United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with
Minnesota Agricultural
Experiment Station

# Soil Survey of Wright County, Minnesota

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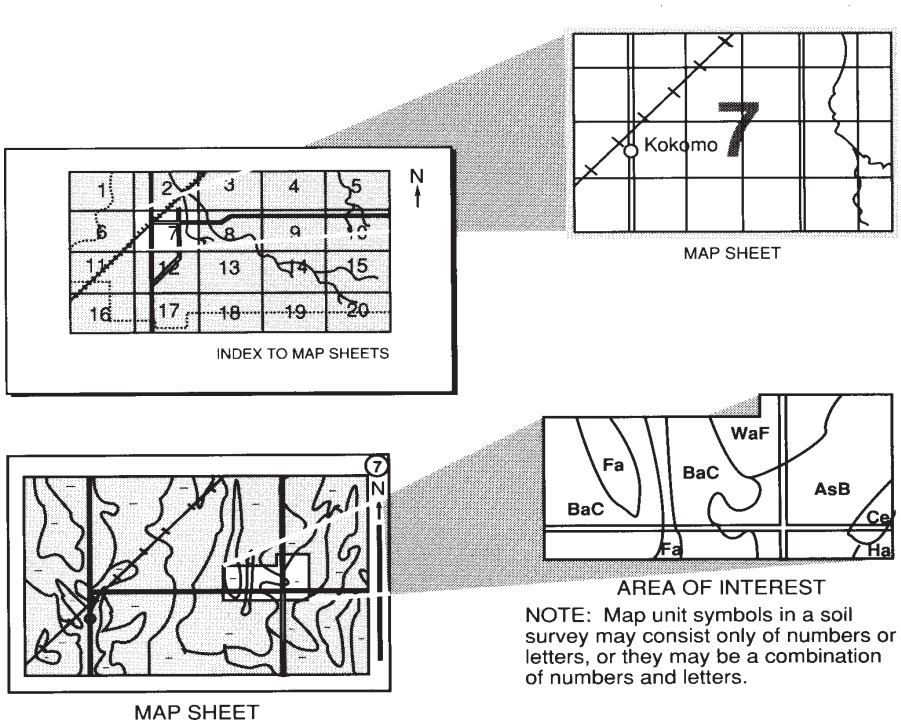
# How To Use This Soil Survey

This publication consists of a manuscript and a set of soil maps. The information provided can be useful in planning the use and management of small areas.

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

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described. The map unit symbols and names also appear as bookmarks, which link directly to the appropriate page in the publication.

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




NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

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

Major fieldwork for this soil survey was completed in November 1997. Soil names and descriptions were approved in April 1998. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1997. This survey was made cooperatively by the Natural Resources Conservation Service, the Minnesota Agricultural Experiment Station, and Wright County. The survey is part of the technical assistance furnished to the Wright County Soil and Water Conservation District.

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

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**Cover: Agricultural and suburban land uses dominate the Wright County landscape near the confluence of the Mississippi River and the Crow River. The rapidly developing city of Otsego is in the background. In the foreground is a Conservation Reserve Program tree planting.**

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

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# Where To Get Updated Information

The soil properties and interpretations included in this survey were current as of July 2003. The most current information is available through the NRCS Soil Data Mart Website at http://soildatamart.nrcs.usda.gov/

Additional information is available from the Natural Resources Conservation Service (NRCS) Field Office Technical Guide at Buffalo, Minnesota, or online at www.nrcs.usda.gov/technical/efotg. The data in the Field Office Technical Guide are updated periodically.

Additional information about soils and about NRCS is available through the Minnesota NRCS Web page at www.mn.nrcs.usda.gov.

For further information, please contact:

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# Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

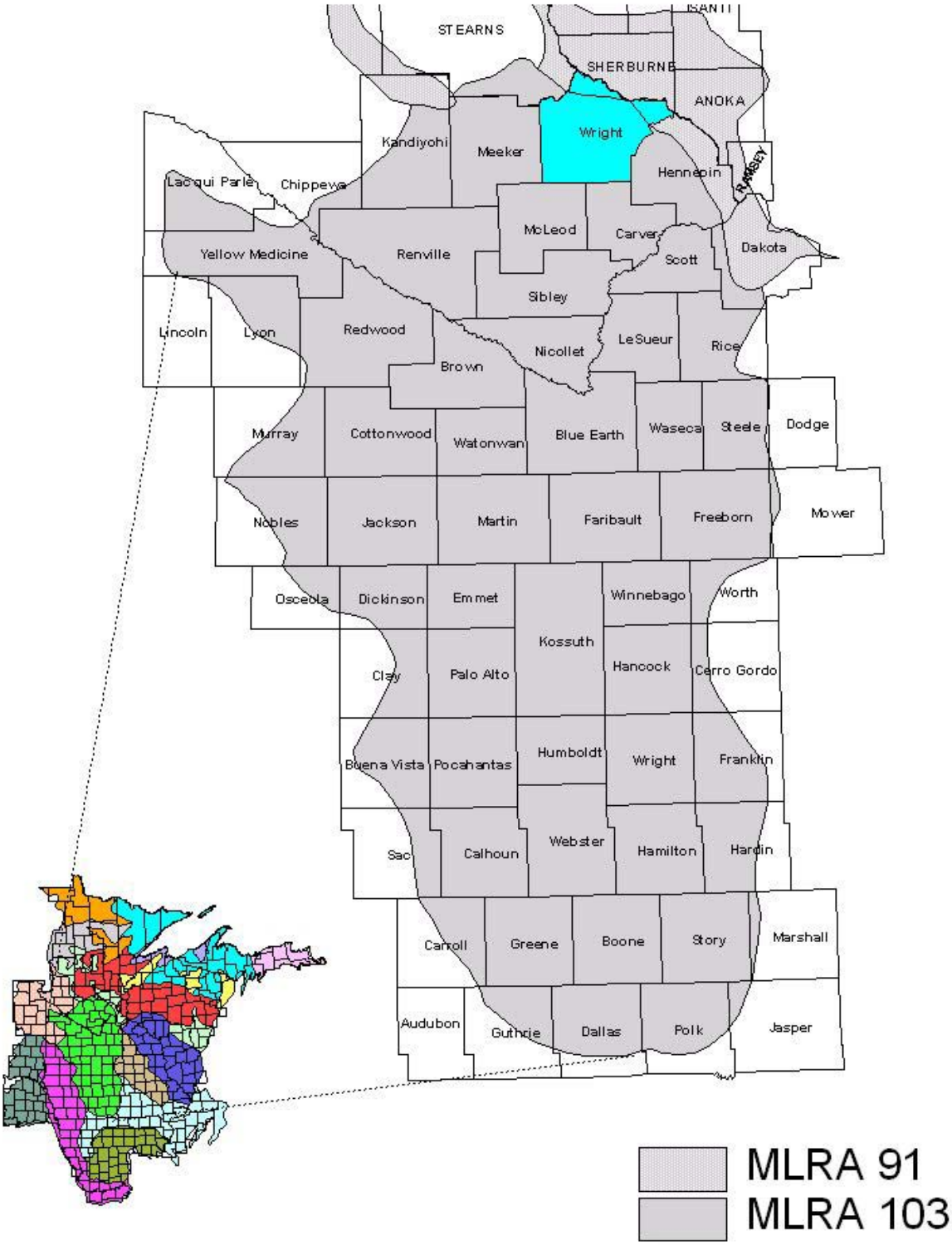
This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey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

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

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

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the 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 Hunt
State Conservationist
Natural Resources Conservation Service




**Location of Wright County and MLRAs 91 and 103 in Region 10**

# Soil Survey of
# Wright County, Minnesota

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

## How This Survey Was Made

This survey was made to provide updated information about the soils and miscellaneous areas in the survey area, which is in Region 10 and includes Major Land Resource Areas 91 and 103. Region 10 is an administrative division of the Natural Resources Conservation Service. Major Land Resource Areas (MLRAs) are geographically associated land resource units that share a common land use, elevation and topography, climate, water, soils, and vegetation (USDA, 1981). Wright County is a subset of MLRAs 91 and 103. Map unit design and the soil descriptions are based on the occurrence of each soil throughout the MLRA. In some cases a soil component may be referred to that does not occur in the Wright County subset but that is representative of the MLRA.

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

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

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

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and

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

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

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

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

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

# Formation and Classification of the Soils

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 is produced by the action of soil-forming processes on material deposited or accumulated by geologic forces. The characteristics of the soil at any given place are determined by (1) the physical and mineralogical composition of the parent material; (2) the climate under which the soil material has accumulated and existed since its accumulation; (3) the plant and animal life on and in the soil; (4) relief, or lay of the land, and the drainage that results from it; and (5) the length of time the forces of development have acted on the soil material. The relative effect of each of these factors is reflected in the soil profile.

Humans have also influenced the development of soils. They have removed the natural vegetation and have used methods of farming that have accelerated erosion and have changed the relief or the effects of relief. Human activities have also modified the natural differences between soils by adding materials to improve the fertility of some soils or by lowering the fertility of some soils by removing crops without replacing plant nutrients.

Climate and vegetation are the active factors of soil genesis. They act on the parent material that has accumulated through the weathering of rocks and slowly change it into a natural body that has genetically related horizons. The effects of climate and vegetation are conditioned by relief. The kind of parent material also affects the kind of profile that forms; in extreme cases, the parent material is entirely responsible for determining the soil profile. Finally, time is needed for the changing of the parent material into a soil profile. Some time is always required for the differentiation of horizons, and a long time is generally required for the development of distinct horizons.

The individual factors of soil formation are described separately in the paragraphs that follow. It is the interaction of all of these factors, however, that determines the nature of the soil profile. Few generalizations can be made regarding the effect of any one factor unless conditions are specified for the others. Many of the processes of soil formation are unknown.

### Climate

Climate, as a genetic factor, affects the physical, chemical, and biological relationships in the soil profile, chiefly through the influence of precipitation and temperature. Water from rainfall and melting snow dissolves minerals, supports biological activity, and transports mineral and organic residues through the soil profile. The amount of water that percolates through the soil at a given point depends upon the amount and intensity of rainfall, the relative humidity, the length of the frost-free period, soil permeability, and position on the landscape. Temperature influences the kinds and growth of organisms and the speed of physical and chemical reactions in the soils.

Wright County has a cool, subhumid, continental climate that varies widely in temperature from summer to winter. The soils generally are frozen to a depth of 3 to more than 5 feet for 4 to 5 months of the year. The depth to which frost penetrates depends mostly on the amount of snow received late in fall or early in winter. The snow cover helps to prevent water erosion and slows down denitrification processes. During winter the soil-forming forces are largely dormant, though some alternate freezing and thawing may occur.

The climate is essentially uniform throughout the county, but differences in vegetation, soil materials, and relief can cause variations in the microclimate. Soils in the prairie regions are exposed to a greater variation in temperature than those in the forest regions. In the gently rolling or undulating uplands, the effect of climate is shown in the depth of weathering. Weathering is more rapid in soils that remain moist than in those that dry out or in those that remain saturated most of the year. Fine textured soils warm up more slowly in spring than coarse textured soils because they contain more moisture. Soils on south- and west-facing slopes receive more sunlight and tend to be drier and warmer than soils on north- and east-facing slopes. The interaction of all these factors affects the development of soils.

## Living Organisms

Plants and animals are active in the soil-forming processes. They help to decompose plant residues and also affect the chemistry of the soil, and they hasten soil development. The kinds of plants and animals that live on and in the soils also help to convert plant nutrients to a form that is more readily available to higher plants.

Most of Wright County is in the Minnesota Big Woods area. At the time the county was settled, much of it was covered by deciduous forest. A few areas where tall prairie grasses flourished were in the forest tract. On outwash plains near Monticello and Clearwater, where the soils were too droughty for favorable growth of trees, were large prairie areas.

The two types of vegetation, forest and prairie, have strongly influenced the formation of soils in this county. Some of the county has been covered part of the time by prairie and part of the time by forest. The prairie vegetation encroached on the forests, or forest vegetation spread into the prairie as the climate changed or, possibly, as the result of fire.

In areas where the soils formed under similar conditions of relief, drainage, parent material, and time, the surface layer of soils that formed under prairie vegetation is thicker and darker than that of soils that formed under forest vegetation. Also, in forest soils, the movement of clay and organic material into the subsoil is greater and the subsoil commonly is less permeable. Large areas of forest soils, such as Lester soils, are in most parts of the county. Soils that formed under prairie vegetation, such as Dorset soils, are chiefly on outwash plains and stream terraces.

The surface layer of the soils that formed under both prairie and forest vegetation is intermediate in thickness between that of the soils that formed under either prairie or forest vegetation as a result of the influence of grass. The subsurface layer of these prairie/forest soils, however, generally is similar to the gray, eluvial horizon typical of forest soils. This horizon varies in distinctness, and in some areas of sandy soils it does not occur at all. The subsoil of the mixed prairie/forest soils shows a marked increase in clay and a large accumulation of organic matter. Soils that formed under mixed prairie and forest vegetation occur throughout the county but are chiefly in the southwestern part. Cokato soils are examples.

## Topography

Relief is an important factor in the formation of soils because of its effect upon drainage, aeration, and erosion. The soils in Wright County are on landscapes ranging from nearly level plains to hilly moraines that include many depressions. The location of Angus, Le Sueur, Cordova, and Glencoe soils generally is predictable because each of these soils typically occupies a particular position on the landscape. The well drained Angus soils are on undulating side slopes; the moderately well drained Le Sueur soils are on slightly convex slopes and flats; the poorly drained Cordova soils are in flats and drainageways; and the very poorly drained Glencoe soils are in depressions. The degree of soil development, therefore, varies greatly among these soils. Maximum development takes place in well drained, gently sloping soils. Little or no development takes place in depressions or in nearly level areas where there is a permanent high water table. Profile development is also slow on steep slopes, where runoff is rapid and the rate of water infiltration is slow. In such areas, geologic erosion removes the soil material almost as quickly as it is formed. The aspect of slopes also is important. Soil material on steep, north-facing slopes, for example, is darker and thicker than soil material on similar south-facing slopes because the soils on north-facing slopes are less subject to heat and to drying winds.

## Parent Material

Wright County is in a glaciated region characterized by young plains, moraines, lakes, and lacustrine beds. Glacial till, glacial outwash, and glaciolacustrine material, therefore, make up much of the parent material of the soils. Many of the soils, however, formed in organic material or in recent alluvium or colluvium. The differences in these parent materials account for many of the differences among the soils in the county. In the paragraphs that follow, the different kinds of parent material are described.

*Glacial till.*—Wright County was covered by continental ice sheets many times during the last 2 million years. The ice ages were separated by warmer periods. The most recent ice age, the Wisconsin, terminated about 10,000 years ago. Material deposited by the older ice sheets is buried deep under younger deposits from the Wisconsin glacier and has no influence on the soils in the county, except insofar as it was recycled and blended with the younger glacial sediment.

During the last glaciation, two main kinds of till were deposited by two lobes of the glacier. The Superior Lobe advanced from the northeast through the Lake Superior basin, and the Des Moines Lobe advanced from the northwest and passed through the Red River Valley and the Minnesota lowland before entering the survey area from the southwest.

Till from the Des Moines Lobe is loamy, yellowish brown, and calcareous. It contains fragments of gray shale from eastern North Dakota and limestone from the Winnipeg area. The till contains calcium carbonate and effervesces strongly if hydrochloric acid is applied. Most soils that formed in this till are leached to a depth of less than 4 feet. Even though the till was derived mostly from limestone and calcareous shale, it includes enough granitic material and material from sandstone to result in soils that have abundant minerals and are dominantly loam or clay loam. Examples are Angus, Lester, and Le Sueur soils.

Till from the Superior Lobe is loamy, reddish brown or brown, and acid. It contains less clay and more sand than the Des Moines till. It contains red pebbles of sandstone and rhyolite and black pebbles of basalt from the Lake Superior area, but it has few pebbles of limestone and no gray shale. It is sandy loam or loam.

Till of the Superior Lobe was deposited first. It is exposed at the surface in the St. Croix moraine in northwestern Wright County, or Silver Creek Township, in an area of mostly steep hills and depressions. It underlies the more recently deposited till of the Des Moines Lobe in other parts of the county. Till of the Des Moines Lobe covers most of the county; in places, the gray and red till are blended together.

Meltwater sediments that were deposited on, under, and against the glacier are called ice-contact stratified drift. Ice-contact deposits typically include some till and form hilly, hummocky topography with many depressions. The St. Croix moraine is composed partly of till and partly of ice-contact stratified drift. Most of the outwash in the county was deposited by meltwater from the Des Moines Lobe.

*Glacial outwash.*—Deposits of glacial outwash were originally carried by glaciers, but the material was swept out, sorted, and deposited beyond the front of the glacier by streams of meltwater. In Wright County, most of the outwash was deposited by meltwater from the Des Moines Lobe. Most areas are nearly level to undulating, but some rolling to hilly areas of “pitted outwash” are in the northwestern part of the county. The pitted appearance is the result of depressions that were blocked with ice, which kept them from filling with outwash from the glacier. When the ice melted, a depression, or pit, was left. Most of the outwash material is stratified and well sorted, but in many areas near the moraines, it is poorly sorted.

The largest areas of glacial outwash in the county extend from Otsego to Clearwater. The stratified sand, gravel, and finer materials making up the outwash were carried into depressions and old channels of the Mississippi River by floodwater from the melting ice sheet at the end of the glacial period. The outwash was deposited in the same manner that floods each spring now add sediments to the bottom land, except that the floods from the glacier lasted all summer. Smaller areas of glacial outwash border the branches of the Crow River and Silver Creek.

Because the kinds of materials in the glacial outwash vary greatly, many different soils formed in this parent material. Soils that formed in outwash range from fine sand to silty clay in the upper part. The depth to sand and gravel varies, but it is generally 4 feet or less. In small areas in some drainageways, the soil material includes deep deposits of slackwater clay. In many places shaley material is embedded in the coarse textured outwash deposited along the Crow River. Large stones are mixed in the outwash in some places. The depth to free lime carbonates ranges from 3 to more than 6 feet. Dorset, Hubbard, and Two Inlets soils formed in glacial outwash.

*Glaciolacustrine material.*—Glaciolacustrine material is material of glacial origin that has been reworked and laid down in glacial lakes. The material ranges from sand to clay, and in many places it is interbedded or laminated.

The largest areas of glaciolacustrine material in the survey area are along the shores of Cedar, Clearwater, John, and Union Lakes in the northwestern part of the county. The areas are about a quarter of a mile wide and are on the southeastern side of the lakes. Shorewood soils formed in lacustrine sediments.

*Organic material.*—Soils consisting of organic material are in the many depressions, drainageways, and old lake bottoms throughout the county. The water table is high in these areas, and thus the areas are always wet. Decomposition in these areas is slowed, and organic material accumulates more rapidly than it decomposes. The soils consist mainly of the remains of aquatic reeds, grasses, and sedges in peaty deposits. Houghton, Klossner, Markey, and Seelyeville soils formed in organic deposits.

If the organic remains that make up the soil material are sufficiently fresh and intact that the plant forms can be identified, the organic material is called peat. If the material is sufficiently decomposed that plant forms cannot be recognized, the material is called muck. Plant remains in various stages of decomposition are the parent material of these soils.

*Alluvium.*—The soils on old stream terraces and on bottom land along present streams that normally are flooded are made up chiefly of alluvium. The largest areas of soils that formed in alluvium are on bottom land along the Mississippi and Crow Rivers. The sediments vary greatly in texture and generally are stratified. They also vary greatly in color, reaction, and

drainage characteristics. The areas are flooded at various times, and fresh sediments are added. The deposits, therefore, have not been in place long enough for the formation of a soil profile. Elkriver, Fordum, and Suckercreek soils formed in alluvium.

*Colluvium.*—Soils at the base of slopes and in channels and pitted depressions consist chiefly of colluvium. The material was deposited through creep and local wash. In the glacial uplands, the colluvium washed downslope onto glacial till. Terril soils formed in colluvium on uplands.

On outwash plains, the colluvium is in channels and pitted depressions underlain by glacial sand and gravel. Southhaven soils formed in colluvium on outwash plains and terraces.

### Time

Soils may be well developed, poorly developed, or somewhere in between, depending on the length of time that the soil-forming factors have been active. For example, Angus, Lester, and similar soils in undulating to rolling areas have well developed layers, or horizons. The nearly level Dorset and Almora soils also have well developed horizons because the soil material remains in place and internal drainage is good. Glencoe soils, on the other hand, have less pronounced horizons because they are in depressions where soil moisture is retained. The constantly wet condition inhibits the soil-forming processes. Soils on very steep slopes have weak or indistinct horizons. The soil material in these areas does not remain in place long enough for a distinct profile to form.

Soils that formed in alluvial material, such as Suckercreek and Elkriver soils, show the effect of a relatively short period of time for development. Because frequent floods continually deposit fresh material in areas of these soils, the passage of time has only slightly affected soil development. Similarly, soils that formed in colluvium, such as Terril soils, are altered continuously by new additions of material. Soils that formed in organic material also lack well developed horizons because they are in areas so wet that the decomposition of the plant remains that make up the material is restricted.

## Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1998 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 1 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Mollisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquoll (*Aqu*, meaning water, plus *oll*, from Mollisol).

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

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

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, 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, calcareous, mesic Typic Endoaquolls.

SERIES. The series consists of soils that have

similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series.

The soils of the Canisteo series are fine-loamy, mixed, superactive, calcareous, mesic Typic Endoaquolls.

The Official Soil Series Descriptions (OSDs) give information about the series mapped in Wright County. These descriptions are available at http://soils.usda.gov.

Table 1.--Classification of the Soils

| Soil name | Family or higher taxonomic class |
|---|---|
| Almora | Fine-loamy over sandy or sandy-skeletal, mixed, superactive, frigid Alfic Argiudolls |
| Angus | Fine-loamy, mixed, superactive, mesic Mollic Hapludalfs |
| Arvilla | Sandy, mixed, frigid Calcic Hapludolls |
| Barry | Fine-loamy, mixed, superactive, mesic Typic Argiaquolls |
| Belleville | Sandy over loamy, mixed, superactive, mesic Typic Endoaquolls |
| Biscay | Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Endoaquolls |
| Blue Earth | Fine-silty, mixed, superactive, calcareous, mesic Mollic Fluvaquents |
| Bowstring | Euic, frigid Fluvaquentic Haplosaprists |
| Braham | Loamy, mixed, superactive, frigid Oxyaquic Hapludalfs |
| Bygland | Fine, smectitic, frigid Oxyaquic Vertic Argiudolls |
| Canisteo | Fine-loamy, mixed, superactive, calcareous, mesic Typic Endoaquolls |
| Cantlin | Mixed, frigid Typic Udipsamments |
| Cokato | Fine-loamy, mixed, superactive, mesic Typic Argiudolls |
| Cordova | Fine-loamy, mixed, superactive, mesic Typic Argiaquolls |
| Crowfork | Mixed, mesic Psammentic Argiudolls |
| Dassel | Coarse-loamy, mixed, superactive, mesic Typic Endoaquolls |
| Dickinson | Coarse-loamy, mixed, superactive, mesic Typic Hapludolls |
| Dickman | Sandy, mixed, mesic Typic Hapludolls |
| Dorset | Coarse-loamy, mixed, superactive, frigid Calcic Argiudolls |
| Duelm | Sandy, mixed, frigid Oxyaquic Hapludolls |
| Eckvoll | Loamy, mixed, superactive, frigid Aquic Arenic Hapludalfs |
| Elkriver | Coarse-loamy, mixed, superactive, frigid Cumulic Hapludolls |
| Essexville | Sandy over loamy, mixed, superactive, calcareous, mesic Typic Endoaquolls |
| Estherville | Sandy, mixed, mesic Typic Hapludolls |
| Forada | Coarse-loamy, mixed, superactive, frigid Typic Endoaquolls |
| Fordum | Coarse-loamy, mixed, superactive, nonacid, frigid Mollic Fluvaquents |
| Forestcity | Fine-loamy, mixed, superactive, mesic Typic Argiaquolls |
| Glencoe | Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls |
| Gotham | Mixed, mesic Psammentic Hapludalfs |
| Granby | Sandy, mixed, mesic Typic Endoaquolls |
| Hamel | Fine-loamy, mixed, superactive, mesic Typic Argiaquolls |
| Hanlon | Coarse-loamy, mixed, superactive, mesic Cumulic Hapludolls |
| Hawick | Sandy, mixed, mesic Entic Hapludolls |
| Houghton | Euic, mesic Typic Haplosaprists |
| Hubbard | Sandy, mixed, frigid Entic Hapludolls |
| Isan | Sandy, mixed, frigid Typic Endoaquolls |
| Kilkenny | Fine, smectitic, mesic Oxyaquic Vertic Hapludalfs |
| Kingsley | Coarse-loamy, mixed, superactive, mesic Mollic Hapludalfs |
| Klossner | Loamy, mixed, euic, mesic Terric Haplosaprists |
| Koronis | Fine-loamy, mixed, superactive, mesic Mollic Hapludalfs |
| Le Sueur | Fine-loamy, mixed, superactive, mesic Aquic Argiudolls |
| Lerdal | Fine, smectitic, mesic Aeric Vertic Epiaqualfs |
| Lester | Fine-loamy, mixed, superactive, mesic Mollic Hapludalfs |
| Lida | Coarse-loamy, mixed, superactive, frigid Mollic Hapludalfs |
| Lindaas | Fine, smectitic, frigid Typic Argiaquolls |
| Linder | Coarse-loamy, mixed, superactive, mesic Aquic Hapludolls |
| Litchfield | Sandy, mixed, mesic Aquic Hapludolls |
| Lizzie | Fine-silty, mixed, superactive Alfic Argiudolls |
| Lundlake | Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls |
| Malardi | Coarse-loamy, mixed, superactive, mesic Typic Argiudolls |
| Marcellon | Fine-loamy, mixed, superactive, mesic Aquic Argiudolls |
| Markey | Sandy or sandy-skeletal, mixed, euic, frigid Terric Haplosaprists |

Table 1.--Classification of the Soils--Continued

| Soil name | Family or higher taxonomic class |
|---|---|
| Mayer | Fine-loamy over sandy or sandy-skeletal, mixed, superactive, calcareous, mesic Typic Endoaquolls |
| Mazaska | Fine, smectitic, mesic Vertic Argiaquolls |
| Medo | Loamy, mixed, euic, mesic Terric Haplosaprists |
| Mosford | Sandy, mixed, frigid Typic Hapludolls |
| Muskego | Coprogenous, euic, mesic Limnic Haplosaprists |
| Nebish | Fine-loamy, mixed, superactive, frigid Typic Hapludalfs |
| Nessel | Fine-loamy, mixed, superactive, mesic Oxyaquic Hapludalfs |
| Okoboji | Fine, smectitic, mesic Cumulic Vertic Endoaquolls |
| Oylen | Coarse-loamy, mixed, superactive, frigid Oxyaquic Argiudolls |
| Rasset | Coarse-loamy, mixed, superactive, mesic Typic Argiudolls |
| Reedslake | Fine-loamy, mixed, superactive, mesic Typic Argiudolls |
| Rolfe | Fine, smectitic, mesic Typic Argialbolls |
| Rushlake | Mixed, frigid Aquic Udipsamments |
| Sandberg | Sandy, mixed, frigid Calcic Hapludolls |
| Seelyeville | Euic, frigid Typic Haplosaprists |
| Shields | Fine, smectitic, mesic Vertic Epiaqualfs |
| Shorewood | Fine, smectitic, mesic Aquertic Argiudolls |
| Southhaven | Fine-loamy, mixed, superactive, frigid Cumulic Hapludolls |
| Sparta | Sandy, mixed, mesic Entic Hapludolls |
| Stonelake | Sandy-skeletal, mixed, frigid Typic Udorthents |
| Storden | Fine-loamy, mixed, superactive, mesic Typic Eutrudepts |
| Suckercreek | Coarse-loamy, mixed, superactive, calcareous, mesic Fluvaquentic Endoaquolls |
| Sunburg | Coarse-loamy, mixed, superactive, mesic Typic Eutrudepts |
| Terril | Fine-loamy, mixed, superactive, mesic Cumulic Hapludolls |
| Two Inlets | Mixed, frigid Psammentic Hapludalfs |
| Udipsamments | Udipsamments |
| Udorthents | Udorthents |
| Verndale | Coarse-loamy, mixed, superactive, frigid Typic Argiudolls |
| Waldorf | Fine, smectitic, mesic Vertic Epiaquolls |
| Winterfield | Mixed, frigid Aquic Udipsamments |
| Zimmerman | Mixed, frigid Lamellic Udipsamments |

# Soil Map Unit Descriptions

In this section, arranged in numerical order, are the soil map unit descriptions for the soil series mapped in Wright County.

Characteristics of the soil and the material in which it formed are identified for each soil series. A brief description of the soil profile is provided in the map unit descriptions. For more information about a soil series, the official series description can be viewed or downloaded from the Web. The detailed descriptions follow standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Keys to Soil Taxonomy" (Soil Survey Staff, 1998).

The map units on the soil maps in this survey represent the soils or miscellaneous areas in the survey area. These soils or miscellaneous areas are listed as individual components in the map unit descriptions. 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 provided in the tables (see Contents).

A map unit delineation on the soil maps represents an area on the landscape. It is identified by differences in the properties and taxonomic classification of components and by the percentage of each component in the map unit.

Components that are dissimilar, or contrasting, are identified in the map unit description. Dissimilar components are those that have properties and behavioral characteristics divergent enough from those of the major components to affect use or to require different management. 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.

Components that are similar to the major components (noncontrasting) are not identified in the map unit description. Similar components are those that have properties and behavioral characteristics similar enough to those of the major components that they do not affect use or require different management.

The presence of multiple 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 segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol is used for each map unit on the soil maps. This symbol precedes the map unit name in the map unit descriptions. Each description includes general information about the unit. The map unit descriptions include representative values in feet and the months in which wet soil moisture status is highest and lowest in the soil profile and ponding is shallowest and deepest on the soil surface. The descriptions also include the classes of flooding and the months in which flooding is least and most likely to occur. Tables 20, 21, and 22 provide a complete display of this data for every month of the year. The available water capacity given in each map unit description is calculated for all horizons in the soil profile. The organic matter content displayed in each map unit description is calculated for all horizons in the soil profile, except those that represent the surface duff layer on forested soils. Table 18 provides a complete display of available water capacity and organic matter content by horizon.

The principal hazards and limitations to be considered in planning for specific uses are described in other sections of this survey.

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

Soils of one series can differ in texture of the surface layer or of the underlying layers. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. The name of a soil phase

commonly indicates a feature that affects use or management. For example, Hubbard loamy sand, 0 to 2 percent slopes, is a phase of the Hubbard series.

A map unit is named for the component or components that make up a dominant percentage of the map unit. Many map units consist of one dominant component. These map units are consociations. Zimmerman fine sand, 0 to 3 percent slopes, is an example.

Some map units are made up of two or more dominant components. These map units are complexes or undifferentiated groups.

A *complex* consists of two or more components in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. Attempting to delineate the individual components of a complex would result in excessive clutter that could make the map illegible. The pattern and proportion of the components in a complex are somewhat similar in all areas. Stonelake-Nebish complex, 6 to 12 percent slopes, is an example.

An *undifferentiated group* is made up of two or more components 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 components in a mapped area are not uniform. An area can be made up of only one of the dominant components, or it can be made up of all of them. Klossner and Lundlake soils, ponded, 0 to 1 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. The Pits component of the Pits, gravel-Udorthents complex is an example.

The abbreviation “MAP” in a map unit name stands for “mean annual precipitation.” The numbers that follow the abbreviation refer to a range in inches.

