7	11-29	---	5.1-7.3	0
	7-34	15-29	---	5.1-7.3	0
	34-43	9.0-20	---	5.1-7.3	0
	43-80	2.0-10	---	6.1-7.8	0-25
134D3:					
Camden-----	0-7	15-20	---	5.1-7.3	0
	7-37	15-20	15-20	4.5-6.0	0
	37-53	15-20	---	5.1-6.5	0
	53-60	5.0-10	---	5.1-7.3	0
134F:					
Camden-----	0-9	15-20	---	5.1-7.3	0
	9-31	15-20	15-20	4.5-6.0	0
	31-40	15-20	---	5.1-6.5	0
	40-60	5.0-10	---	5.1-7.3	0
146A:					
Elliott-----	0-6	16-32	---	5.6-7.3	0
	6-11	27-40	---	5.6-7.3	0
	11-16	17-38	---	6.1-7.3	0
	16-41	13-24	---	6.6-7.8	0-15
	41-60	11-22	---	7.4-8.4	10-35
146B:					
Elliott-----	0-9	16-32	---	5.6-7.3	0
	9-13	27-40	---	5.6-7.3	0
	13-17	15-36	---	6.1-7.3	0
	17-35	13-24	---	6.6-7.8	0-15
	35-60	11-22	---	7.4-8.4	10-35
146B2:					
Elliott-----	0-8	27-40	---	5.6-7.3	0
	8-14	15-36	---	6.1-7.3	0
	14-27	13-24	---	6.6-7.8	0-15
	27-60	11-22	---	7.4-8.4	10-35
147B2:					
Clarence-----	0-8	17-28	---	5.6-7.3	0
	8-35	25-32	---	5.6-8.4	0-20
	35-60	20-31	---	7.4-8.4	5-30
148A:					
Proctor-----	0-11	16-24	---	5.1-7.8	0
	11-27	16-25	---	5.6-7.3	0
	27-44	11-23	---	5.6-7.3	0
	44-73	3.0-16	---	6.1-7.8	0-10

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
148B:					
Proctor-----	0-11	17-24	---	5.1-7.8	0
	11-28	16-25	---	5.6-7.3	0
	28-33	11-21	---	5.6-7.3	0
	33-60	3.0-13	---	5.6-7.8	0-10
148C2:					
Proctor-----	0-8	15-23	---	5.1-7.8	0
	8-32	16-25	---	5.6-7.3	0
	32-48	15-23	---	5.6-7.3	0
	48-60	4.0-12	---	6.1-7.8	0-10
149A:					
Brenton-----	0-12	18-26	---	5.6-7.3	0
	12-28	15-23	---	5.6-7.3	0
	28-44	12-19	---	5.6-7.8	0-5
	44-60	3.0-19	---	6.6-8.4	0-20
151A:					
Ridgeville-----	0-16	10-17	---	5.6-7.3	0
	16-40	7.0-13	---	5.6-6.5	0
	40-60	2.0-7.0	---	6.1-7.3	0
151B:					
Ridgeville-----	0-14	10-17	---	5.6-7.3	0
	14-56	7.0-13	---	5.6-6.5	0
	56-60	2.0-7.0	---	6.1-7.3	0
152A:					
Drummer-----	0-14	24-35	---	5.6-7.8	0
	14-41	13-25	---	5.6-7.8	0
	41-47	9.0-21	---	6.1-8.4	0-20
	47-60	6.0-20	---	6.6-8.4	0-40
154A:					
Flanagan-----	0-18	16-32	---	5.6-7.3	0
	18-38	22-35	---	5.6-7.3	0
	38-45	16-27	---	5.6-7.3	0
	45-49	6.0-18	---	6.1-7.8	0-10
	49-60	4.0-16	---	7.4-8.4	15-40
171A:					
Catlin-----	0-11	17-24	---	5.1-7.3	0
	11-44	14-23	---	5.1-7.3	0
	44-49	12-22	---	6.1-7.8	0-5
	49-60	4.0-16	---	7.4-8.4	5-25
171B:					
Catlin-----	0-11	14-30	---	6.1-7.3	0
	11-16	22-29	---	5.6-7.3	0
	16-41	21-28	---	5.6-7.3	0
	41-45	11-22	---	7.4-8.4	0-5
	45-60	4.0-16	---	7.4-8.4	15-40
171B2:					
Catlin-----	0-8	14-28	---	6.1-7.3	0
	8-41	17-31	---	6.1-7.3	0
	41-47	12-21	---	7.4-7.8	0-5
	47-60	11-21	---	7.4-8.4	15-40

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
171C2:					
Catlin-----	0-9	14-28	---	6.1-7.3	0
	9-40	17-31	---	5.6-6.5	0
	40-50	16-27	---	6.1-7.3	0
	50-55	11-22	---	6.6-7.8	0-5
	55-60	10-22	---	7.4-8.4	15-40
171C3:					
Catlin-----	0-5	14-28	---	6.1-7.3	0
	5-44	16-27	---	6.1-7.3	0
	44-49	11-22	---	6.6-7.8	0-5
	49-60	10-22	---	7.4-8.4	15-40
193C2:					
Mayville-----	0-6	8.0-19	---	5.1-7.3	0
	6-24	15-22	---	5.1-6.5	0
	24-34	12-20	---	5.1-7.8	0-5
	34-60	6.0-16	---	7.4-8.4	1-30
198A:					
Elburn-----	0-16	16-32	---	6.1-7.3	0
	16-49	17-31	---	5.6-7.8	0
	49-58	6.0-13	---	6.6-7.8	0-5
	58-62	2.0-10	---	6.6-7.8	0-15
199A:					
Plano-----	0-14	17-26	---	6.1-7.3	0
	14-49	15-30	---	5.1-7.3	0
	49-60	9.0-20	---	5.6-7.8	0
	60-72	6.0-13	---	5.6-8.4	0-20
199B:					
Plano-----	0-15	17-26	---	6.1-7.3	0
	15-45	13-26	---	5.1-7.3	0
	45-55	6.0-19	---	5.6-7.8	0
	55-72	6.0-13	---	5.6-8.4	0-20
199C2:					
Plano-----	0-8	17-26	---	6.1-7.3	0
	8-41	15-23	---	5.1-7.3	0
	41-53	9.0-20	---	5.6-7.8	0
	53-60	6.0-13	---	5.6-8.4	0-20
206A:					
Thorp-----	0-14	20-28	---	5.1-7.8	0
	14-19	11-17	---	5.1-7.3	0
	19-43	14-23	---	5.1-7.3	0
	43-50	11-19	---	5.6-7.8	0-5
	50-65	3.0-19	---	6.1-8.4	0-20
210A:					
Lena-----	0-8	140-180	---	7.4-8.4	5-40
	8-60	100-180	---	7.4-8.4	5-40
219A:					
Millbrook-----	0-7	15-24	---	5.1-7.3	0
	7-24	15-23	---	5.1-7.3	0
	24-53	11-20	---	5.1-7.8	0-5
	53-80	6.0-19	---	5.6-8.4	0-20

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
223B:					
Varna-----	0-12	15-22	---	5.6-7.3	0
	12-30	18-28	---	5.6-7.3	0
	30-48	15-25	---	7.4-8.4	0-15
	48-60	13-21	---	7.9-8.4	5-30
223B2:					
Varna-----	0-7	14-20	---	5.6-7.3	0
	7-26	18-28	---	5.6-7.3	0
	26-38	15-25	---	7.4-8.4	0-15
	38-60	13-21	---	7.9-8.4	5-30
223C2:					
Varna-----	0-9	14-20	---	5.6-7.3	0
	9-29	18-28	---	5.6-7.3	0
	29-50	15-25	---	7.4-8.4	0-15
	50-60	13-21	---	7.9-8.4	5-30
223C3:					
Varna-----	0-6	14-22	---	5.6-7.3	0
	6-16	18-28	---	5.6-7.3	0
	16-19	15-25	---	7.4-8.4	0-15
	19-60	13-21	---	7.9-8.4	5-30
223D2:					
Varna-----	0-9	14-20	---	5.6-7.3	0
	9-31	18-28	---	5.6-7.3	0
	31-36	15-25	---	7.4-8.4	0-15
	36-60	13-21	---	7.9-8.4	5-30
223D3:					
Varna-----	0-8	18-25	---	5.6-7.8	0
	8-20	22-32	---	5.6-7.8	0-15
	20-60	17-25	---	6.6-8.4	5-30
228B:					
Nappanee-----	0-4	12-20	---	5.1-7.3	0
	4-9	9.0-16	---	5.1-7.3	0
	9-23	23-32	---	5.6-7.8	0
	23-46	20-29	---	7.4-8.4	10-30
	46-60	15-24	---	7.9-8.4	15-35
228C2:					
Nappanee-----	0-5	15-24	---	5.1-7.3	0
	5-8	13-20	---	5.1-7.3	0
	8-23	23-32	---	5.6-7.8	0
	23-27	20-29	---	7.4-8.4	10-30
	27-80	15-24	---	7.9-8.4	15-35
228C3:					
Nappanee-----	0-7	11-25	---	5.1-7.3	0
	7-16	14-29	---	5.6-7.8	0
	16-20	11-19	---	7.4-8.4	10-30
	20-60	9.6-17	---	7.9-8.4	15-35
232A:					
Ashkum-----	0-12	22-38	---	5.6-7.3	0
	12-29	22-39	---	6.1-7.8	0-5
	29-54	13-24	---	6.6-7.8	0-15
	54-60	11-22	---	7.4-8.4	10-25