Table 2 gives the acreage and proportionate extent of each map unit. Other tables (see Contents) give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

## 7A—Hubbard loamy sand, 0 to 2 percent slopes

### *Component Description*

**Hubbard and similar soils**

*Extent:* 95 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap,AB—0 to 20 inches; loamy sand
Bw—20 to 32 inches; loamy sand
BC,C—32 to 80 inches; sand

### *Additional Components*

**Mosford soils**

*Extent:* 5 percent of the unit

## 7B—Hubbard loamy sand, 2 to 6 percent slopes

### *Component Description*

**Hubbard and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Summits, shoulders, and backslopes
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.9 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap,A—0 to 18 inches; loamy sand
Bw—18 to 23 inches; loamy sand
BC,C—23 to 80 inches; sand

### *Additional Components*

**Mosford soils**

*Extent:* 10 percent of the unit

## 7C—Hubbard loamy sand, 6 to 12 percent slopes

### *Component Description*

**Hubbard and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Summits, backslopes, and shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.6 inches
*Content of organic matter in the upper 10 inches:* 2 percent
*Typical profile:*
Ap,AB—0 to 12 inches; loamy sand
Bw—12 to 33 inches; coarse sand
C—33 to 80 inches; coarse sand

### *Additional Components*

**Mosford soils**

*Extent:* 10 percent of the unit

**Sandberg soils**

*Extent:* 10 percent of the unit

## 8B—Sparta loamy sand, 1 to 6 percent slopes

### *Component Description*

**Sparta and similar soils**

*Extent:* 95 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Summits, shoulders, and backslopes
*Slope range:* 1 to 6 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.7 inches
*Content of organic matter in the upper 10 inches:* 1.5 percent
*Typical profile:*
Ap,A—0 to 16 inches; loamy sand
Bw—16 to 29 inches; loamy sand
C—29 to 60 inches; sand

### *Additional Components*

**Dickman soils**

*Extent:* 3 percent of the unit

**Crowfork soils**

*Extent:* 2 percent of the unit

## 35—Blue Earth mucky silty clay loam, depressional, 0 to 1 percent slopes

### *Component Description*

**Blue Earth, depressional, and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Mucky silty clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Coprogenous earth over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)
*Ponding is shallowest (depth, months):* 0.5 foot (March)
*Ponding is deepest (depth, months):* 1 foot (April)

*Available water capacity to a depth of 60 inches:* 12.6 inches
*Content of organic matter in the upper 10 inches:* 17.5 percent
*Typical profile:*
Ap—0 to 10 inches; mucky silty clay loam
Cg—10 to 68 inches; mucky silty clay loam
2Cg—68 to 80 inches; loam

### *Additional Components*

**Muskego soils**

*Extent:* 10 percent of the unit

**Drained areas of mineral soils**

*Extent:* 10 percent of the unit

## 74B—Dickinson fine sandy loam, 1 to 6 percent slopes

### *Component Description*

**Dickinson and similar soils**

*Extent:* 95 percent of the unit
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains
*Position on the landform:* Summits and backslopes
*Slope range:* 1 to 6 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 5.1 inches
*Content of organic matter in the upper 10 inches:* 1.5 percent
*Typical profile:*
Ap,A1,A2—0 to 18 inches; fine sandy loam
Bw1,Bw2—18 to 30 inches; fine sandy loam
BC—30 to 36 inches; loamy sand
C—36 to 60 inches; sand

### *Additional Components*

**Dickman soils**

*Extent:* 5 percent of the unit

## 86—Canisteo clay loam, moderately fine substratum, 0 to 2 percent slopes

### *Component Description*

**Canisteo and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and rims of depressions
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.7 inches
*Content of organic matter in the upper 10 inches:* 5.5 percent
*Typical profile:*
Ap,A—0 to 18 inches; clay loam
Bkg—18 to 39 inches; loam
Cg—39 to 80 inches; loam

### *Additional Components*

**Cordova soils**

*Extent:* 15 percent of the unit

**Glencoe, depressional, soils**

*Extent:* 5 percent of the unit

## 106C2—Lester loam, 6 to 12 percent slopes, eroded

### *Component Description*

**Lester, eroded, and similar soils**

*Extent:* 70 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 1.6 percent
*Typical profile:*
Ap—0 to 7 inches; loam
Bt—7 to 38 inches; clay loam
Bk—38 to 60 inches; loam
C—60 to 80 inches; loam

### *Additional Components*

**Angus soils**

*Extent:* 15 percent of the unit

**Terril soils**

*Extent:* 8 percent of the unit

**Storden soils**

*Extent:* 5 percent of the unit

**Hamel soils**

*Extent:* 2 percent of the unit

## 106D2—Lester loam, 12 to 18 percent slopes, eroded

### *Component Description*

**Lester, eroded, and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and shoulders
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 1.6 percent
*Typical profile:*
Ap—0 to 7 inches; loam
Bt—7 to 38 inches; clay loam
Bk—38 to 60 inches; loam
C—60 to 80 inches; loam

### *Additional Components*

**Storden soils**

*Extent:* 8 percent of the unit

**Terril soils**

*Extent:* 5 percent of the unit

**Angus soils**

*Extent:* 5 percent of the unit

**Hamel soils**

*Extent:* 2 percent of the unit

## 106E—Lester loam, 18 to 25 percent slopes

### *Component Description*

**Lester and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and backslopes
*Slope range:* 18 to 25 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.4 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
A—0 to 5 inches; loam
BE,Bt—5 to 34 inches; clay loam
Bk—34 to 60 inches; loam
C—60 to 80 inches; loam

### *Additional Components*

**Terril soils**

*Extent:* 12 percent of the unit

**Storden soils**

*Extent:* 5 percent of the unit

**Hamel soils**

*Extent:* 3 percent of the unit

## 109—Cordova clay loam, 0 to 2 percent slopes

### *Component Description*

**Cordova and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and swales
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.7 inches
*Content of organic matter in the upper 10 inches:* 5.5 percent
*Typical profile:*
Ap,A—0 to 18 inches; clay loam
Btg—18 to 38 inches; clay loam
Cg—38 to 80 inches; loam

### *Additional Components*

**Glencoe, depressional, soils**

*Extent:* 8 percent of the unit

**Le Sueur soils**

*Extent:* 2 percent of the unit

## 114—Glencoe clay loam, depressional, 0 to 1 percent slopes

### *Component Description*

**Glencoe, depressional, and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)
*Ponding is shallowest (depth, months):* 0.5 foot (March)
*Ponding is deepest (depth, months):* 1 foot (April)
*Available water capacity to a depth of 60 inches:* 11.2 inches
*Content of organic matter in the upper 10 inches:* 7.5 percent
*Typical profile:*
Ap—0 to 10 inches; clay loam
A,ABg—10 to 35 inches; clay loam
Bg—35 to 48 inches; loam
Cg—48 to 60 inches; loam

### *Additional Components*

**Canisteo soils**

*Extent:* 10 percent of the unit

## 138—Lerdal silty clay loam, 1 to 3 percent slopes

### *Component Description*

**Lerdal and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and slight rises
*Slope range:* 1 to 3 percent
*Texture of the surface layer:* Silty clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat poorly drained
*Parent material:* Glaciofluvial sediments and reworked till over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 1.5 feet (April, May)
*Wet soil moisture status is lowest (depth, months):* 4.9 feet (February, August)
*Ponding:* None

*Available water capacity to a depth of 60 inches:* 10.1 inches
*Content of organic matter in the upper 10 inches:* 2.4 percent
*Typical profile:*
Ap—0 to 7 inches; silty clay loam
E—7 to 9 inches; silty clay loam
Bt,Btg,Bw—9 to 47 inches; silty clay loam
Bk—47 to 60 inches; clay loam

### *Additional Components*

**Mazaska soils**

*Extent:* 10 percent of the unit

**Cordova soils**

*Extent:* 5 percent of the unit

**Le Sueur soils**

*Extent:* 5 percent of the unit

## 158A—Zimmerman fine sand, 0 to 3 percent slopes

### *Component Description*

**Zimmerman and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Outwash plains
*Position on the landform:* Flats and slight rises
*Slope range:* 0 to 3 percent
*Texture of the surface layer:* Fine sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.8 inches
*Content of organic matter in the upper 10 inches:* 0.8 percent
*Typical profile:*
Ap—0 to 7 inches; fine sand
E,Bw,E&Bt—7 to 80 inches; fine sand

### *Additional Components*

**Cantlin soils**

*Extent:* 5 percent of the unit

**Sartell soils**

*Extent:* 5 percent of the unit

## 158B—Zimmerman fine sand, 3 to 6 percent slopes

### *Component Description*

**Zimmerman and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Hills on outwash plains
*Position on the landform:* Backslopes, shoulders, and summits
*Slope range:* 3 to 6 percent
*Texture of the surface layer:* Fine sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.8 inches
*Content of organic matter in the upper 10 inches:* 0.8 percent
*Typical profile:*
Ap—0 to 7 inches; fine sand
E,Bw,E&Bt—7 to 80 inches; fine sand

### *Additional Components*

**Kost soils**

*Extent:* 5 percent of the unit

**Sartell soils**

*Extent:* 5 percent of the unit

## 158C—Zimmerman fine sand, 6 to 12 percent slopes

### *Component Description*

**Zimmerman and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Hills on outwash plains
*Position on the landform:* Backslopes, summits, and shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Fine sand

*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.8 inches
*Content of organic matter in the upper 10 inches:* 0.8 percent
*Typical profile:*
Ap—0 to 7 inches; fine sand
E,Bw,E&Bt—7 to 80 inches; fine sand

### *Additional Components*

**Kost soils**

*Extent:* 5 percent of the unit

**Sartell soils**

*Extent:* 5 percent of the unit

## 158E—Zimmerman fine sand, 12 to 25 percent slopes

### *Component Description*

**Zimmerman and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Hills on outwash plains
*Position on the landform:* Backslopes and shoulders
*Slope range:* 12 to 25 percent
*Texture of the surface layer:* Fine sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.8 inches
*Content of organic matter in the upper 10 inches:* 0.5 percent
*Typical profile:*
A—0 to 3 inches; fine sand
E,Bw,E&Bt—3 to 80 inches; fine sand

### *Additional Components*

**Cantlin soils**

*Extent:* 5 percent of the unit

**Lino soils**

*Extent:* 5 percent of the unit

**Sartell soils**

*Extent:* 5 percent of the unit

## 169C—Braham loamy fine sand, 6 to 12 percent slopes

### *Component Description*

**Braham and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loamy fine sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash over till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.1 inches
*Content of organic matter in the upper 10 inches:* 1.7 percent
*Typical profile:*
Ap—0 to 8 inches; loamy fine sand
E—8 to 28 inches; loamy sand
2Bt—28 to 48 inches; clay loam
2Bk—48 to 80 inches; loam

### *Additional Components*

**Nebish soils**

*Extent:* 5 percent of the unit

**Eckvoll, MAP >25, soils**

*Extent:* 3 percent of the unit

**Wet mineral soils**

*Extent:* 2 percent of the unit

## 181—Litchfield loamy fine sand, 0 to 2 percent slopes

### *Component Description*

**Litchfield and similar soils**

*Extent:* 95 percent of the unit

*Geomorphic setting:* Outwash plains
*Position on the landform:* Flats and slight rises
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loamy fine sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat poorly drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 1.3 feet (April)
*Wet soil moisture status is lowest (depth, months):* 3 feet (August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 7.2 inches
*Content of organic matter in the upper 10 inches:* 2 percent
*Typical profile:*
Ap,A,AB—0 to 20 inches; loamy fine sand
Bw—20 to 33 inches; fine sand
BC—33 to 40 inches; very fine sandy loam
C—40 to 80 inches; loamy fine sand

### *Additional Components*

**Biscay soils**

*Extent:* 5 percent of the unit

## 229—Waldorf silty clay loam, 0 to 2 percent slopes

### *Component Description*

**Waldorf and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Lake plains and moraines
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Silty clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Glaciolacustrine sediments
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.8 inches
*Content of organic matter in the upper 10 inches:* 7 percent
*Typical profile:*
Ap,A,AB—0 to 20 inches; silty clay loam
Bg—20 to 53 inches; silty clay
Cg—53 to 80 inches; silty clay loam

### *Additional Components*

**Lura, depressional, soils**

*Extent:* 5 percent of the unit

**Shorewood soils**

*Extent:* 5 percent of the unit

## 231C—Lester fine sandy loam, 6 to 12 percent slopes

### *Component Description*

**Lester and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and backslopes
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.9 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
Ap—0 to 9 inches; fine sandy loam
BE,Bt—9 to 53 inches; clay loam
C—53 to 80 inches; loam

### *Additional Components*

**Terril soils**

*Extent:* 12 percent of the unit

**Angus soils**

*Extent:* 5 percent of the unit

**Hamel soils**

*Extent:* 3 percent of the unit

## 231D—Lester fine sandy loam, 12 to 18 percent slopes

### *Component Description*

**Lester and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and backslopes
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10 inches
*Content of organic matter in the upper 10 inches:* 1.5 percent
*Typical profile:*
Ap—0 to 6 inches; fine sandy loam
Bt—6 to 34 inches; clay loam
C—34 to 80 inches; loam

### *Additional Components*

**Terril soils**

*Extent:* 12 percent of the unit

**Angus soils**

*Extent:* 5 percent of the unit

**Hamel soils**

*Extent:* 3 percent of the unit

## 235—Nessel loam, 1 to 3 percent slopes

### *Component Description*

**Nessel and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and slight rises
*Slope range:* 1 to 3 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.4 inches
*Content of organic matter in the upper 10 inches:* 1.3 percent
*Typical profile:*
Ap—0 to 6 inches; loam
Bt—6 to 38 inches; clay loam
C—38 to 80 inches; loam

### *Additional Components*

**Cordova soils**

*Extent:* 10 percent of the unit

**Angus soils**

*Extent:* 5 percent of the unit

## 239—Le Sueur clay loam, 1 to 3 percent slopes

### *Component Description*

**Le Sueur and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and slight rises
*Slope range:* 1 to 3 percent
*Texture of the surface layer:* Clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)
*Wet soil moisture status is lowest (depth, months):* 5.9 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 5 percent
*Typical profile:*
Ap,AB—0 to 17 inches; clay loam

Bt—17 to 37 inches; clay loam
Bk—37 to 46 inches; loam
C—46 to 80 inches; loam

### *Additional Components*

**Cordova soils**

*Extent:* 15 percent of the unit

**Angus soils**

*Extent:* 5 percent of the unit

## 247—Linder loam, 0 to 2 percent slopes

### *Component Description*

**Linder and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Stream terraces and outwash plains
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat poorly drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 1.3 feet (April)
*Wet soil moisture status is lowest (depth, months):* 3 feet (August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 5.6 inches
*Content of organic matter in the upper 10 inches:* 3.5 percent
*Typical profile:*
Ap,A—0 to 13 inches; loam
Bw—13 to 24 inches; sandy loam
2C—24 to 60 inches; stratified gravelly coarse sand to coarse sand to loamy coarse sand

### *Additional Components*

**Biscay soils**

*Extent:* 5 percent of the unit

**Biscay, depressional, soils**

*Extent:* 5 percent of the unit

## 255—Mayer loam, 0 to 2 percent slopes

### *Component Description*

**Mayer and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Rims of depressions
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 7.3 inches
*Content of organic matter in the upper 10 inches:* 6 percent
*Typical profile:*
Ap,A1,A2—0 to 18 inches; loam
Bg—18 to 33 inches; sandy clay loam
2C—33 to 80 inches; gravelly coarse sand

### *Additional Components*

**Biscay, depressional, soils**

*Extent:* 10 percent of the unit

**Biscay soils**

*Extent:* 3 percent of the unit

**Linder soils**

*Extent:* 2 percent of the unit

## 256—Mazaska silty clay loam, 0 to 2 percent slopes

### *Component Description*

**Mazaska and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and swales
*Slope range:* 0 to 2 percent

*Texture of the surface layer:* Silty clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Glaciofluvial sediments and reworked till over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)
*Wet soil moisture status is lowest (depth, months):* 2.6 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.5 inches
*Content of organic matter in the upper 10 inches:* 5.5 percent
*Typical profile:*
Ap,A—0 to 15 inches; silty clay loam
Btg—15 to 42 inches; clay
Bkg—42 to 80 inches; loam

### *Additional Components*

**Lerdal soils**

*Extent:* 5 percent of the unit

**Shields soils**

*Extent:* 5 percent of the unit

## 258B—Sandberg loamy sand, 2 to 6 percent slopes

### *Component Description*

**Sandberg and similar soils**

*Extent:* 95 percent of the unit
*Geomorphic setting:* Hills on stream terraces
*Position on the landform:* Summits, shoulders, and backslopes
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.4 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
Ap,A—0 to 12 inches; loamy sand
Bw—12 to 19 inches; gravelly loamy coarse sand
Bk,C—19 to 80 inches; gravelly coarse sand

### *Additional Components*

**Arvilla, MAP >25, soils**

*Extent:* 5 percent of the unit

## 258C—Sandberg loamy sand, 6 to 12 percent slopes

### *Component Description*

**Sandberg and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Hills on stream terraces
*Position on the landform:* Backslopes and shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.4 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
Ap,A—0 to 12 inches; loamy sand
Bw—12 to 19 inches; gravelly loamy coarse sand
Bk,C—19 to 80 inches; gravelly coarse sand

### *Additional Components*

**Corliss soils**

*Extent:* 5 percent of the unit

**Southhaven soils**

*Extent:* 5 percent of the unit

## 258E—Sandberg loamy sand, 12 to 35 percent slopes

### *Component Description*

**Sandberg and similar soils**

*Extent:* 85 percent of the unit

*Geomorphic setting:* Hills on stream terraces
*Position on the landform:* Backslopes and shoulders
*Slope range:* 12 to 35 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.4 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
A—0 to 12 inches; loamy sand
Bw—12 to 19 inches; gravelly loamy coarse sand
Bk,C—19 to 80 inches; gravelly coarse sand

### *Additional Components*

**Southhaven soils**

*Extent:* 10 percent of the unit

**Isan soils**

*Extent:* 5 percent of the unit

## 260—Duelm loamy sand, 0 to 2 percent slopes

### *Component Description*

**Duelm and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Stream terraces and outwash plains
*Position on the landform:* Flats and slight rises
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April, May)
*Wet soil moisture status is lowest (depth, months):* 4 feet (February, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.4 inches
*Content of organic matter in the upper 10 inches:* 4 percent
*Typical profile:*
Ap,AB—0 to 16 inches; loamy sand
Bw—16 to 30 inches; coarse sand
C—30 to 80 inches; coarse sand

### *Additional Components*

**Isan soils**

*Extent:* 8 percent of the unit

**Hubbard soils**

*Extent:* 2 percent of the unit

## 261—Isan sandy loam, depressional, 0 to 1 percent slopes

### *Component Description*

**Isan, depressional, and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Stream terraces and outwash plains
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)
*Ponding is shallowest (depth, months):* 0.5 foot (June)
*Ponding is deepest (depth, months):* 1 foot (March, April, May)
*Available water capacity to a depth of 60 inches:* 4.7 inches
*Content of organic matter in the upper 10 inches:* 6.5 percent
*Typical profile:*
A—0 to 14 inches; sandy loam
AB,Bg—14 to 34 inches; loamy sand
Cg—34 to 80 inches; coarse sand

### *Additional Components*

**Isan soils**

*Extent:* 10 percent of the unit

## 286B—Shorewood silty clay loam, 3 to 6 percent slopes

### *Component Description*

**Shorewood and similar soils**

*Extent:* 95 percent of the unit
*Geomorphic setting:* Hills on lake plains; hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 3 to 6 percent
*Texture of the surface layer:* Silty clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Lacustrine sediments over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, July, August, September, October)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.2 inches
*Content of organic matter in the upper 10 inches:* 6 percent
*Typical profile:*
Ap,A,AB—0 to 17 inches; silty clay loam
Bt—17 to 39 inches; silty clay
2BCg,2Cg—39 to 60 inches; loam

### *Additional Components*

**Waldorf soils**

*Extent:* 5 percent of the unit

## 294A—Rasset sandy loam, 0 to 2 percent slopes

### *Component Description*

**Rasset and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 6.1 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap,A—0 to 15 inches; sandy loam
Bt—15 to 28 inches; sandy loam
2BC—28 to 36 inches; loamy sand
2C—36 to 80 inches; sand

### *Additional Components*

**Dickman soils**

*Extent:* 5 percent of the unit

**Malardi soils**

*Extent:* 5 percent of the unit

## 323—Shields silty clay loam, 0 to 3 percent slopes

### *Component Description*

**Shields and similar soils**

*Extent:* 95 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and slight rises
*Slope range:* 0 to 3 percent
*Texture of the surface layer:* Silty clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat poorly drained
*Parent material:* Glaciofluvial sediments and reworked till over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 1 foot (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.7 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
Ap—0 to 8 inches; silty clay loam
BE,Btg—8 to 41 inches; silty clay
2Bk—41 to 80 inches; silty clay loam

### *Additional Components*

**Mazaska soils**

*Extent:* 3 percent of the unit

**Lerdal soils**

*Extent:* 2 percent of the unit

## 327A—Dickman sandy loam, 0 to 2 percent slopes

### *Component Description*

**Dickman and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Stream terraces and outwash plains
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.6 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap,A—0 to 12 inches; sandy loam
Bw—12 to 19 inches; sandy loam
2Bw—19 to 33 inches; loamy sand
2C—33 to 80 inches; sand

### *Additional Components*

**Estherville soils**

*Extent:* 10 percent of the unit

**Dickinson soils**

*Extent:* 5 percent of the unit

## 327B—Dickman sandy loam, 2 to 6 percent slopes

### *Component Description*

**Dickman and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains
*Position on the landform:* Summits and backslopes
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.6 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap,A—0 to 12 inches; sandy loam
Bw—12 to 19 inches; sandy loam
2Bw—19 to 33 inches; loamy sand
2C—33 to 80 inches; sand

### *Additional Components*

**Estherville soils**

*Extent:* 10 percent of the unit

**Dickinson soils**

*Extent:* 5 percent of the unit

## 375—Forada loam, 0 to 2 percent slopes

### *Component Description*

**Forada and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Stream terraces and outwash plains
*Position on the landform:* Flats and swales
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 7.2 inches

*Content of organic matter in the upper 10 inches:* 7 percent
*Typical profile:*
Ap,A—0 to 16 inches; loam
Bg—16 to 28 inches; loam
2Cg—28 to 60 inches; coarse sand

### *Additional Components*

**Forada, depressional, soils**

*Extent:* 10 percent of the unit

**Oylen soils**

*Extent:* 5 percent of the unit

## 392—Biscay loam, 0 to 2 percent slopes

### *Component Description*

**Biscay and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Flats and swales
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 7.5 inches
*Content of organic matter in the upper 10 inches:* 6 percent
*Typical profile:*
Ap,A1,A2—0 to 20 inches; loam
Bg—20 to 28 inches; loam
2BCg—28 to 36 inches; gravelly loam
2Cg—36 to 60 inches; stratified gravelly coarse sand to loamy sand

### *Additional Components*

**Biscay, depressional, soils**

*Extent:* 10 percent of the unit

## 406—Dorset sandy loam, 0 to 2 percent slopes

### *Component Description*

**Dorset and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.7 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap,A—0 to 11 inches; sandy loam
Bt—11 to 19 inches; sandy loam
2BC—19 to 32 inches; gravelly loamy sand
2C—32 to 80 inches; gravelly coarse sand

### *Additional Components*

**Verndale, acid substratum, soils**

*Extent:* 8 percent of the unit

**Almora soils**

*Extent:* 2 percent of the unit

## 414—Hamel loam, 1 to 3 percent slopes

### *Component Description*

**Hamel and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Drainageways and swales
*Slope range:* 1 to 3 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained

*Parent material:* Colluvium over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 11.6 inches
*Content of organic matter in the upper 10 inches:* 6 percent
*Typical profile:*
Ap,A,AB—0 to 24 inches; loam
Btg—24 to 46 inches; clay loam
Cg—46 to 80 inches; loam

### *Additional Components*

**Glencoe, depressional, soils**

*Extent:* 5 percent of the unit

**Terril soils**

*Extent:* 5 percent of the unit

## 441—Almora loam, 0 to 2 percent slopes

### *Component Description*

**Almora and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Outwash plains
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 7.7 inches
*Content of organic matter in the upper 10 inches:* 4 percent
*Typical profile:*
Ap—0 to 10 inches; loam
BE—10 to 14 inches; fine sandy loam
Bt—14 to 36 inches; loam
2Bt—36 to 41 inches; loamy sand
2C—41 to 80 inches; gravelly coarse sand

### *Additional Components*

**Dorset soils**

*Extent:* 8 percent of the unit

**Southhaven soils**

*Extent:* 2 percent of the unit

## 461B—Koronis loam, 2 to 6 percent slopes

### *Component Description*

**Koronis and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and backslopes
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.6 inches
*Content of organic matter in the upper 10 inches:* 2.1 percent
*Typical profile:*
Ap—0 to 8 inches; loam
Bt—8 to 31 inches; loam
Bk,C—31 to 80 inches; fine sandy loam

### *Additional Components*

**Marcellon, MAP <30, soils**

*Extent:* 10 percent of the unit

**Barry soils**

*Extent:* 5 percent of the unit

## 461C2—Koronis loam, 6 to 12 percent slopes, eroded

### *Component Description*

**Koronis, eroded, and similar soils**

*Extent:* 80 percent of the unit

*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.6 inches
*Content of organic matter in the upper 10 inches:* 0.9 percent
*Typical profile:*
Ap—0 to 8 inches; loam
Bt—8 to 31 inches; loam
Bk,C—31 to 80 inches; fine sandy loam

### *Additional Components*

**Sunburg soils**

*Extent:* 10 percent of the unit

**Forestcity soils**

*Extent:* 5 percent of the unit

**Terril, moderately wet, soils**

*Extent:* 5 percent of the unit

## 461E—Koronis loam, 18 to 40 percent slopes

### *Component Description*

**Koronis and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and backslopes
*Slope range:* 18 to 40 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.5 inches
*Content of organic matter in the upper 10 inches:* 2.3 percent
*Typical profile:*
Ap—0 to 7 inches; loam
Bt—7 to 28 inches; loam
Bk—28 to 80 inches; fine sandy loam

### *Additional Components*

**Sunburg soils**

*Extent:* 10 percent of the unit

**Terril, moderately wet, soils**

*Extent:* 8 percent of the unit

**Forestcity soils**

*Extent:* 2 percent of the unit

## 511—Marcellon loam, MAP <30, 0 to 3 percent slopes

### *Component Description*

**Marcellon, MAP <30, and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and slight rises
*Slope range:* 0 to 3 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 5 feet (August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.5 inches
*Content of organic matter in the upper 10 inches:* 5 percent
*Typical profile:*
Ap,A—0 to 13 inches; loam
Bt—13 to 32 inches; loam
Bk—32 to 60 inches; sandy loam

### *Additional Components*

**Barry soils**

*Extent:* 10 percent of the unit

**Koronis soils**

*Extent:* 5 percent of the unit

## 523—Houghton muck, depressional, 0 to 1 percent slopes

### *Component Description*

**Houghton, drained, and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)
*Ponding is shallowest (depth, months):* 0.5 foot (March)
*Ponding is deepest (depth, months):* 1 foot (April)
*Available water capacity to a depth of 60 inches:* 23.9 inches
*Content of organic matter in the upper 10 inches:* 75 percent
*Typical profile:*
Op—0 to 10 inches; muck
Oa—10 to 80 inches; muck

### *Additional Components*

**Klossner, drained, soils**

*Extent:* 10 percent of the unit

**Drained areas of mineral soils**

*Extent:* 10 percent of the unit

## 525—Muskego muck, depressional, 0 to 1 percent slopes

### *Component Description*

**Muskego, surface drained, and similar soils**

*Extent:* 75 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material over coprogenous earth
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)
*Ponding is shallowest (depth, months):* 0.5 foot (June)
*Ponding is deepest (depth, months):* 1 foot (March, April, May)
*Available water capacity to a depth of 60 inches:* 19.4 inches
*Content of organic matter in the upper 10 inches:* 75 percent
*Typical profile:*
Oa1—0 to 9 inches; muck
Oa2—9 to 36 inches; muck
Lco—36 to 60 inches; coprogenous earth

### *Additional Components*

**Klossner, depressional, soils**

*Extent:* 10 percent of the unit

**Areas of mineral soils**

*Extent:* 10 percent of the unit

**Houghton, depressional, soils**

*Extent:* 5 percent of the unit

## 539—Klossner muck, depressional, 0 to 1 percent slopes

### *Component Description*

**Klossner, drained, and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)

*Ponding is shallowest (depth, months):* 0.5 foot (March)
*Ponding is deepest (depth, months):* 1 foot (April)
*Available water capacity to a depth of 60 inches:* 17.7 inches
*Content of organic matter in the upper 10 inches:* 50 percent
*Typical profile:*
Op,Oa—0 to 26 inches; muck
2A1—26 to 36 inches; mucky silty clay loam
2A2—36 to 48 inches; silty clay loam
2Cg—48 to 80 inches; loam

### *Additional Components*

**Houghton, drained, soils**

*Extent:* 10 percent of the unit

**Areas of mineral soils**

*Extent:* 10 percent of the unit

## 540—Seelyeville muck, depressional, 0 to 1 percent slopes

### *Component Description*

**Seelyeville, surface drained, and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Outwash plains and moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)
*Ponding is shallowest (depth, months):* 0.5 foot (June)
*Ponding is deepest (depth, months):* 1 foot (March, April, May)
*Available water capacity to a depth of 60 inches:* 23.9 inches
*Content of organic matter in the upper 10 inches:* 62 percent
*Typical profile:*
Oa1—0 to 10 inches; muck
Oa2,Oa5—10 to 80 inches; muck

### *Additional Components*

**Depressional areas of mineral soils**

*Extent:* 10 percent of the unit

**Markey, depressional, soils**

*Extent:* 10 percent of the unit

## 543—Markey muck, depressional, 0 to 1 percent slopes

### *Component Description*

**Markey, surface drained, and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material over outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)
*Ponding is shallowest (depth, months):* 0.5 foot (June)
*Ponding is deepest (depth, months):* 1 foot (March, April, May)
*Available water capacity to a depth of 60 inches:* 15.8 inches
*Content of organic matter in the upper 10 inches:* 70 percent
*Typical profile:*
Oa—0 to 36 inches; muck
A—36 to 42 inches; loamy sand
Cg—42 to 80 inches; sand

### *Additional Components*

**Depressional areas of mineral soils**

*Extent:* 10 percent of the unit

**Seelyeville, depressional, soils**

*Extent:* 10 percent of the unit

## 548—Medo muck, depressional, 0 to 1 percent slopes

### *Component Description*

**Medo, drained, and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material over outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)
*Ponding is shallowest (depth, months):* 0.5 foot (March)
*Ponding is deepest (depth, months):* 1 foot (April)
*Available water capacity to a depth of 60 inches:* 14.3 inches
*Content of organic matter in the upper 10 inches:* 70 percent
*Typical profile:*
Op,Oa—0 to 27 inches; muck
2A—27 to 35 inches; mucky loam
2Bg—35 to 39 inches; sandy clay loam
2Cg—39 to 80 inches; gravelly loamy coarse sand

### *Additional Components*

**Houghton, drained, soils**

*Extent:* 10 percent of the unit

**Drained areas of mineral soils**

*Extent:* 10 percent of the unit

## 603—Hanlon fine sandy loam, 0 to 2 percent slopes, occasionally flooded

### *Component Description*

**Hanlon, occasionally flooded, and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Flats and slight rises
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Alluvium
*Flooding does not occur (months):* January, February, September, October, November, December
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)
*Wet soil moisture status is lowest (depth, months):* 3.9 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.2 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
A1,A2—0 to 40 inches; fine sandy loam
A3—40 to 63 inches; fine sandy loam
Bw—63 to 70 inches; sandy loam
Cg—70 to 80 inches; stratified sand to loamy fine sand to fine sandy loam

### *Additional Components*

**Suckercreek, occasionally flooded, soils**

*Extent:* 10 percent of the unit

**Suckercreek, frequently flooded, soils**

*Extent:* 10 percent of the unit

## 611D—Hawick gravelly sandy loam, 12 to 25 percent slopes

### *Component Description*

**Hawick and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains
*Position on the landform:* Shoulders and backslopes
*Slope range:* 12 to 25 percent
*Texture of the surface layer:* Gravelly sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None

*Available water capacity to a depth of 60 inches:* 2.8 inches
*Content of organic matter in the upper 10 inches:* 2 percent
*Typical profile:*
Ap,AB—0 to 10 inches; gravelly sandy loam
C—10 to 60 inches; gravelly coarse sand