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
233A:					
Birkbeck-----	0-8	11-28	---	5.1-7.3	0
	8-11	9.0-24	---	5.1-7.3	0
	11-46	16-29	---	5.1-7.3	0
	46-56	9.0-19	---	6.1-7.8	0-5
	56-60	8.0-16	---	7.4-8.4	15-25
233B:					
Birkbeck-----	0-4	13-24	---	5.6-7.3	0
	4-9	9.0-24	7.9-14	4.5-6.5	0
	9-54	16-29	13-17	4.5-7.3	0
	54-60	7.0-17	---	6.1-7.8	0-5
	60-68	4.0-16	---	7.4-8.4	15-40
233C2:					
Birkbeck-----	0-9	11-20	---	5.1-7.3	0
	9-42	15-23	---	4.5-7.3	0
	42-48	12-19	---	5.6-7.8	0-5
	48-60	10-19	---	6.6-8.4	0-20
234A:					
Sunbury-----	0-8	18-29	---	5.6-7.3	0
	8-15	11-20	---	5.6-7.3	0
	15-36	22-35	---	5.6-7.3	0
	36-43	16-27	---	6.1-7.8	0
	43-47	8.0-18	---	6.1-7.8	0-10
	47-72	8.0-16	---	7.4-8.4	10-40
235A:					
Bryce-----	0-13	30-42	---	5.6-7.8	0
	13-45	23-33	---	6.1-7.8	0-5
	45-58	21-33	---	7.4-8.4	0-15
	58-66	12-34	---	7.4-8.4	10-25
236A:					
Sabina-----	0-8	17-23	---	5.6-7.3	0
	8-12	14-20	---	5.1-7.3	0
	12-43	25-32	---	4.5-7.3	0
	43-50	15-27	---	6.6-7.8	0-5
	50-80	11-24	---	7.4-8.4	0-25
238A:					
Rantoul-----	0-17	32-44	---	6.1-7.3	0
	17-40	26-42	---	6.1-8.4	0-15
	40-60	21-35	---	7.4-8.4	5-25
241C3:					
Chatsworth-----	0-5	25-32	---	6.1-8.4	0-20
	5-16	21-31	---	6.6-8.4	0-25
	16-60	21-31	---	7.4-8.4	5-30
241D3:					
Chatsworth-----	0-2	21-32	---	6.1-8.4	0-20
	2-22	18-31	---	6.6-8.4	0-25
	22-60	17-26	---	7.4-8.4	5-30
241E3:					
Chatsworth-----	0-7	21-32	---	6.1-8.4	0-20
	7-21	18-31	---	6.6-8.4	0-25
	21-60	17-26	---	7.4-8.4	5-30

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
241F:					
Chatsworth-----	0-4	15-24	---	6.1-8.4	0-15
	4-24	18-31	---	6.6-8.4	0-25
	24-60	17-26	---	7.4-8.4	5-30
241G:					
Chatsworth-----	0-5	15-24	---	6.1-8.4	0-15
	5-20	18-31	---	6.6-8.4	0-25
	20-60	17-26	---	7.4-8.4	5-30
242A:					
Kendall-----	0-7	10-26	---	5.1-7.3	0
	7-11	8.0-20	---	5.1-7.3	0
	11-51	13-18	13-17	4.5-7.3	0
	51-58	9.0-19	---	5.1-7.8	0-15
	58-80	3.0-10	---	7.4-8.4	0-20
243A:					
St. Charles-----	0-9	14-22	---	5.1-7.8	0
	9-51	15-22	---	4.5-7.3	0
	51-60	9.0-19	---	5.1-7.3	0
243B:					
St. Charles-----	0-8	14-22	---	5.1-7.8	0
	8-50	15-22	---	4.5-7.3	0
	50-60	9.0-19	---	5.1-7.3	0
243C2:					
St. Charles-----	0-8	14-22	---	5.1-7.8	0
	8-41	15-22	---	4.5-7.3	0
	41-60	9.0-19	---	5.1-7.3	0
244A:					
Hartsburg-----	0-17	27-40	---	6.1-7.8	0-5
	17-34	17-31	---	6.6-8.4	0-25
	34-60	9.0-23	---	7.4-8.4	15-40
278A:					
Stronghurst-----	0-7	14-22	---	5.1-7.3	0
	7-11	11-17	---	5.1-7.3	0
	11-47	17-23	---	5.1-7.3	0
	47-60	12-17	---	5.6-7.8	0-15
278B:					
Stronghurst-----	0-10	14-22	---	5.1-7.3	0
	10-48	17-23	---	5.1-7.3	0
	48-60	12-17	---	5.6-7.8	0-15
279B:					
Rozetta-----	0-7	10-22	---	5.1-7.3	0
	7-11	7.0-17	---	4.5-7.3	0
	11-55	16-22	---	4.5-6.0	0
	55-60	12-17	---	5.6-7.8	0-15
280C2:					
Fayette-----	0-8	18-25	---	5.1-7.3	0
	8-64	15-22	---	4.5-6.0	0
	64-80	15-20	---	5.1-7.8	0-15

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
290A:					
Warsaw-----	0-11	14-23	---	5.6-7.3	0
	11-28	11-22	---	5.1-6.5	0
	28-32	9.0-22	---	6.1-8.4	0-10
	32-80	1.0-7.0	---	7.9-8.4	10-30
290B:					
Warsaw-----	0-10	14-23	---	5.6-7.3	0
	10-24	11-22	---	5.1-6.5	0
	24-34	9.0-22	---	6.1-8.4	0-10
	34-60	1.0-7.0	---	7.9-8.4	10-30
290C2:					
Warsaw-----	0-8	13-21	---	5.6-7.3	0
	8-16	11-22	---	5.1-6.5	0
	16-27	9.0-22	---	6.1-8.4	0-10
	27-60	1.0-7.0	---	7.4-8.4	10-30
293A:					
Andres-----	0-11	10-22	---	5.6-7.3	0
	11-26	11-22	---	6.1-7.8	0-5
	26-50	13-24	---	6.6-8.4	0-15
	50-60	11-22	---	7.4-8.4	15-30
293B:					
Andres-----	0-10	10-22	---	5.6-7.3	0
	10-36	11-22	---	6.1-7.8	0-5
	36-47	13-24	---	6.6-8.4	0-15
	47-60	11-22	---	7.4-8.4	15-30
294B:					
Symerton-----	0-15	10-22	---	5.6-7.3	0
	15-19	15-27	---	5.6-7.3	0
	19-35	8.0-22	---	5.6-7.8	0-5
	35-39	9.0-23	---	7.4-8.4	0-15
	39-60	9.0-23	---	7.4-8.4	5-30
294C2:					
Symerton-----	0-8	9.0-20	---	5.6-7.3	0
	8-31	8.0-22	---	5.6-7.8	0-5
	31-40	9.0-23	---	7.4-8.4	0-15
	40-60	9.0-23	---	7.4-8.4	5-30
295A:					
Mokena-----	0-5	15-24	---	5.6-7.3	0
	5-15	13-21	---	5.6-7.3	0
	15-38	13-22	---	6.1-7.8	0
	38-42	20-31	---	6.1-8.4	0-15
	42-60	20-31	---	7.4-8.4	5-30
295B:					
Mokena-----	0-15	15-24	---	5.6-7.3	0
	15-31	13-22	---	6.1-7.8	0-10
	31-44	20-31	---	6.1-8.4	0-15
	44-80	20-31	---	7.4-8.4	5-30
298B:					
Beecher-----	0-7	17-24	---	5.1-7.3	0
	7-24	15-33	---	4.5-7.3	0
	24-36	13-24	---	6.1-7.8	0-15
	36-60	11-22	---	7.4-8.4	10-35

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
311B: Ritchey-----	0-5	12-22	---	5.6-7.8	0
	5-9	10-16	---	5.6-7.8	0
	9-17	15-23	---	6.6-8.4	0-20
	17-60	---	---	---	---
314A: Joliet-----	0-15	19-27	---	6.1-8.4	0-20
	15-19	14-24	---	6.1-8.4	0-20
	19-60	---	---	---	---
315B: Channahon-----	0-11	16-24	---	6.1-7.8	0
	11-18	15-24	---	6.1-8.4	0-20
	18-60	---	---	---	---
317A: Millsdale-----	0-18	21-32	---	6.1-7.3	0
	18-36	17-28	---	6.1-8.4	0-15
	36-60	---	---	---	---
318B: Lorenzo-----	0-9	13-22	---	5.6-7.3	0
	9-18	10-20	---	5.6-7.8	0-20
	18-60	0.0-4.0	---	7.4-8.4	15-40
318C2: Lorenzo-----	0-7	13-20	---	5.6-7.3	0
	7-16	10-20	---	5.6-7.8	0-35
	16-60	0.0-4.0	---	7.4-8.4	15-40
320B: Frankfort-----	0-8	14-22	---	5.6-7.3	0
	8-12	15-20	---	5.6-7.3	0
	12-32	23-32	---	6.1-7.8	0
	32-37	20-29	---	7.4-8.4	5-15
	37-60	17-26	---	7.9-8.4	15-30
320C2: Frankfort-----	0-7	17-24	---	5.6-7.3	0
	7-28	23-32	---	6.1-7.8	0
	28-32	20-29	---	7.4-8.4	5-15
	32-60	17-26	---	7.9-8.4	15-30
325B: Dresden-----	0-7	13-22	---	5.6-7.3	0
	7-16	14-20	---	5.6-7.3	0
	16-30	10-16	---	5.6-7.8	0-15
	30-60	0.0-4.0	---	7.4-8.4	15-40
325C2: Dresden-----	0-9	13-20	---	5.6-7.3	0
	9-15	14-20	---	5.6-7.3	0
	15-32	10-16	---	5.6-7.8	0-15
	32-60	0.0-4.0	---	7.4-8.4	15-40
327B: Fox-----	0-4	11-21	---	5.1-7.3	0
	4-7	9.0-17	---	5.1-7.3	0
	7-13	11-22	---	5.1-7.3	0
	13-28	10-22	---	5.6-7.8	0-30
	28-60	0.0-3.0	---	7.4-8.4	5-45

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
327C2:					
Fox-----	0-4	11-19	---	5.1-7.3	0
	4-12	11-22	---	5.1-7.3	0
	12-24	10-22	---	5.6-7.8	0-30
	24-60	0.0-3.0	---	7.4-8.4	5-45
327D2:					
Fox-----	0-8	11-19	---	5.1-7.3	0
	8-28	10-22	---	5.6-7.8	0-30
	28-60	0.0-3.0	---	7.4-8.4	5-45
330A:					
Peotone-----	0-13	30-38	---	5.6-7.8	0
	13-50	22-33	---	6.1-7.8	0
	50-60	15-26	---	6.6-8.4	0-15
344A:					
Harvard-----	0-9	16-24	---	5.1-7.8	0
	9-36	15-23	---	5.1-7.3	0
	36-56	9.0-22	---	5.6-7.8	0-5
	56-60	3.0-19	---	5.1-8.4	0-20
344B:					
Harvard-----	0-9	16-24	---	5.1-7.8	0
	9-30	15-23	---	5.1-7.3	0
	30-56	9.0-22	---	5.6-7.8	0-5
	56-69	3.0-19	---	5.1-8.4	0-20
344C2:					
Harvard-----	0-7	16-22	---	5.1-7.8	0
	7-32	15-23	---	5.1-7.3	0
	32-40	9.0-22	---	5.6-7.8	0-5
	40-60	3.0-19	---	5.1-8.4	0-20
356A:					
Elpaso-----	0-21	26-35	---	5.6-7.3	0
	21-44	14-25	---	6.1-7.8	0-5
	44-69	12-25	---	6.6-7.8	0-15
	69-80	9.0-20	---	7.4-8.4	5-30
375A:					
Rutland-----	0-14	22-28	---	5.1-7.3	0
	14-36	21-31	---	5.1-7.8	0-5
	36-44	12-22	---	6.1-7.8	0-10
	44-52	22-32	---	6.6-8.4	0-15
	52-60	20-34	---	7.4-8.4	5-30
375B:					
Rutland-----	0-13	22-28	---	5.1-7.3	0
	13-40	21-31	---	5.1-7.8	0-5
	40-50	22-32	---	6.6-8.4	0-15
	50-60	20-34	---	7.4-8.4	5-30
375B2:					
Rutland-----	0-9	20-26	---	5.1-7.3	0
	9-37	21-31	---	5.1-7.8	0-5
	37-46	22-32	---	6.6-8.4	0-15
	46-80	20-34	---	7.4-8.4	5-30

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
388B:					
Wenona-----	0-14	17-23	---	5.1-7.3	0
	14-37	26-33	---	5.1-7.8	0-5
	37-50	26-43	---	6.6-8.4	0-15
	50-60	26-34	---	7.4-8.4	5-30
388B2:					
Wenona-----	0-9	17-23	---	5.1-7.3	0
	9-42	26-33	---	5.1-7.8	0-5
	42-52	26-43	---	6.6-8.4	0-15
	52-60	26-34	---	7.4-8.4	5-30
388C2:					
Wenona-----	0-6	22-32	---	5.1-7.3	0
	6-45	26-33	---	5.1-7.8	0-5
	45-54	26-43	---	6.6-8.4	0-15
	54-60	26-34	---	7.4-8.4	5-30
397F:					
Boone-----	0-6	1.0-4.0	---	5.1-6.5	0
	6-15	1.0-3.0	---	4.5-5.5	0
	15-23	1.0-2.0	---	5.1-6.5	0
	23-60	---	---	---	---
413B:					
Gale-----	0-4	13-23	---	4.5-7.3	0
	4-7	10-22	---	4.5-6.5	0
	7-30	16-27	---	4.5-6.5	0
	30-37	1.8-12	---	4.5-6.0	0
	37-60	---	---	---	---
413C2:					
Gale-----	0-6	13-23	---	4.5-7.3	0
	6-9	10-22	---	4.5-6.5	0
	9-31	16-27	---	4.5-6.5	0
	31-38	1.8-12	---	4.5-6.0	0
	38-60	---	---	---	---
435A:					
Streator-----	0-13	23-33	---	6.1-7.3	0
	13-42	27-35	---	6.1-7.8	0-5
	42-68	26-43	---	6.6-8.4	0-15
	68-80	26-43	---	7.4-8.4	5-30
448B:					
Mona-----	0-11	16-26	---	6.1-7.8	0
	11-39	15-22	---	5.6-7.8	0-5
	39-44	24-31	---	7.4-8.4	5-30
	44-60	24-31	---	7.4-8.4	5-30
448C2:					
Mona-----	0-7	16-26	---	6.1-7.8	0
	7-33	15-22	---	5.6-7.8	0-5
	33-37	24-31	---	7.4-8.4	5-30
	37-60	24-31	---	7.4-8.4	5-30
512B:					
Danabrook-----	0-13	19-26	---	5.6-7.3	0
	13-33	15-25	---	5.1-7.3	0
	33-50	12-21	---	5.6-7.8	0-20
	50-60	9.0-13	---	7.4-8.4	15-40

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
512C2:					
Danabrook-----	0-8	17-24	---	5.6-7.3	0
	8-27	15-25	---	5.1-7.3	0
	27-40	12-21	---	5.6-7.8	0-20
	40-65	9.0-13	---	7.4-8.4	15-40
516A:					
Faxon-----	0-12	18-23	---	5.1-7.3	0
	12-36	---	11-18	4.5-7.3	0
	36-60	---	---	---	---
527C2:					
Kidami-----	0-9	7.0-16	---	5.1-7.3	0
	9-30	10-19	---	5.1-7.3	0
	30-40	8.0-15	---	6.1-8.4	0-30
	40-60	7.0-11	---	7.4-8.4	25-40
527D2:					
Kidami-----	0-10	7.0-16	---	5.1-7.3	0
	10-27	10-19	---	5.1-7.3	0
	27-35	8.0-15	---	6.1-8.4	0-30
	35-60	7.0-11	---	7.4-8.4	25-40
530B:					
Ozaukee-----	0-4	9.0-20	---	6.1-7.3	0
	4-10	7.0-16	---	6.1-7.3	0
	10-21	20-26	---	6.1-7.3	0
	21-39	15-22	---	7.4-8.4	0-20
	39-60	13-19	---	7.9-8.4	10-40
530C2:					
Ozaukee-----	0-6	9.0-18	---	6.1-7.3	0
	6-21	20-26	---	6.1-7.3	0
	21-28	15-22	---	7.4-8.4	0-20
	28-60	13-19	---	7.9-8.4	10-40
530C3:					
Ozaukee-----	0-9	14-22	---	6.1-7.3	0
	9-21	20-26	---	6.1-7.3	0
	21-27	15-22	---	7.4-8.4	0-20
	27-60	13-19	---	7.9-8.4	10-40
530D2:					
Ozaukee-----	0-6	9.0-18	---	6.1-7.3	0
	6-20	20-26	---	6.1-7.3	0
	20-28	15-22	---	7.4-8.4	0-20
	28-60	13-19	---	7.9-8.4	10-40
530D3:					
Ozaukee-----	0-9	14-22	---	6.1-7.3	0
	9-21	20-26	---	6.1-7.3	0
	21-25	15-22	---	7.4-8.4	0-20
	25-60	13-19	---	7.9-8.4	10-40
530E2:					
Ozaukee-----	0-6	9.0-18	---	6.1-7.3	0
	6-27	20-26	---	6.1-7.3	0
	27-31	15-22	---	7.4-8.4	0-20
	31-60	13-19	---	7.9-8.4	10-40

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
530F:					
Ozaukee-----	0-5	9.0-20	---	6.1-7.3	0
	5-29	20-26	---	6.1-7.3	0
	29-36	15-22	---	7.4-8.4	0-20
	36-60	13-19	---	7.9-8.4	10-40
541B:					
Graymont-----	0-12	19-26	---	6.1-7.3	0
	12-33	15-25	---	5.6-7.3	0
	33-38	12-23	---	6.6-7.8	0-10
	38-60	13-20	---	7.4-8.4	5-30
541B2:					
Graymont-----	0-8	19-24	---	6.1-7.3	0
	8-24	15-25	---	5.6-7.3	0
	24-35	13-25	---	6.6-7.8	0-10
	35-60	14-22	---	7.4-8.4	5-30
541C2:					
Graymont-----	0-9	19-24	---	6.1-7.3	0
	9-30	15-25	---	5.6-7.3	0
	30-38	12-23	---	6.6-7.8	0-10
	38-60	13-20	---	7.4-8.4	5-30
542A:					
Rooks-----	0-15	23-29	---	6.1-7.3	0
	15-30	21-35	---	5.6-7.3	0
	30-45	7.6-23	---	7.4-8.4	15-40
	45-60	19-34	---	7.4-8.4	5-30
542B:					
Rooks-----	0-10	23-29	---	6.1-7.3	0
	10-28	21-35	---	5.6-7.3	0
	28-49	7.6-23	---	7.4-8.4	15-40
	49-60	19-34	---	7.4-8.4	5-30
549B:					
Marseilles-----	0-5	11-15	---	5.1-7.3	0
	5-9	---	4.3-9.1	4.5-6.5	0
	9-28	13-19	---	5.6-6.5	0
	28-40	---	9.1-22	4.5-6.5	0
	40-60	---	---	---	---
549C2:					
Marseilles-----	0-5	14-22	---	5.1-6.5	0
	5-16	15-23	---	4.5-6.5	0
	16-26	16-27	---	4.5-6.5	0
	26-60	---	---	---	---
549D2:					
Marseilles-----	0-5	14-22	---	5.1-6.5	0
	5-27	16-27	16-27	4.5-6.5	0
	27-60	---	---	---	---
549F:					
Marseilles-----	0-10	14-22	---	5.1-6.5	0
	10-35	14-23	14-23	4.5-6.5	0
	35-60	---	---	---	---