### *Additional Components*

**Estherville soils**

*Extent:* 10 percent of the unit

**Tomall soils**

*Extent:* 5 percent of the unit

## 708—Rushlake coarse sand, 1 to 4 percent slopes

### *Component Description*

**Rushlake and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Beaches
*Position on the landform:* Flats and slight rises
*Slope range:* 1 to 4 percent
*Texture of the surface layer:* Coarse sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 2 feet (April)
*Wet soil moisture status is lowest (depth, months):* 4 feet (February, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.6 inches
*Content of organic matter in the upper 10 inches:* 2.1 percent
*Typical profile:*
A—0 to 9 inches; coarse sand
C—9 to 80 inches; coarse sand

### *Additional Components*

**Isan soils**

*Extent:* 13 percent of the unit

**Hubbard soils**

*Extent:* 2 percent of the unit

## 740—Hamel-Glencoe, depressional, complex, 0 to 3 percent slopes

### *Component Description*

**Hamel and similar soils**

*Extent:* 70 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Drainageways
*Slope range:* 0 to 3 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Colluvium over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 11.6 inches
*Content of organic matter in the upper 10 inches:* 6 percent
*Typical profile:*
Ap,A,AB—0 to 24 inches; loam
Btg—24 to 46 inches; clay loam
Cg—46 to 80 inches; loam

**Glencoe, depressional, and similar soils**

*Extent:* 20 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)
*Ponding is shallowest (depth, months):* 0.5 foot (March)
*Ponding is deepest (depth, months):* 1 foot (April)
*Available water capacity to a depth of 60 inches:* 11.2 inches
*Content of organic matter in the upper 10 inches:* 7.5 percent

*Typical profile:*
Ap—0 to 10 inches; clay loam
A,ABg—10 to 35 inches; clay loam
Bg—35 to 48 inches; loam
Cg—48 to 60 inches; loam

### *Additional Components*

**Canisteo soils**

*Extent:* 5 percent of the unit

**Terril, moderately wet, soils**

*Extent:* 5 percent of the unit

## 768—Mosford sandy loam, 0 to 2 percent slopes

### *Component Description*

**Mosford and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Stream terraces and outwash plains
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 5.1 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap,A—0 to 13 inches; sandy loam
Bw—13 to 16 inches; coarse sandy loam
2Bw—16 to 35 inches; coarse sand
2C—35 to 80 inches; sand

### *Additional Components*

**Hubbard soils**

*Extent:* 10 percent of the unit

**Arvilla, MAP >25, soils**

*Extent:* 5 percent of the unit

## 771—Elkriver fine sandy loam, 0 to 2 percent slopes, rarely flooded

### *Component Description*

**Elkriver, rarely flooded, and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Alluvium
*Flooding does not occur (months):* January, February, July, August, September, October, November, December
*Flooding is most likely (frequency, months):* Rare (March, April, May, June)
*Wet soil moisture status is highest (depth, months):* 3 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.2 inches
*Content of organic matter in the upper 10 inches:* 1.7 percent
*Typical profile:*
Ap—0 to 10 inches; fine sandy loam
A1,A3—10 to 35 inches; fine sandy loam
Bw—35 to 39 inches; fine sandy loam
2C—39 to 80 inches; sand

### *Additional Components*

**Mosford, rarely flooded, soils**

*Extent:* 10 percent of the unit

**Elkriver, occasionally flooded, soils**

*Extent:* 5 percent of the unit

## 783C2—Lester-Kilkenny complex, 6 to 12 percent slopes, eroded

### *Component Description*

**Lester, eroded, and similar soils**

*Extent:* 50 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and shoulders

*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 1.6 percent
*Typical profile:*
Ap—0 to 7 inches; loam
Bt—7 to 38 inches; clay loam
Bk—38 to 60 inches; loam
C—60 to 80 inches; loam

**Kilkenny, eroded, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and summits
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Glaciofluvial sediments and reworked till over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, March, June, July, August, September, October, November, December)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.3 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
Ap—0 to 9 inches; clay loam
Bt—9 to 53 inches; clay loam
2BC,2C—53 to 80 inches; loam

### *Additional Components*

**Storden soils**

*Extent:* 10 percent of the unit

**Terril, moderately wet, soils**

*Extent:* 5 percent of the unit

**Hamel soils**

*Extent:* 5 percent of the unit

## 792—Fordum fine sandy loam, 0 to 2 percent slopes, frequently flooded

### *Component Description*

**Fordum, frequently flooded, and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Concave drainageways
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Alluvium
*Flooding does not occur (months):* January, February, September, October, November, December
*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)
*Wet soil moisture status is lowest (depth, months):* 1.8 feet (February)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 6.6 inches
*Content of organic matter in the upper 10 inches:* 6.6 percent
*Typical profile:*
A—0 to 7 inches; fine sandy loam
Cg—7 to 28 inches; sandy loam
2Cg—28 to 80 inches; sand

### *Additional Components*

**Fordum, occasionally flooded, soils**

*Extent:* 5 percent of the unit

**Winterfield, occasionally flooded, soils**

*Extent:* 5 percent of the unit

## 799—Seelyeville and Bowstring soils, 0 to 1 percent slopes, frequently flooded

### *Component Description*

**Seelyeville, frequently flooded, and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Flats

*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material
*Flooding does not occur (months):* January, February, September, October, November, December
*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)
*Wet soil moisture status is lowest (depth, months):* 1.8 feet (February)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 23.9 inches
*Content of organic matter in the upper 10 inches:* 62 percent
*Typical profile:*
Oa1—0 to 12 inches; muck
Oa2,Oa3—12 to 80 inches; muck

**Bowstring, frequently flooded, and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Flats
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material and alluvium
*Flooding does not occur (months):* January, February, September, October, November, December
*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)
*Wet soil moisture status is lowest (depth, months):* 1.8 feet (February)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 21.3 inches
*Content of organic matter in the upper 10 inches:* 65 percent
*Typical profile:*
Oa1,Oa2—0 to 38 inches; muck
Cg—38 to 47 inches; stratified fine sand to fine sandy loam
O´a—47 to 80 inches; muck

### *Additional Components*

**Fordum, frequently flooded, soils**

*Extent:* 5 percent of the unit

**Fordum, occasionally flooded, soils**

*Extent:* 5 percent of the unit

## 804B—Koronis-Sunburg-Hawick complex, 2 to 6 percent slopes

### *Component Description*

**Koronis and similar soils**

*Extent:* 50 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.4 inches
*Content of organic matter in the upper 10 inches:* 2.1 percent
*Typical profile:*
Ap—0 to 8 inches; sandy loam
Bt—8 to 25 inches; sandy loam
Bk—25 to 60 inches; sandy loam

**Sunburg and similar soils**

*Extent:* 20 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders
*Slope range:* 4 to 6 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.6 inches

*Content of organic matter in the upper 10 inches:* 0.8 percent
*Typical profile:*
Apk—0 to 7 inches; sandy loam
Bk—7 to 60 inches; sandy loam

**Hawick and similar soils**

*Extent:* 15 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and summits
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.2 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
Ap—0 to 7 inches; sandy loam
Bw—7 to 11 inches; gravelly loamy coarse sand
C—11 to 80 inches; gravelly coarse sand

### *Additional Components*

**Marcellon, MAP <30, soils**

*Extent:* 10 percent of the unit

**Barry soils**

*Extent:* 5 percent of the unit

## 804C2—Koronis-Sunburg-Hawick complex, 6 to 12 percent slopes, eroded

### *Component Description*

**Koronis, eroded, and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.4 inches
*Content of organic matter in the upper 10 inches:* 1.3 percent
*Typical profile:*
Ap—0 to 8 inches; sandy loam
Bt—8 to 25 inches; sandy loam
Bk—25 to 60 inches; sandy loam

**Sunburg and similar soils**

*Extent:* 25 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.6 inches
*Content of organic matter in the upper 10 inches:* 0.8 percent
*Typical profile:*
Apk—0 to 7 inches; sandy loam
Bk—7 to 60 inches; sandy loam

**Hawick and similar soils**

*Extent:* 15 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and summits
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.2 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
Ap—0 to 7 inches; sandy loam

Bw—7 to 11 inches; gravelly loamy coarse sand
C—11 to 80 inches; gravelly coarse sand

### *Additional Components*

**Terril, moderately wet, soils**

*Extent:* 10 percent of the unit

**Forestcity soils**

*Extent:* 5 percent of the unit

## 804D2—Koronis-Sunburg-Hawick complex, 12 to 18 percent slopes, eroded

### *Component Description*

**Koronis, eroded, and similar soils**

*Extent:* 40 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.4 inches
*Content of organic matter in the upper 10 inches:* 1.3 percent
*Typical profile:*
Ap—0 to 8 inches; sandy loam
Bt—8 to 25 inches; sandy loam
Bk—25 to 60 inches; sandy loam

**Sunburg and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.6 inches
*Content of organic matter in the upper 10 inches:* 0.8 percent
*Typical profile:*
Apk—0 to 7 inches; sandy loam
Bk—7 to 60 inches; sandy loam

**Hawick and similar soils**

*Extent:* 15 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and summits
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.2 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
Ap—0 to 7 inches; sandy loam
Bw—7 to 11 inches; gravelly loamy coarse sand
C—11 to 80 inches; gravelly coarse sand

### *Additional Components*

**Terril, moderately wet, soils**

*Extent:* 10 percent of the unit

**Forestcity soils**

*Extent:* 5 percent of the unit

## 804E—Koronis-Sunburg-Hawick complex, 18 to 40 percent slopes

### *Component Description*

**Koronis and similar soils**

*Extent:* 50 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and backslopes
*Slope range:* 18 to 40 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till

*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.2 inches
*Content of organic matter in the upper 10 inches:* 1.8 percent
*Typical profile:*
A—0 to 5 inches; fine sandy loam
BA,Bt—5 to 21 inches; fine sandy loam
Bk—21 to 60 inches; fine sandy loam

**Sunburg and similar soils**

*Extent:* 20 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders
*Slope range:* 18 to 40 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.5 inches
*Content of organic matter in the upper 10 inches:* 1 percent
*Typical profile:*
A—0 to 4 inches; fine sandy loam
Bk—4 to 60 inches; fine sandy loam

**Hawick and similar soils**

*Extent:* 15 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and shoulders
*Slope range:* 18 to 40 percent
*Texture of the surface layer:* Gravelly loamy coarse sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3 inches
*Content of organic matter in the upper 10 inches:* 2 percent
*Typical profile:*
A1,A2—0 to 11 inches; gravelly loamy coarse sand
Bw—11 to 16 inches; gravelly loamy coarse sand
C—16 to 60 inches; gravelly coarse sand

### *Additional Components*

**Terril, moderately wet, soils**

*Extent:* 10 percent of the unit

**Forestcity soils**

*Extent:* 5 percent of the unit

## 807D2—Koronis-Sunburg complex, 12 to 18 percent slopes, eroded

### *Component Description*

**Koronis, eroded, and similar soils**

*Extent:* 65 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and backslopes
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.4 inches
*Content of organic matter in the upper 10 inches:* 1.3 percent
*Typical profile:*
Ap—0 to 8 inches; sandy loam
Bt—8 to 25 inches; sandy loam
Bk—25 to 60 inches; sandy loam

**Sunburg and similar soils**

*Extent:* 20 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None

*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.6 inches
*Content of organic matter in the upper 10 inches:* 0.8 percent
*Typical profile:*
Apk—0 to 7 inches; sandy loam
Bk—7 to 60 inches; sandy loam

### *Additional Components*

**Terril, moderately wet, soils**

*Extent:* 10 percent of the unit

**Forestcity soils**

*Extent:* 5 percent of the unit

## 875B—Estherville-Hawick complex, 2 to 6 percent slopes

### *Component Description*

**Estherville and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Summits and backslopes
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.1 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap,A—0 to 13 inches; sandy loam
Bw1—13 to 18 inches; sandy loam
2Bw2—18 to 23 inches; loamy coarse sand
2C—23 to 60 inches; gravelly coarse sand

**Hawick and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains
*Position on the landform:* Shoulders
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.2 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
Ap—0 to 7 inches; sandy loam
Bw—7 to 11 inches; gravelly loamy coarse sand
C—11 to 80 inches; gravelly coarse sand

### *Additional Components*

**Dickman soils**

*Extent:* 10 percent of the unit

## 875C—Hawick-Estherville complex, 6 to 12 percent slopes

### *Component Description*

**Hawick and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains
*Position on the landform:* Shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.2 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
Ap—0 to 7 inches; sandy loam
Bw—7 to 11 inches; gravelly loamy coarse sand
C—11 to 80 inches; gravelly coarse sand

**Estherville and similar soils**

*Extent:* 25 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Summits and backslopes
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.1 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap,A—0 to 13 inches; sandy loam
Bw1—13 to 18 inches; sandy loam
2Bw2—18 to 23 inches; loamy coarse sand
2C—23 to 60 inches; gravelly coarse sand

### *Additional Components*

**Dickman soils**

*Extent:* 10 percent of the unit

**Wadena soils**

*Extent:* 5 percent of the unit

## 896B—Kingsley-Gotham complex, 2 to 6 percent slopes

### *Component Description*

**Kingsley and similar soils**

*Extent:* 70 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and backslopes
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.4 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
A—0 to 6 inches; sandy loam
E—6 to 18 inches; sandy loam
Bt—18 to 45 inches; sandy loam
C—45 to 80 inches; sandy loam

**Gotham and similar soils**

*Extent:* 25 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and shoulders
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Glaciofluvial sediments
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 5.6 inches
*Content of organic matter in the upper 10 inches:* 1 percent
*Typical profile:*
A—0 to 9 inches; loamy sand
Bt—9 to 18 inches; loamy sand
Bw,BC—18 to 40 inches; sand
C—40 to 80 inches; sand

### *Additional Components*

**Grays soils**

*Extent:* 5 percent of the unit

## 896C—Kingsley-Gotham complex, 6 to 12 percent slopes

### *Component Description*

**Kingsley and similar soils**

*Extent:* 70 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and backslopes
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.4 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
A—0 to 6 inches; sandy loam
E—6 to 18 inches; sandy loam
Bt—18 to 45 inches; sandy loam
C—45 to 80 inches; sandy loam

**Gotham and similar soils**

*Extent:* 25 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Glaciofluvial sediments
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 5.6 inches
*Content of organic matter in the upper 10 inches:* 1 percent
*Typical profile:*
A—0 to 9 inches; loamy sand
Bt—9 to 18 inches; loamy sand
Bw,BC—18 to 40 inches; sand
C—40 to 80 inches; sand

### *Additional Components*

**Grays soils**

*Extent:* 5 percent of the unit

## 945C2—Lester-Storden complex, 6 to 12 percent slopes, eroded

### *Component Description*

**Lester, eroded, and similar soils**

*Extent:* 50 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 1.6 percent
*Typical profile:*
Ap—0 to 7 inches; loam
Bt—7 to 38 inches; clay loam
Bk—38 to 60 inches; loam
C—60 to 80 inches; loam

**Storden, eroded, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 1.2 percent
*Typical profile:*
Ap—0 to 7 inches; loam
Bk—7 to 55 inches; loam
C—55 to 80 inches; loam

### *Additional Components*

**Angus soils**

*Extent:* 10 percent of the unit

**Terril, moderately wet, soils**

*Extent:* 5 percent of the unit

**Hamel soils**

*Extent:* 5 percent of the unit

## 945D2—Lester-Storden complex, 12 to 18 percent slopes, eroded

### *Component Description*

**Lester, eroded, and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and shoulders
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 1.6 percent
*Typical profile:*
Ap—0 to 7 inches; loam
Bt—7 to 38 inches; clay loam
Bk—38 to 60 inches; loam
C—60 to 80 inches; loam

**Storden, eroded, and similar soils**

*Extent:* 20 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and backslopes
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 1.2 percent
*Typical profile:*
Ap—0 to 7 inches; loam
Bk—7 to 55 inches; loam
C—55 to 80 inches; loam

### *Additional Components*

**Terril, moderately wet, soils**

*Extent:* 10 percent of the unit

**Angus soils**

*Extent:* 5 percent of the unit

**Hamel soils**

*Extent:* 5 percent of the unit

## 956—Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes

### *Component Description*

**Canisteo and similar soils**

*Extent:* 65 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and rims of depressions
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.7 inches
*Content of organic matter in the upper 10 inches:* 5.5 percent
*Typical profile:*
Ap,A—0 to 18 inches; clay loam
Bkg—18 to 39 inches; loam
Cg—39 to 80 inches; loam

**Glencoe, depressional, and similar soils**

*Extent:* 25 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained

*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)
*Ponding is shallowest (depth, months):* 0.5 foot (March)
*Ponding is deepest (depth, months):* 1 foot (April)
*Available water capacity to a depth of 60 inches:* 11.2 inches
*Content of organic matter in the upper 10 inches:* 7.5 percent
*Typical profile:*
Ap—0 to 10 inches; clay loam
A,ABg—10 to 35 inches; clay loam
Bg—35 to 48 inches; loam
Cg—48 to 60 inches; loam

### *Additional Components*

**Cordova soils**

*Extent:* 10 percent of the unit

## 978—Cordova-Rolfe, depressional, complex, 0 to 2 percent slopes

### *Component Description*

**Cordova and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and swales
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.7 inches
*Content of organic matter in the upper 10 inches:* 5.5 percent
*Typical profile:*
Ap,A—0 to 18 inches; clay loam
Btg—18 to 38 inches; clay loam
Cg—38 to 80 inches; loam

**Rolfe, depressional, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Silt loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Glaciolacustrine sediments over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)
*Ponding is shallowest (depth, months):* 0.5 foot (March)
*Ponding is deepest (depth, months):* 1 foot (April)
*Available water capacity to a depth of 60 inches:* 10.3 inches
*Content of organic matter in the upper 10 inches:* 4 percent
*Typical profile:*
Ap,A—0 to 12 inches; silt loam
E—12 to 20 inches; silt loam
Btg—20 to 35 inches; silty clay
2Bt—35 to 51 inches; clay loam
2Cg—51 to 60 inches; loam

### *Additional Components*

**Le Sueur soils**

*Extent:* 10 percent of the unit

## 1000—Arvilla sandy loam, MAP >25, 0 to 2 percent slopes

### *Component Description*

**Arvilla, MAP >25, and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Stream terraces
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.3 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
Ap,A—0 to 14 inches; sandy loam
Bw—14 to 20 inches; sandy loam
2Bw,2Bk,2C—20 to 80 inches; gravelly coarse sand

### *Additional Components*

**Mosford soils**

*Extent:* 8 percent of the unit

**Sandberg soils**

*Extent:* 2 percent of the unit

## 1015—Udipsamments (cut and fill land)

### *Component Description*

**Udipsamments (cut and fill land)**

*Extent:* 100 percent of the unit
*Geomorphic setting:* Stream terraces and outwash plains
*Slope range:* 0 to 2 percent
*Parent material:* Sandy material
*Flooding:* None
*General description:* Udipsamments are nearly level areas that have had minimal grading. The cut and fill material is dominantly the sandy parent material. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

## 1016—Udorthents, loamy (cut and fill land)

### *Component Description*

**Udorthents, loamy**

*Extent:* 100 percent of the unit
*Geomorphic setting:* Moraines
*Slope range:* 0 to 6 percent
*Parent material:* Loamy material
*Flooding:* None
*General description:* Udorthents consist primarily of areas that have been cut for leveling or filled for development. The cut and/or fill material is dominantly loamy soil material. As much as 30 percent of this map unit is covered by impervious surfaces. Most of the areas have been disturbed by construction activity. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

## 1023C—Lester-Malardi complex, 6 to 12 percent slopes, eroded

### *Component Description*

**Lester, eroded, and similar soils**

*Extent:* 50 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and backslopes
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 1.6 percent
*Typical profile:*
Ap—0 to 7 inches; loam
Bt—7 to 38 inches; clay loam
Bk—38 to 60 inches; loam
C—60 to 80 inches; loam

**Malardi and similar soils**

*Extent:* 35 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and summits
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.3 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap—0 to 10 inches; sandy loam
Bt—10 to 15 inches; sandy loam

2Bt—15 to 29 inches; loamy coarse sand
2C—29 to 80 inches; gravelly sand

### *Additional Components*

**Terril, moderately wet, soils**

*Extent:* 10 percent of the unit

**Hamel soils**

*Extent:* 5 percent of the unit

## 1023D—Lester-Malardi complex, 12 to 18 percent slopes, eroded

### *Component Description*

**Lester, eroded, and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and shoulders
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 1.6 percent
*Typical profile:*
Ap—0 to 7 inches; loam
Bt—7 to 38 inches; clay loam
Bk—38 to 60 inches; loam
C—60 to 80 inches; loam

**Malardi and similar soils**

*Extent:* 40 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and shoulders
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.8 inches
*Content of organic matter in the upper 10 inches:* 2.8 percent
*Typical profile:*
Ap—0 to 9 inches; sandy loam
Bt—9 to 14 inches; sandy loam
2Bt—14 to 21 inches; gravelly loamy coarse sand
2C—21 to 80 inches; gravelly sand

### *Additional Components*

**Terril, moderately wet, soils**

*Extent:* 10 percent of the unit

**Hamel soils**

*Extent:* 5 percent of the unit

## 1026B—Lizzie silt loam, moderately wet, 1 to 5 percent slopes

### *Component Description*

**Lizzie, moderately wet, and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Footslopes and backslopes
*Slope range:* 1 to 5 percent
*Texture of the surface layer:* Silt loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Glaciolacustrine sediments
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.9 inches
*Content of organic matter in the upper 10 inches:* 3.5 percent
*Typical profile:*
Ap,E—0 to 12 inches; silt loam
Bt—12 to 36 inches; silt loam
BC—36 to 40 inches; very fine sandy loam
C—40 to 80 inches; very fine sandy loam

### *Additional Components*

**Lida soils**

*Extent:* 8 percent of the unit

**Lindaas, morainic, soils**

*Extent:* 2 percent of the unit

## 1027—Udorthents, wet substratum (fill land)

### *Component Description*

**Udorthents, wet substratum**

*Extent:* 100 percent of the unit
*Geomorphic setting:* Moraines, outwash plains, and stream terraces
*Position on the landform:* Fill material placed in depressions
*Slope range:* 0 to 2 percent
*Parent material:* Variable
*Flooding:* None
*General description:* Udorthents, wet substratum, consist of fill material placed in wet depressional areas to match the adjoining upland landscape. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

## 1030—Pits, gravel-Udipsamments complex

### *Component Description*

**Pits, gravel**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Moraines, outwash plains, and stream terraces
*Parent material:* Sandy and gravelly outwash
*General description:* Gravel pits are areas that have been mined for gravel or sand. Specific areas are actively being mined or are abandoned pits. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

**Udipsamments**

*Extent:* 20 percent of the unit
*Geomorphic setting:* Moraines, outwash plains, and stream terraces
*Parent material:* Outwash
*General description:* Udipsamments are areas of soil that support plant growth. They consist of areas of the pits that have been reclaimed or abandoned. Because of the variability of this component, interpretations for specific uses are not available. Onsite investigation is needed.

## 1035B—Crowfork loamy sand, 1 to 6 percent slopes

### *Component Description*

**Crowfork and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Hills on stream terraces
*Position on the landform:* Backslopes, shoulders, and summits
*Slope range:* 1 to 6 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 5.6 inches
*Content of organic matter in the upper 10 inches:* 2 percent
*Typical profile:*
Ap—0 to 11 inches; loamy sand
E—11 to 20 inches; loamy fine sand
E&Bt—20 to 76 inches; loamy sand
C—76 to 80 inches; sand

**Eden Prairie soils**

*Extent:* 5 percent of the unit

**Sparta soils**

*Extent:* 5 percent of the unit

## 1035C—Crowfork loamy sand, 6 to 12 percent slopes

### *Component Description*

**Crowfork and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Hills on stream terraces
*Position on the landform:* Backslopes and shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None

*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 5.6 inches
*Content of organic matter in the upper 10 inches:* 2 percent
*Typical profile:*
Ap—0 to 11 inches; loamy sand
E—11 to 20 inches; loamy fine sand
E&Bt—20 to 76 inches; loamy sand
C—76 to 80 inches; sand

### *Additional Components*

**Eden Prairie soils**

*Extent:* 5 percent of the unit

**Sparta soils**

*Extent:* 5 percent of the unit

## 1035D—Crowfork loamy sand, 12 to 18 percent slopes

### *Component Description*

**Crowfork and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Hills on stream terraces
*Position on the landform:* Shoulders and backslopes
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 5.6 inches
*Content of organic matter in the upper 10 inches:* 2 percent
*Typical profile:*
Ap—0 to 11 inches; loamy sand
E—11 to 20 inches; loamy fine sand
E&Bt—20 to 76 inches; loamy sand
C—76 to 80 inches; sand

### *Additional Components*

**Eden Prairie soils**

*Extent:* 10 percent of the unit

**Sparta soils**

*Extent:* 5 percent of the unit

## 1036B—Angus fine sandy loam, 2 to 5 percent slopes

### *Component Description*

**Angus and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and backslopes
*Slope range:* 2 to 5 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.9 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
Ap—0 to 9 inches; fine sandy loam
Bt—9 to 46 inches; loam
Bk—46 to 58 inches; loam
C—58 to 80 inches; loam

### *Additional Components*

**Le Sueur soils**

*Extent:* 10 percent of the unit

**Cordova soils**

*Extent:* 5 percent of the unit

## 1037—Eckvoll loamy fine sand, MAP >25, 0 to 3 percent slopes

### *Component Description*

**Eckvoll, MAP >25, and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and slight rises

*Slope range:* 0 to 3 percent
*Texture of the surface layer:* Loamy fine sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Outwash over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, June, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.3 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
Ap—0 to 9 inches; loamy fine sand
E—9 to 24 inches; fine sand
2Bt—24 to 45 inches; loam
2C—45 to 80 inches; loam

### *Additional Components*

**Beltrami soils**

*Extent:* 7 percent of the unit

**Talmoon soils**

*Extent:* 3 percent of the unit

## 1038A—Verndale sandy loam, acid substratum, 0 to 2 percent slopes

### *Component Description*

**Verndale, acid substratum, and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Stream terraces and outwash plains
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.8 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap—0 to 10 inches; sandy loam
Bt—10 to 19 inches; sandy loam
2Bw—19 to 28 inches; sand
2C—28 to 80 inches; sand

### *Additional Components*

**Dorset soils**

*Extent:* 7 percent of the unit

**Hubbard soils**

*Extent:* 3 percent of the unit

## 1038B—Verndale sandy loam, acid substratum, 2 to 6 percent slopes

### *Component Description*

**Verndale, acid substratum, and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Summits and backslopes
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.8 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap—0 to 10 inches; sandy loam
Bt—10 to 19 inches; sandy loam
2Bw—19 to 28 inches; sand
2C—28 to 80 inches; sand

### *Additional Components*

**Dorset soils**

*Extent:* 10 percent of the unit

**Hubbard soils**

*Extent:* 5 percent of the unit

## 1066B—Malardi-Hawick complex, 1 to 6 percent slopes

### *Component Description*

**Malardi and similar soils**

*Extent:* 65 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Backslopes and summits
*Slope range:* 1 to 6 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.3 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap—0 to 10 inches; sandy loam
Bt—10 to 15 inches; sandy loam
2Bt—15 to 29 inches; loamy coarse sand
2C—29 to 80 inches; gravelly sand

**Hawick and similar soils**

*Extent:* 25 percent of the unit
*Geomorphic setting:* Hills on stream terraces; hills on outwash plains
*Position on the landform:* Shoulders
*Slope range:* 3 to 6 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.2 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
Ap—0 to 7 inches; sandy loam
Bw—7 to 11 inches; gravelly loamy coarse sand
C—11 to 80 inches; gravelly coarse sand

### *Additional Components*

**Eden Prairie soils**

*Extent:* 5 percent of the unit

**Rasset soils**

*Extent:* 5 percent of the unit

## 1066C—Malardi-Hawick complex, 6 to 12 percent slopes

### *Component Description*

**Malardi and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Backslopes and summits
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.3 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap—0 to 10 inches; sandy loam
Bt—10 to 15 inches; sandy loam
2Bt—15 to 29 inches; loamy coarse sand
2C—29 to 80 inches; gravelly sand

**Hawick and similar soils**

*Extent:* 25 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.2 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
Ap—0 to 7 inches; sandy loam
Bw—7 to 11 inches; gravelly loamy coarse sand
C—11 to 80 inches; gravelly coarse sand

### *Additional Components*

**Tomall soils**

*Extent:* 10 percent of the unit

**Crowfork soils**

*Extent:* 5 percent of the unit

## 1066E—Malardi-Hawick complex, 18 to 35 percent slopes

### *Component Description*

**Malardi and similar soils**

*Extent:* 55 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Summits and backslopes
*Slope range:* 18 to 35 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.8 inches
*Content of organic matter in the upper 10 inches:* 4.6 percent
*Typical profile:*
A—0 to 9 inches; sandy loam
Bt—9 to 14 inches; sandy loam
2Bt—14 to 21 inches; gravelly loamy coarse sand
2C—21 to 80 inches; gravelly sand

**Hawick and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Shoulders
*Slope range:* 18 to 35 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.2 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
A—0 to 7 inches; sandy loam
Bw—7 to 11 inches; gravelly loamy coarse sand
C—11 to 80 inches; gravelly coarse sand

### *Additional Components*

**Tomall soils**

*Extent:* 15 percent of the unit

## 1072—Udorthents, shallow (sanitary landfill)

### *Component Description*

**Udorthents, shallow**

*Extent:* 100 percent of the unit
*Geomorphic setting:* Moraines and outwash plains
*Slope range:* 0 to 20 percent
*Parent material:* Loamy material
*Flooding:* None
*General description:* Udorthents consist primarily of soil fill material over refuse material in a sanitary landfill. The cover material is dominantly loamy soil material. As much as 30 percent of this map unit is covered by impervious surfaces. Because of the variability of this map unit, interpretations for specific uses are not available. Onsite investigation is needed.