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
549G:					
Marseilles-----	0-10	14-22	---	5.1-6.5	0
	10-35	14-23	14-23	4.5-6.5	0
	35-60	---	---	---	---
554B:					
Kernan-----	0-5	17-23	---	5.1-7.3	0
	5-12	12-22	---	5.1-7.3	0
	12-36	---	17-23	5.1-6.0	0
	36-43	25-43	---	6.1-7.8	0-15
	43-60	26-47	---	7.4-8.4	5-30
560D2:					
St. Clair-----	0-5	15-24	---	5.1-7.3	0
	5-8	13-20	---	5.1-7.3	0
	8-22	23-32	---	5.6-7.8	0
	22-37	20-29	---	7.4-8.4	0-20
	37-65	17-29	---	7.9-8.4	15-35
560E:					
St. Clair-----	0-5	15-25	---	5.1-7.3	0
	5-12	23-32	---	5.6-7.8	0
	12-26	20-29	---	7.4-8.4	0-20
	26-60	17-29	---	7.9-8.4	15-35
567B:					
Elkhart-----	0-13	14-30	---	5.6-7.3	0
	13-37	17-31	---	5.6-7.8	0-5
	37-52	10-25	---	7.4-8.4	0-25
	52-60	9.0-23	---	7.9-8.4	15-40
572A:					
Loran-----	0-14	20-36	---	6.1-7.3	0
	14-39	14-25	---	6.1-7.8	0-5
	39-53	18-27	---	6.6-8.4	0-15
	53-60	---	---	---	---
572B:					
Loran-----	0-12	20-36	---	6.1-7.3	0
	12-43	14-25	---	6.1-7.8	0-5
	43-51	18-27	---	6.6-8.4	0-15
	51-60	---	---	---	---
572C2:					
Loran-----	0-9	20-36	---	6.1-7.3	0
	9-41	14-25	---	6.1-7.8	0-5
	41-60	18-27	---	6.6-8.4	0-15
	60-70	---	---	---	---
614A:					
Chenoca-----	0-12	27-40	---	6.1-7.3	0
	12-32	22-35	---	5.6-7.3	0
	32-36	13-24	---	6.6-8.4	0-15
	36-60	11-22	---	7.4-8.4	15-30
614B:					
Chenoca-----	0-15	27-40	---	6.1-7.3	0
	15-28	22-35	---	5.6-7.3	0
	28-47	13-24	---	6.6-8.4	0-15
	47-60	11-22	---	7.4-8.4	15-30

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
662B:					
Barony-----	0-8	13-24	---	5.1-7.8	0
	8-34	16-23	---	5.1-7.3	0
	34-54	9.0-22	---	5.6-7.8	0-5
	54-85	3.0-10	---	5.6-8.4	0-20
663B:					
Clare-----	0-14	17-26	---	5.6-7.8	0
	14-36	16-25	---	5.1-7.3	0
	36-44	11-21	---	5.6-7.8	0-5
	44-60	6.0-16	---	6.1-8.4	0-20
667B:					
Kaneville-----	0-9	13-24	---	5.6-7.3	0
	9-44	17-22	---	5.6-7.8	0
	44-52	9.0-20	---	6.1-8.4	0-10
	52-80	6.0-18	---	6.1-8.4	0-20
668B:					
Somonauk-----	0-9	10-22	---	5.1-7.3	0
	9-26	13-23	---	5.1-7.3	0
	26-55	9.0-20	---	5.1-7.8	0-5
	55-60	3.0-13	---	6.1-8.4	0-20
675B:					
Greenbush-----	0-14	20-25	---	5.1-7.3	0
	14-60	25-30	---	4.5-7.3	0
	60-80	20-25	---	5.6-7.3	0
675C2:					
Greenbush-----	0-6	20-25	---	5.1-7.3	0
	6-46	25-30	---	4.5-7.3	0
	46-60	20-25	---	5.6-7.3	0
679B:					
Blackberry-----	0-16	17-26	---	6.1-7.3	0
	16-47	15-23	---	5.1-7.3	0
	47-62	9.0-22	---	5.6-8.4	0-10
	62-70	3.0-19	---	5.6-8.4	0-20
680B:					
Campton-----	0-8	14-22	---	5.1-7.8	0
	8-45	15-23	---	4.5-7.3	0
	45-51	9.0-19	---	5.1-7.8	0-5
	51-80	3.0-16	---	5.1-7.8	0-20
712A:					
Spaulding-----	0-22	24-33	---	7.4-8.4	10-40
	22-38	17-25	---	7.4-8.4	5-40
	38-44	14-23	---	7.4-8.4	5-40
	44-80	12-17	---	7.4-8.4	10-40
715A:					
Arrowsmith-----	0-12	16-32	---	6.1-7.3	0
	12-30	17-31	---	6.1-7.8	0-10
	30-39	9.0-22	---	7.4-8.4	5-30
	39-60	5.0-20	---	7.9-8.4	15-35

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
732A:					
Appleriver-----	0-8	17-23	---	5.1-6.5	0
	8-35	16-27	---	5.6-6.5	0
	35-45	19-37	---	5.1-7.8	0-20
	45-60	---	---	---	---
732B:					
Appleriver-----	0-14	15-22	---	5.6-7.3	0
	14-34	14-23	---	5.1-6.0	0
	34-58	14-21	---	5.1-7.8	0-20
	58-60	---	---	---	---
791A:					
Rush-----	0-4	9.0-22	---	5.1-7.3	0
	4-11	8.0-18	---	5.1-7.3	0
	11-38	15-23	---	4.5-6.5	0
	38-45	9.0-20	---	4.5-7.3	0
	45-60	1.0-5.0	---	7.4-8.4	10-35
791B:					
Rush-----	0-7	9.0-22	---	5.1-7.3	0
	7-11	8.0-18	---	5.1-7.3	0
	11-35	15-23	---	4.5-6.5	0
	35-46	9.0-20	---	4.5-7.3	0
	46-60	1.0-5.0	---	7.4-8.4	10-35
792A:					
Bowes-----	0-9	16-24	---	5.1-7.3	0
	9-13	9.0-20	---	5.1-7.3	0
	13-43	16-23	---	5.1-6.5	0
	43-51	6.0-18	---	5.6-7.8	0-10
	51-61	2.0-7.0	---	7.4-8.4	10-40
792B:					
Bowes-----	0-7	16-24	---	5.1-7.3	0
	7-37	16-23	---	5.1-6.5	0
	37-43	6.0-18	---	5.6-7.8	0-10
	43-60	2.0-7.0	---	7.4-8.4	10-40
794G:					
Marseilles-----	0-10	14-22	---	5.1-6.5	0
	10-35	16-27	---	4.5-6.5	0
	35-60	---	---	---	---
Northfield-----	0-3	5.4-11	---	5.6-7.3	0
	3-16	7.9-15	---	4.5-6.5	0
	16-60	---	---	---	---
Ritchey-----	0-4	12-22	---	5.6-7.8	0
	4-18	10-16	---	5.6-8.4	0-20
	18-60	---	---	---	---
802B:					
Orthents, loamy-----	0-6	10-25	---	5.6-7.8	0-10
	6-60	10-20	---	5.6-8.4	0-20
802D:					
Orthents, loamy-----	0-6	10-25	---	5.6-7.8	0-10
	6-60	10-20	---	5.6-8.4	0-20

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
804D: Orthents, acid-----	0-3 3-60	12-20 ---	--- 6.9-14	5.6-7.8 2.5-4.5	0-10 0
804G: Orthents, acid-----	0-3 3-60	12-20 ---	--- 6.9-14	5.6-7.8 2.5-4.5	0-10 0
805B: Orthents, clayey-----	0-6 6-60	22-38 15-35	--- ---	5.6-7.8 6.1-8.4	0-10 0-25
814A: Muscatune-----	0-16 16-22 22-46 46-60	16-32 16-27 17-31 9.0-22	--- --- --- ---	6.1-7.3 5.6-7.3 5.6-7.3 6.6-7.8	0 0 0 0-15
Buckhart-----	0-15 15-67 67-80	18-25 15-23 12-18	--- --- ---	5.6-7.3 5.6-7.8 6.6-7.8	0 0 0-15
817A: Channahon-----	0-11 11-16 16-19 19-60	7.0-17 6.0-13 1.0-6.0 ---	--- --- --- ---	6.1-7.3 6.1-7.3 6.1-7.3 ---	0 0 0 ---
Hesch-----	0-12 12-27 27-32 32-60	7.0-17 6.0-13 1.0-6.0 ---	--- --- --- ---	5.1-7.3 5.1-7.3 5.1-7.3 ---	0 0 0 ---
817B: Channahon-----	0-7 7-15 15-60	7.0-17 6.0-13 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---
Hesch-----	0-11 11-23 23-60	7.0-17 6.0-13 ---	--- --- ---	5.1-7.3 5.1-7.3 ---	0 0 ---
818A: Flanagan-----	0-18 18-38 38-45 45-49 49-60	16-32 22-35 16-27 6.0-18 4.0-16	--- --- --- --- ---	5.6-7.3 5.6-7.3 5.6-7.3 6.1-7.8 7.4-8.4	0 0 0 0-10 15-40
Catlin-----	0-11 11-44 44-49 49-60	17-24 14-23 12-22 4.0-16	--- --- --- ---	5.1-7.3 5.1-7.3 6.1-7.8 7.4-8.4	0 0 0-5 5-25
820E: Hennepin-----	0-5 5-18 18-60	14-22 11-19 11-18	--- --- ---	6.1-7.8 6.1-8.4 7.4-8.4	0-20 0-40 10-45
Casco-----	0-6 6-22 22-60	4.0-20 4.0-30 0.0-3.0	--- --- ---	5.6-7.3 5.6-7.8 7.4-8.4	0 0-3 1-25

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
820G:					
Hennepin-----	0-5	14-22	---	6.1-7.8	0-20
	5-16	11-19	---	6.1-8.4	0-40
	16-60	11-18	---	7.4-8.4	10-45
Casco-----	0-7	4.0-20	---	5.6-7.3	0
	7-15	4.0-30	---	5.6-7.8	0-3
	15-60	0.0-3.0	---	7.4-8.4	1-25
830.					
Landfills					
864.					
Pits, quarry					
865.					
Pits, gravel					
969E2:					
Casco-----	0-5	8.0-19	---	5.6-7.3	0
	5-19	11-23	---	5.6-7.8	0-5
	19-60	0.0-4.0	---	7.4-8.4	1-25
Rodman-----	0-6	8.0-19	---	6.6-7.8	0-15
	6-10	2.0-17	---	6.6-7.8	0-25
	10-60	0.0-7.0	---	7.4-8.4	10-45
969F:					
Casco-----	0-4	8.0-21	---	5.6-7.3	0
	4-15	11-23	---	5.6-7.8	0-5
	15-60	0.0-4.0	---	7.4-8.4	1-25
Rodman-----	0-11	8.0-21	---	6.6-7.8	0-15
	11-14	2.0-17	---	6.6-7.8	0-25
	14-60	0.0-7.0	---	7.4-8.4	10-45
1103A:					
Houghton-----	0-12	140-200	---	4.5-7.8	0
	12-60	100-200	---	4.5-7.8	0
1480A:					
Moundprairie-----	0-9	23-29	---	7.4-7.8	1-10
	9-37	15-28	---	7.4-7.8	1-10
	37-60	13-29	---	6.6-7.8	0-10
3073A:					
Ross-----	0-23	14-26	---	6.1-7.8	0
	23-54	12-24	---	6.1-7.8	0-10
	54-60	5.0-15	---	6.1-8.4	0-20
3076A:					
Otter-----	0-27	16-30	---	6.1-7.8	0
	27-41	12-23	---	6.1-7.8	0
	41-65	10-21	---	6.1-8.4	0-10
3082A:					
Millington-----	0-26	20-28	---	7.4-8.4	5-20
	26-53	14-27	---	7.4-8.4	5-30
	53-60	11-25	---	7.4-8.4	10-30

Table 23.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
3107A:					
Sawmill-----	0-29	23-35	---	6.1-7.3	0
	29-48	18-30	---	6.6-7.8	0-5
	48-60	15-27	---	6.6-8.4	0-20
3321A:					
Du Page-----	0-17	17-26	---	6.6-8.4	0-15
	17-34	11-18	---	7.4-8.4	5-40
	34-60	4.0-15	---	7.9-8.4	5-40
3451A:					
Lawson-----	0-14	15-28	---	6.1-7.8	0
	14-33	13-29	---	6.1-7.8	0
	33-80	11-23	---	6.1-7.8	0
3480A:					
Moundprairie-----	0-9	23-29	---	7.4-7.8	1-10
	9-43	15-28	---	7.4-7.8	1-10
	43-60	13-29	---	6.6-7.8	0-10
3800A:					
Psammets-----	0-60	0.1-9.0	---	4.5-7.3	0
	60-80	0.1-6.0	---	4.5-7.3	0
7073A:					
Ross-----	0-20	12-26	---	6.1-7.8	0
	20-36	8.0-20	---	6.1-8.4	0-20
	36-60	2.0-15	---	6.1-8.4	0-30
8073A:					
Ross-----	0-32	14-26	---	6.1-7.8	0
	32-50	12-24	---	6.1-7.8	0-10
	50-60	5.0-15	---	6.1-8.4	0-20
8107A:					
Sawmill-----	0-26	23-36	---	6.1-7.8	0
	26-53	18-34	---	6.1-7.8	0-5
	53-60	18-34	---	6.1-8.4	0-30
8151A:					
Ridgeville-----	0-16	10-17	---	5.6-7.3	0
	16-40	7.0-13	---	5.6-6.5	0
	40-60	2.0-7.0	---	6.1-7.3	0
8404A:					
Titus-----	0-13	25-32	---	6.1-7.3	0
	13-68	21-29	---	6.1-7.8	0
	68-80	12-19	---	6.1-7.8	0-5
8451A:					
Lawson-----	0-13	13-28	---	6.1-7.8	0
	13-53	13-29	---	6.1-7.8	0
	53-80	11-23	---	6.1-7.8	0
8516A:					
Faxon-----	0-12	18-28	---	5.1-7.3	0
	12-36	14-24	---	4.5-7.3	0
	36-60	---	---	---	---