## 1075—Klossner and Muskego soils, ponded, 0 to 1 percent slopes

### *Component Description*

**Klossner, ponded, and similar soils**

*Extent:* 40 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent

*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material over till
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 17.4 inches
*Content of organic matter in the upper 10 inches:* 42.5 percent
*Typical profile:*
Oa—0 to 26 inches; muck
2A1—26 to 33 inches; silt loam
2A2—33 to 40 inches; loam
2Cg—40 to 80 inches; loam

**Muskego, ponded, and similar soils**

*Extent:* 40 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material over coprogenous earth
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 19.4 inches
*Content of organic matter in the upper 10 inches:* 75 percent
*Typical profile:*
Oa1—0 to 9 inches; muck
Oa2—9 to 36 inches; muck
Lco—36 to 60 inches; coprogenous earth

### *Additional Components*

**Houghton, ponded, soils**

*Extent:* 10 percent of the unit

**Ponded areas of mineral soils**

*Extent:* 10 percent of the unit

## 1080—Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes

### *Component Description*

**Klossner, ponded, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material over till
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 17.4 inches
*Content of organic matter in the upper 10 inches:* 42.5 percent
*Typical profile:*
Oa—0 to 26 inches; muck
2A1—26 to 33 inches; silt loam
2A2—33 to 40 inches; loam
2Cg—40 to 80 inches; loam

**Okoboji, ponded, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Mucky silty clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Alluvium or lacustrine sediments over till
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 11.9 inches
*Content of organic matter in the upper 10 inches:* 14 percent
*Typical profile:*
A1—0 to 10 inches; mucky silty clay loam

A2—10 to 52 inches; silty clay loam
Bg—52 to 60 inches; silty clay loam

**Glencoe, ponded, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Silty clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 11.4 inches
*Content of organic matter in the upper 10 inches:* 7 percent
*Typical profile:*
A—0 to 42 inches; silty clay loam
Bg—42 to 50 inches; clay loam
Cg—50 to 60 inches; loam

### *Additional Components*

**Houghton, ponded, soils**

*Extent:* 10 percent of the unit

## 1087B—Angus-Malardi complex, 2 to 6 percent slopes

### *Component Description*

**Angus and similar soils**

*Extent:* 55 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 2 to 5 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
Ap—0 to 8 inches; loam
Bt—8 to 35 inches; clay loam
BC—35 to 40 inches; clay loam
C—40 to 80 inches; loam

**Malardi and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and summits
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.3 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap—0 to 10 inches; sandy loam
Bt—10 to 15 inches; sandy loam
2Bt—15 to 29 inches; loamy coarse sand
2C—29 to 80 inches; gravelly sand

### *Additional Components*

**Le Sueur soils**

*Extent:* 10 percent of the unit

**Cordova soils**

*Extent:* 5 percent of the unit

## 1094B—Angus-Cordova complex, 0 to 5 percent slopes

### *Component Description*

**Angus and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and backslopes
*Slope range:* 2 to 5 percent
*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
Ap—0 to 8 inches; loam
Bt—8 to 35 inches; clay loam
BC—35 to 40 inches; clay loam
C—40 to 80 inches; loam

**Cordova and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and swales
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.6 inches
*Content of organic matter in the upper 10 inches:* 5.5 percent
*Typical profile:*
Ap,AB—0 to 13 inches; loam
Btg—13 to 33 inches; clay loam
Cg—33 to 80 inches; loam

### *Additional Components*

**Le Sueur soils**

*Extent:* 5 percent of the unit

**Glencoe, depressional, soils**

*Extent:* 5 percent of the unit

## 1099—Granby loamy fine sand, very wet, 0 to 1 percent slopes

### *Component Description*

**Granby, very wet, and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Beaches on moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Loamy fine sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (March, April, May, June)
*Wet soil moisture status is lowest (depth, months):* 1.8 feet (August)
*Ponding is shallowest (depth, months):* 0.5 foot (June)
*Ponding is deepest (depth, months):* 1 foot (March, April, May)
*Available water capacity to a depth of 60 inches:* 4.9 inches
*Content of organic matter in the upper 10 inches:* 7 percent
*Typical profile:*
A—0 to 12 inches; loamy fine sand
AC—12 to 24 inches; loamy fine sand
C—24 to 60 inches; loamy fine sand

### *Additional Components*

**Belleville soils**

*Extent:* 10 percent of the unit

**Medo, depressional, soils**

*Extent:* 5 percent of the unit

## 1110—Isan sandy loam, 0 to 2 percent slopes

### *Component Description*

**Isan and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Flats and swales
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)
*Wet soil moisture status is lowest (depth, months):* 2 feet (August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.8 inches
*Content of organic matter in the upper 10 inches:* 6.5 percent
*Typical profile:*
Ap,A—0 to 18 inches; sandy loam
AB,Bg—18 to 29 inches; loamy sand
Cg—29 to 80 inches; coarse sand

### *Additional Components*

**Isan, depressional, soils**

*Extent:* 10 percent of the unit

## 1156—Cordova loam, 0 to 2 percent slopes

### *Component Description*

**Cordova and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and swales
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.6 inches
*Content of organic matter in the upper 10 inches:* 5.5 percent
*Typical profile:*
Ap,AB—0 to 13 inches; loam
Btg—13 to 33 inches; clay loam
Cg—33 to 80 inches; loam

### *Additional Components*

**Glencoe, depressional, soils**

*Extent:* 10 percent of the unit

**Nessel soils**

*Extent:* 5 percent of the unit

## 1161—Barry loam, 0 to 2 percent slopes

### *Component Description*

**Barry and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and swales
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.5 inches
*Content of organic matter in the upper 10 inches:* 5 percent
*Typical profile:*
Ap—0 to 11 inches; loam
Btg—11 to 33 inches; sandy clay loam
Bkg—33 to 60 inches; sandy loam

### *Additional Components*

**Lundlake, depressional, soils**

*Extent:* 10 percent of the unit

**Marcellon, MAP <30, soils**

*Extent:* 5 percent of the unit

## 1163—Suckercreek loam, 0 to 2 percent slopes, frequently flooded

### *Component Description*

**Suckercreek, frequently flooded, and similar soils**

*Extent:* 85 percent of the unit

*Geomorphic setting:* Flood plains
*Position on the landform:* Concave drainageways
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Alluvium
*Flooding does not occur (months):* January, February, September, October, November, December
*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)
*Wet soil moisture status is lowest (depth, months):* 1.8 feet (February)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.9 inches
*Content of organic matter in the upper 10 inches:* 5 percent
*Typical profile:*
A—0 to 22 inches; loam
Cg—22 to 80 inches; loamy fine sand

### *Additional Components*

**Suckercreek, occasionally flooded, soils**

*Extent:* 10 percent of the unit

**Hanlon, occasionally flooded, soils**

*Extent:* 5 percent of the unit

## 1165—Lundlake silty clay loam, depressional, 0 to 1 percent slopes

### *Component Description*

**Lundlake, depressional, and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Silty clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Colluvium over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)
*Ponding is shallowest (depth, months):* 0.5 foot (March)
*Ponding is deepest (depth, months):* 1 foot (April)
*Available water capacity to a depth of 60 inches:* 11.2 inches
*Content of organic matter in the upper 10 inches:* 8.5 percent
*Typical profile:*
Ap—0 to 12 inches; silty clay loam
A1,A2,AB—12 to 36 inches; loam
2Bg—36 to 72 inches; sandy loam
2Cg—72 to 80 inches; sandy loam

### *Additional Components*

**Forestcity soils**

*Extent:* 10 percent of the unit

## 1173—Muskego and Klossner soils, 0 to 1 percent slopes, frequently flooded

### *Component Description*

**Muskego, frequently flooded, and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Flats
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material over coprogenous earth
*Flooding does not occur (months):* January, February, August, September, October, November, December
*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)
*Ponding is shallowest (depth, months):* 0.5 foot (June)
*Ponding is deepest (depth, months):* 1 foot (March, April, May)
*Available water capacity to a depth of 60 inches:* 19.4 inches
*Content of organic matter in the upper 10 inches:* 75 percent
*Typical profile:*
Oa1—0 to 9 inches; muck
Oa2—9 to 36 inches; muck
Lco—36 to 60 inches; coprogenous earth

**Klossner, frequently flooded, and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Flats
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material over till
*Flooding does not occur (months):* January, February, August, September, October, November, December
*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)
*Ponding is shallowest (depth, months):* 0.5 foot (June)
*Ponding is deepest (depth, months):* 1 foot (March, April, May)
*Available water capacity to a depth of 60 inches:* 17.4 inches
*Content of organic matter in the upper 10 inches:* 42.5 percent
*Typical profile:*
Oa—0 to 26 inches; muck
2A1—26 to 33 inches; silt loam
2A2—33 to 40 inches; loam
2Cg—40 to 80 inches; loam

### *Additional Components*

**Suckercreek, frequently flooded, soils**

*Extent:* 10 percent of the unit

## 1186—Forestcity-Lundlake, depressional, complex, 0 to 3 percent slopes

### *Component Description*

**Forestcity and similar soils**

*Extent:* 75 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Swales and drainageways
*Slope range:* 0 to 3 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Colluvium over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)
*Wet soil moisture status is lowest (depth, months):* 3.3 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap,A1—0 to 22 inches; fine sandy loam
A2,AB—22 to 43 inches; loam
2Btg—43 to 60 inches; sandy clay loam
2BCg—60 to 80 inches; sandy loam

**Lundlake, depressional, and similar soils**

*Extent:* 20 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Colluvium over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (March, April)
*Wet soil moisture status is lowest (depth, months):* 2 feet (February, August)
*Ponding is shallowest (depth, months):* 0.5 foot (March)
*Ponding is deepest (depth, months):* 1 foot (April)
*Available water capacity to a depth of 60 inches:* 11.3 inches
*Content of organic matter in the upper 10 inches:* 6 percent
*Typical profile:*
Ap,A1—0 to 20 inches; loam
A2,A3,AB—20 to 46 inches; loam
Bg—46 to 54 inches; sandy loam
Cg—54 to 60 inches; sandy loam

### *Additional Components*

**Marcellon, MAP <30, soils**

*Extent:* 5 percent of the unit

## 1196B—Lida-Two Inlets complex, 1 to 8 percent slopes

### *Component Description*

**Lida and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Hills on moraines; hills on outwash plains
*Position on the landform:* Backslopes and summits
*Slope range:* 1 to 8 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.2 inches
*Content of organic matter in the upper 10 inches:* 2 percent
*Typical profile:*
A—0 to 6 inches; sandy loam
E—6 to 8 inches; sandy loam
Bt—8 to 17 inches; coarse sandy loam
2Bt—17 to 25 inches; gravelly loamy coarse sand
2C—25 to 80 inches; gravelly coarse sand

**Two Inlets and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on moraines
*Position on the landform:* Shoulders
*Slope range:* 1 to 8 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.2 inches
*Content of organic matter in the upper 10 inches:* 0.7 percent
*Typical profile:*
A—0 to 9 inches; loamy sand
Bt—9 to 19 inches; gravelly loamy sand
C—19 to 80 inches; gravelly sand

### *Additional Components*

**Southhaven soils**

*Extent:* 5 percent of the unit

**Almora soils**

*Extent:* 5 percent of the unit

## 1196C—Lida-Two Inlets complex, 8 to 15 percent slopes

### *Component Description*

**Lida and similar soils**

*Extent:* 55 percent of the unit
*Geomorphic setting:* Hills on moraines; hills on outwash plains
*Position on the landform:* Backslopes and summits
*Slope range:* 8 to 15 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.2 inches
*Content of organic matter in the upper 10 inches:* 2 percent
*Typical profile:*
A—0 to 6 inches; sandy loam
E—6 to 8 inches; sandy loam
Bt—8 to 17 inches; coarse sandy loam
2Bt—17 to 25 inches; gravelly loamy coarse sand
2C—25 to 80 inches; gravelly coarse sand

**Two Inlets and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Hills on moraines; hills on outwash plains
*Position on the landform:* Shoulders
*Slope range:* 8 to 15 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.2 inches
*Content of organic matter in the upper 10 inches:* 0.7 percent
*Typical profile:*
A—0 to 9 inches; loamy sand
Bt—9 to 19 inches; gravelly loamy sand
C—19 to 80 inches; gravelly sand

### *Additional Components*

**Southhaven soils**

*Extent:* 10 percent of the unit

**Almora soils**

*Extent:* 5 percent of the unit

## 1196E—Lida-Two Inlets complex, 15 to 30 percent slopes

### *Component Description*

**Lida and similar soils**

*Extent:* 50 percent of the unit
*Geomorphic setting:* Hills on moraines; hills on outwash plains
*Position on the landform:* Summits and backslopes
*Slope range:* 15 to 30 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.2 inches
*Content of organic matter in the upper 10 inches:* 2 percent
*Typical profile:*
A—0 to 6 inches; sandy loam
E—6 to 8 inches; sandy loam
Bt—8 to 17 inches; coarse sandy loam
2Bt—17 to 25 inches; gravelly loamy coarse sand
2C—25 to 80 inches; gravelly coarse sand

**Two Inlets and similar soils**

*Extent:* 40 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on moraines
*Position on the landform:* Shoulders
*Slope range:* 15 to 30 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.3 inches
*Content of organic matter in the upper 10 inches:* 0.7 percent
*Typical profile:*
A—0 to 8 inches; loamy sand
BE,Bt—8 to 20 inches; loamy sand
BC,C—20 to 80 inches; gravelly sand

### *Additional Components*

**Southhaven soils**

*Extent:* 5 percent of the unit

**Almora soils**

*Extent:* 5 percent of the unit

## 1197—Suckercreek fine sandy loam, 0 to 2 percent slopes, occasionally flooded

### *Component Description*

**Suckercreek, occasionally flooded, and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Alluvium
*Flooding does not occur (months):* January, February, September, October, November, December
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)
*Wet soil moisture status is lowest (depth, months):* 2.3 feet (September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.2 inches

*Content of organic matter in the upper 10 inches:* 5 percent
*Typical profile:*
A—0 to 12 inches; fine sandy loam
Cg—12 to 80 inches; fine sandy loam

### *Additional Components*

**Suckercreek, frequently flooded, soils**

*Extent:* 10 percent of the unit

**Hanlon, occasionally flooded, soils**

*Extent:* 10 percent of the unit

## 1199—Klossner and Lundlake soils, ponded, 0 to 1 percent slopes

### *Component Description*

**Klossner, ponded, and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material over till
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 17.4 inches
*Content of organic matter in the upper 10 inches:* 42.5 percent
*Typical profile:*
Oa—0 to 26 inches; muck
2A1—26 to 33 inches; silt loam
2A2—33 to 40 inches; loam
2Cg—40 to 80 inches; loam

**Lundlake, ponded, and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Mucky loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Colluvium over till
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 9.6 inches
*Content of organic matter in the upper 10 inches:* 13.5 percent
*Typical profile:*
A1—0 to 8 inches; mucky loam
A2—8 to 26 inches; loam
A3,A4,Bkg—26 to 80 inches; sandy loam

### *Additional Components*

**Ponded soils that have a thin surface layer of muck**

*Extent:* 10 percent of the unit

## 1203—Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes

### *Component Description*

**Muskego, ponded, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material over coprogenous earth
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 19.4 inches
*Content of organic matter in the upper 10 inches:* 75 percent
*Typical profile:*
Oa1—0 to 9 inches; muck
Oa2—9 to 36 inches; muck
Lco—36 to 60 inches; coprogenous earth

**Blue Earth, ponded, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Silt loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Coprogenous earth over till
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 12.6 inches
*Content of organic matter in the upper 10 inches:* 17.5 percent
*Typical profile:*
A—0 to 50 inches; silt loam
Cg—50 to 60 inches; silt loam

**Houghton, ponded, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 23.9 inches
*Content of organic matter in the upper 10 inches:* 84.5 percent
*Typical profile:*
Oa—0 to 80 inches; muck

### *Additional Components*

**Klossner, ponded, soils**

*Extent:* 10 percent of the unit

## 1204B—Reedslake loam, 2 to 5 percent slopes

### *Component Description*

**Reedslake and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and backslopes
*Slope range:* 2 to 5 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.6 inches
*Content of organic matter in the upper 10 inches:* 4 percent
*Typical profile:*
Ap—0 to 12 inches; loam
Bt—12 to 26 inches; clay loam
Bk—26 to 48 inches; loam
C—48 to 80 inches; loam

### *Additional Components*

**Le Sueur soils**

*Extent:* 10 percent of the unit

**Cokato soils**

*Extent:* 5 percent of the unit

## 1207B—Reedslake-Le Sueur complex, 1 to 5 percent slopes

### *Component Description*

**Reedslake and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and backslopes
*Slope range:* 2 to 5 percent
*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.6 inches
*Content of organic matter in the upper 10 inches:* 4 percent
*Typical profile:*
Ap—0 to 12 inches; loam
Bt—12 to 26 inches; clay loam
Bk—26 to 48 inches; loam
C—48 to 80 inches; loam

**Le Sueur and similar soils**

*Extent:* 25 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Footslopes and toeslopes
*Slope range:* 1 to 4 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.9 inches
*Content of organic matter in the upper 10 inches:* 5 percent
*Typical profile:*
Ap,AB—0 to 14 inches; loam
Bt—14 to 40 inches; clay loam
Bk—40 to 55 inches; loam
C—55 to 80 inches; loam

### *Additional Components*

**Cordova soils**

*Extent:* 12 percent of the unit

**Cokato soils**

*Extent:* 3 percent of the unit

## 1213C—Cokato-Storden complex, 6 to 12 percent slopes, eroded

### *Component Description*

**Cokato, eroded, and similar soils**

*Extent:* 65 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 3.5 percent
*Typical profile:*
Ap—0 to 8 inches; loam
Bt—8 to 23 inches; clay loam
Bk—23 to 48 inches; loam
C—48 to 80 inches; loam

**Storden and similar soils**

*Extent:* 20 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and backslopes
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 1.2 percent

*Typical profile:*
Ap—0 to 7 inches; loam
Bk—7 to 55 inches; loam
C—55 to 80 inches; loam

### *Additional Components*

**Terril, moderately wet, soils**

*Extent:* 8 percent of the unit

**Reedslake soils**

*Extent:* 4 percent of the unit

**Hamel soils**

*Extent:* 3 percent of the unit

## 1213D—Cokato-Storden complex, 12 to 18 percent slopes, eroded

### *Component Description*

**Cokato, eroded, and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 3.5 percent
*Typical profile:*
Ap—0 to 8 inches; loam
Bt—8 to 20 inches; clay loam
Bk—20 to 40 inches; loam
C—40 to 80 inches; loam

**Storden and similar soils**

*Extent:* 25 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and backslopes
*Slope range:* 12 to 18 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 1.2 percent
*Typical profile:*
Ap—0 to 7 inches; loam
Bk—7 to 55 inches; loam
C—55 to 80 inches; loam

### *Additional Components*

**Terril, moderately wet, soils**

*Extent:* 10 percent of the unit

**Hamel soils**

*Extent:* 3 percent of the unit

**Reedslake soils**

*Extent:* 2 percent of the unit

## 1220C—Cokato-Storden-Hawick complex, 6 to 12 percent slopes, eroded

### *Component Description*

**Cokato, eroded, and similar soils**

*Extent:* 50 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 3.5 percent
*Typical profile:*
Ap—0 to 8 inches; loam
Bt—8 to 23 inches; clay loam
Bk—23 to 48 inches; loam
C—48 to 80 inches; loam

**Storden and similar soils**

*Extent:* 20 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and backslopes
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 1.2 percent
*Typical profile:*
Ap—0 to 7 inches; loam
Bk—7 to 55 inches; loam
C—55 to 80 inches; loam

**Hawick and similar soils**

*Extent:* 15 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and summits
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Gravelly sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 2.8 inches
*Content of organic matter in the upper 10 inches:* 2 percent
*Typical profile:*
Ap,AB—0 to 10 inches; gravelly sandy loam
C—10 to 60 inches; gravelly coarse sand

### *Additional Components*

**Terril, moderately wet, soils**

*Extent:* 10 percent of the unit

**Hamel soils**

*Extent:* 5 percent of the unit

## 1223—Sandberg-Arvilla complex, MAP >25, 0 to 3 percent slopes

### *Component Description*

**Sandberg, MAP >25, and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Stream terraces
*Position on the landform:* Slight rises
*Slope range:* 1 to 3 percent
*Texture of the surface layer:* Loamy coarse sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.9 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
Ap—0 to 11 inches; loamy coarse sand
Bw,BC—11 to 35 inches; gravelly coarse sand
C—35 to 80 inches; gravelly coarse sand

**Arvilla, MAP >25, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Stream terraces
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Coarse sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.1 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
Ap,A—0 to 14 inches; coarse sandy loam
Bw—14 to 17 inches; coarse sandy loam
2Bw,2C—17 to 80 inches; gravelly coarse sand

### *Additional Components*

**Hubbard soils**

*Extent:* 10 percent of the unit

## 1224—Hubbard-Verndale, acid substratum, complex, 0 to 3 percent slopes

### *Component Description*

**Hubbard and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Flats
*Slope range:* 1 to 3 percent
*Texture of the surface layer:* Loamy coarse sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.5 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap—0 to 11 inches; loamy coarse sand
Bw—11 to 27 inches; loamy sand
BC,C—27 to 80 inches; sand

**Verndale, acid substratum, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Stream terraces and outwash plains
*Position on the landform:* Flats and slight swales
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Coarse sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 5.1 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap—0 to 10 inches; coarse sandy loam
Bt—10 to 16 inches; coarse sandy loam
2Bw—16 to 45 inches; coarse sand
2C—45 to 80 inches; sand

### *Additional Components*

**Mosford soils**

*Extent:* 5 percent of the unit

**Arvilla, MAP >25, soils**

*Extent:* 5 percent of the unit

## 1231—Hubbard-Mosford complex, 0 to 3 percent slopes

### *Component Description*

**Hubbard and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Flats and slight rises
*Slope range:* 1 to 3 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap,AB—0 to 20 inches; loamy sand
Bw—20 to 32 inches; loamy sand
BC,C—32 to 80 inches; sand

**Mosford and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Stream terraces and outwash plains
*Position on the landform:* Flats and swales
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash

*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 5.1 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap,A—0 to 13 inches; sandy loam
Bw—13 to 16 inches; coarse sandy loam
2Bw—16 to 35 inches; coarse sand
2C—35 to 80 inches; sand

### *Additional Components*

**Verndale, acid substratum, soils**

*Extent:* 5 percent of the unit

**Arvilla, MAP >25, soils**

*Extent:* 5 percent of the unit

## 1255—Elkriver fine sandy loam, 0 to 2 percent slopes, occasionally flooded

### *Component Description*

**Elkriver, occasionally flooded, and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat poorly drained
*Parent material:* Alluvium
*Flooding does not occur (months):* January, February, September, October, November, December
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)
*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)
*Wet soil moisture status is lowest (depth, months):* 4.5 feet (February)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 7.4 inches
*Content of organic matter in the upper 10 inches:* 1.7 percent
*Typical profile:*
Ap—0 to 10 inches; fine sandy loam
A1,A3—10 to 26 inches; fine sandy loam
Bw—26 to 32 inches; very fine sandy loam
2C—32 to 80 inches; sand

### *Additional Components*

**Fordum, frequently flooded, soils**

*Extent:* 15 percent of the unit

**Winterfield, occasionally flooded, soils**

*Extent:* 5 percent of the unit

## 1256—Cantlin loamy fine sand, 0 to 3 percent slopes

### *Component Description*

**Cantlin and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Outwash plains
*Position on the landform:* Flats and slight rises
*Slope range:* 0 to 3 percent
*Texture of the surface layer:* Loamy fine sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3.5 feet (April, May)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (August, September, October)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.1 inches
*Content of organic matter in the upper 10 inches:* 1.1 percent
*Typical profile:*
Ap—0 to 8 inches; loamy fine sand
Bw—8 to 22 inches; loamy fine sand
BC,C—22 to 80 inches; fine sand

### *Additional Components*

**Lino soils**

*Extent:* 7 percent of the unit

**Zimmerman soils**

*Extent:* 3 percent of the unit

## 1257—Elkriver-Mosford complex, 0 to 6 percent slopes, rarely flooded

### *Component Description*

**Elkriver, rarely flooded, and similar soils**

*Extent:* 55 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Flats
*Slope range:* 0 to 3 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Alluvium
*Flooding does not occur (months):* January, February, July, August, September, October, November, December
*Flooding is most likely (frequency, months):* Rare (March, April, May, June)
*Wet soil moisture status is highest (depth, months):* 3 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.2 inches
*Content of organic matter in the upper 10 inches:* 1.7 percent
*Typical profile:*
Ap—0 to 10 inches; fine sandy loam
A1,A3—10 to 35 inches; fine sandy loam
Bw—35 to 39 inches; fine sandy loam
2C—39 to 80 inches; sand

**Mosford, rarely flooded, and similar soils**

*Extent:* 35 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Slight rises
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat excessively drained
*Parent material:* Outwash
*Flooding does not occur (months):* January, February, July, August, September, October, November, December
*Flooding is most likely (frequency, months):* Rare (March, April, May, June)
*Wet soil moisture status is highest (depth, months):* 3 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.9 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap—0 to 11 inches; fine sandy loam
Bw—11 to 16 inches; fine sandy loam
2Bw—16 to 25 inches; fine sand
2C—25 to 80 inches; sand

### *Additional Components*

**Fordum, frequently flooded, soils**

*Extent:* 7 percent of the unit

**Winterfield, occasionally flooded, soils**

*Extent:* 3 percent of the unit

## 1260B—Stonelake-Nebish, moderately wet, complex, 2 to 6 percent slopes

### *Component Description*

**Stonelake and similar soils**

*Extent:* 55 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and summits
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Loamy coarse sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.4 inches
*Content of organic matter in the upper 10 inches:* 1.1 percent
*Typical profile:*
Ap—0 to 8 inches; loamy coarse sand
Bt—8 to 30 inches; very gravelly loamy coarse sand
BC,C—30 to 80 inches; gravelly sand

**Nebish, moderately wet, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Fine sandy loam

*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.7 inches
*Content of organic matter in the upper 10 inches:* 1.2 percent
*Typical profile:*
Ap—0 to 6 inches; fine sandy loam
E—6 to 9 inches; fine sandy loam
Bt—9 to 43 inches; clay loam
Bk—43 to 80 inches; loam

### *Additional Components*

**Beltrami soils**

*Extent:* 7 percent of the unit

**Talmoon soils**

*Extent:* 5 percent of the unit

**Braham soils**

*Extent:* 3 percent of the unit

## 1260C—Stonelake-Nebish complex, 6 to 12 percent slopes

### *Component Description*

**Stonelake and similar soils**

*Extent:* 55 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.3 inches
*Content of organic matter in the upper 10 inches:* 1 percent
*Typical profile:*
Ap—0 to 7 inches; loamy sand
E—7 to 20 inches; loamy coarse sand
Bt—20 to 42 inches; very gravelly coarse sand
C—42 to 80 inches; very gravelly coarse sand

**Nebish and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.4 inches
*Content of organic matter in the upper 10 inches:* 1 percent
*Typical profile:*
Ap—0 to 3 inches; fine sandy loam
E—3 to 10 inches; fine sandy loam
Bt—10 to 29 inches; clay loam
Bk—29 to 80 inches; loam

### *Additional Components*

**Beltrami soils**

*Extent:* 7 percent of the unit

**Talmoon soils**

*Extent:* 5 percent of the unit

**Braham soils**

*Extent:* 3 percent of the unit

## 1260E—Stonelake-Nebish complex, 12 to 25 percent slopes

### *Component Description*

**Stonelake and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and summits
*Slope range:* 12 to 25 percent

*Texture of the surface layer:* Gravelly coarse sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 2.9 inches
*Content of organic matter in the upper 10 inches:* 1.4 percent
*Typical profile:*
A—0 to 5 inches; gravelly coarse sandy loam
Bw—5 to 11 inches; very gravelly coarse sand
Bt—11 to 20 inches; very gravelly coarse sand
BC,C—20 to 80 inches; very gravelly coarse sand

**Nebish and similar soils**

*Extent:* 25 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 12 to 25 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 9.4 inches
*Content of organic matter in the upper 10 inches:* 1.4 percent
*Typical profile:*
A—0 to 5 inches; fine sandy loam
EB—5 to 9 inches; fine sandy loam
Bt—9 to 27 inches; clay loam
Bk—27 to 80 inches; loam

### *Additional Components*

**Beltrami soils**

*Extent:* 7 percent of the unit

**Bluffton soils**

*Extent:* 5 percent of the unit

**Braham soils**

*Extent:* 3 percent of the unit

## 1288—Seelyeville and Markey soils, ponded, 0 to 1 percent slopes

### *Component Description*

**Seelyeville, ponded, and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 23.9 inches
*Content of organic matter in the upper 10 inches:* 62 percent
*Typical profile:*
Oa1—0 to 15 inches; muck
Oa2,Oa3—15 to 80 inches; muck

**Markey, ponded, and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material over outwash
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 12.8 inches
*Content of organic matter in the upper 10 inches:* 70 percent
*Typical profile:*
Oa—0 to 27 inches; muck
A—27 to 32 inches; loamy sand
Cg—32 to 80 inches; sand

### *Additional Components*

**Ponded areas of mineral soils**

*Extent:* 10 percent of the unit

## 1356—Water, miscellaneous

### *Component Description*

• This map unit consists of bodies of water that have been constructed, including sewage lagoons, storm-water sediment basins with a permanent pool of water, and aquaculture ponds.

## 1362B—Angus loam, 2 to 5 percent slopes

### *Component Description*

**Angus and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Summits and backslopes
*Slope range:* 2 to 5 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
Ap—0 to 8 inches; loam
Bt—8 to 35 inches; clay loam
BC—35 to 40 inches; clay loam
C—40 to 80 inches; loam

### *Additional Components*

**Le Sueur soils**

*Extent:* 10 percent of the unit

**Cordova soils**

*Extent:* 5 percent of the unit

## 1368—Southhaven loam, 0 to 2 percent slopes

### *Component Description*

**Southhaven and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Outwash plains
*Position on the landform:* Swales
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Colluvium over outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3.5 feet (April, May)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (August, September, October)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 11 inches
*Content of organic matter in the upper 10 inches:* 6 percent
*Typical profile:*
Ap,A3—0 to 48 inches; loam
Bw—48 to 62 inches; loam
2Bw—62 to 66 inches; loamy sand
2C—66 to 80 inches; sand

### *Additional Components*

**Mosford soils**

*Extent:* 7 percent of the unit

**Dorset soils**

*Extent:* 3 percent of the unit

## 1377B—Dorset-Two Inlets complex, 2 to 6 percent slopes

### *Component Description*

**Dorset and similar soils**

*Extent:* 70 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Backslopes and shoulders
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained

*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.7 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap,A—0 to 11 inches; sandy loam
Bt—11 to 19 inches; sandy loam
2BC—19 to 32 inches; gravelly loamy sand
2C—32 to 80 inches; gravelly coarse sand

**Two Inlets and similar soils**

*Extent:* 20 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Shoulders
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.2 inches
*Content of organic matter in the upper 10 inches:* 0.7 percent
*Typical profile:*
Ap—0 to 9 inches; loamy sand
Bt—9 to 19 inches; gravelly loamy sand
C—19 to 80 inches; gravelly sand

### *Additional Components*

**Southhaven soils**

*Extent:* 5 percent of the unit

**Verndale, acid substratum, soils**

*Extent:* 5 percent of the unit

## 1377C—Dorset-Two Inlets complex, 6 to 12 percent slopes

### *Component Description*

**Dorset and similar soils**

*Extent:* 50 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Backslopes and summits
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.7 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
Ap,A—0 to 11 inches; sandy loam
Bt—11 to 19 inches; sandy loam
2BC—19 to 32 inches; gravelly loamy sand
2C—32 to 80 inches; gravelly coarse sand

**Two Inlets and similar soils**

*Extent:* 35 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Shoulders
*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.2 inches
*Content of organic matter in the upper 10 inches:* 0.7 percent
*Typical profile:*
Ap—0 to 9 inches; loamy sand
Bt—9 to 19 inches; gravelly loamy sand
C—19 to 80 inches; gravelly sand

### *Additional Components*

**Southhaven soils**

*Extent:* 10 percent of the unit

**Verndale, acid substratum, soils**

*Extent:* 5 percent of the unit

## 1377D—Dorset-Two Inlets complex, 12 to 20 percent slopes

### *Component Description*

**Dorset and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Summits and backslopes
*Slope range:* 12 to 20 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
Ap—0 to 9 inches; sandy loam
Bt—9 to 14 inches; sandy loam
2Bt,2BC—14 to 25 inches; gravelly loamy sand
2C—25 to 80 inches; gravelly sand

**Two Inlets and similar soils**

*Extent:* 40 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Shoulders
*Slope range:* 12 to 20 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.2 inches
*Content of organic matter in the upper 10 inches:* 0.7 percent
*Typical profile:*
Ap—0 to 9 inches; loamy sand
Bt—9 to 19 inches; gravelly loamy sand
C—19 to 80 inches; gravelly sand

### *Additional Components*

**Southhaven soils**

*Extent:* 10 percent of the unit

**Verndale, acid substratum, soils**

*Extent:* 5 percent of the unit

## 1377E—Dorset-Two Inlets complex, 20 to 35 percent slopes

### *Component Description*

**Dorset and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Summits and backslopes
*Slope range:* 20 to 35 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.1 inches
*Content of organic matter in the upper 10 inches:* 1.9 percent
*Typical profile:*
A—0 to 9 inches; sandy loam
Bt—9 to 14 inches; coarse sandy loam
2BC—14 to 27 inches; loamy sand
2C—27 to 80 inches; gravelly sand

**Two Inlets and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Shoulders
*Slope range:* 20 to 35 percent
*Texture of the surface layer:* Loamy sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Excessively drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year

*Ponding:* None
*Available water capacity to a depth of 60 inches:* 3.3 inches
*Content of organic matter in the upper 10 inches:* 0.7 percent
*Typical profile:*
A—0 to 8 inches; loamy sand
BE,Bt—8 to 20 inches; loamy sand
BC,C—20 to 80 inches; gravelly sand

### *Additional Components*

**Southhaven soils**

*Extent:* 5 percent of the unit

**Verndale, acid substratum, soils**

*Extent:* 5 percent of the unit

## 1378—Fordum loam, 0 to 2 percent slopes, occasionally flooded

### *Component Description*

**Fordum, occasionally flooded, and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Alluvium
*Flooding does not occur (months):* January, February, September, October, November, December
*Flooding is most likely (frequency, months):* Occasional (March, April, May, June, July, August)
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)
*Wet soil moisture status is lowest (depth, months):* 2.3 feet (September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.7 inches
*Content of organic matter in the upper 10 inches:* 5.6 percent
*Typical profile:*
Ap—0 to 9 inches; loam
Cg—9 to 38 inches; loam
2Cg—38 to 80 inches; stratified sand to silt loam

### *Additional Components*

**Fordum, frequently flooded, soils**

*Extent:* 10 percent of the unit

**Elkriver, occasionally flooded, soils**

*Extent:* 5 percent of the unit

## 1379B—Dorset-Almora complex, 1 to 4 percent slopes

### *Component Description*

**Dorset and similar soils**

*Extent:* 65 percent of the unit
*Geomorphic setting:* Hills on outwash plains; hills on stream terraces
*Position on the landform:* Backslopes and shoulders
*Slope range:* 1 to 4 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 5 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 5.1 inches
*Content of organic matter in the upper 10 inches:* 2.8 percent
*Typical profile:*
Ap—0 to 9 inches; loam
Bt—9 to 21 inches; loam
2Bt—21 to 26 inches; gravelly loamy sand
2C—26 to 80 inches; gravelly sand

**Almora and similar soils**

*Extent:* 25 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Flats
*Slope range:* 1 to 2 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Outwash
*Flooding:* None
*Depth to wet soil moisture status:* More than 6.7 feet all year
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 7.7 inches
*Content of organic matter in the upper 10 inches:* 4 percent

*Typical profile:*
Ap—0 to 10 inches; loam
BE—10 to 14 inches; fine sandy loam
Bt—14 to 36 inches; loam
2Bt—36 to 41 inches; loamy sand
2C—41 to 80 inches; gravelly coarse sand

### *Additional Components*

**Southhaven soils**

*Extent:* 5 percent of the unit

**Verndale, acid substratum, soils**

*Extent:* 5 percent of the unit

## 1380A—Bygland silt loam, MAP >25, 0 to 2 percent slopes

### *Component Description*

**Bygland, MAP >25, and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Lake plains
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Silt loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Glaciolacustrine sediments
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April, May)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 11.2 inches
*Content of organic matter in the upper 10 inches:* 2.8 percent
*Typical profile:*
Ap—0 to 9 inches; silt loam
Bt—9 to 23 inches; silty clay
BC—23 to 27 inches; silt loam
C—27 to 80 inches; stratified silt loam to silty clay loam

### *Additional Components*

**Lindaas, sandy substratum, soils**

*Extent:* 10 percent of the unit

**Lindaas, morainic, soils**

*Extent:* 5 percent of the unit

## 1380B—Bygland silt loam, MAP >25, 2 to 6 percent slopes

### *Component Description*

**Bygland, MAP >25, and similar soils**

*Extent:* 70 percent of the unit
*Geomorphic setting:* Hills on lake plains
*Position on the landform:* Shoulders, summits, and backslopes
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Silt loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Glaciolacustrine sediments
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 11.2 inches
*Content of organic matter in the upper 10 inches:* 2.8 percent
*Typical profile:*
Ap—0 to 9 inches; silt loam
Bt—9 to 23 inches; silty clay
BC—23 to 27 inches; silt loam
C—27 to 80 inches; stratified silt loam to silty clay loam

### *Additional Components*

**Lindaas, sandy substratum, soils**

*Extent:* 15 percent of the unit

**Lindaas, morainic, soils**

*Extent:* 10 percent of the unit

**Depressional soils**

*Extent:* 5 percent of the unit

## 1380C—Bygland silt loam, MAP >25, 6 to 12 percent slopes, eroded

### *Component Description*

**Bygland, MAP >25, and similar soils**

*Extent:* 70 percent of the unit
*Geomorphic setting:* Hills on lake plains
*Position on the landform:* Shoulders, summits, and backslopes

*Slope range:* 6 to 12 percent
*Texture of the surface layer:* Silt loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Glaciolacustrine sediments
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, March, June, July, August, September, October, November, December)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 11.1 inches
*Content of organic matter in the upper 10 inches:* 0.9 percent
*Typical profile:*
Ap—0 to 7 inches; silt loam
Bt—7 to 20 inches; silty clay
BC—20 to 26 inches; silt loam
C—26 to 80 inches; stratified silt loam to silty clay loam

### *Additional Components*

**Lindaas, sandy substratum, soils**

*Extent:* 15 percent of the unit

**Lindaas, morainic, soils**

*Extent:* 10 percent of the unit

**Depressional soils**

*Extent:* 5 percent of the unit

## 1381—Lindaas silt loam, morainic, 0 to 2 percent slopes

### *Component Description*

**Lindaas, morainic, and similar soils**

*Extent:* 80 percent of the unit
*Geomorphic setting:* Lake plains
*Position on the landform:* Flats and swales
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Silt loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Glaciolacustrine sediments
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)
*Wet soil moisture status is lowest (depth, months):* 2.5 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.9 inches
*Content of organic matter in the upper 10 inches:* 5 percent
*Typical profile:*
Ap,A—0 to 16 inches; silt loam
Btg—16 to 32 inches; silty clay
Cg—32 to 80 inches; silty clay loam

### *Additional Components*

**Lindaas, sandy substratum, soils**

*Extent:* 10 percent of the unit

**Depressional soils**

*Extent:* 10 percent of the unit

## 1383A—Shorewood silty clay loam, moderately wet, 0 to 3 percent slopes

### *Component Description*

**Shorewood, moderately wet, and similar soils**

*Extent:* 95 percent of the unit
*Geomorphic setting:* Moraines and lake plains
*Position on the landform:* Flats
*Slope range:* 0 to 3 percent
*Texture of the surface layer:* Silty clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat poorly drained
*Parent material:* Lacustrine sediments over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 1 foot (April)
*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.2 inches
*Content of organic matter in the upper 10 inches:* 6 percent
*Typical profile:*
Ap,A,AB—0 to 17 inches; silty clay loam
Bt—17 to 39 inches; silty clay
2BCg,2Cg—39 to 60 inches; loam

### *Additional Components*

**Waldorf soils**

*Extent:* 5 percent of the unit

## 1388B—Terril loam, moderately wet, 2 to 6 percent slopes

### *Component Description*

**Terril, moderately wet, and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Footslopes
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Colluvium over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 11.4 inches
*Content of organic matter in the upper 10 inches:* 4 percent
*Typical profile:*
Ap,A1—0 to 27 inches; loam
A2,BA—27 to 40 inches; loam
Bw—40 to 63 inches; loam
C—63 to 80 inches; loam

### *Additional Components*

**Hamel soils**

*Extent:* 12 percent of the unit

**Glencoe, depressional, soils**

*Extent:* 3 percent of the unit

## 1406—Medo, Dassel, and Biscay soils, ponded, 0 to 1 percent slopes

### *Component Description*

**Medo, ponded, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Muck
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Organic material over outwash
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 12.2 inches
*Content of organic matter in the upper 10 inches:* 70 percent
*Typical profile:*
Oa—0 to 20 inches; muck
2A—20 to 34 inches; loam
2AC,2Cg—34 to 60 inches; sand

**Dassel, ponded, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 6.8 inches
*Content of organic matter in the upper 10 inches:* 8 percent
*Typical profile:*
A1,A3—0 to 23 inches; fine sandy loam
Bg—23 to 31 inches; stratified loamy fine sand to fine sandy loam
2Cg—31 to 60 inches; stratified coarse sand to loamy sand

**Biscay, ponded, and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Outwash plains and stream terraces
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)

*Drainage class:* Very poorly drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status:* At the surface all year
*Ponding is shallowest (depth, months):* 0.5 foot (August)
*Ponding is deepest (depth, months):* 3 feet (March, April, May)
*Available water capacity to a depth of 60 inches:* 6.9 inches
*Content of organic matter in the upper 10 inches:* 6 percent
*Typical profile:*
A1,AB—0 to 24 inches; loam
Bg—24 to 29 inches; loam
2BCg,2Cg—29 to 60 inches; stratified gravelly coarse sand to loamy sand

### *Additional Components*

**Houghton, ponded, soils**

*Extent:* 5 percent of the unit

**Muskego, ponded, soils**

*Extent:* 5 percent of the unit

## 1408B—Angus-Kilkenny complex, 2 to 6 percent slopes

### *Component Description*

**Angus and similar soils**

*Extent:* 45 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 2 to 5 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
Ap—0 to 8 inches; loam
Bt—8 to 35 inches; clay loam
BC—35 to 40 inches; clay loam
C—40 to 80 inches; loam

**Kilkenny and similar soils**

*Extent:* 40 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Shoulders and summits
*Slope range:* 2 to 6 percent
*Texture of the surface layer:* Clay loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Glaciofluvial sediments and reworked till over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 1.7 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.3 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap—0 to 11 inches; clay loam
Bt—11 to 35 inches; clay loam
2Bk,2C—35 to 80 inches; loam

### *Additional Components*

**Lerdal soils**

*Extent:* 10 percent of the unit

**Mazaska soils**

*Extent:* 5 percent of the unit

## 1438B—Braham loamy fine sand, moderately wet, 2 to 5 percent slopes

### *Component Description*

**Braham, moderately wet, and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 2 to 5 percent
*Texture of the surface layer:* Loamy fine sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Outwash over till

*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 5 feet (January, February, June, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.4 inches
*Content of organic matter in the upper 10 inches:* 1.7 percent
*Typical profile:*
Ap—0 to 8 inches; loamy fine sand
E—8 to 24 inches; loamy fine sand
2Bt—24 to 42 inches; sandy clay loam
2Bk—42 to 60 inches; loam

### *Additional Components*

**Eckvoll, MAP >25, soils**

*Extent:* 7 percent of the unit

**Talmoon soils**

*Extent:* 5 percent of the unit

**Nebish soils**

*Extent:* 3 percent of the unit

## 1443—Belleville sandy loam, 0 to 2 percent slopes

### *Component Description*

**Belleville and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Beaches on moraines
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Glaciolacustrine sediments over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April)
*Wet soil moisture status is lowest (depth, months):* 2 feet (August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.4 inches
*Content of organic matter in the upper 10 inches:* 4.5 percent
*Typical profile:*
Ap—0 to 11 inches; sandy loam
Bg—11 to 27 inches; loamy sand
2Bg—27 to 48 inches; loam
2Cg—48 to 80 inches; loam

### *Additional Components*

**Soils that have a sandy substratum**

*Extent:* 10 percent of the unit

**Soils that have a sandy surface layer**

*Extent:* 5 percent of the unit

## 1901B—Angus-Le Sueur complex, 1 to 5 percent slopes

### *Component Description*

**Angus and similar soils**

*Extent:* 60 percent of the unit
*Geomorphic setting:* Hills on moraines
*Position on the landform:* Backslopes and summits
*Slope range:* 2 to 5 percent
*Texture of the surface layer:* Loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Well drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 3.6 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (January, February, July, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.5 inches
*Content of organic matter in the upper 10 inches:* 2.5 percent
*Typical profile:*
Ap—0 to 8 inches; loam
Bt—8 to 35 inches; clay loam
BC—35 to 40 inches; clay loam
C—40 to 80 inches; loam

**Le Sueur and similar soils**

*Extent:* 30 percent of the unit
*Geomorphic setting:* Moraines
*Position on the landform:* Flats and slight rises
*Slope range:* 1 to 4 percent
*Texture of the surface layer:* Loam

*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat poorly drained
*Parent material:* Till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)
*Wet soil moisture status is lowest (depth, months):* More than 6.7 feet (February, August)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 10.9 inches
*Content of organic matter in the upper 10 inches:* 5 percent
*Typical profile:*
Ap,AB—0 to 14 inches; loam
Bt—14 to 40 inches; clay loam
Bk—40 to 55 inches; loam
C—55 to 80 inches; loam

### *Additional Components*

**Cordova soils**

*Extent:* 10 percent of the unit

## 1931—Essexville sandy loam, 0 to 2 percent slopes

### *Component Description*

**Essexville and similar soils**

*Extent:* 75 percent of the unit
*Geomorphic setting:* Beaches on moraines
*Position on the landform:* Flats
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Poorly drained
*Parent material:* Glaciolacustrine sediments over till
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 0.5 foot (April, May)
*Wet soil moisture status is lowest (depth, months):* 2 feet (August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 8.7 inches
*Content of organic matter in the upper 10 inches:* 6 percent
*Typical profile:*
Ap,A—0 to 15 inches; sandy loam
Bg—15 to 30 inches; sand
2Cg—30 to 80 inches; loam

### *Additional Components*

**Belleville soils**

*Extent:* 15 percent of the unit

**Soils that have a sandy substratum**

*Extent:* 10 percent of the unit

## 1942—Forada mucky loam, depressional, 0 to 1 percent slopes

### *Component Description*

**Forada, depressional, and similar soils**

*Extent:* 85 percent of the unit
*Geomorphic setting:* Stream terraces and outwash plains
*Position on the landform:* Depressions
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Mucky loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)
*Wet soil moisture status is lowest (depth, months):* 1.5 feet (February)
*Ponding is shallowest (depth, months):* 0.5 foot (June)
*Ponding is deepest (depth, months):* 1 foot (March, April, May)
*Available water capacity to a depth of 60 inches:* 6.2 inches
*Content of organic matter in the upper 10 inches:* 10 percent
*Typical profile:*
A—0 to 10 inches; mucky loam
Bg—10 to 21 inches; sandy loam
2BCg,2Cg—21 to 60 inches; gravelly coarse sand

### *Additional Components*

**Forada soils**

*Extent:* 10 percent of the unit

**Soils that have a thin organic layer**

*Extent:* 5 percent of the unit

## 1946—Fordum-Winterfield complex, 0 to 2 percent slopes, frequently flooded

### *Component Description*

**Fordum, frequently flooded, and similar soils**

*Extent:* 70 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Concave drainageways
*Slope range:* 0 to 1 percent
*Texture of the surface layer:* Fine sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Very poorly drained
*Parent material:* Alluvium
*Flooding does not occur (months):* January, February, September, October, November, December
*Flooding is most likely (frequency, months):* Frequent (March, April, May, June)
*Wet soil moisture status is highest (depth, months):* At the surface (April, May, June)
*Wet soil moisture status is lowest (depth, months):* 1.8 feet (February)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 6.6 inches
*Content of organic matter in the upper 10 inches:* 6.6 percent
*Typical profile:*
A—0 to 7 inches; fine sandy loam
Cg—7 to 28 inches; sandy loam
2Cg—28 to 80 inches; sand

**Winterfield, frequently flooded, and similar soils**

*Extent:* 20 percent of the unit
*Geomorphic setting:* Flood plains
*Position on the landform:* Slight rises
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Loamy fine sand
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Somewhat poorly drained
*Parent material:* Alluvium
*Flooding does not occur (months):* January, February, September, October, November, December
*Flooding is most likely (frequency, months):* Frequent (March, April)
*Wet soil moisture status is highest (depth, months):* 1.5 feet (April)
*Wet soil moisture status is lowest (depth, months):* 4.5 feet (September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.7 inches
*Content of organic matter in the upper 10 inches:* 1.7 percent
*Typical profile:*
A—0 to 8 inches; loamy fine sand
C1,C2—8 to 20 inches; sand
C3,C5—20 to 80 inches; sand

### *Additional Components*

**Fordum, occasionally flooded, soils**

*Extent:* 10 percent of the unit

## 1975—Oylen sandy loam, 0 to 2 percent slopes

### *Component Description*

**Oylen and similar soils**

*Extent:* 90 percent of the unit
*Geomorphic setting:* Stream terraces and outwash plains
*Position on the landform:* Flats and slight rises
*Slope range:* 0 to 2 percent
*Texture of the surface layer:* Sandy loam
*Depth to restrictive feature:* Very deep (more than 60 inches)
*Drainage class:* Moderately well drained
*Parent material:* Outwash
*Flooding:* None
*Wet soil moisture status is highest (depth, months):* 2.5 feet (April, May)
*Wet soil moisture status is lowest (depth, months):* 4 feet (February, August, September)
*Ponding:* None
*Available water capacity to a depth of 60 inches:* 4.9 inches
*Content of organic matter in the upper 10 inches:* 3 percent
*Typical profile:*
Ap—0 to 10 inches; sandy loam
Bt—10 to 18 inches; sandy loam
2Bw—18 to 38 inches; sand
2C—38 to 80 inches; gravelly coarse sand

### *Additional Components*

**Forada soils**

*Extent:* 10 percent of the unit

## W—Water

### *Component Description*

- This map unit consists of naturally occurring bodies of water.

Table 2.--Acreage and Proportionate Extent of the Soils

| Map symbol | Soil name | Acres | Percent |
|---|---|---|---|
| 7A | Hubbard loamy sand, 0 to 2 percent slopes | 755 | 0.2 |
| 7B | Hubbard loamy sand, 2 to 6 percent slopes | 1,214 | 0.3 |
| 7C | Hubbard loamy sand, 6 to 12 percent slopes | 661 | 0.1 |
| 8B | Sparta loamy sand, 1 to 6 percent slopes | 33 | * |
| 35 | Blue Earth mucky silty clay loam, depressional, 0 to 1 percent slopes | 474 | 0.1 |
| 74B | Dickinson fine sandy loam, 1 to 6 percent slopes | 294 | * |
| 86 | Canisteo clay loam, moderately fine substratum, 0 to 2 percent slopes | 6,295 | 1.4 |
| 106C2 | Lester loam, 6 to 12 percent slopes, eroded | 42,943 | 9.4 |
| 106D2 | Lester loam, 12 to 18 percent slopes, eroded | 11,643 | 2.5 |
| 106E | Lester loam, 18 to 25 percent slopes | 8,220 | 1.8 |
| 109 | Cordova clay loam, 0 to 2 percent slopes | 25,212 | 5.5 |
| 114 | Glencoe clay loam, depressional, 0 to 1 percent slopes | 11,033 | 2.4 |
| 138 | Lerdal silty clay loam, 1 to 3 percent slopes | 116 | * |
| 158A | Zimmerman fine sand, 0 to 3 percent slopes | 109 | * |
| 158B | Zimmerman fine sand, 3 to 6 percent slopes | 166 | * |
| 158C | Zimmerman fine sand, 6 to 12 percent slopes | 36 | * |
| 158E | Zimmerman fine sand, 12 to 25 percent slopes | 34 | * |
| 169C | Braham loamy fine sand, 6 to 12 percent slopes | 121 | * |
| 181 | Litchfield loamy fine sand, 0 to 2 percent slopes | 285 | * |
| 229 | Waldorf silty clay loam, 0 to 2 percent slopes | 106 | * |
| 231C | Lester fine sandy loam, 6 to 12 percent slopes | 1,029 | 0.2 |
| 231D | Lester fine sandy loam, 12 to 18 percent slopes | 810 | 0.2 |
| 235 | Nessel loam, 1 to 3 percent slopes | 883 | 0.2 |
| 239 | Le Sueur clay loam, 1 to 3 percent slopes | 7,758 | 1.7 |
| 247 | Linder loam, 0 to 2 percent slopes | 207 | * |
| 255 | Mayer loam, 0 to 2 percent slopes | 199 | * |
| 256 | Mazaska silty clay loam, 0 to 2 percent slopes | 830 | 0.2 |
| 258B | Sandberg loamy sand, 2 to 6 percent slopes | 294 | * |
| 258C | Sandberg loamy sand, 6 to 12 percent slopes | 96 | * |
| 258E | Sandberg loamy sand, 12 to 35 percent slopes | 276 | * |
| 260 | Duelm loamy sand, 0 to 2 percent slopes | 799 | 0.2 |
| 261 | Isan sandy loam, depressional, 0 to 1 percent slopes | 128 | * |
| 286B | Shorewood silty clay loam, 3 to 6 percent slopes | 76 | * |
| 294A | Rasset sandy loam, 0 to 2 percent slopes | 430 | * |
| 323 | Shields silty clay loam, 0 to 3 percent slopes | 49 | * |
| 327A | Dickman sandy loam, 0 to 2 percent slopes | 22 | * |
| 327B | Dickman sandy loam, 2 to 6 percent slopes | 181 | * |
| 375 | Forada loam, 0 to 2 percent slopes | 593 | 0.1 |
| 392 | Biscay loam, 0 to 2 percent slopes | 941 | 0.2 |
| 406 | Dorset sandy loam, 0 to 2 percent slopes | 6,344 | 1.4 |
| 414 | Hamel loam, 1 to 3 percent slopes | 7,875 | 1.7 |
| 441 | Almora loam, 0 to 2 percent slopes | 448 | * |
| 461B | Koronis loam, 2 to 6 percent slopes | 624 | 0.1 |
| 461C2 | Koronis loam, 6 to 12 percent slopes, eroded | 955 | 0.2 |
| 461E | Koronis loam, 18 to 40 percent slopes | 412 | * |
| 511 | Marcellon loam, MAP <30, 0 to 3 percent slopes | 54 | * |
| 523 | Houghton muck, depressional, 0 to 1 percent slopes | 9,841 | 2.2 |
| 525 | Muskego muck, depressional, 0 to 1 percent slopes | 1,429 | 0.3 |
| 539 | Klossner muck, depressional, 0 to 1 percent slopes | 9,961 | 2.2 |
| 540 | Seelyeville muck, depressional, 0 to 1 percent slopes | 1,013 | 0.2 |
| 543 | Markey muck, depressional, 0 to 1 percent slopes | 988 | 0.2 |

See footnote at end of table.

Table 2.--Acreage and Proportionate Extent of the Soils--Continued

| Map symbol | Soil name | Acres | Percent |
|---|---|---|---|
| 548 | Medo muck, depressional, 0 to 1 percent slopes | 506 | 0.1 |
| 603 | Hanlon fine sandy loam, 0 to 2 percent slopes, occasionally flooded | 1,025 | 0.2 |
| 611D | Hawick gravelly sandy loam, 12 to 25 percent slopes | 43 | * |
| 708 | Rushlake coarse sand, 1 to 4 percent slopes | 390 | * |
| 740 | Hamel-Glencoe, depressional, complex, 0 to 3 percent slopes | 7,195 | 1.6 |
| 768 | Mosford sandy loam, 0 to 2 percent slopes | 274 | * |
| 771 | Elkriver fine sandy loam, 0 to 2 percent slopes, rarely flooded | 801 | 0.2 |
| 783C2 | Lester-Kilkenny complex, 6 to 12 percent slopes, eroded | 43 | * |
| 792 | Fordum fine sandy loam, 0 to 2 percent slopes, frequently flooded | 98 | * |
| 799 | Seelyeville and Bowstring soils, 0 to 1 percent slopes, frequently flooded | 479 | 0.1 |
| 804B | Koronis-Sunburg-Hawick complex, 2 to 6 percent slopes | 190 | * |
| 804C2 | Koronis-Sunburg-Hawick complex, 6 to 12 percent slopes, eroded | 261 | * |
| 804D2 | Koronis-Sunburg-Hawick complex, 12 to 18 percent slopes, eroded | 247 | * |
| 804E | Koronis-Sunburg-Hawick complex, 18 to 40 percent slopes | 277 | * |
| 807D2 | Koronis-Sunburg complex, 12 to 18 percent slopes, eroded | 436 | * |
| 875B | Estherville-Hawick complex, 2 to 6 percent slopes | 136 | * |
| 875C | Hawick-Estherville complex, 6 to 12 percent slopes | 47 | * |
| 896B | Kingsley-Gotham complex, 2 to 6 percent slopes | 335 | * |
| 896C | Kingsley-Gotham complex, 6 to 12 percent slopes | 387 | * |
| 945C2 | Lester-Storden complex, 6 to 12 percent slopes, eroded | 1,641 | 0.4 |
| 945D2 | Lester-Storden complex, 12 to 18 percent slopes, eroded | 1,383 | 0.3 |
| 956 | Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes | 7,067 | 1.5 |
| 978 | Cordova-Rolfe, depressional, complex, 0 to 2 percent slopes | 406 | * |
| 1000 | Arvilla sandy loam, MAP >25, 0 to 2 percent slopes | 203 | * |
| 1015 | Udipsamments (cut and fill land) | 319 | * |
| 1016 | Udorthents, loamy (cut and fill land) | 510 | 0.1 |
| 1023C | Lester-Malardi complex, 6 to 12 percent slopes, eroded | 2,123 | 0.5 |
| 1023D | Lester-Malardi complex, 12 to 18 percent slopes, eroded | 2,273 | 0.5 |
| 1026B | Lizzie silt loam, moderately wet, 1 to 5 percent slopes | 230 | * |
| 1027 | Udorthents, wet substratum (fill land) | 603 | 0.1 |
| 1030 | Pits, gravel-Udipsamments complex | 1,482 | 0.3 |
| 1035B | Crowfork loamy sand, 1 to 6 percent slopes | 4,921 | 1.1 |
| 1035C | Crowfork loamy sand, 6 to 12 percent slopes | 1,567 | 0.3 |
| 1035D | Crowfork loamy sand, 12 to 18 percent slopes | 352 | * |
| 1036B | Angus fine sandy loam, 2 to 5 percent slopes | 426 | * |
| 1037 | Eckvoll loamy fine sand, MAP >25, 0 to 3 percent slopes | 134 | * |
| 1038A | Verndale sandy loam, acid substratum, 0 to 2 percent slopes | 1,635 | 0.4 |
| 1038B | Verndale sandy loam, acid substratum, 2 to 6 percent slopes | 272 | * |
| 1066B | Malardi-Hawick complex, 1 to 6 percent slopes | 2,818 | 0.6 |
| 1066C | Malardi-Hawick complex, 6 to 12 percent slopes | 1,231 | 0.3 |
| 1066E | Malardi-Hawick complex, 18 to 35 percent slopes | 466 | 0.1 |
| 1072 | Udorthents, shallow (sanitary landfill) | 105 | * |
| 1075 | Klossner and Muskego soils, ponded, 0 to 1 percent slopes | 286 | * |
| 1080 | Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes | 5,985 | 1.3 |
| 1087B | Angus-Malardi complex, 2 to 6 percent slopes | 2,585 | 0.6 |
| 1094B | Angus-Cordova complex, 0 to 5 percent slopes | 12,270 | 2.7 |
| 1099 | Granby loamy fine sand, very wet, 0 to 1 percent slopes | 159 | * |
| 1110 | Isan sandy loam, 0 to 2 percent slopes | 753 | 0.2 |
| 1156 | Cordova loam, 0 to 2 percent slopes | 7,353 | 1.6 |
| 1161 | Barry loam, 0 to 2 percent slopes | 57 | * |
| 1163 | Suckercreek loam, 0 to 2 percent slopes, frequently flooded | 5,698 | 1.2 |
| 1165 | Lundlake silty clay loam, depressional, 0 to 1 percent slopes | 24 | * |
| 1173 | Muskego and Klossner soils, 0 to 1 percent slopes, frequently flooded | 3,206 | 0.7 |
| 1186 | Forestcity-Lundlake, depressional, complex, 0 to 3 percent slopes | 479 | 0.1 |
| 1196B | Lida-Two Inlets complex, 1 to 8 percent slopes | 1,193 | 0.3 |
| 1196C | Lida-Two Inlets complex, 8 to 15 percent slopes | 1,322 | 0.3 |
| 1196E | Lida-Two Inlets complex, 15 to 30 percent slopes | 2,768 | 0.6 |
| 1197 | Suckercreek fine sandy loam, 0 to 2 percent slopes, occasionally flooded | 1,288 | 0.3 |
| 1199 | Klossner and Lundlake soils, ponded, 0 to 1 percent slopes | 81 | * |
| 1203 | Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes | 8,759 | 1.9 |
| 1204B | Reedslake loam, 2 to 5 percent slopes | 2,690 | 0.6 |

See footnote at end of table.

Table 2.--Acreage and Proportionate Extent of the Soils--Continued

| Map symbol | Soil name | Acres | Percent |
|---|---|---|---|
| 1207B | Reedslake-Le Sueur complex, 1 to 5 percent slopes | 11,994 | 2.6 |
| 1213C | Cokato-Storden complex, 6 to 12 percent slopes, eroded | 6,398 | 1.4 |
| 1213D | Cokato-Storden complex, 12 to 18 percent slopes, eroded | 1,220 | 0.3 |
| 1220C | Cokato-Storden-Hawick complex, 6 to 12 percent slopes, eroded | 56 | * |
| 1223 | Sandberg-Arvilla complex, MAP >25, 0 to 3 percent slopes | 1,014 | 0.2 |
| 1224 | Hubbard-Verndale, acid substratum, complex, 0 to 3 percent slopes | 1,097 | 0.2 |
| 1231 | Hubbard-Mosford complex, 0 to 3 percent slopes | 4,204 | 0.9 |
| 1255 | Elkriver fine sandy loam, 0 to 2 percent slopes, occasionally flooded | 367 | * |
| 1256 | Cantlin loamy fine sand, 0 to 3 percent slopes | 5 | * |
| 1257 | Elkriver-Mosford complex, 0 to 6 percent slopes, rarely flooded | 1,086 | 0.2 |
| 1260B | Stonelake-Nebish, moderately wet, complex, 2 to 6 percent slopes | 298 | * |
| 1260C | Stonelake-Nebish complex, 6 to 12 percent slopes | 220 | * |
| 1260E | Stonelake-Nebish complex, 12 to 25 percent slopes | 169 | * |
| 1288 | Seelyeville and Markey soils, ponded, 0 to 1 percent slopes | 3,466 | 0.8 |
| 1356 | Water, miscellaneous | 167 | * |
| 1362B | Angus loam, 2 to 5 percent slopes | 28,013 | 6.1 |
| 1368 | Southhaven loam, 0 to 2 percent slopes | 590 | 0.1 |
| 1377B | Dorset-Two Inlets complex, 2 to 6 percent slopes | 15,834 | 3.5 |
| 1377C | Dorset-Two Inlets complex, 6 to 12 percent slopes | 6,344 | 1.4 |
| 1377D | Dorset-Two Inlets complex, 12 to 20 percent slopes | 1,773 | 0.4 |
| 1377E | Dorset-Two Inlets complex, 20 to 35 percent slopes | 1,366 | 0.3 |
| 1378 | Fordum loam, 0 to 2 percent slopes, occasionally flooded | 369 | * |
| 1379B | Dorset-Almora complex, 1 to 4 percent slopes | 2,072 | 0.5 |
| 1380A | Bygland silt loam, MAP >25, 0 to 2 percent slopes | 223 | * |
| 1380B | Bygland silt loam, MAP >25, 2 to 6 percent slopes | 120 | * |
| 1380C | Bygland silt loam, MAP >25, 6 to 12 percent slopes, eroded | 28 | * |
| 1381 | Lindaas silt loam, morainic, 0 to 2 percent slopes | 118 | * |
| 1383A | Shorewood silty clay loam, moderately wet, 0 to 3 percent slopes | 22 | * |
| 1388B | Terril loam, moderately wet, 2 to 6 percent slopes | 1,124 | 0.2 |
| 1406 | Medo, Dassel, and Biscay soils, ponded, 0 to 1 percent slopes | 273 | * |
| 1408B | Angus-Kilkenny complex, 2 to 6 percent slopes | 170 | * |
| 1438B | Braham loamy fine sand, moderately wet, 2 to 5 percent slopes | 417 | * |
| 1443 | Belleville sandy loam, 0 to 2 percent slopes | 577 | 0.1 |
| 1901B | Angus-Le Sueur complex, 1 to 5 percent slopes | 59,586 | 13.0 |
| 1931 | Essexville sandy loam, 0 to 2 percent slopes | 981 | 0.2 |
| 1942 | Forada mucky loam, depressional, 0 to 1 percent slopes | 536 | 0.1 |
| 1946 | Fordum-Winterfield complex, 0 to 2 percent slopes, frequently flooded | 390 | * |
| 1975 | Oylen sandy loam, 0 to 2 percent slopes | 865 | 0.2 |
| W | Water | 35,660 | 7.8 |
| | Total | 456,800 | 100.0 |

* Less than 0.1 percent.