Table 24.--Water Features

(See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth Ft	Duration	Frequency	Duration	Frequency		Upper limit Ft	Lower limit Ft	Kind of water table
23B: Blount-----	C	---	---	None	---	None	Jan-May	0.5-2.0	2.5-5.5	Perched
		---	---	None	---	None	Jun-Dec	>6.0	>6.0	---
51A: Muscatune-----	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
60C2: La Rose-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
60D2: La Rose-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
61A: Atterberry-----	B	---	---	None	---	None	Jan-May	0.5-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
61B: Atterberry-----	B	---	---	None	---	None	Jan-May	0.5-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
67A: Harpster-----	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
68A: Sable-----	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
86B: Osco-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
86C2: Osco-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	None	---	None	May-Dec	>6.0	>6.0	---
87A: Dickinson-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
87B: Dickinson-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
87C2: Dickinson-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
88B: Sparta-----	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
88D: Sparta-----	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
91A: Swygert-----	C	---	---	None	---	None	Jan-May	1.0-2.0	2.9-5.1	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
91B: Swygert-----	C	---	---	None	---	None	Jan-May	1.0-2.0	2.9-5.1	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
91B2: Swygert-----	C	---	---	None	---	None	Jan-May	1.0-2.0	2.9-5.1	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
91C2: Swygert-----	C	---	---	None	---	None	Jan-May	1.0-2.0	2.9-5.1	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
91C3: Swygert-----	C	---	---	None	---	None	Jan-May	1.0-2.0	2.9-5.1	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
103A: Houghton-----	A/D	0.0-1.0	Brief	Frequent	---	None	Jan-Jun	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jul-Oct	>6.0	>6.0	---
		0.0-1.0	Brief	Frequent	---	---	Nov-Dec	0.0-1.0	>6.0	Apparent
104A: Virgil-----	B	---	---	None	---	None	Jan-May	0.5-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
105A: Batavia-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
105B: Batavia-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
105C2: Batavia-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
125A: Selma-----	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
131B: Alvin-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
131C2: Alvin-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
132A: Starks-----	B	---	---	None	---	None	Jan-May	0.5-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
134A: Camden-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
134B: Camden-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
134C2: Camden-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
134D2: Camden-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
134D3: Camden-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
134F: Camden-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
146A: Elliott-----	C	---	---	None	---	None	Jan-May Jun-Dec	1.0-2.0 >6.0	1.7-4.3 >6.0	Perched ---
146B: Elliott-----	C	---	---	None	---	None	Jan-May Jun-Dec	1.0-2.0 >6.0	1.7-4.3 >6.0	Perched ---
146B2: Elliott-----	C	---	---	None	---	None	Jan-May Jun-Dec	1.0-2.0 >6.0	1.7-4.3 >6.0	Perched ---
147B2: Clarence-----	D	---	---	None	---	None	Jan-May Jun-Dec	1.0-2.0 >6.0	2.0-4.0 >6.0	Perched ---
148A: Proctor-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
148B: Proctor-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
148C2: Proctor-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
149A: Brenton-----	B	---	---	None	---	None	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---
151A: Ridgeville-----	B	---	---	None	---	None	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---
151B: Ridgeville-----	B	---	---	None	---	None	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---
152A: Drummer-----	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---
154A: Flanagan-----	B	---	---	None	---	None	Jan-May Jun-Dec	1.0-2.0 >6.0	>6.0 >6.0	Apparent ---
171A: Catlin-----	B	---	---	None	---	None	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 >6.0 >6.0	--- Apparent ---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
171B: Catlin-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
171B2: Catlin-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
171C2: Catlin-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
171C3: Catlin-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
193C2: Mayville-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.5-4.5	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
198A: Elburn-----	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
199A: Plano-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
199B: Plano-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
199C2: Plano-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
206A: Thorp-----	C/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
210A: Lena-----	A/D	0.0-1.0	Brief	Frequent	---	None	Jan-Jun	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jul-Oct	>6.0	>6.0	---
		---	---	---	---	---	Nov-Dec	0.0-1.0	>6.0	Apparent
219A: Millbrook-----	B	---	---	None	---	None	Jan-May	0.5-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
223B: Varna-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-5.5	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
223B2: Varna-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-5.5	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
223C2: Varna-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-5.5	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
223C3: Varna-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-5.5	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
223D2: Varna-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-5.5	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
223D3: Varna-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-5.5	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
228B: Nappanee-----	D	---	---	None	---	None	Jan-May	0.5-2.0	2.0-5.5	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
228C2: Nappanee-----	D	---	---	None	---	None	Jan-May	0.5-2.0	2.0-5.5	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
228C3: Nappanee-----	D	---	---	None	---	None	Jan-May	0.5-2.0	2.0-5.5	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
232A: Ashkum-----	C/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
233A: Birkbeck-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.3-5.8	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
233B: Birkbeck-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.3-5.8	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
233C2: Birkbeck-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.3-5.8	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
234A: Sunbury-----	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
235A: Bryce-----	D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
236A: Sabina-----	C	---	---	None	---	None	Jan-May	0.5-2.0	3.7-6.0	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
238A: Rantoul-----	D	0.0-0.5 ---	Long ---	Frequent ---	---	None ---	Jan-Jun Jul-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---
241C3: Chatsworth-----	D	--- ---	--- ---	None ---	---	None ---	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.0 >6.0	--- Perched ---
241D3: Chatsworth-----	D	--- ---	--- ---	None ---	---	None ---	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.0 >6.0	--- Perched ---
241E3: Chatsworth-----	D	--- ---	--- ---	None ---	---	None ---	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.0 >6.0	--- Perched ---
241F: Chatsworth-----	D	--- ---	--- ---	None ---	---	None ---	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.0 >6.0	--- Perched ---
241G: Chatsworth-----	D	--- ---	--- ---	None ---	---	None ---	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.2-4.0 >6.0	--- Perched ---
242A: Kendall-----	B	--- ---	--- ---	None ---	---	None ---	Jan-May Jun-Dec	0.5-2.0 >6.0	>6.0 >6.0	Apparent ---
243A: St. Charles-----	B	--- ---	--- ---	None ---	---	None ---	Jan-Dec	>6.0	>6.0	---
243B: St. Charles-----	B	--- ---	--- ---	None ---	---	None ---	Jan-Dec	>6.0	>6.0	---
243C2: St. Charles-----	B	--- ---	--- ---	None ---	---	None ---	Jan-Dec	>6.0	>6.0	---
244A: Hartsburg-----	B/D	0.0-0.5 ---	Brief ---	Frequent ---	---	None ---	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0 >6.0	Apparent ---
278A: Stronghurst-----	B	--- ---	--- ---	None ---	---	None ---	Jan-May Jun-Dec	0.5-2.0 >6.0	>6.0 >6.0	Apparent ---
278B: Stronghurst-----	B	--- ---	--- ---	None ---	---	None ---	Jan-May Jun-Dec	0.5-2.0 >6.0	>6.0 >6.0	Apparent ---
279B: Rozetta-----	B	--- ---	--- ---	None ---	---	None ---	Jan Feb-Apr May-Dec	>6.0 4.0-6.0 >6.0	>6.0 >6.0 >6.0	--- Apparent ---
280C2: Fayette-----	B	--- ---	--- ---	None ---	---	None ---	Jan-Dec	>6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
290A: Warsaw-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
290B: Warsaw-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
290C2: Warsaw-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
293A: Andres-----	C	---	---	None	---	None	Jan-May Jun-Dec	1.0-2.0 >6.0	3.0-5.5 >6.0	Perched ---
293B: Andres-----	C	---	---	None	---	None	Jan-May Jun-Dec	1.0-2.0 >6.0	3.0-5.5 >6.0	Perched ---
294B: Symerton-----	C	---	---	None	---	None	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.5-4.7 >6.0	--- Perched ---
294C2: Symerton-----	C	---	---	None	---	None	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0 2.5-4.7 >6.0	--- Perched ---
295A: Mokena-----	C	---	---	None	---	None	Jan-May Jun-Dec	1.0-2.0 >6.0	2.5-5.5 >6.0	Perched ---
295B: Mokena-----	C	---	---	None	---	None	Jan-May Jun-Dec	1.0-2.0 >6.0	2.5-5.5 >6.0	Perched ---
298B: Beecher-----	C	---	---	None	---	None	Jan-May Jun-Dec	0.5-2.0 >6.0	2.0-4.3 >6.0	Perched ---
311B: Ritchey-----	D	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
314A: Joliet-----	D	0.0-0.5	Brief	Frequent	---	None	Jan-May Jun-Dec	0.0-1.0 >6.0	0.5-1.7 >6.0	Perched ---
315B: Channahon-----	D	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
317A: Millsdale-----	C	0.0-0.5	Brief	Frequent	---	None	Jan-Jun Jul-Dec	0.0-1.0 >6.0	2.0-3.3 >6.0	Perched ---
318B: Lorenzo-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
318C2: Lorenzo-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
320B: Frankfort-----	D	---	---	None	---	None	Jan-May Jun-Dec	0.5-2.0 >6.0	2.0-4.0 >6.0	Perched ---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
320C2: Frankfort-----	D	---	---	None	---	None	Jan-May	0.5-2.0	2.0-4.0	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
325B: Dresden-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
325C2: Dresden-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
327B: Fox-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
327C2: Fox-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
327D2: Fox-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
330A: Peotone-----	C/D	0.0-0.5	Brief	Frequent	---	None	Jan-Jun	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jul-Dec	>6.0	>6.0	---
344A: Harvard-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
344B: Harvard-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
344C2: Harvard-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
356A: Elpaso-----	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
375A: Rutland-----	C	---	---	None	---	None	Jan-May	1.0-2.0	3.3-5.5	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
375B: Rutland-----	C	---	---	None	---	None	Jan-May	1.0-2.0	3.3-5.5	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
375B2: Rutland-----	C	---	---	None	---	None	Jan-May	1.0-2.0	3.3-5.5	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
388B: Wenona-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.3-5.5	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
388B2: Wenona-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.3-5.5	Perched
		---	---	None	---	None	May-Dec	>6.0	>6.0	---
388C2: Wenona-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	3.3-5.5	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
397F: Boone-----	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
413B: Gale-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
413C2: Gale-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
435A: Streator-----	C/D	0.0-0.5	Brief	Frequent	---	None	Jan-May Jun-Dec	0.0-1.0 >6.0	>6.0	Apparent ---
448B: Mona-----	C	---	---	None	---	None	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0	---
448C2: Mona-----	C	---	---	None	---	None	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0	---
512B: Danabrook-----	B	---	---	None	---	None	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0	---
512C2: Danabrook-----	B	---	---	None	---	None	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0	---
516A: Faxon-----	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May Jun-Dec	0.0-1.0 >6.0	1.7-3.3	Perched ---
527C2: Kidami-----	B	---	---	None	---	None	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0	---
527D2: Kidami-----	B	---	---	None	---	None	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0	---
530B: Ozaukee-----	C	---	---	None	---	None	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0	---
530C2: Ozaukee-----	C	---	---	None	---	None	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0	---
530C3: Ozaukee-----	C	---	---	None	---	None	Jan Feb-Apr May-Dec	>6.0 2.0-3.5 >6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
530D2: Ozaukee-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-4.3	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
530D3: Ozaukee-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-4.3	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
530E2: Ozaukee-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-4.3	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
530F: Ozaukee-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-4.3	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
541B: Graymont-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-4.3	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
541B2: Graymont-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-4.3	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
541C2: Graymont-----	C	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-4.3	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
542A: Rooks-----	B	---	---	None	---	None	Jan-May	1.0-2.0	3.3-5.5	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
542B: Rooks-----	B	---	---	None	---	None	Jan-May	1.0-2.0	3.3-5.5	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
549B: Marseilles-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-5.0	5.0-5.5	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
549C2: Marseilles-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
549D2: Marseilles-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
549F: Marseilles-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
549G: Marseilles-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
554B: Kernan-----	C	---	---	None	---	None	Jan-May	0.5-2.0	3.3-5.5	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
560D2: St. Clair-----	D	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-4.5	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
560E: St. Clair-----	D	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	2.2-4.5	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
567B: Elkhart-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
572A: Loran-----	B	---	---	None	---	None	Jan-May	1.0-2.0	3.3-4.6	Perched
		---	---	None	---	None	Jun-Dec	>6.0	>6.0	---
572B: Loran-----	B	---	---	None	---	None	Jan-May	1.0-2.0	3.3-4.6	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
572C2: Loran-----	B	---	---	None	---	None	Jan-May	1.0-2.0	3.3-4.6	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
614A: Chenoa-----	C	---	---	None	---	None	Jan-May	1.0-2.0	2.1-4.3	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
614B: Chenoa-----	C	---	---	None	---	None	Jan-May	1.0-2.0	2.1-4.3	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
662B: Barony-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
663B: Clare-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
667B: Kaneville-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
668B: Somonauk-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
675B: Greenbush-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
675C2: Greenbush-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
679B: Blackberry-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
680B: Campton-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	2.0-3.5	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
712A: Spaulding-----	B/D	0.0-0.5	Brief	Frequent	---	None	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
715A: Arrowsmith-----	B	---	---	None	---	None	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
732A: Appleriver-----	B	---	---	None	---	None	Jan-May	1.0-2.0	3.3-5.5	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
732B: Appleriver-----	B	---	---	None	---	None	Jan-May	1.0-2.0	3.3-5.5	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
791A: Rush-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
791B: Rush-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
792A: Bowes-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
792B: Bowes-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
794G: Marseilles-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
Northfield-----	D	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
Ritchey-----	D	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---
802B: Orthents, loamy-----	B	---	---	None	---	None	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	3.5-5.0	3.7-5.5	Perched
		---	---	---	---	---	May-Dec	>6.0	>6.0	---



Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding			Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency	Upper limit		Lower limit	Kind of water table	
		Ft						Ft	Ft		
865. Pits, gravel											
969E2: Casco-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---	
Rodman-----	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---	
969F: Casco-----	B	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---	
Rodman-----	A	---	---	None	---	None	Jan-Dec	>6.0	>6.0	---	
1103A: Houghton-----	A/D	0.0-1.0	Long	Frequent	---	None	Jan-Dec	0.0-0.5	>6.0	Apparent	
1480A: Moundprairie-----	B/D	0.0-1.0	Long	Frequent	Brief	Frequent	Jan-Dec	0.0-0.5	>6.0	Apparent	
3073A: Ross-----	B	---	---	None	Brief	Frequent	Jan	>6.0	>6.0	---	
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent	
		---	---	---	---	---	May-Dec	>6.0	>6.0	---	
3076A: Otter-----	B/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent	
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---	
3082A: Millington-----	B/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent	
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---	
3107A: Sawmill-----	B/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent	
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---	
3321A: Du Page-----	B	---	---	None	Brief	Frequent	Jan	>6.0	>6.0	---	
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent	
		---	---	---	---	---	May-Dec	>6.0	>6.0	---	
3451A: Lawson-----	B	---	---	None	Brief	Frequent	Jan-May	1.0-2.0	>6.0	Apparent	
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---	
3480A: Moundprairie-----	B/D	0.0-0.5	Brief	Frequent	Brief	Frequent	Jan-May	0.0-1.0	>6.0	Apparent	
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---	
3800A: Psammets-----	A	---	---	None	Brief	Frequent	Jan	>6.0	>6.0	---	
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent	
		---	---	---	---	---	May-Dec	>6.0	>6.0	---	
7073A: Ross-----	B	---	---	None	Brief	Rare	Jan	>6.0	>6.0	---	
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent	
		---	---	---	---	---	May-Dec	>6.0	>6.0	---	