# Use and Management of the Soils

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

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

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

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

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

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

## Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

### Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

### Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

## Agronomy

General management needed for crops and for hay and pasture is suggested in this section. Climate information for the survey area is provided, the system of land capability classification used by the Natural Resources Conservation Service is explained, the estimated yields of the main crops and hay and pasture plants are listed, prime farmland is defined, and considerations affecting windbreaks and environmental plantings are described. Planners of management systems for individual fields or farms should consider obtaining specific information from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

## Climate

Table 3 gives data on temperature and precipitation for the survey area as recorded at Buffalo, Minnesota, in the period 1961 to 1990. Table 4 shows probable dates of the first freeze in fall and the last freeze in spring. Table 5 provides data on length of the growing season.

In winter, the average temperature is 15 degrees F and the average daily minimum temperature is 5.5 degrees. The lowest temperature during the period of record is -38 degrees. In summer, the average temperature is 70 degrees and the average daily maximum temperature is 82 degrees. The highest temperature during the period of record is 105 degrees.

Growing degree days are shown in table 3. 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 total annual precipitation is 29.02 inches. Of this total, 20.83 inches, or about 72 percent, usually falls in April through September. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 5.45 inches at Buffalo on July 12, 1961. Thunderstorms occur on about 37 days each year, and most occur between May and August.

The average seasonal snowfall is 45.7 inches. The greatest snow depth at any one time during the period of record was 43 inches. On the average, 97 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 59 percent. Humidity is higher at night, and the average at dawn is about 78 percent. The sun shines 69 percent of the time possible in summer and 52 percent in winter. The prevailing wind is from the northwest from November through April and from the south and southeast from May through October. Average windspeed is highest, 12 miles per hour, in April.

## Cropland Management Considerations

The management concerns affecting the use of the soil map units in the survey area for crops are shown in table 6. The main concerns in managing nonirrigated cropland are conserving moisture, controlling wind erosion and water erosion, and maintaining soil fertility.

*Conserving moisture* consists primarily of 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.

Generally, a combination of several practices is needed to control *wind erosion* and *water erosion.* Conservation tillage, stripcropping, field windbreaks, contour farming, conservation cropping systems, crop residue management, terraces, diversions, and grassed waterways help to prevent excessive soil loss.

Measures that are effective in maintaining *soil fertility* include applying fertilizer, both organic and inorganic, including manure; incorporating crop residue or green manure crops into the soil; and using proper crop rotations. Controlling erosion helps to prevent the loss of organic matter and plant nutrients and thus helps to maintain productivity, although the level of fertility can be reduced even in areas where erosion is controlled. All soils used for nonirrigated crops respond well to applications of fertilizer.

Some of the considerations shown in the table cannot be easily overcome. These are *channels, flooding, gullies,* and *ponding.*

Additional considerations are as follows:

*Lime content, limited available water capacity, limited organic matter content, potential poor tilth and compaction,* and *restricted permeability.*—These limitations can be minimized by incorporating green manure crops, manure, or crop residue into the soil; applying a system of conservation tillage; and using conservation cropping systems. Also, crops may respond well to additions of phosphate fertilizer to soils that have a high content of lime.

*Potential for ground-water contamination.*—The proper use of nutrients and pesticides can reduce the risk of ground-water contamination.

*Potential for surface-water contamination.*—The risk of surface-water contamination can be reduced by the proper use of nutrients and pesticides and by conservation farming practices that reduce the runoff rate.

*Surface crusting.*—This limitation retards seedling development after periods of heavy rainfall.

*Surface rock fragments.*—This limitation causes rapid wear of tillage equipment. It cannot be easily overcome.

*Surface stones.*—Stones or boulders on or near the surface can hinder normal tillage unless they are removed.

*Salt content.*—In areas where this is a limitation, only salt-tolerant crops should be grown.

On irrigated soils the main management concerns are *efficient water use, nutrient management, control of erosion, pest and weed control,* and *timely planting and harvesting* for a successful crop. An irrigation system that provides optimum control and distribution of water at minimum cost is needed. Overirrigation wastes water, leaches plant nutrients, and causes erosion. Also, it can increase wetness and soil salinity.

**Explanation of Criteria**

*Acid soil.*—The pH is less than 6.1.

*Channeled.*—The word "channeled" is included in the map unit name.

*Dense layer.*—The bulk density is 1.80 g/cc or greater within the soil profile.

*Depth to rock.*—The depth to bedrock is less than 40 inches.

*Eroded.*—The word "eroded" is included in the map unit name.

*Excessive permeability.*—Saturated hydraulic conductivity is 42 micrometers per second or more within the soil profile.

*Flooding.*—Flooding is occasional, frequent, or very frequent.

*Gullied.*—The word "gullied" is included in the map unit name.

*High organic matter content.*—The surface layer has more than 20 percent organic matter.

*Lime content.*—The pH is 7.4 or more in the surface layer, or the wind erodibility group is 4L.

*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.

*Limited organic matter content.*—The content of organic matter is 2 percent or less in the surface layer.

*Ponding.*—Ponding duration is assigned to the map unit component. Water is above the surface.

*Potential poor tilth and compaction.*—The content of clay is 27 percent or more in the surface layer.

*Potential for ground-water contamination* (by nutrients or pesticides).—The depth to a zone in which the soil moisture status is wet is 4 feet or less, the saturated hydraulic conductivity of any layer is more than 42 micrometers per second, or the depth to bedrock is less than 60 inches.

*Potential for surface-water contamination* (by nutrients or pesticides).—The map unit component is occasionally, frequently, or very frequently flooded, is subject to ponding, is assigned to hydrologic group C or D and has a slope of more than 2 percent, is assigned to hydrologic group A and has a slope of more than 6 percent, or is assigned to hydrologic group B, has a slope of 3 percent or more, and has a K factor of more than 0.17.

*Previously eroded.*—The word "eroded" is included in the map unit name.

*Restricted permeability.*—Saturated hydraulic conductivity is less than 0.42 micrometer per second within the soil profile.

*Salt content.*—The electrical conductivity is 4 or more in the surface layer or 8 or more within a depth of 30 inches.

*Slope* (equipment limitation).—The slope is more than 15 percent.

*Surface crusting.*—The content of clay is 27 percent or more and the content of organic matter is 2 percent or less in the surface layer.

*Surface rock fragments* (equipment limitation).—The terms describing the texture of the surface layer include any rock fragment modifier, except for gravelly, channery, stony, very stony, extremely stony, bouldery, very bouldery, and extremely bouldery.

*Surface stones* (equipment limitation).—The word "stony" or "bouldery" is included in the description of the surface layer, or 0.01 percent or more of the surface is covered with boulders.

*Water erosion.*—Either the slope is 6 percent or more, or the slope is more than 3 percent and less than 6 percent and the surface layer is not sandy.

*Wet soil moisture status.*—A zone in which the soil moisture status is wet is within 2.5 feet of the surface.

*Wind erosion.*—The wind erodibility group is 1, 2, 3, or 4L.

## Crop Yield Estimates

The average yields per acre that can be expected of the principal crops under a high level of management are shown in tables 7a and 7b. In any given year, yields may be higher or lower than those indicated in the tables 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 tables.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects;

favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the tables are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

### Pasture and Hayland Interpretations

Soils are assigned to forage suitability groups according to their suitability for the production of forage vegetation. The soils in each group are similar enough to be suited to the same species of grasses or legumes, have similar limitations and hazards, require similar management, and have similar productivity levels and other responses to management. The forage suitability groups of the soils in the survey area are listed in table 8. Detailed descriptions of forage suitability groups are available at local offices of the Natural Resources Conservation Service.

Under good management, proper grazing is essential for the production of high-quality forage, stand survival, and erosion control. Proper grazing helps plants to maintain sufficient and generally vigorous top growth during the growing season. Brush control is essential in many areas, and weed control generally is needed. Rotation grazing and renovation also are important management practices.

Yield estimates are often provided in animal unit months (AUM), or the amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about forage yields other than those shown in tables 7a and 7b.

## 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 take into account 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 woodland or for engineering purposes.

In the capability system, soils generally are grouped at three levels—capability class, subclass, and unit (USDA, 1961). These categories indicate the degree and kinds of limitations affecting mechanized farming systems that produce the more commonly grown field crops, such as corn, small grain, cotton, hay, and field-grown vegetables. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use.

If properly managed, soils in classes 1, 2, 3, and 4 are suitable for the mechanized production of commonly grown field crops and for pasture and woodland. The degree of the soil limitations affecting the production of cultivated crops increases progressively from class 1 to class 4. The limitations can affect levels of production and the risk of permanent soil deterioration caused by erosion and other factors.

Soils in classes 5, 6, and 7 are generally not suited to the mechanized production of commonly grown field crops without special management, but they are suitable for plants that provide a permanent cover, such as grasses and trees. The severity of the soil limitations affecting crops increases progressively from class 5 to class 7.

Areas in class 8 are generally not suitable for crops, pasture, or woodland without a level of management that is impractical. These areas may have potential for other uses, such as recreational facilities and wildlife habitat.

Capability subclasses identify the dominant kind of limitation in the class. They are designated by adding a

small letter, *e, w, s,* or *c*, to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless a 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.

There are no subclasses in class 1 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 mainly to pasture, woodland, wildlife habitat, or recreation.

The capability classification of map units in the survey area is given in tables 7a and 7b.

## Prime Farmland

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. The acreage of high-quality farmland is limited, and the U.S. Department of Agriculture recognizes that government at local, State, and Federal levels, as well as individuals, must encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland soils, as defined by the U.S. Department of Agriculture, are soils that are best suited to food, feed, forage, fiber, and oilseed crops. Such soils have properties that favor the economic production of sustained high yields of crops. The soils need only to be treated and managed by acceptable farming methods. An adequate moisture supply and a sufficiently long growing season are required. Prime farmland soils produce the highest yields with minimal expenditure of energy and economic resources, and farming these soils results in the least damage to the environment.

Prime farmland soils may presently be used as cropland, pasture, or woodland or for other purposes. They either are used for food and fiber or are available for these uses. Urban or built-up land, public land, and water areas cannot be considered prime farmland. Urban or built-up land is any contiguous unit of land 10 acres or more in size that is used for such purposes as housing, industrial, and commercial sites, sites for institutions or public buildings, small parks, golf courses, cemeteries, railroad yards, airports, sanitary landfills, sewage treatment plants, and water-control structures. Public land is land not available for farming in National forests, National parks, military reservations, and State parks.

Prime farmland soils commonly receive an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable, and the level of acidity or alkalinity and the content of salts and sodium are acceptable. The soils have few, if any, rocks and are permeable to water and air. They are not excessively erodible or saturated with water for long periods, and they are not frequently flooded during the growing season or are protected from flooding. Slopes range mainly from 0 to 6 percent.

Soils that have a zone high in the profile in which the soil moisture status is wet or soils that are subject to flooding may qualify as prime farmland where these limitations are overcome by drainage measures or flood control. Onsite evaluation is necessary to determine the effectiveness of corrective measures. More information about the criteria for prime farmland can be obtained at the local office of the Natural Resources Conservation Service.

A recent trend in land use has been the conversion of prime farmland to urban and industrial uses. The loss of prime farmland to other uses puts pressure on lands that are less productive than prime farmland.

About 207,851 acres, or nearly 46 percent of the survey area, meets the requirements for prime farmland.

The map units in the survey area that meet the requirements for prime farmland are listed in table 9. This list does not constitute a recommendation for a particular land use. On some soils included in the table, measures that overcome limitations are needed. The need for these measures is indicated in parentheses after the map unit name. The location of each map unit is shown on the soil maps. The soil qualities that affect use and management are described in the section "Soil Map Unit Descriptions."

## Erosion Factors

Soil erodibility (K) and soil-loss tolerance (T) factors are used in an equation that predicts the amount of soil lost through water erosion in areas of cropland. The procedure for predicting soil loss is useful in guiding the selection of soil and water conservation practices. The erosion factors for the soils in the survey area are shown in table 18.

### Soil Erodibility (K) Factor

The soil erodibility (K) factor indicates the susceptibility of a soil to sheet and rill erosion by

water. The soil properties that influence erodibility are those that affect the infiltration rate, the movement of water through the soil, and the water storage capacity of the soil and those that allow the soil to resist dispersion, splashing, abrasion, and the transporting forces of rainfall and runoff. The most important soil properties are the content of silt plus very fine sand, the content of sand coarser than very fine sand, the content of organic matter, soil structure, and permeability.

### Fragment-Free Soil Erodibility (Kf) Factor

This is one of the factors used in the Revised Universal Soil Loss Equation. It shows the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

### Soil-Loss Tolerance (T) Factor

The soil-loss tolerance (T) factor is an estimate of the maximum annual rate of soil erosion that can occur over a sustained period without affecting crop productivity. The rate is expressed in tons of soil loss per acre per year. Ratings of 1 to 5 are used, depending on soil properties and prior erosion. The criteria used in assigning a T factor to a soil include maintenance of an adequate rooting depth for crop production, potential reduction of crop yields, maintenance of water-control structures affected by sedimentation, prevention of gullying, and the value of nutrients lost through erosion.

### Wind Erodibility Groups

Wind erodibility is directly related to the percentage of dry, nonerodible surface soil aggregates larger than 0.84 millimeter in diameter. From this percentage, the wind erodibility index (I) factor is determined. This factor is an expression of the stability of the soil aggregates, or the extent to which they are broken down by tillage and the abrasion caused by windblown soil particles. Soils are assigned to wind erodibility groups (WEG) having similar percentages of dry soil aggregates larger than 0.84 millimeter. The wind erodibility groups and wind erodibility index factors for the soils in the survey area are listed in table 18.

Additional information about wind erodibility groups and K, Kf, T, and I factors can be obtained from local offices of the Natural Resources Conservation Service or the Cooperative Extension Service.

## Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, and yards from wind and snow. They also protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low- and high-growing broadleaf and coniferous trees and shrubs provide the most protection.

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. Field windbreaks protect cropland and crops from wind, help to keep snow on the fields, and provide food and cover for wildlife.

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.

Windbreaks are often planted on land that did not originally support trees. Knowledge of how trees perform on such land can be gained only by observing and recording the performance of trees that have been planted and have survived. Many popular windbreak species are not indigenous to the areas in which they are planted.

Each tree or shrub species has certain climatic and physiographic limits. Within these parameters, a tree or shrub may grow well or grow poorly, depending on the characteristics of the soil. Each tree or shrub has definable potential heights in a given physiographic area and under a given climate. Accurate definitions of potential heights are necessary when a windbreak is planned and designed.

Table 10 shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in this 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 local offices of the Natural Resources Conservation Service or the Cooperative Extension Service or from a nursery.

### Windbreak Suitability Groups

Windbreak suitability groups consist of soils in which the kinds and degrees of the hazards and limitations that affect the survival and growth of trees and shrubs in windbreaks are about the same. The windbreak suitability groups assigned to the soils in the survey area are listed in table 11.

*Group 1* consists of soils that are somewhat poorly drained or moderately well drained, are rapidly permeable to moderately slowly permeable, and do not have free carbonates in the upper 20 inches.

*Group 1K* consists of soils that are somewhat poorly drained or moderately well drained, are rapidly permeable to moderately slowly permeable, and have free carbonates within 20 inches of the surface. These soils may be very slightly saline or slightly saline (the electrical conductivity is 2 to 8).

*Group 2* consists of poorly drained soils that have been artificially drained and do not have free carbonates in the upper 20 inches. Permeability varies.

*Group 2H* consists of very poorly drained soils that have been artificially drained and have more than 16 inches of organic material. Permeability varies.

*Group 2K* consists of poorly drained or very poorly drained soils that have been artificially drained and have free carbonates within 20 inches of the surface. Permeability varies. These soils may be very slightly saline or slightly saline (the electrical conductivity is 2 to 8).

*Group 2W* consists of very poorly drained soils that are subject to ponding and have been artificially drained. It includes soils that have an organic surface layer up to 16 inches thick. Permeability varies.

*Group 3* consists of soils that are well drained or moderately well drained and are loamy or silty throughout. Permeability is moderate or moderately slow. These soils do not have free carbonates in the upper 20 inches.

*Group 4* consists of soils that are well drained, moderately well drained, or somewhat poorly drained and have a silty or loamy surface layer and a clayey subsoil. Permeability is slow or very slow.

*Group 4C* consists of soils that are well drained, moderately well drained, or somewhat poorly drained and have a clayey surface layer and subsoil. Permeability is slow or very slow.

*Group 4F* consists of soils that are well drained, moderately well drained, or somewhat poorly drained and have a substratum of dense till. Permeability is slow or very slow.

*Group 5* consists of soils that are excessively drained to moderately well drained and have a moderate available water capacity. These soils are dominantly fine sandy loam or sandy loam, but some are sandy in the upper part and loamy in the lower part.

*Group 6D* consists of excessively drained to moderately well drained, loamy soils that have bedrock at a depth of 20 to 40 inches. These soils have a low or moderate available water capacity.

*Group 6G* consists of excessively drained to moderately well drained soils that are loamy in the upper part and have sand or sand and gravel at a depth of 20 to 40 inches. These soils have a low or moderate available water capacity.

*Group 7* consists of excessively drained to well drained soils that are dominantly loamy fine sand or coarser textured and are shallow to sand or to sand and gravel. These soils have a low available water capacity.

*Group 8* consists of excessively drained to well drained, loamy soils that have free carbonates within 20 inches of the surface.

*Group 9W* consists of soils that are somewhat poorly drained, poorly drained, or very poorly drained and are moderately saline (the electrical conductivity is 8 to 16).

*Group 10* consists of soils or miscellaneous areas that generally are not suitable for windbreaks. One or more characteristics, such as soil depth, texture, wetness, available water capacity, or slope, limit the planting, survival, or growth of trees and shrubs.

## Recreation

The soils of the survey area are rated in tables 12a and 12b 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 the tables can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet; 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 zone in which the soil moisture status is wet, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

## Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. If food, cover, or water is missing, inadequate, or inaccessible, wildlife will be scarce or will not inhabit the area.

If the soils have potential for habitat development, wildlife habitat can be created or improved by planting appropriate vegetation, properly managing the existing plant cover, and fostering the natural establishment of desirable plants.

In table 13, 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 used by wildlife. Examples are corn, soybeans, wheat, oats, and barley.

*Grasses and legumes* are domestic perennial grasses and herbaceous legumes planted for wildlife food and cover. Examples are bromegrass, timothy, orchardgrass, clover, alfalfa, wheatgrass, and birdsfoot trefoil.

*Wild herbaceous plants* are native or naturally established grasses and forbs, including weeds, that provide food and cover for wildlife. Examples are bluestems, indiangrass, blueberry, goldenrod, lambsquarters, dandelions, blackberry, ragweed, wheatgrass, and nightshade.

The major soil properties affecting the growth of grain and forage crops and wild herbaceous plants are depth of the root zone, texture of the surface layer, the amount of water available to plants, wetness, salinity, and flooding. The length of the growing season also is important.

*Hardwood trees* and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage that wildlife eat. Examples are oak, poplar, box elder, birch, maple, green ash, willow, and American elm.

*Coniferous plants* are cone-bearing trees, shrubs, or ground cover that provide habitat or supply food in the form of browse, seed, or fruit-like cones. Examples are pine, spruce, cedar, and tamarack.

The major soil properties affecting the growth of hardwood and coniferous trees and shrubs are depth of the root zone, the amount of water available to plants, and wetness.

*Wetland plants* are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Wetland plants produce food or cover for wetland wildlife. Examples of these plants are smartweeds, wild millet, rushes, sedges, bulrushes, wild rice, arrowhead, waterplantain, cattail, prairie cordgrass, bluejoint grass, asters, and beggarticks.

The major soil properties affecting wetland plants are texture of the surface layer, wetness, acidity or alkalinity, and slope.

*Shallow water areas* have an average depth of less than 5 feet. They are useful as habitat for some wildlife species. They are naturally wet areas or are created by dams, levees, or water-control measures in marshes or streams. Examples are waterfowl feeding areas, wildlife watering developments, beaver ponds, and other wildlife ponds.

The major soil properties affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability.

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, and shrubs. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include ring-necked pheasant, meadowlark, field sparrow, killdeer, cottontail rabbit, and red fox.

*Habitat for woodland wildlife* consists of areas of hardwoods or conifers or a mixture of these and

associated grasses, legumes, and wild herbaceous plants. The wildlife attracted to this habitat include wild turkey, ruffed grouse, thrushes, woodpeckers, owls, tree squirrels, raccoon, and white-tailed deer.

*Habitat for wetland wildlife* consists of open, marshy or swampy shallow water areas, bogs, or flood plains that support water-tolerant plants. The wildlife attracted to this habitat include ducks, geese, herons, bitterns, rails, kingfishers, muskrat, otter, 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, 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 zone in which the soil moisture status is wet, 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, linear extensibility, 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; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

## Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 14a and 14b 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, 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 a zone in which the soil moisture status is wet, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to a zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet; 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 zone in which the soil moisture status is wet, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

## Construction Materials

Tables 15a and 15b 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.

*Sand* and *gravel* 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 15a, 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.

The soils are rated *good, fair, or poor* as potential sources of reclamation material, roadfill, and topsoil. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, or topsoil. 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 table 15b, 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 zone in which the soil moisture status is wet, 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 zone in which the soil moisture status is wet, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a zone in which the soil moisture status is wet, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

## Water Management

Table 16 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses.

*Not limited* indicates that the soil has features that are very favorable for the specified use. Good

performance and very low maintenance can be expected.

*Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.

*Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*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 seasonal zone in which the soil moisture status is wet 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 zone in which the soil moisture status is wet. 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 zone in which the soil moisture status is wet, 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 3.--Temperature and Precipitation

(Recorded in the period 1961-90 at Buffalo, Minnesota)

| Month | Temperature | | | | | | Precipitation | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2 years in 10 will have-- | | | | 2 years in 10 will have-- | | | |
| | Average daily maximum | Average daily minimum | Average | Maximum temperature higher than-- | Minimum temperature lower than-- | Average number of growing degree days* | Average | Less than-- | More than-- | Average number of days with 0.10 inch or more | Average snowfall |
| | °F | °F | °F | °F | °F | Units | In | In | In | | In |
| January---- | 20.6 | 0.9 | 10.7 | 46 | -29 | 0 | 0.80 | 0.23 | 1.26 | 2 | 9.9 |
| February--- | 27.2 | 7.1 | 17.2 | 51 | -26 | 0 | .77 | .27 | 1.19 | 2 | 6.8 |
| March------ | 39.7 | 20.3 | 30.0 | 69 | -13 | 6 | 1.68 | .93 | 2.34 | 4 | 10.4 |
| April------ | 57.3 | 34.4 | 45.8 | 84 | 13 | 68 | 2.62 | 1.28 | 3.77 | 5 | 2.5 |
| May-------- | 71.0 | 46.2 | 58.6 | 91 | 27 | 291 | 3.31 | 2.05 | 4.45 | 7 | .1 |
| June------- | 80.0 | 55.9 | 67.9 | 96 | 39 | 537 | 4.24 | 2.09 | 6.11 | 7 | .0 |
| July------- | 84.6 | 61.1 | 72.9 | 98 | 46 | 709 | 3.86 | 2.17 | 5.36 | 6 | .0 |
| August----- | 81.8 | 58.5 | 70.1 | 96 | 43 | 622 | 3.68 | 2.22 | 4.99 | 6 | .0 |
| September-- | 71.8 | 49.3 | 60.5 | 91 | 29 | 326 | 3.12 | 1.83 | 4.27 | 6 | .0 |
| October---- | 59.8 | 38.1 | 49.0 | 83 | 19 | 101 | 2.39 | .78 | 3.71 | 4 | .4 |
| November--- | 40.6 | 24.2 | 32.4 | 65 | -5 | 5 | 1.57 | .52 | 2.43 | 3 | 6.1 |
| December--- | 24.8 | 8.4 | 16.6 | 48 | -23 | 0 | .97 | .34 | 1.49 | 2 | 9.4 |
| Yearly: | | | | | | | | | | | |
| Average--- | 54.9 | 33.7 | 44.3 | --- | --- | --- | --- | --- | --- | --- | --- |
| Extreme--- | 105 | -38 | --- | 99 | -30 | --- | --- | --- | --- | --- | --- |
| Total----- | --- | --- | --- | --- | --- | 2,665 | 29.02 | 22.62 | 33.85 | 54 | 45.7 |

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 4.--Freeze Dates in Spring and Fall

(Recorded in the period 1961-90 at Buffalo, Minnesota)

| Probability | Temperature | | |
|---|---|---|---|
| | 24 °F or lower | 28 °F or lower | 32 °F or lower |
| Last freezing temperature in spring: | | | |
| 1 year in 10 later than-- | Apr. 25 | May 5 | May 18 |
| 2 years in 10 later than-- | Apr. 21 | May 1 | May 13 |
| 5 years in 10 later than-- | Apr. 12 | Apr. 23 | May 3 |
| First freezing temperature in fall: | | | |
| 1 year in 10 earlier than-- | Oct. 10 | Sept. 27 | Sept. 16 |
| 2 years in 10 earlier than-- | Oct. 15 | Oct. 2 | Sept. 21 |
| 5 years in 10 earlier than-- | Oct. 26 | Oct. 11 | Sept. 30 |

Table 5.--Growing Season

(Recorded in the period 1961-90 at Buffalo, Minnesota)

| 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 | 176 | 152 | 128 |
| 8 years in 10 | 183 | 158 | 135 |
| 5 years in 10 | 197 | 171 | 150 |
| 2 years in 10 | 211 | 183 | 164 |
| 1 year in 10 | 219 | 189 | 171 |

Table 6.--Cropland Management Considerations

(See text for a description of the considerations listed in this table. Absence of an entry indicates that cropland management considerations are not applicable)

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 7A: | | |
| Hubbard | 95 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| 7B: | | |
| Hubbard | 90 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| 7C: | | |
| Hubbard | 80 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 8B: | | |
| Sparta | 95 | Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Wind erosion |
| 35: | | |
| Blue Earth, depressional | 80 | High organic matter content<br>Lime content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 74B: | | |
| Dickinson | 95 | Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 86: | | |
| Canisteo | 80 | Lime content<br>Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 106C2: | | |
| Lester, eroded | 70 | Potential for surface-water contamination<br>Previously eroded<br>Water erosion |
| 106D2: | | |
| Lester, eroded | 80 | Slope<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 106E: | | |
| Lester | 80 | Slope<br>Potential for surface-water contamination<br>Water erosion |
| 109: | | |
| Cordova | 90 | Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Wet soil moisture status |
| 114: | | |
| Glencoe, depressional | 90 | Ponding<br>Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 138: | | |
| Lerdal | 80 | Acid soil<br>Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Restricted permeability<br>Wet soil moisture status |
| 158A: | | |
| Zimmerman | 90 | Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Wind erosion |
| 158B: | | |
| Zimmerman | 90 | Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Wind erosion |
| 158C: | | |
| Zimmerman | 90 | Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 158E: | | |
| Zimmerman | 85 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 169C: | | |
| Braham | 90 | Excessive permeability<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 181: | | |
| Litchfield | 95 | Excessive permeability<br>Potential for ground-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 229: | | |
| Waldorf | 90 | Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Wet soil moisture status |
| 231C: | | |
| Lester | 80 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 231D: | | |
| Lester | 80 | Slope<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 235: | | |
| Nessel | 85 | Potential for ground-water contamination |
| 239: | | |
| Le Sueur | 80 | Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Wet soil moisture status |
| 247: | | |
| Linder | 90 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wet soil moisture status |
| 255: | | |
| Mayer | 85 | Excessive permeability<br>Lime content<br>Potential for ground-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 256: | | |
| Mazaska | 90 | Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Wet soil moisture status |
| 258B: | | |
| Sandberg | 95 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| 258C: | | |
| Sandberg | 90 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 258E: | | |
| Sandberg | 85 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 260: | | |
| Duelm | 90 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| 261: | | |
| Isan, depressional | 90 | Excessive permeability<br>Limited available water capacity<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 286B: | | |
| Shorewood | 95 | Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Restricted permeability<br>Water erosion<br>Wet soil moisture status |
| 294A: | | |
| Rasset | 90 | Excessive permeability<br>Potential for ground-water contamination<br>Wind erosion |
| 323: | | |
| Shields | 95 | Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 327A: | | |
| Dickman | 85 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| 327B: | | |
| Dickman | 85 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 375: | | |
| Forada | 85 | Excessive permeability<br>Potential for ground-water contamination<br>Wet soil moisture status |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 392: | | |
| Biscay | 90 | Excessive permeability<br>Potential for ground-water contamination<br>Wet soil moisture status |
| 406: | | |
| Dorset | 90 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| 414: | | |
| Hamel | 90 | Potential for ground-water contamination<br>Wet soil moisture status |
| 441: | | |
| Almora | 90 | Excessive permeability<br>Potential for ground-water contamination |
| 461B: | | |
| Koronis | 85 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| 461C2: | | |
| Koronis, eroded | 80 | Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion |
| 461E: | | |
| Koronis | 80 | Slope<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| 511: | | |
| Marcellon, MAP <30 | 85 | Potential for ground-water contamination<br>Wet soil moisture status |
| 523: | | |
| Houghton, drained | 80 | High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 525: | | |
| Muskego, surface drained | 75 | High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 539: | | |
| Klossner, drained | 80 | High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 540: | | |
| Seelyeville, surface drained | 80 | High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 543: | | |
| Markey, surface drained | 80 | Excessive permeability<br>High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 548: | | |
| Medo, drained | 80 | Excessive permeability<br>High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 603: | | |
| Hanlon, occasionally flooded | 80 | Flooding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wind erosion |
| 611D: | | |
| Hawick | 85 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| 708: | | |
| Rushlake | 85 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 740: | | |
| Hamel | 70 | Potential for ground-water contamination<br>Wet soil moisture status |
| Glencoe, depressional | 20 | Ponding<br>Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 768: | | |
| Mosford | 85 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 771: | | |
| Elkriver, rarely flooded | 85 | Excessive permeability<br>Potential for ground-water contamination<br>Wind erosion |
| 783C2: | | |
| Lester, eroded | 50 | Potential for surface-water contamination<br>Previously eroded<br>Water erosion |
| Kilkenny, eroded | 30 | Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion |
| 792: | | |
| Fordum, frequently flooded | 90 | Flooding<br>Excessive permeability<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 799: | | |
| Seelyeville, frequently flooded | 45 | Flooding<br>High organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status<br>Wind erosion |
| Bowstring, frequently flooded | 45 | Flooding<br>High organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 804B: | | |
| Koronis | 50 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Sunburg | 20 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Hawick | 15 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Water erosion<br>Wind erosion |
| 804C2: | | |
| Koronis, eroded | 45 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 804C2: | | |
| Sunburg | 25 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| Hawick | 15 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| 804D2: | | |
| Koronis, eroded | 40 | Slope<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| Sunburg | 30 | Slope<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| Hawick | 15 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| 804E: | | |
| Koronis | 50 | Slope<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Sunburg | 20 | Slope<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Hawick | 15 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 807D2: | | |
| Koronis, eroded | 65 | Slope<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| Sunburg | 20 | Slope<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| 875B: | | |
| Estherville | 60 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Hawick | 30 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Water erosion<br>Wind erosion |
| 875C: | | |
| Hawick | 60 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Estherville | 25 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 896B: | | |
| Kingsley | 70 | Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Gotham | 25 | Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Wind erosion |
| 896C: | | |
| Kingsley | 70 | Potential for surface-water contamination<br>Water erosion<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 896C: | | |
| Gotham | 25 | Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 945C2: | | |
| Lester, eroded | 50 | Potential for surface-water contamination<br>Previously eroded<br>Water erosion |
| Storden, eroded | 30 | Lime content<br>Limited organic matter content<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| 945D2: | | |
| Lester, eroded | 60 | Slope<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion |
| Storden, eroded | 20 | Slope<br>Lime content<br>Limited organic matter content<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| 956: | | |
| Canisteo | 65 | Lime content<br>Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Wet soil moisture status<br>Wind erosion |
| Glencoe, depressional | 25 | Ponding<br>Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 978: | | |
| Cordova | 60 | Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Wet soil moisture status |
| Rolfe, depressional | 30 | Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 1000: | | |
| Arvilla, MAP >25 | 90 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 1015. Udipsamments (cut and fill land) | | |
| 1016. Udorthents, loamy | | |
| 1023C: | | |
| Lester, eroded | 50 | Potential for surface-water contamination<br>Previously eroded<br>Water erosion |
| Malardi | 35 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| 1023D: | | |
| Lester, eroded | 45 | Slope<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion |
| Malardi | 40 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| 1026B: | | |
| Lizzie, moderately wet | 90 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| 1027. Udorthents, wet substratum | | |
| 1030: | | |
| Pits, gravel. | | |
| Udipsamments. | 20 | |
| 1035B: | | |
| Crowfork | 90 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| 1035C: | | |
| Crowfork | 90 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 1035D: | | |
| Crowfork | 85 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 1036B: | | |
| Angus | 85 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 1037: | | |
| Eckvoll, MAP >25 | 90 | Excessive permeability<br>Potential for ground-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 1038A: | | |
| Verndale, acid substratum | 90 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| 1038B: | | |
| Verndale, acid substratum | 85 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 1066B: | | |
| Malardi | 65 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Hawick | 25 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Water erosion<br>Wind erosion |
| 1066C: | | |
| Malardi | 60 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Hawick | 25 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 1066E: | | |
| Malardi | 55 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Hawick | 30 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 1072. | | |
| Udorthents, shallow | | |
| 1075: | | |
| Klossner, ponded | 40 | High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| Muskego, ponded | 40 | High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 1080: | | |
| Klossner, ponded | 30 | High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| Okoboji, ponded | 30 | Ponding<br>Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| Glencoe, ponded | 30 | Ponding<br>Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 1087B: | | |
| Angus | 55 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| Malardi | 30 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 1094B: | | |
| Angus | 60 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| Cordova | 30 | Potential for ground-water contamination<br>Wet soil moisture status |
| 1099: | | |
| Granby, very wet | 85 | Excessive permeability<br>Limited available water capacity<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 1110: | | |
| Isan | 90 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 1156: | | |
| Cordova | 85 | Potential for ground-water contamination<br>Wet soil moisture status |
| 1161: | | |
| Barry | 85 | Potential for ground-water contamination<br>Wet soil moisture status |
| 1163: | | |
| Suckercreek, frequently flooded | 85 | Flooding<br>Lime content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 1165: | | |
| Lundlake, depressional | 90 | Ponding<br>Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 1173: | | |
| Muskego, frequently flooded | 45 | Flooding<br>High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| Klossner, frequently flooded | 45 | Flooding<br>High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 1186: | | |
| Forestcity | 75 | Potential for ground-water contamination<br>Wet soil moisture status<br>Wind erosion |
| Lundlake, depressional | 20 | Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 1196B: | | |
| Lida | 60 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Two Inlets | 30 | Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wind erosion |
| 1196C: | | |
| Lida | 55 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Two Inlets | 30 | Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 1196E: | | |
| Lida | 50 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Two Inlets | 40 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 1197: | | |
| Suckercreek, occasionally flooded | 80 | Flooding<br>Lime content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 1199: | | |
| Klossner, ponded | 45 | High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| Lundlake, ponded | 45 | Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 1203: | | |
| Muskego, ponded | 30 | High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| Blue Earth, ponded | 30 | High organic matter content<br>Lime content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| Houghton, ponded | 30 | High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 1204B: | | |
| Reedslake | 85 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| 1207B: | | |
| Reedslake | 60 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| Le Sueur | 25 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wet soil moisture status |
| 1213C: | | |
| Cokato, eroded | 65 | Potential for surface-water contamination<br>Previously eroded<br>Water erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 1213C: | | |
| Storden | 20 | Lime content<br>Limited organic matter content<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| 1213D: | | |
| Cokato, eroded | 60 | Slope<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion |
| Storden | 25 | Slope<br>Lime content<br>Limited organic matter content<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| 1220C: | | |
| Cokato, eroded | 50 | Potential for surface-water contamination<br>Previously eroded<br>Water erosion |
| Storden | 20 | Lime content<br>Limited organic matter content<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion<br>Wind erosion |
| Hawick | 15 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion |
| 1223: | | |
| Sandberg, MAP <25 | 60 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| Arvilla, MAP >25 | 30 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| 1224: | | |
| Hubbard | 60 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| Verndale, acid substratum | 30 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 1231: | | |
| Hubbard | 60 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| Mosford | 30 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| 1255: | | |
| Elkriver, occasionally flooded | 80 | Flooding<br>Excessive permeability<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 1256: | | |
| Cantlin | 90 | Acid soil<br>Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Wind erosion |
| 1257: | | |
| Elkriver, rarely flooded | 55 | Excessive permeability<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wind erosion |
| Mosford, rarely flooded | 35 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 1260B: | | |
| Stonelake | 55 | Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Wind erosion |
| Nebish, moderately wet | 30 | Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 1260C: | | |
| Stonelake | 55 | Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 1260C: | | |
| Nebish | 30 | Limited organic matter content<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 1260E: | | |
| Stonelake | 60 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| Nebish | 25 | Slope<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 1288: | | |
| Seelyeville, ponded | 45 | High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| Markey, ponded | 45 | Excessive permeability<br>High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 1356. | | |
| Water, miscellaneous | | |
| 1362B: | | |
| Angus | 85 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| 1368: | | |
| Southhaven | 90 | Excessive permeability<br>Potential for ground-water contamination |
| 1377B: | | |
| Dorset | 70 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Two Inlets | 20 | Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Wind erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 1377C: | | |
| Dorset | 50 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Two Inlets | 35 | Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 1377D: | | |
| Dorset | 45 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Two Inlets | 40 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 1377E: | | |
| Dorset | 45 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| Two Inlets | 45 | Slope<br>Excessive permeability<br>Limited available water capacity<br>Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wind erosion |
| 1378: | | |
| Fordum, occasionally flooded | 85 | Flooding<br>Excessive permeability<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 1379B: | | |
| Dorset | 65 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Water erosion |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 1379B: | | |
| Almora | 25 | Excessive permeability<br>Potential for ground-water contamination |
| 1380A: | | |
| Bygland, MAP >25 | 85 | Potential for ground-water contamination |
| 1380B: | | |
| Bygland, MAP >25 | 70 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| 1380C: | | |
| Bygland, MAP >25 | 70 | Limited organic matter content<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Previously eroded<br>Water erosion |
| 1381: | | |
| Lindaas, morainic | 80 | Potential for ground-water contamination<br>Wet soil moisture status |
| 1383A: | | |
| Shorewood, moderately wet | 95 | Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Restricted permeability<br>Wet soil moisture status |
| 1388B: | | |
| Terril, moderately wet | 85 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| 1406: | | |
| Medo, ponded | 30 | Excessive permeability<br>High organic matter content<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| Dassel, ponded | 30 | Excessive permeability<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| Biscay, ponded | 30 | Excessive permeability<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 1408B: | | |
| Angus | 45 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| Kilkenny | 40 | Potential poor tilth and compaction<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wet soil moisture status |

Table 6.--Cropland Management Considerations--Continued

| Map symbol and component name | Pct. of map unit | Cropland management considerations |
|---|---|---|
| 1438B: | | |
| Braham, moderately wet | 85 | Excessive permeability<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wind erosion |
| 1443: | | |
| Belleville | 85 | Excessive permeability<br>Potential for ground-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 1901B: | | |
| Angus | 60 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion |
| Le Sueur | 30 | Potential for ground-water contamination<br>Potential for surface-water contamination<br>Water erosion<br>Wet soil moisture status |
| 1931: | | |
| Essexville | 75 | Excessive permeability<br>Lime content<br>Potential for ground-water contamination<br>Wet soil moisture status<br>Wind erosion |
| 1942: | | |
| Forada, depressional | 85 | Excessive permeability<br>Ponding<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 1946: | | |
| Fordum, frequently flooded | 70 | Flooding<br>Excessive permeability<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| Winterfield, frequently flooded | 20 | Flooding<br>Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Potential for surface-water contamination<br>Wet soil moisture status |
| 1975: | | |
| Oylen | 90 | Excessive permeability<br>Limited available water capacity<br>Potential for ground-water contamination<br>Wind erosion |
| W. | | |
| Water | | |

Table 7a.--Land Capability and Yields per Acre of Crops

(Yields in the "N" columns are for nonirrigated areas; those in the "I" columns are for irrigated areas. Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

| Map symbol and soil name | Pct. of map unit | Land capability | | Alfalfa hay | | Corn | | Soybeans | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Tons | Tons | Bu | Bu | Bu | Bu |
| 7A---------- Hubbard | 95 | 4s | 4s | 3.0 | 8.0 | 70 | 172 | 23 | 50 |
| 7B---------- Hubbard | 90 | 4s | 4s | 3.0 | 8.0 | 70 | 172 | 23 | 50 |
| 7C---------- Hubbard | 80 | 6s | 6s | 2.5 | 7.0 | 60 | 168 | 20 | 45 |
| 8B---------- Sparta | 95 | 4s | --- | 3.0 | --- | 75 | 172 | 23 | --- |
| 35---------- Blue Earth, depressional | 80 | 3w | --- | --- | --- | 135 | --- | 38 | --- |
| 74B---------- Dickinson | 95 | 3e | --- | 3.4 | --- | 115 | --- | 33 | --- |
| 86---------- Canisteo | 80 | 2w | --- | --- | --- | 150 | --- | 43 | --- |
| 106C2---------- Lester, eroded | 70 | 3e | --- | 4.0 | --- | 135 | --- | 42 | --- |
| 106D2---------- Lester, eroded | 80 | 4e | --- | 3.3 | --- | 110 | --- | 32 | --- |
| 106E---------- Lester | 80 | 6e | --- | --- | --- | --- | --- | --- | --- |
| 109---------- Cordova | 90 | 2w | --- | --- | --- | 155 | --- | 45 | --- |
| 114---------- Glencoe, depressional | 90 | 3w | --- | --- | --- | 138 | --- | 43 | --- |
| 138---------- Lerdal | 80 | 2e | --- | 4.0 | --- | 150 | --- | 45 | --- |
| 158A---------- Zimmerman | 90 | 4s | 4s | 3.0 | 8.0 | 65 | 165 | 25 | 48 |
| 158B---------- Zimmerman | 90 | 4s | 4s | 3.0 | 8.0 | 65 | 165 | 25 | 48 |
| 158C---------- Zimmerman | 90 | 6s | 6s | 2.5 | 7.0 | 55 | 160 | 20 | 45 |
| 158E---------- Zimmerman | 85 | 6s | --- | --- | --- | --- | --- | --- | --- |
| 169C---------- Braham | 90 | 4e | --- | 3.0 | --- | 80 | --- | 28 | --- |
| 181---------- Litchfield | 95 | 3s | --- | 3.3 | --- | 95 | --- | 30 | --- |

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability N | Land capability I | Alfalfa hay N | Alfalfa hay I | Corn N | Corn I | Soybeans N | Soybeans I |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Tons | Tons | Bu | Bu | Bu | Bu |
| 229 Waldorf | 90 | 2w | --- | --- | --- | 150 | --- | 45 | --- |
| 231C Lester | 80 | 3e | --- | 4.0 | --- | 135 | --- | 42 | --- |
| 231D Lester | 80 | 4e | --- | 3.3 | --- | 90 | --- | 30 | --- |
| 235 Nessel | 85 | 1 | --- | 4.6 | --- | 155 | --- | 48 | --- |
| 239 Le Sueur | 80 | 1 | --- | 4.6 | --- | 160 | --- | 50 | --- |
| 247 Linder | 90 | 2s | --- | 3.8 | --- | 120 | --- | 33 | --- |
| 255 Mayer | 85 | 2w | --- | --- | --- | 115 | --- | 33 | --- |
| 256 Mazaska | 90 | 2w | --- | --- | --- | 145 | --- | 42 | --- |
| 258B Sandberg | 95 | 4s | --- | 3.0 | --- | 60 | 172 | 23 | 50 |
| 258C Sandberg | 90 | 6s | --- | 2.5 | --- | 55 | 168 | 16 | 45 |
| 258E Sandberg | 85 | 7s | --- | --- | --- | --- | --- | --- | --- |
| 260 Duelm | 90 | 4s | --- | --- | --- | 65 | --- | 24 | --- |
| 261 Isan, depressional | 90 | 6w | --- | --- | --- | --- | --- | --- | --- |
| 286B Shorewood | 95 | 2e | --- | 4.4 | --- | 140 | --- | 40 | --- |
| 294A Rasset | 90 | 2s | --- | 3.2 | --- | 115 | --- | 30 | --- |
| 323 Shields | 95 | 2w | --- | 4.0 | --- | 145 | --- | 43 | --- |
| 327A Dickman | 85 | 3s | --- | 3.2 | --- | 85 | --- | 30 | --- |
| 327B Dickman | 85 | 3e | --- | 3.0 | --- | 80 | --- | 24 | --- |
| 375 Forada | 85 | 2w | --- | --- | --- | 115 | --- | 35 | --- |
| 392 Biscay | 90 | 2w | --- | --- | --- | 120 | --- | 35 | --- |
| 406 Dorset | 90 | 3s | --- | 3.2 | --- | 90 | --- | 30 | --- |

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability | | Alfalfa hay | | Corn | | Soybeans | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Tons | Tons | Bu | Bu | Bu | Bu |
| 414---------- Hamel | 90 | 2w | --- | --- | --- | 150 | --- | 56 | --- |
| 441---------- Almora | 90 | 2s | --- | 4.0 | --- | 120 | --- | 37 | --- |
| 461B---------- Koronis | 85 | 2e | --- | 4.2 | --- | 145 | --- | 44 | --- |
| 461C2---------- Koronis, eroded | 80 | 3e | --- | 3.8 | --- | 125 | --- | 39 | --- |
| 461E---------- Koronis | 80 | 7e | --- | --- | --- | --- | --- | --- | --- |
| 511---------- Marcellon, MAP <30 | 85 | 1 | --- | 4.5 | --- | 145 | --- | 40 | --- |
| 523---------- Houghton, drained | 80 | 3w | --- | --- | --- | 115 | --- | 35 | --- |
| 525---------- Muskego, surface drained | 75 | 6w | --- | --- | --- | --- | --- | --- | --- |
| 539---------- Klossner, drained | 80 | 3w | --- | --- | --- | 120 | --- | 35 | --- |
| 540---------- Seelyeville, surface drained | 80 | 6w | --- | --- | --- | --- | --- | --- | --- |
| 543---------- Markey, surface drained | 80 | 6w | --- | --- | --- | --- | --- | --- | --- |
| 548---------- Medo, drained | 80 | 3w | --- | --- | --- | 125 | --- | 35 | --- |
| 603---------- Hanlon, occasionally flooded | 80 | 2s | --- | 4.0 | --- | 120 | --- | 35 | --- |
| 611D---------- Hawick | 85 | 7s | --- | --- | --- | --- | --- | --- | --- |
| 708---------- Rushlake | 85 | 4s | --- | --- | --- | --- | --- | --- | --- |
| 740---------- | | | | --- | --- | 150 | --- | 43 | --- |
| Hamel---------- | 70 | 2w | --- | | | | | | |
| Glencoe, depressional--- | 20 | 3w | --- | | | | | | |
| 768---------- Mosford | 85 | 3s | --- | 3.3 | 8.0 | 80 | 175 | 30 | 50 |
| 771---------- Elkriver, rarely flooded | 85 | 2s | --- | 4.0 | --- | 120 | --- | 37 | --- |
| 783C2---------- | | | | 3.9 | --- | 130 | --- | 40 | --- |
| Lester, eroded---------- | 50 | 3e | --- | | | | | | |
| Kilkenny, eroded-------- | 30 | 3e | --- | | | | | | |

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability N | Land capability I | Alfalfa hay N | Alfalfa hay I | Corn N | Corn I | Soybeans N | Soybeans I |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Tons | Tons | Bu | Bu | Bu | Bu |
| 792---------- Fordum, frequently flooded | 90 | 6w | --- | --- | --- | --- | --- | --- | --- |
| 799---------- Seelyeville, frequently flooded---------- | 45 | 6w | --- | --- | --- | --- | --- | --- | --- |
| Bowstring, frequently flooded---------- | 45 | 6w | --- | | | | | | |
| 804B---------- Koronis---------- | 50 | 2e | --- | 4.0 | --- | 130 | --- | 40 | --- |
| Sunburg---------- | 20 | 2e | --- | | | | | | |
| Hawick---------- | 15 | 4s | --- | | | | | | |
| 804C2---------- Koronis, eroded--------- | 45 | 3e | --- | 3.6 | --- | 115 | --- | 36 | --- |
| Sunburg---------- | 25 | 3e | --- | | | | | | |
| Hawick---------- | 15 | 4s | --- | | | | | | |
| 804D2---------- Koronis, eroded--------- | 40 | 4e | --- | 3.2 | --- | 81 | --- | 27 | --- |
| Sunburg---------- | 30 | 4e | --- | | | | | | |
| Hawick---------- | 15 | 6s | --- | | | | | | |
| 804E---------- Koronis---------- | 50 | 7e | --- | --- | --- | --- | --- | --- | --- |
| Sunburg---------- | 20 | 7e | --- | | | | | | |
| Hawick---------- | 15 | 7s | --- | | | | | | |
| 807D2---------- Koronis, eroded--------- | 65 | 4e | --- | 3.3 | --- | 85 | --- | 28 | --- |
| Sunburg---------- | 20 | 4e | --- | | | | | | |
| 875B---------- Estherville---------- | 60 | 3s | --- | 3.0 | --- | 80 | --- | 23 | --- |
| Hawick---------- | 30 | 4s | --- | | | | | | |
| 875C---------- Hawick---------- | 60 | 4s | --- | 3.0 | --- | 65 | --- | 21 | --- |
| Estherville---------- | 25 | 4s | --- | | | | | | |
| 896B---------- Kingsley---------- | 70 | 2e | --- | 3.8 | --- | 115 | --- | 33 | --- |
| Gotham---------- | 25 | 4s | --- | | | | | | |
| 896C---------- Kingsley---------- | 70 | 3e | --- | 3.2 | --- | 100 | --- | 28 | --- |
| Gotham---------- | 25 | 6s | --- | | | | | | |

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability | | Alfalfa hay | | Corn | | Soybeans | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Tons | Tons | Bu | Bu | Bu | Bu |
| 945C2 | | | | 3.8 | --- | 130 | --- | 35 | --- |
| Lester, eroded | 50 | 3e | --- | | | | | | |
| Storden, eroded | 30 | 3e | --- | | | | | | |
| 945D2 | | | | 3.3 | --- | 110 | --- | 32 | --- |
| Lester, eroded | 60 | 4e | --- | | | | | | |
| Storden, eroded | 20 | 4e | --- | | | | | | |
| 956 | | | | --- | --- | 145 | --- | 42 | --- |
| Canisteo | 65 | 2w | --- | | | | | | |
| Glencoe, depressional | 25 | 3w | --- | | | | | | |
| 978 | | | | --- | --- | 150 | --- | 45 | --- |
| Cordova | 60 | 2w | --- | | | | | | |
| Rolfe, depressional | 30 | 3w | --- | | | | | | |
| 1000 | 90 | 3s | 3s | 3.2 | 8.0 | 75 | 175 | 23 | 50 |
| Arvilla, MAP >25 | | | | | | | | | |
| 1015. Udipsamments (cut and fill land) | | | | | | | | | |
| 1016. Udorthents, loamy | | | | | | | | | |
| 1023C | | | | 3.8 | --- | 115 | --- | 35 | --- |
| Lester, eroded | 50 | 3e | --- | | | | | | |
| Malardi | 35 | 4e | --- | | | | | | |
| 1023D | | | | 3.0 | --- | 100 | --- | 30 | --- |
| Lester, eroded | 45 | 4e | --- | | | | | | |
| Malardi | 40 | 6e | --- | | | | | | |
| 1026B | 90 | 2e | --- | 4.3 | --- | 150 | --- | 45 | --- |
| Lizzie, moderately wet | | | | | | | | | |
| 1027. Udorthents, wet substratum | | | | | | | | | |
| 1030: | | | | | | | | | |
| Pits, gravel. | | | | | | | | | |
| Udipsamments. | | | | | | | | | |
| 1035B | 90 | 4s | --- | 3.0 | --- | 90 | --- | 25 | --- |
| Crowfork | | | | | | | | | |
| 1035C | 90 | 4s | --- | 2.8 | --- | 75 | --- | 22 | --- |
| Crowfork | | | | | | | | | |
| 1035D | 85 | 6s | --- | 2.5 | --- | 65 | --- | 16 | --- |
| Crowfork | | | | | | | | | |
| 1036B | 85 | 2e | --- | 4.5 | --- | 150 | --- | 45 | --- |
| Angus | | | | | | | | | |

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability N | Land capability I | Alfalfa hay N | Alfalfa hay I | Corn N | Corn I | Soybeans N | Soybeans I |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Tons | Tons | Bu | Bu | Bu | Bu |
| 1037 Eckvoll, MAP >25 | 90 | 3s | --- | 3.5 | --- | 90 | --- | 30 | --- |
| 1038A Verndale, acid substratum | 90 | 3s | --- | 3.2 | 8.0 | 85 | 175 | 30 | 50 |
| 1038B Verndale, acid substratum | 85 | 3s | --- | 3.2 | 8.0 | 80 | 175 | 28 | 50 |
| 1066B | | | | 2.8 | --- | 80 | --- | 23 | --- |
| Malardi | 65 | 3s | --- | | | | | | |
| Hawick | 25 | 4s | --- | | | | | | |
| 1066C | | | | 2.5 | --- | 75 | --- | 20 | --- |
| Malardi | 60 | 4e | --- | | | | | | |
| Hawick | 25 | 4s | --- | | | | | | |
| 1066E | | | | --- | --- | --- | --- | --- | --- |
| Malardi | 55 | 7e | --- | | | | | | |
| Hawick | 30 | 7e | --- | | | | | | |
| 1072. Udorthents, shallow | | | | | | | | | |
| 1075 | | | | --- | --- | --- | --- | --- | --- |
| Klossner, ponded | 40 | 8w | --- | | | | | | |
| Muskego, ponded | 40 | 8w | --- | | | | | | |
| 1080 | | | | --- | --- | --- | --- | --- | --- |
| Klossner, ponded | 30 | 8w | --- | | | | | | |
| Okoboji, ponded | 30 | 8w | --- | | | | | | |
| Glencoe, ponded | 30 | 8w | --- | | | | | | |
| 1087B | | | | 3.5 | --- | 125 | --- | 38 | --- |
| Angus | 55 | 2e | --- | | | | | | |
| Malardi | 30 | 3s | --- | | | | | | |
| 1094B | | | | 4.2 | --- | 150 | --- | 45 | --- |
| Angus | 60 | 2e | --- | | | | | | |
| Cordova | 30 | 2w | --- | | | | | | |
| 1099 Granby, very wet | 85 | 5w | --- | --- | --- | --- | --- | --- | --- |
| 1110 Isan | 90 | 3w | --- | --- | --- | 60 | --- | 20 | --- |
| 1156 Cordova | 85 | 2w | --- | --- | --- | 155 | --- | 45 | --- |
| 1161 Barry | 85 | 2w | --- | --- | --- | 145 | --- | 42 | --- |

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability | | Alfalfa hay | | Corn | | Soybeans | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Tons | Tons | Bu | Bu | Bu | Bu |
| 1163 Suckercreek, frequently flooded | 85 | 5w | --- | --- | --- | --- | --- | --- | --- |
| 1165 Lundlake, depressional | 90 | 3w | --- | --- | --- | 138 | --- | 43 | --- |
| 1173 | | | | --- | --- | --- | --- | --- | --- |
| Muskego, frequently flooded | 45 | 6w | --- | | | | | | |
| Klossner, frequently flooded | 45 | 6w | --- | | | | | | |
| 1186 | | | | --- | --- | 140 | --- | 40 | --- |
| Forestcity | 75 | 2w | --- | | | | | | |
| Lundlake, depressional | 20 | 3w | --- | | | | | | |
| 1196B | | | | 3.2 | --- | 75 | --- | 27 | --- |
| Lida | 60 | 3s | --- | | | | | | |
| Two Inlets | 30 | 4s | --- | | | | | | |
| 1196C | | | | 3.0 | --- | 70 | --- | 24 | --- |
| Lida | 55 | 4e | --- | | | | | | |
| Two Inlets | 30 | 4s | --- | | | | | | |
| 1196E | | | | --- | --- | --- | --- | --- | --- |
| Lida | 50 | 7e | --- | | | | | | |
| Two Inlets | 40 | 7s | --- | | | | | | |
| 1197 Suckercreek, occasionally flooded | 80 | 4w | --- | --- | --- | 120 | --- | 35 | --- |
| 1199 | | | | --- | --- | --- | --- | --- | --- |
| Klossner, ponded | 45 | 8w | --- | | | | | | |
| Lundlake, ponded | 45 | 8w | --- | | | | | | |
| 1203 | | | | --- | --- | --- | --- | --- | --- |
| Muskego, ponded | 30 | 8w | --- | | | | | | |
| Blue Earth, ponded | 30 | 8w | --- | | | | | | |
| Houghton, ponded | 30 | 8w | --- | | | | | | |
| 1204B Reedslake | 85 | 2e | --- | 4.6 | --- | 155 | --- | 48 | --- |
| 1207B | | | | 4.6 | --- | 155 | --- | 48 | --- |
| Reedslake | 60 | 2e | --- | | | | | | |
| Le Sueur | 25 | 1 | --- | | | | | | |
| 1213C | | | | 3.8 | --- | 130 | --- | 35 | --- |
| Cokato, eroded | 65 | 3e | --- | | | | | | |
| Storden | 20 | 3e | --- | | | | | | |

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability N | Land capability I | Alfalfa hay N | Alfalfa hay I | Corn N | Corn I | Soybeans N | Soybeans I |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Tons | Tons | Bu | Bu | Bu | Bu |
| 1213D | | | | 3.3 | --- | 110 | --- | 32 | --- |
| Cokato, eroded | 60 | 4e | --- | | | | | | |
| Storden | 25 | 4e | --- | | | | | | |
| 1220C | | | | 3.6 | --- | 120 | --- | 32 | --- |
| Cokato, eroded | 50 | 3e | --- | | | | | | |
| Storden | 20 | 3e | --- | | | | | | |
| Hawick | 15 | 4s | --- | | | | | | |
| 1223 | | | | 3.0 | 8.0 | 60 | 172 | 23 | 50 |
| Sandberg, MAP >25 | 60 | 4s | 4s | | | | | | |
| Arvilla, MAP >25 | 30 | 3s | 3s | | | | | | |
| 1224 | | | | 3.2 | 8.0 | 70 | 172 | 25 | 50 |
| Hubbard | 60 | 4s | 4s | | | | | | |
| Verndale, acid substratum | 30 | 3s | --- | | | | | | |
| 1231 | | | | 3.2 | 8.0 | 75 | 172 | 25 | 50 |
| Hubbard | 60 | 4s | 4s | | | | | | |
| Mosford | 30 | 3s | --- | | | | | | |
| 1255 | 80 | 2w | --- | 3.9 | --- | 115 | --- | 35 | --- |
| Elkriver, occasionally flooded | | | | | | | | | |
| 1256 | 90 | 4s | --- | --- | --- | 70 | --- | 24 | --- |
| Cantlin | | | | | | | | | |
| 1257 | | | | 3.7 | --- | 105 | --- | 34 | --- |
| Elkriver, rarely flooded | 55 | 2s | --- | | | | | | |
| Mosford, rarely flooded | 35 | 3e | --- | | | | | | |
| 1260B | | | | 3.0 | --- | 85 | --- | 24 | --- |
| Stonelake | 55 | 4s | --- | | | | | | |
| Nebish, moderately wet | 30 | 2e | --- | | | | | | |
| 1260C | | | | 2.8 | --- | 80 | --- | 22 | --- |
| Stonelake | 55 | 6s | --- | | | | | | |
| Nebish | 30 | 3e | --- | | | | | | |
| 1260E | | | | --- | --- | --- | --- | --- | --- |
| Stonelake | 60 | 7s | --- | | | | | | |
| Nebish | 25 | 6e | --- | | | | | | |
| 1288 | | | | --- | --- | --- | --- | --- | --- |
| Seelyeville, ponded | 45 | 8w | --- | | | | | | |
| Markey, ponded | 45 | 8w | --- | | | | | | |
| 1356. | | | | | | | | | |
| Water, miscellaneous | | | | | | | | | |

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability | | Alfalfa hay | | Corn | | Soybeans | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Tons | Tons | Bu | Bu | Bu | Bu |
| 1362B---------- Angus | 85 | 2e | --- | 4.6 | --- | 155 | --- | 48 | --- |
| 1368---------- Southhaven | 90 | 1 | --- | 3.5 | --- | 150 | --- | 45 | --- |
| 1377B---------- | | | | 3.2 | --- | 80 | --- | 28 | --- |
| Dorset---------- | 70 | 3s | --- | | | | | | |
| Two Inlets---------- | 20 | 4s | --- | | | | | | |
| 1377C---------- | | | | 3.0 | --- | 65 | --- | 25 | --- |
| Dorset---------- | 50 | 4e | --- | | | | | | |
| Two Inlets---------- | 35 | 4s | --- | | | | | | |
| 1377D---------- | | | | 2.5 | --- | 50 | --- | 16 | --- |
| Dorset---------- | 45 | 6e | --- | | | | | | |
| Two Inlets---------- | 40 | 6s | --- | | | | | | |
| 1377E---------- | | | | --- | --- | --- | --- | --- | --- |
| Dorset---------- | 45 | 7e | --- | | | | | | |
| Two Inlets---------- | 45 | 7s | --- | | | | | | |
| 1378---------- Fordum, occasionally flooded | 85 | 4w | --- | --- | --- | --- | --- | --- | --- |
| 1379B---------- | | | | 3.3 | --- | 80 | --- | 30 | --- |
| Dorset---------- | 65 | 3s | --- | | | | | | |
| Almora---------- | 25 | 2s | --- | | | | | | |
| 1380A---------- Bygland, MAP >25 | 85 | 1 | --- | 4.5 | --- | 150 | --- | 42 | --- |
| 1380B---------- Bygland, MAP >25 | 70 | 2e | --- | 4.2 | --- | 140 | --- | 40 | --- |
| 1380C---------- Bygland, MAP >25 | 70 | 3e | --- | 4.0 | --- | 130 | --- | 35 | --- |
| 1381---------- Lindaas, morainic | 80 | 2w | --- | --- | --- | 150 | --- | 45 | --- |
| 1383A---------- Shorewood, moderately wet | 95 | 2w | --- | --- | --- | 150 | --- | 45 | --- |
| 1388B---------- Terril, moderately wet | 85 | 2e | --- | 4.6 | --- | 155 | --- | 48 | --- |
| 1406---------- | | | | --- | --- | --- | --- | --- | --- |
| Medo, ponded---------- | 30 | 8w | --- | | | | | | |
| Dassel, ponded---------- | 30 | 8w | --- | | | | | | |
| Biscay, ponded---------- | 30 | 8w | --- | | | | | | |

Table 7a.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability | | Alfalfa hay | | Corn | | Soybeans | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Tons | Tons | Bu | Bu | Bu | Bu |
| 1408B | | | | 4.3 | --- | 150 | --- | 45 | --- |
| Angus | 45 | 2e | --- | | | | | | |
| Kilkenny | 40 | 2e | --- | | | | | | |
| 1438B | 85 | 3s | --- | 3.5 | --- | 100 | --- | 30 | --- |
| Braham, moderately wet | | | | | | | | | |
| 1443 | 85 | 2w | --- | --- | --- | --- | --- | --- | --- |
| Belleville | | | | | | | | | |
| 1901B | | | | 4.6 | --- | 155 | --- | 48 | --- |
| Angus | 60 | 2e | --- | | | | | | |
| Le Sueur | 30 | 1 | --- | | | | | | |
| 1931 | 75 | 2w | --- | --- | --- | 90 | --- | 30 | --- |
| Essexville | | | | | | | | | |
| 1942 | 85 | 6w | --- | --- | --- | --- | --- | --- | --- |
| Forada, depressional | | | | | | | | | |
| 1946 | | | | --- | --- | --- | --- | --- | --- |
| Fordum, frequently flooded | 70 | 6w | --- | | | | | | |
| Winterfield, frequently flooded | 20 | 4w | --- | | | | | | |
| 1975 | 90 | 3s | --- | 3.3 | --- | 80 | --- | 30 | --- |
| Oylen | | | | | | | | | |
| W. | | | | | | | | | |
| Water | | | | | | | | | |