Table 24.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Ponding			Flooding		Months	Water table		
		Surface water depth	Duration	Frequency	Duration	Frequency		Upper limit	Lower limit	Kind of water table
		Ft						Ft	Ft	
8073A: Ross-----	B	---	---	None	Brief	Occasional	Jan	>6.0	>6.0	---
		---	---	---	---	---	Feb-Apr	4.0-6.0	>6.0	Apparent
		---	---	---	---	---	May-Dec	>6.0	>6.0	---
8107A: Sawmill-----	B/D	0.0-0.5	Brief	Frequent	Brief	Occasional	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
8151A: Ridgeville-----	B	---	---	None	Brief	Occasional	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
8404A: Titus-----	C/D	0.0-0.5	Brief	Frequent	Brief	Occasional	Jan-May	0.0-1.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
8451A: Lawson-----	B	---	---	None	Brief	Occasional	Jan-May	1.0-2.0	>6.0	Apparent
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---
8516A: Faxon-----	B/D	0.0-0.5	Brief	Frequent	Brief	Occasional	Jan-May	0.0-1.0	1.7-3.3	Perched
		---	---	---	---	---	Jun-Dec	>6.0	>6.0	---

Table 25.--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			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
23B: Blount-----	Dense material	30-48	Noncemented	---	---	High	High	Low
51A: Muscatune-----	---	---	---	---	---	High	High	Moderate
60C2: La Rose-----	---	---	---	---	---	Moderate	Moderate	Low
60D2: La Rose-----	---	---	---	---	---	Moderate	Moderate	Low
61A: Atterberry-----	---	---	---	---	---	High	High	Moderate
61B: Atterberry-----	---	---	---	---	---	High	High	Moderate
67A: Harpster-----	---	---	---	---	---	High	High	Low
68A: Sable-----	---	---	---	---	---	High	High	Moderate
86B: Osc-----	---	---	---	---	---	High	Moderate	Moderate
86C2: Osc-----	---	---	---	---	---	High	Moderate	Moderate
87A: Dickinson-----	---	---	---	---	---	Moderate	Low	Moderate
87B: Dickinson-----	---	---	---	---	---	Moderate	Low	Moderate
87C2: Dickinson-----	---	---	---	---	---	Moderate	Low	Moderate
88B: Sparta-----	---	---	---	---	---	Low	Low	High

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
88D: Sparta-----	---	---	---	---	---	Low	Low	High
91A: Swygert-----	Dense material	35-55	Noncemented	---	---	Moderate	High	Low
91B: Swygert-----	Dense material	35-55	Noncemented	---	---	Moderate	High	Low
91B2: Swygert-----	Dense material	35-55	Noncemented	---	---	Moderate	High	Low
91C2: Swygert-----	Dense material	35-55	Noncemented	---	---	Moderate	High	Low
91C3: Swygert-----	Dense material	20-40	Noncemented	---	---	Moderate	High	Low
103A: Houghton-----	---	---	---	6-18	55-60	High	High	High
104A: Virgil-----	---	---	---	---	---	High	High	Moderate
105A: Batavia-----	---	---	---	---	---	High	High	Moderate
105B: Batavia-----	---	---	---	---	---	High	High	Moderate
105C2: Batavia-----	---	---	---	---	---	High	High	Moderate
125A: Selma-----	---	---	---	---	---	High	High	Low
131B: Alvin-----	---	---	---	---	---	Moderate	Low	High
131C2: Alvin-----	---	---	---	---	---	Moderate	Low	High
132A: Starks-----	---	---	---	---	---	High	High	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
134A: Camden-----	---	---	---	---	---	High	Moderate	Moderate
134B: Camden-----	---	---	---	---	---	High	Moderate	Moderate
134C2: Camden-----	---	---	---	---	---	High	Moderate	Moderate
134D2: Camden-----	---	---	---	---	---	High	Moderate	Moderate
134D3: Camden-----	---	---	---	---	---	High	Moderate	Moderate
134F: Camden-----	---	---	---	---	---	High	Moderate	Moderate
146A: Elliott-----	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
146B: Elliott-----	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
146B2: Elliott-----	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
147B2: Clarence-----	Dense material	25-40	Noncemented	---	---	Moderate	High	Moderate
148A: Proctor-----	---	---	---	---	---	High	Moderate	Moderate
148B: Proctor-----	---	---	---	---	---	High	Moderate	Moderate
148C2: Proctor-----	---	---	---	---	---	High	Moderate	Moderate
149A: Brenton-----	---	---	---	---	---	High	High	Moderate
151A: Ridgeville-----	---	---	---	---	---	Moderate	Moderate	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
151B: Ridgeville-----	---	---	---	---	---	Moderate	Moderate	Moderate
152A: Drummer-----	---	---	---	---	---	High	High	Moderate
154A: Flanagan-----	---	---	---	---	---	High	High	Moderate
171A: Catlin-----	---	---	---	---	---	High	High	Moderate
171B: Catlin-----	---	---	---	---	---	High	High	Moderate
171B2: Catlin-----	---	---	---	---	---	High	High	Moderate
171C2: Catlin-----	---	---	---	---	---	High	High	Moderate
171C3: Catlin-----	---	---	---	---	---	High	High	Moderate
193C2: Mayville-----	---	---	---	---	---	High	High	Moderate
198A: Elburn-----	---	---	---	---	---	High	High	Moderate
199A: Plano-----	---	---	---	---	---	High	Moderate	Moderate
199B: Plano-----	---	---	---	---	---	High	Moderate	Moderate
199C2: Plano-----	---	---	---	---	---	High	Moderate	Moderate
206A: Thorp-----	---	---	---	---	---	High	High	Moderate
210A: Lena-----	---	---	---	6-18	55-60	High	High	Low

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
219A: Millbrook-----	---	---	---	---	---	High	High	Moderate
223B: Varna-----	Dense material	24-60	Noncemented	---	---	Moderate	High	Moderate
223B2: Varna-----	Dense material	24-60	Noncemented	---	---	Moderate	High	Moderate
223C2: Varna-----	Dense material	24-60	Noncemented	---	---	Moderate	High	Moderate
223C3: Varna-----	Dense material	18-36	Noncemented	---	---	Moderate	High	Low
223D2: Varna-----	Dense material	24-60	Noncemented	---	---	Moderate	High	Moderate
223D3: Varna-----	Dense material	18-36	Noncemented	---	---	Moderate	High	Low
228B: Nappanee-----	Dense material	30-60	Noncemented	---	---	High	High	Low
228C2: Nappanee-----	Dense material	24-60	Noncemented	---	---	High	High	Low
228C3: Nappanee-----	Dense material	20-50	Noncemented	---	---	High	High	Low
232A: Ashkum-----	---	---	---	---	---	High	High	Low
233A: Birkbeck-----	---	---	---	---	---	High	High	High
233B: Birkbeck-----	---	---	---	---	---	High	High	High
233C2: Birkbeck-----	---	---	---	---	---	High	High	High
234A: Sunbury-----	---	---	---	---	---	Moderate	High	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
235A: Bryce-----	---	---	---	---	---	High	High	Low
236A: Sabina-----	---	---	---	---	---	High	High	High
238A: Rantoul-----	---	---	---	---	---	High	High	Low
241C3: Chatsworth-----	Dense material	10-24	Noncemented	---	---	Moderate	High	Low
241D3: Chatsworth-----	Dense material	10-24	Noncemented	---	---	Moderate	High	Low
241E3: Chatsworth-----	Dense material	10-24	Noncemented	---	---	Moderate	High	Low
241F: Chatsworth-----	Dense material	10-24	Noncemented	---	---	Moderate	High	Low
241G: Chatsworth-----	Dense material	10-24	Noncemented	---	---	Moderate	High	Low
242A: Kendall-----	---	---	---	---	---	High	High	High
243A: St. Charles-----	---	---	---	---	---	High	Moderate	High
243B: St. Charles-----	---	---	---	---	---	High	Moderate	High
243C2: St. Charles-----	---	---	---	---	---	High	Moderate	High
244A: Hartsburg-----	---	---	---	---	---	High	High	Low
278A: Stronghurst-----	---	---	---	---	---	High	High	Moderate
278B: Stronghurst-----	---	---	---	---	---	High	High	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
279B: Rozetta-----	---	---	---	---	---	High	Moderate	High
280C2: Fayette-----	---	---	---	---	---	High	Moderate	High
290A: Warsaw-----	---	---	---	---	---	Moderate	Moderate	Moderate
290B: Warsaw-----	---	---	---	---	---	Moderate	Moderate	Moderate
290C2: Warsaw-----	---	---	---	---	---	Moderate	Moderate	Low
293A: Andres-----	---	---	---	---	---	Moderate	High	Low
293B: Andres-----	---	---	---	---	---	Moderate	High	Low
294B: Symerton-----	---	---	---	---	---	Moderate	High	Moderate
294C2: Symerton-----	---	---	---	---	---	Moderate	High	Moderate
295A: Mokena-----	Dense material	30-60	Noncemented	---	---	Moderate	High	Low
295B: Mokena-----	Dense material	30-60	Noncemented	---	---	Moderate	High	Low
298B: Beecher-----	Dense material	24-45	Noncemented	---	---	High	High	Low
311B: Ritchey-----	Lithic bedrock	10-20	Indurated	---	---	Moderate	Moderate	Moderate
314A: Joliet-----	Lithic bedrock	10-20	Indurated	---	---	High	High	Low
315B: Channahon-----	Lithic bedrock	10-20	Indurated	---	---	Moderate	Moderate	Low

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In	Hardness	Initial In	Total In		Uncoated steel	Concrete
317A: Millsdale-----	Lithic bedrock	20-40	Indurated	---	---	High	High	Low
318B: Lorenzo-----	---	---	---	---	---	Moderate	Moderate	Moderate
318C2: Lorenzo-----	---	---	---	---	---	Moderate	Moderate	Moderate
320B: Frankfort-----	Dense material	24-42	Noncemented	---	---	High	High	Low
320C2: Frankfort-----	Dense material	24-42	Noncemented	---	---	High	High	Low
325B: Dresden-----	---	---	---	---	---	Moderate	Moderate	Moderate
325C2: Dresden-----	---	---	---	---	---	Moderate	Moderate	Moderate
327B: Fox-----	---	---	---	---	---	Moderate	Moderate	Moderate
327C2: Fox-----	---	---	---	---	---	Moderate	Moderate	Moderate
327D2: Fox-----	---	---	---	---	---	Moderate	Moderate	Moderate
330A: Peotone-----	---	---	---	---	---	High	High	Low
344A: Harvard-----	---	---	---	---	---	High	Moderate	Moderate
344B: Harvard-----	---	---	---	---	---	High	Moderate	Moderate
344C2: Harvard-----	---	---	---	---	---	High	Moderate	Moderate
356A: Elpaso-----	---	---	---	---	---	High	High	Low

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
375A: Rutland-----	Dense material	40-60	Noncemented	---	---	Moderate	High	Moderate
375B: Rutland-----	Dense material	40-60	Noncemented	---	---	Moderate	High	Moderate
375B2: Rutland-----	Dense material	40-60	Noncemented	---	---	Moderate	High	Moderate
388B: Wenona-----	Dense material	40-65	Noncemented	---	---	Moderate	High	Moderate
388B2: Wenona-----	Dense material	40-65	Noncemented	---	---	Moderate	High	Moderate
388C2: Wenona-----	Dense material	40-65	Noncemented	---	---	Moderate	High	Moderate
397F: Boone-----	Paralithic bedrock	20-40	Moderately cemented	---	---	Low	Low	Moderate
413B: Gale-----	Paralithic bedrock	20-40	Moderately cemented	---	---	High	Moderate	High
413C2: Gale-----	Paralithic bedrock	20-40	Moderately cemented	---	---	High	Moderate	High
435A: Streator-----	---	---	---	---	---	High	High	Low
448B: Mona-----	Dense material	36-54	Noncemented	---	---	Moderate	High	Moderate
448C2: Mona-----	Dense material	36-54	Noncemented	---	---	Moderate	High	Moderate
512B: Danabrook-----	---	---	---	---	---	High	High	Moderate
512C2: Danabrook-----	---	---	---	---	---	High	High	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
516A: Faxon-----	Lithic bedrock	20-40	Strongly cemented	---	---	High	High	High
527C2: Kidami-----	---	---	---	---	---	Moderate	High	Moderate
527D2: Kidami-----	---	---	---	---	---	Moderate	High	Moderate
530B: Ozaukee-----	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
530C2: Ozaukee-----	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
530C3: Ozaukee-----	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
530D2: Ozaukee-----	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
530D3: Ozaukee-----	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
530E2: Ozaukee-----	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
530F: Ozaukee-----	Dense material	20-45	Noncemented	---	---	Moderate	High	Low
541B: Graymont-----	---	---	---	---	---	High	High	Moderate
541B2: Graymont-----	---	---	---	---	---	High	High	Moderate
541C2: Graymont-----	---	---	---	---	---	High	High	Moderate
542A: Rooks-----	---	---	---	---	---	High	High	Moderate
542B: Rooks-----	---	---	---	---	---	High	High	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In	Hardness	Initial In	Total In		Uncoated steel	Concrete
549B: Marseilles-----	Paralithic bedrock	20-40	Moderately cemented	---	---	High	Moderate	High
549C2: Marseilles-----	Paralithic bedrock	20-40	Moderately cemented	---	---	High	Moderate	High
549D2: Marseilles-----	Paralithic bedrock	20-40	Moderately cemented	---	---	High	Moderate	High
549F: Marseilles-----	Paralithic bedrock	20-40	Moderately cemented	---	---	High	Moderate	High
549G: Marseilles-----	Paralithic bedrock	20-40	Moderately cemented	---	---	High	Moderate	High
554B: Kernan-----	Dense material	40-60	Noncemented	---	---	High	High	Moderate
560D2: St. Clair-----	Dense material	20-48	Noncemented	---	---	Moderate	High	Low
560E: St. Clair-----	Dense material	20-48	Noncemented	---	---	Moderate	High	Low
567B: Elkhart-----	---	---	---	---	---	High	High	Low
572A: Loran-----	Paralithic bedrock	40-60	Moderately cemented	---	---	High	High	Low
572B: Loran-----	Paralithic bedrock	40-60	Moderately cemented	---	---	High	High	Low
572C2: Loran-----	Paralithic bedrock	40-60	Moderately cemented	---	---	High	High	Low
614A: Chenoa-----	---	---	---	---	---	Moderate	High	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
614B: Chenoa-----	---	---	---	---	---	Moderate	High	Moderate
662B: Barony-----	---	---	---	---	---	High	High	Moderate
663B: Clare-----	---	---	---	---	---	High	High	Moderate
667B: Kaneville-----	---	---	---	---	---	High	High	Moderate
668B: Somonauk-----	---	---	---	---	---	High	High	Moderate
675B: Greenbush-----	---	---	---	---	---	High	Moderate	High
675C2: Greenbush-----	---	---	---	---	---	High	Moderate	High
679B: Blackberry-----	---	---	---	---	---	High	High	Moderate
680B: Campton-----	---	---	---	---	---	High	High	High
712A: Spaulding-----	---	---	---	---	---	High	High	Low
715A: Arrowsmith-----	---	---	---	---	---	High	High	Low
732A: Appleriver-----	Paralithic bedrock	40-60	Moderately cemented	---	---	High	High	Moderate
732B: Appleriver-----	Paralithic bedrock	40-60	Moderately cemented	---	---	High	High	Moderate
791A: Rush-----	---	---	---	---	---	High	Moderate	High
791B: Rush-----	---	---	---	---	---	High	Moderate	High

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
792A: Bowes-----	---	---	---	---	---	High	Moderate	Moderate
792B: Bowes-----	---	---	---	---	---	High	Moderate	Moderate
794G: Marseilles-----	Paralithic bedrock	20-40	Moderately cemented	---	---	High	Moderate	High
Northfield-----	Lithic bedrock	10-20	Strongly cemented	---	---	Moderate	Low	High
Ritchey-----	Lithic bedrock	10-20	Indurated	---	---	Moderate	Moderate	Low
802B: Orthents, loamy-----	---	---	---	---	---	Moderate	Moderate	Moderate
802D: Orthents, loamy-----	---	---	---	---	---	Moderate	Moderate	Moderate
804D: Orthents, acid-----	---	---	---	---	---	Moderate	High	High
804G: Orthents, acid-----	---	---	---	---	---	Moderate	High	High
805B: Orthents, clayey-----	---	---	---	---	---	Moderate	High	Moderate
814A: Muscatune-----	---	---	---	---	---	High	High	Moderate
Buckhart-----	---	---	---	---	---	High	High	Moderate
817A: Channahon-----	Paralithic bedrock	10-20	Moderately cemented	---	---	Moderate	Low	Moderate
Hesch-----	Paralithic bedrock	20-40	Moderately cemented	---	---	Moderate	Low	High
817B: Channahon-----	Paralithic bedrock	10-20	Moderately cemented	---	---	Moderate	Low	Moderate

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
				In	In			
817B: Hesch-----	Paralithic bedrock	20-40	Moderately cemented	---	---	Moderate	Low	Moderate
818A: Flanagan-----	---	---	---	---	---	High	High	Moderate
Catlin-----	---	---	---	---	---	High	High	Moderate
820E: Hennepin-----	---	---	---	---	---	Moderate	Low	Low
Casco-----	---	---	---	---	---	Moderate	Moderate	Low
820G: Hennepin-----	---	---	---	---	---	Moderate	Low	Low
Casco-----	---	---	---	---	---	Moderate	Moderate	Low
830. Landfills								
864. Pits, quarry								
865. Pits, gravel								
969E2: Casco-----	---	---	---	---	---	Moderate	Moderate	Low
Rodman-----	---	---	---	---	---	Low	Low	Low
969F: Casco-----	---	---	---	---	---	Moderate	Moderate	Low
Rodman-----	---	---	---	---	---	Low	Low	Low
1103A: Houghton-----	---	---	---	6-18	55-60	High	High	High
1480A: Moundprairie-----	---	---	---	---	---	High	High	Low

Table 25.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Hardness	Initial	Total		Uncoated steel	Concrete
		In		In	In			
3073A: Ross-----	---	---	---	---	---	Moderate	Low	Low
3076A: Otter-----	---	---	---	---	---	High	High	Low
3082A: Millington-----	---	---	---	---	---	High	High	Low
3107A: Sawmill-----	---	---	---	---	---	High	High	Low
3321A: Du Page-----	---	---	---	---	---	Moderate	Low	Low
3451A: Lawson-----	---	---	---	---	---	High	High	Low
3480A: Moundprairie-----	---	---	---	---	---	High	High	Low
3800A: Psamments-----	---	---	---	---	---	Low	High	Moderate
7073A: Ross-----	---	---	---	---	---	Moderate	Low	Low
8073A: Ross-----	---	---	---	---	---	Moderate	Low	Low
8107A: Sawmill-----	---	---	---	---	---	High	High	Low
8151A: Ridgeville-----	---	---	---	---	---	Moderate	Moderate	Moderate
8404A: Titus-----	---	---	---	---	---	High	High	Low
8451A: Lawson-----	---	---	---	---	---	High	High	Low
8516A: Faxon-----	Lithic bedrock	20-40	Strongly cemented	---	---	High	High	High

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