Table 7b.--Land Capability and Yields per Acre of Crops

(Yields in the "N" columns are for nonirrigated areas; those in the "I" columns are for irrigated areas. Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

| Map symbol and soil name | Pct. of map unit | Land capability | | Oats | | Irish potatoes | | Spring wheat | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Bu | Bu | Cwt | Cwt | Bu | Bu |
| 7A Hubbard | 95 | 4s | 4s | 55 | --- | --- | 400 | 35 | --- |
| 7B Hubbard | 90 | 4s | 4s | 50 | --- | --- | 400 | 35 | --- |
| 7C Hubbard | 80 | 6s | 6s | 48 | --- | --- | 380 | 30 | --- |
| 8B Sparta | 95 | 4s | --- | 50 | --- | --- | --- | 37 | --- |
| 35 Blue Earth, depressional | 80 | 3w | --- | 70 | --- | --- | --- | 48 | --- |
| 74B Dickinson | 95 | 3e | --- | 65 | --- | --- | --- | 40 | --- |
| 86 Canisteo | 80 | 2w | --- | 85 | --- | --- | --- | 50 | --- |
| 106C2 Lester, eroded | 70 | 3e | --- | 80 | --- | --- | --- | 49 | --- |
| 106D2 Lester, eroded | 80 | 4e | --- | 65 | --- | --- | --- | 38 | --- |
| 106E Lester | 80 | 6e | --- | --- | --- | --- | --- | --- | --- |
| 109 Cordova | 90 | 2w | --- | 85 | --- | --- | --- | 56 | --- |
| 114 Glencoe, depressional | 90 | 3w | --- | 83 | --- | --- | --- | 45 | --- |
| 138 Lerdal | 80 | 2e | --- | 85 | --- | --- | --- | 55 | --- |
| 158A Zimmerman | 90 | 4s | 4s | 57 | --- | --- | 400 | 38 | --- |
| 158B Zimmerman | 90 | 4s | 4s | 57 | --- | --- | 400 | 38 | --- |
| 158C Zimmerman | 90 | 6s | 6s | 50 | --- | --- | --- | 32 | --- |
| 158E Zimmerman | 85 | 6s | --- | --- | --- | --- | --- | --- | --- |
| 169C Braham | 90 | 4e | --- | 69 | --- | --- | --- | 41 | --- |
| 181 Litchfield | 95 | 3s | --- | 60 | --- | --- | --- | 40 | --- |

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability | | Oats | | Irish potatoes | | Spring wheat | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Bu | Bu | Cwt | Cwt | Bu | Bu |
| 229---------- Waldorf | 90 | 2w | --- | 87 | --- | --- | --- | 53 | --- |
| 231C---------- Lester | 80 | 3e | --- | 80 | --- | --- | --- | 49 | --- |
| 231D---------- Lester | 80 | 4e | --- | 60 | --- | --- | --- | 40 | --- |
| 235---------- Nessel | 85 | 1 | --- | 90 | --- | --- | --- | 55 | --- |
| 239---------- Le Sueur | 80 | 1 | --- | 90 | --- | --- | --- | 56 | --- |
| 247---------- Linder | 90 | 2s | --- | 72 | --- | --- | --- | 45 | --- |
| 255---------- Mayer | 85 | 2w | --- | 65 | --- | --- | --- | 45 | --- |
| 256---------- Mazaska | 90 | 2w | --- | 80 | --- | --- | --- | 50 | --- |
| 258B---------- Sandberg | 95 | 4s | --- | 55 | --- | --- | 400 | 37 | --- |
| 258C---------- Sandberg | 90 | 6s | --- | 48 | --- | --- | 380 | 29 | --- |
| 258E---------- Sandberg | 85 | 7s | --- | --- | --- | --- | --- | --- | --- |
| 260---------- Duelm | 90 | 4s | --- | 57 | --- | --- | --- | 38 | --- |
| 261---------- Isan, depressional | 90 | 6w | --- | --- | --- | --- | --- | --- | --- |
| 286B---------- Shorewood | 95 | 2e | --- | 80 | --- | --- | --- | 50 | --- |
| 294A---------- Rasset | 90 | 2s | --- | 62 | --- | --- | --- | 42 | --- |
| 323---------- Shields | 95 | 2w | --- | 80 | --- | --- | --- | 50 | --- |
| 327A---------- Dickman | 85 | 3s | --- | 62 | --- | --- | --- | 40 | --- |
| 327B---------- Dickman | 85 | 3e | --- | 52 | --- | --- | --- | 35 | --- |
| 375---------- Forada | 85 | 2w | --- | 68 | --- | --- | --- | 45 | --- |
| 392---------- Biscay | 90 | 2w | --- | 75 | --- | --- | --- | 42 | --- |
| 406---------- Dorset | 90 | 3s | --- | 58 | --- | --- | --- | 40 | --- |

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability | | Oats | | Irish potatoes | | Spring wheat | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Bu | Bu | Cwt | Cwt | Bu | Bu |
| 414---------- Hamel | 90 | 2w | --- | 90 | --- | --- | --- | 56 | --- |
| 441---------- Almora | 90 | 2s | --- | 74 | --- | --- | --- | 50 | --- |
| 461B---------- Koronis | 85 | 2e | --- | 82 | --- | --- | --- | 53 | --- |
| 461C2---------- Koronis, eroded | 80 | 3e | --- | 77 | --- | --- | --- | 46 | --- |
| 461E---------- Koronis | 80 | 7e | --- | --- | --- | --- | --- | --- | --- |
| 511---------- Marcellon, MAP <30 | 85 | 1 | --- | 80 | --- | --- | --- | 48 | --- |
| 523---------- Houghton, drained | 80 | 3w | --- | 80 | --- | --- | --- | 42 | --- |
| 525---------- Muskego, surface drained | 75 | 6w | --- | --- | --- | --- | --- | --- | --- |
| 539---------- Klossner, drained | 80 | 3w | --- | 75 | --- | --- | --- | 42 | --- |
| 540---------- Seelyeville, surface drained | 80 | 6w | --- | --- | --- | --- | --- | --- | --- |
| 543---------- Markey, surface drained | 80 | 6w | --- | --- | --- | --- | --- | --- | --- |
| 548---------- Medo, drained | 80 | 3w | --- | 80 | --- | --- | --- | 42 | --- |
| 603---------- Hanlon, occasionally flooded | 80 | 2s | --- | 75 | --- | --- | --- | 45 | --- |
| 611D---------- Hawick | 85 | 7s | --- | --- | --- | --- | --- | --- | --- |
| 708---------- Rushlake | 85 | 4s | --- | --- | --- | --- | --- | --- | --- |
| 740---------- | | | | 85 | --- | --- | --- | 55 | --- |
| Hamel---------- | 70 | 2w | --- | | | | | | |
| Glencoe, depressional--- | 20 | 3w | --- | | | | | | |
| 768---------- Mosford | 85 | 3s | --- | 60 | --- | --- | 400 | 40 | --- |
| 771---------- Elkriver, rarely flooded | 85 | 2s | --- | 74 | --- | --- | --- | 50 | --- |
| 783C2---------- | | | | 75 | --- | --- | --- | 48 | --- |
| Lester, eroded---------- | 50 | 3e | --- | | | | | | |
| Kilkenny, eroded-------- | 30 | 3e | --- | | | | | | |

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability | | Oats | | Irish potatoes | | Spring wheat | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Bu | Bu | Cwt | Cwt | Bu | Bu |
| 792---------- Fordum, frequently flooded | 90 | 6w | --- | --- | --- | --- | --- | --- | --- |
| 799---------- Seelyeville, frequently flooded---------- | 45 | 6w | --- | --- | --- | --- | --- | --- | --- |
| Bowstring, frequently flooded---------- | 45 | 6w | --- | | | | | | |
| 804B---------- Koronis---------- | 50 | 2e | --- | 80 | --- | --- | --- | 49 | --- |
| Sunburg---------- | 20 | 2e | --- | | | | | | |
| Hawick---------- | 15 | 4s | --- | | | | | | |
| 804C2---------- Koronis, eroded--------- | 45 | 3e | --- | 72 | --- | --- | --- | 44 | --- |
| Sunburg---------- | 25 | 3e | --- | | | | | | |
| Hawick---------- | 15 | 4s | --- | | | | | | |
| 804D2---------- Koronis, eroded--------- | 40 | 4e | --- | 55 | --- | --- | --- | 37 | --- |
| Sunburg---------- | 30 | 4e | --- | | | | | | |
| Hawick---------- | 15 | 6s | --- | | | | | | |
| 804E---------- Koronis---------- | 50 | 7e | --- | --- | --- | --- | --- | --- | --- |
| Sunburg---------- | 20 | 7e | --- | | | | | | |
| Hawick---------- | 15 | 7s | --- | | | | | | |
| 807D2---------- Koronis, eroded--------- | 65 | 4e | --- | 57 | --- | --- | --- | 38 | --- |
| Sunburg---------- | 20 | 4e | --- | | | | | | |
| 875B---------- Estherville---------- | 60 | 3s | --- | 52 | --- | --- | --- | 38 | --- |
| Hawick---------- | 30 | 4s | --- | | | | | | |
| 875C---------- Hawick---------- | 60 | 4s | --- | 50 | --- | --- | --- | 36 | --- |
| Estherville---------- | 25 | 4s | --- | | | | | | |
| 896B---------- Kingsley---------- | 70 | 2e | --- | 65 | --- | --- | --- | 48 | --- |
| Gotham---------- | 25 | 4s | --- | | | | | | |
| 896C---------- Kingsley---------- | 70 | 3e | --- | 62 | --- | --- | --- | 45 | --- |
| Gotham---------- | 25 | 6s | --- | | | | | | |

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability | | Oats | | Irish potatoes | | Spring wheat | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Bu | Bu | Cwt | Cwt | Bu | Bu |
| 945C2 | | | | 70 | --- | --- | --- | 45 | --- |
| Lester, eroded | 50 | 3e | --- | | | | | | |
| Storden, eroded | 30 | 3e | --- | | | | | | |
| 945D2 | | | | 65 | --- | --- | --- | 38 | --- |
| Lester, eroded | 60 | 4e | --- | | | | | | |
| Storden, eroded | 20 | 4e | --- | | | | | | |
| 956 | | | | 85 | --- | --- | --- | 53 | --- |
| Canisteo | 65 | 2w | --- | | | | | | |
| Glencoe, depressional | 25 | 3w | --- | | | | | | |
| 978 | | | | 85 | --- | --- | --- | 55 | --- |
| Cordova | 60 | 2w | --- | | | | | | |
| Rolfe, depressional | 30 | 3w | --- | | | | | | |
| 1000 | 90 | 3s | 3s | 58 | --- | --- | 400 | 39 | --- |
| Arvilla, MAP >25 | | | | | | | | | |
| 1015. Udipsamments (cut and fill land) | | | | | | | | | |
| 1016. Udorthents, loamy | | | | | | | | | |
| 1023C | | | | 65 | --- | --- | --- | 45 | --- |
| Lester, eroded | 50 | 3e | --- | | | | | | |
| Malardi | 35 | 4e | --- | | | | | | |
| 1023D | | | | 60 | --- | --- | --- | 40 | --- |
| Lester, eroded | 45 | 4e | --- | | | | | | |
| Malardi | 40 | 6e | --- | | | | | | |
| 1026B | 90 | 2e | --- | 80 | --- | --- | --- | 55 | --- |
| Lizzie, moderately wet | | | | | | | | | |
| 1027. Udorthents, wet substratum | | | | | | | | | |
| 1030: Pits, gravel. | | | | | | | | | |
| Udipsamments. | | | | | | | | | |
| 1035B | 90 | 4s | --- | 52 | --- | --- | --- | 40 | --- |
| Crowfork | | | | | | | | | |
| 1035C | 90 | 4s | --- | 45 | --- | --- | --- | 38 | --- |
| Crowfork | | | | | | | | | |
| 1035D | 85 | 6s | --- | 40 | --- | --- | --- | 35 | --- |
| Crowfork | | | | | | | | | |
| 1036B | 85 | 2e | --- | 85 | --- | --- | --- | 52 | --- |
| Angus | | | | | | | | | |

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability | | Oats | | Irish potatoes | | Spring wheat | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Bu | Bu | Cwt | Cwt | Bu | Bu |
| 1037---------- Eckvoll, MAP >25 | 90 | 3s | --- | 77 | --- | --- | --- | 48 | --- |
| 1038A---------- Verndale, acid substratum | 90 | 3s | --- | 60 | --- | --- | 400 | 40 | --- |
| 1038B---------- Verndale, acid substratum | 85 | 3s | --- | 60 | --- | --- | 400 | 40 | --- |
| 1066B---------- | | | | 52 | --- | --- | --- | 38 | --- |
| Malardi---------- | 65 | 3s | --- | | | | | | |
| Hawick---------- | 25 | 4s | --- | | | | | | |
| 1066C---------- | | | | 50 | --- | --- | --- | 35 | --- |
| Malardi---------- | 60 | 4e | --- | | | | | | |
| Hawick---------- | 25 | 4s | --- | | | | | | |
| 1066E---------- | | | | --- | --- | --- | --- | --- | --- |
| Malardi---------- | 55 | 7e | --- | | | | | | |
| Hawick---------- | 30 | 7e | --- | | | | | | |
| 1072. Udorthents, shallow | | | | | | | | | |
| 1075---------- | | | | --- | --- | --- | --- | --- | --- |
| Klossner, ponded-------- | 40 | 8w | --- | | | | | | |
| Muskego, ponded--------- | 40 | 8w | --- | | | | | | |
| 1080---------- | | | | --- | --- | --- | --- | --- | --- |
| Klossner, ponded-------- | 30 | 8w | --- | | | | | | |
| Okoboji, ponded--------- | 30 | 8w | --- | | | | | | |
| Glencoe, ponded--------- | 30 | 8w | --- | | | | | | |
| 1087B---------- | | | | 72 | --- | --- | --- | 50 | --- |
| Angus---------- | 55 | 2e | --- | | | | | | |
| Malardi---------- | 30 | 3s | --- | | | | | | |
| 1094B---------- | | | | 85 | --- | --- | --- | 52 | --- |
| Angus---------- | 60 | 2e | --- | | | | | | |
| Cordova---------- | 30 | 2w | --- | | | | | | |
| 1099---------- Granby, very wet | 85 | 5w | --- | --- | --- | --- | --- | --- | --- |
| 1110---------- Isan | 90 | 3w | --- | 50 | --- | --- | --- | 33 | --- |
| 1156---------- Cordova | 85 | 2w | --- | 85 | --- | --- | --- | 56 | --- |
| 1161---------- Barry | 85 | 2w | --- | 82 | --- | --- | --- | 55 | --- |

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability | | Oats | | Irish potatoes | | Spring wheat | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Bu | Bu | Cwt | Cwt | Bu | Bu |
| 1163 Suckercreek, frequently flooded | 85 | 5w | --- | --- | --- | --- | --- | --- | --- |
| 1165 Lundlake, depressional | 90 | 3w | --- | 83 | --- | --- | --- | 50 | --- |
| 1173 | | | | --- | --- | --- | --- | --- | --- |
| Muskego, frequently flooded | 45 | 6w | --- | | | | | | |
| Klossner, frequently flooded | 45 | 6w | --- | | | | | | |
| 1186 | | | | 80 | --- | --- | --- | 48 | --- |
| Forestcity | 75 | 2w | --- | | | | | | |
| Lundlake, depressional | 20 | 3w | --- | | | | | | |
| 1196B | | | | 60 | --- | --- | --- | 40 | --- |
| Lida | 60 | 3s | --- | | | | | | |
| Two Inlets | 30 | 4s | --- | | | | | | |
| 1196C | | | | 55 | --- | --- | --- | 35 | --- |
| Lida | 55 | 4e | --- | | | | | | |
| Two Inlets | 30 | 4s | --- | | | | | | |
| 1196E | | | | --- | --- | --- | --- | --- | --- |
| Lida | 50 | 7e | --- | | | | | | |
| Two Inlets | 40 | 7s | --- | | | | | | |
| 1197 Suckercreek, occasionally flooded | 80 | 4w | --- | 75 | --- | --- | --- | --- | --- |
| 1199 | | | | --- | --- | --- | --- | --- | --- |
| Klossner, ponded | 45 | 8w | --- | | | | | | |
| Lundlake, ponded | 45 | 8w | --- | | | | | | |
| 1203 | | | | --- | --- | --- | --- | --- | --- |
| Muskego, ponded | 30 | 8w | --- | | | | | | |
| Blue Earth, ponded | 30 | 8w | --- | | | | | | |
| Houghton, ponded | 30 | 8w | --- | | | | | | |
| 1204B Reedslake | 85 | 2e | --- | 90 | --- | --- | --- | 52 | --- |
| 1207B | | | | 90 | --- | --- | --- | 52 | --- |
| Reedslake | 60 | 2e | --- | | | | | | |
| Le Sueur | 25 | 1 | --- | | | | | | |
| 1213C | | | | 70 | --- | --- | --- | 45 | --- |
| Cokato, eroded | 65 | 3e | --- | | | | | | |
| Storden | 20 | 3e | --- | | | | | | |

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability N | Land capability I | Oats N | Oats I | Irish potatoes N | Irish potatoes I | Spring wheat N | Spring wheat I |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Bu | Bu | Cwt | Cwt | Bu | Bu |
| 1213D | | | | 65 | --- | --- | --- | 38 | --- |
| Cokato, eroded | 60 | 4e | --- | | | | | | |
| Storden | 25 | 4e | --- | | | | | | |
| 1220C | | | | 68 | --- | --- | --- | 42 | --- |
| Cokato, eroded | 50 | 3e | --- | | | | | | |
| Storden | 20 | 3e | --- | | | | | | |
| Hawick | 15 | 4s | --- | | | | | | |
| 1223 | | | | 55 | --- | --- | 400 | 37 | --- |
| Sandberg, MAP >25 | 60 | 4s | 4s | | | | | | |
| Arvilla, MAP >25 | 30 | 3s | 3s | | | | | | |
| 1224 | | | | 55 | --- | --- | 400 | 38 | --- |
| Hubbard | 60 | 4s | 4s | | | | | | |
| Verndale, acid substratum | 30 | 3s | --- | | | | | | |
| 1231 | | | | 58 | --- | --- | 400 | 38 | --- |
| Hubbard | 60 | 4s | 4s | | | | | | |
| Mosford | 30 | 3s | --- | | | | | | |
| 1255 | 80 | 2w | --- | 71 | --- | --- | --- | 48 | --- |
| Elkriver, occasionally flooded | | | | | | | | | |
| 1256 | 90 | 4s | --- | 57 | --- | --- | --- | 38 | --- |
| Cantlin | | | | | | | | | |
| 1257 | | | | 68 | --- | --- | --- | 45 | --- |
| Elkriver, rarely flooded | 55 | 2s | --- | | | | | | |
| Mosford, rarely flooded | 35 | 3e | --- | | | | | | |
| 1260B | | | | 60 | --- | --- | --- | 40 | --- |
| Stonelake | 55 | 4s | --- | | | | | | |
| Nebish, moderately wet | 30 | 2e | --- | | | | | | |
| 1260C | | | | 50 | --- | --- | --- | 30 | --- |
| Stonelake | 55 | 6s | --- | | | | | | |
| Nebish | 30 | 3e | --- | | | | | | |
| 1260E | | | | --- | --- | --- | --- | --- | --- |
| Stonelake | 60 | 7s | --- | | | | | | |
| Nebish | 25 | 6e | --- | | | | | | |
| 1288 | | | | --- | --- | --- | --- | --- | --- |
| Seelyeville, ponded | 45 | 8w | --- | | | | | | |
| Markey, ponded | 45 | 8w | --- | | | | | | |
| 1356. Water, miscellaneous | | | | | | | | | |

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability | | Oats | | Irish potatoes | | Spring wheat | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Bu | Bu | Cwt | Cwt | Bu | Bu |
| 1362B---------- Angus | 85 | 2e | --- | 90 | --- | --- | --- | 52 | --- |
| 1368---------- Southhaven | 90 | 1 | --- | 85 | --- | --- | --- | 55 | --- |
| 1377B---------- | | | | 60 | --- | --- | --- | 40 | --- |
| Dorset---------- | 70 | 3s | --- | | | | | | |
| Two Inlets---------- | 20 | 4s | --- | | | | | | |
| 1377C---------- | | | | 58 | --- | --- | --- | 35 | --- |
| Dorset---------- | 50 | 4e | --- | | | | | | |
| Two Inlets---------- | 35 | 4s | --- | | | | | | |
| 1377D---------- | | | | 38 | --- | --- | --- | 30 | --- |
| Dorset---------- | 45 | 6e | --- | | | | | | |
| Two Inlets---------- | 40 | 6s | --- | | | | | | |
| 1377E---------- | | | | --- | --- | --- | --- | --- | --- |
| Dorset---------- | 45 | 7e | --- | | | | | | |
| Two Inlets---------- | 45 | 7s | --- | | | | | | |
| 1378---------- Fordum, occasionally flooded | 85 | 4w | --- | --- | --- | --- | --- | --- | --- |
| 1379B---------- | | | | 60 | --- | --- | --- | 40 | --- |
| Dorset---------- | 65 | 3s | --- | | | | | | |
| Almora---------- | 25 | 2s | --- | | | | | | |
| 1380A---------- Bygland, MAP >25 | 85 | 1 | --- | 80 | --- | --- | --- | 55 | --- |
| 1380B---------- Bygland, MAP >25 | 70 | 2e | --- | 75 | --- | --- | --- | 52 | --- |
| 1380C---------- Bygland, MAP >25 | 70 | 3e | --- | 72 | --- | --- | --- | 45 | --- |
| 1381---------- Lindaas, morainic | 80 | 2w | --- | 87 | --- | --- | --- | 53 | --- |
| 1383A---------- Shorewood, moderately wet | 95 | 2w | --- | 87 | --- | --- | --- | 53 | --- |
| 1388B---------- Terril, moderately wet | 85 | 2e | --- | 90 | --- | --- | --- | 56 | --- |
| 1406---------- | | | | --- | --- | --- | --- | --- | --- |
| Medo, ponded---------- | 30 | 8w | --- | | | | | | |
| Dassel, ponded---------- | 30 | 8w | --- | | | | | | |
| Biscay, ponded---------- | 30 | 8w | --- | | | | | | |

Table 7b.--Land Capability and Yields per Acre of Crops--Continued

| Map symbol and soil name | Pct. of map unit | Land capability | | Oats | | Irish potatoes | | Spring wheat | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | I | N | I | N | I | N | I |
| | | | | Bu | Bu | Cwt | Cwt | Bu | Bu |
| 1408B | | | | 85 | --- | --- | --- | 52 | --- |
| Angus | 45 | 2e | --- | | | | | | |
| Kilkenny | 40 | 2e | --- | | | | | | |
| 1438B | 85 | 3s | --- | 70 | --- | --- | --- | 45 | --- |
| Braham, moderately wet | | | | | | | | | |
| 1443 | 85 | 2w | --- | --- | --- | --- | --- | --- | --- |
| Belleville | | | | | | | | | |
| 1901B | | | | 90 | --- | --- | --- | 56 | --- |
| Angus | 60 | 2e | --- | | | | | | |
| Le Sueur | 30 | 1 | --- | | | | | | |
| 1931 | 75 | 2w | --- | 70 | --- | --- | --- | 42 | --- |
| Essexville | | | | | | | | | |
| 1942 | 85 | 6w | --- | --- | --- | --- | --- | --- | --- |
| Forada, depressional | | | | | | | | | |
| 1946 | | | | --- | --- | --- | --- | --- | --- |
| Fordum, frequently flooded | 70 | 6w | --- | | | | | | |
| Winterfield, frequently flooded | 20 | 4w | --- | | | | | | |
| 1975 | 90 | 3s | --- | 60 | --- | --- | --- | 40 | --- |
| Oylen | | | | | | | | | |
| W. | | | | | | | | | |
| Water | | | | | | | | | |

Table 8.--Forage Suitability Groups

(Only the soils assigned to forage suitability groups are listed)

| Map symbol and component name | Pct. of map unit | MLRA | Forage suitability group |
|---|---|---|---|
| 7A: | | | |
| Hubbard | 95 | 091 | 22 |
| 7B: | | | |
| Hubbard | 90 | 091 | 22 |
| 7C: | | | |
| Hubbard | 80 | 091 | 22 |
| 8B: | | | |
| Sparta | 95 | 103 | 22 |
| 35: | | | |
| Blue Earth, depressional | 80 | 103 | 13 |
| 74B: | | | |
| Dickinson | 95 | 103 | 7 |
| 86: | | | |
| Canisteo | 80 | 103 | 9 |
| 106C2: | | | |
| Lester, eroded | 70 | 103 | 6 |
| 106D2: | | | |
| Lester, eroded | 80 | 103 | 23 |
| 106E: | | | |
| Lester | 80 | 103 | 17 |
| 109: | | | |
| Cordova | 90 | 103 | 1 |
| 114: | | | |
| Glencoe, depressional | 90 | 103 | 13 |
| 138: | | | |
| Lerdal | 80 | 103 | 6 |
| 158A: | | | |
| Zimmerman | 90 | 091 | 22 |
| 158B: | | | |
| Zimmerman | 90 | 091 | 22 |
| 158C: | | | |
| Zimmerman | 90 | 091 | 22 |
| 158E: | | | |
| Zimmerman | 85 | 091 | 18 |
| 169C: | | | |
| Braham | 90 | 091 | 6 |
| 181: | | | |
| Litchfield | 95 | 103 | 5 |

Table 8.--Forage Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | MLRA | Forage suitability group |
|---|---|---|---|
| 229: | | | |
| Waldorf | 90 | 103 | 1 |
| 231C: | | | |
| Lester | 80 | 103 | 6 |
| 231D: | | | |
| Lester | 80 | 103 | 23 |
| 235: | | | |
| Nessel | 85 | 103 | 6 |
| 239: | | | |
| Le Sueur | 80 | 103 | 6 |
| 247: | | | |
| Linder | 90 | 103 | 2 |
| 255: | | | |
| Mayer | 85 | 103 | 9 |
| 256: | | | |
| Mazaska | 90 | 103 | 5 |
| 258B: | | | |
| Sandberg | 95 | 091 | 22 |
| 258C: | | | |
| Sandberg | 90 | 091 | 22 |
| 258E: | | | |
| Sandberg | 85 | 091 | 24 |
| 260: | | | |
| Duelm | 90 | 091 | 8 |
| 261: | | | |
| Isan, depressional | 90 | 091 | 24 |
| 286B: | | | |
| Shorewood | 95 | 103 | 2 |
| 294A: | | | |
| Rasset | 90 | 103 | 6 |
| 323: | | | |
| Shields | 95 | 103 | 5 |
| 327A: | | | |
| Dickman | 85 | 103 | 22 |
| 327B: | | | |
| Dickman | 85 | 103 | 22 |
| 375: | | | |
| Forada | 85 | 091 | 5 |
| 392: | | | |
| Biscay | 90 | 103 | 1 |
| 406: | | | |
| Dorset | 90 | 091 | 22 |

Table 8.--Forage Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | MLRA | Forage suitability group |
|---|---|---|---|
| 414: | | | |
| Hamel | 90 | 103 | 1 |
| 441: | | | |
| Almora | 90 | 091 | 6 |
| 461B: | | | |
| Koronis | 85 | 103 | 6 |
| 461C2: | | | |
| Koronis, eroded | 80 | 103 | 6 |
| 461E: | | | |
| Koronis | 80 | 103 | 24 |
| 511: | | | |
| Marcellon, MAP <30 | 85 | 103 | 6 |
| 523: | | | |
| Houghton, drained | 80 | 103 | 14 |
| 525: | | | |
| Muskego, surface drained | 75 | 103 | 24 |
| 539: | | | |
| Klossner, drained | 80 | 103 | 14 |
| 540: | | | |
| Seelyeville, surface drained | 80 | 091 | 24 |
| 543: | | | |
| Markey, surface drained | 80 | 091 | 24 |
| 548: | | | |
| Medo, drained | 80 | 103 | 14 |
| 603: | | | |
| Hanlon, occasionally flooded | 80 | 103 | 2 |
| 611D: | | | |
| Hawick | 85 | 103 | 22 |
| 708: | | | |
| Rushlake | 85 | 091 | 3 |
| 740: | | | |
| Hamel | 70 | 103 | 1 |
| Glencoe, depressional | 20 | 103 | 13 |
| 768: | | | |
| Mosford | 85 | 091 | 22 |
| 771: | | | |
| Elkriver, rarely flooded | 85 | 091 | 6 |

Table 8.--Forage Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | MLRA | Forage suitability group |
|---|---|---|---|
| 783C2: | | | |
| Lester, eroded | 50 | 103 | 6 |
| Kilkenny, eroded | 30 | 103 | 6 |
| 792: | | | |
| Fordum, frequently flooded | 90 | 091 | 16 |
| 799: | | | |
| Seelyeville, frequently flooded | 45 | 091 | 24 |
| Bowstring, frequently flooded | 45 | 091 | 24 |
| 804B: | | | |
| Koronis | 50 | 103 | 6 |
| Sunburg | 20 | 103 | 10 |
| Hawick | 15 | 103 | 22 |
| 804C2: | | | |
| Koronis, eroded | 45 | 103 | 6 |
| Sunburg | 25 | 103 | 10 |
| Hawick | 15 | 103 | 22 |
| 804D2: | | | |
| Koronis, eroded | 40 | 103 | 23 |
| Sunburg | 30 | 103 | 23 |
| Hawick | 15 | 103 | 22 |
| 804E: | | | |
| Koronis | 50 | 103 | 24 |
| Sunburg | 20 | 103 | 24 |
| Hawick | 15 | 103 | 24 |
| 807D2: | | | |
| Koronis, eroded | 65 | 103 | 23 |
| Sunburg | 20 | 103 | 23 |
| 875B: | | | |
| Estherville | 60 | 103 | 22 |
| Hawick | 30 | 103 | 22 |
| 875C: | | | |
| Hawick | 60 | 103 | 22 |
| Estherville | 25 | 103 | 22 |
| 896B: | | | |
| Kingsley | 70 | 103 | 6 |
| Gotham | 25 | 103 | 22 |

Table 8.--Forage Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | MLRA | Forage suitability group |
|---|---|---|---|
| 896C: | | | |
| Kingsley | 70 | 103 | 6 |
| Gotham | 25 | 103 | 22 |
| 945C2: | | | |
| Lester, eroded | 50 | 103 | 6 |
| Storden, eroded | 30 | 103 | 10 |
| 945D2: | | | |
| Lester, eroded | 60 | 103 | 23 |
| Storden, eroded | 20 | 103 | 23 |
| 956: | | | |
| Canisteo | 65 | 103 | 9 |
| Glencoe, depressional | 25 | 103 | 13 |
| 978: | | | |
| Cordova | 60 | 103 | 1 |
| Rolfe, depressional | 30 | 103 | 13 |
| 1000: | | | |
| Arvilla, MAP >25 | 90 | 091 | 22 |
| 1023C: | | | |
| Lester, eroded | 50 | 103 | 6 |
| Malardi | 35 | 103 | 22 |
| 1023D: | | | |
| Lester, eroded | 45 | 103 | 23 |
| Malardi | 40 | 103 | 22 |
| 1026B: | | | |
| Lizzie, moderately wet | 90 | 091 | 6 |
| 1035B: | | | |
| Crowfork | 90 | 103 | 22 |
| 1035C: | | | |
| Crowfork | 90 | 103 | 22 |
| 1035D: | | | |
| Crowfork | 85 | 103 | 22 |
| 1036B: | | | |
| Angus | 85 | 103 | 6 |
| 1037: | | | |
| Eckvoll, MAP >25 | 90 | 091 | 2 |
| 1038A: | | | |
| Verndale, acid substratum | 90 | 091 | 22 |
| 1038B: | | | |
| Verndale, acid substratum | 85 | 091 | 22 |

Table 8.--Forage Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | MLRA | Forage suitability group |
|---|---|---|---|
| 1066B: | | | |
| Malardi | 65 | 103 | 22 |
| Hawick | 25 | 103 | 22 |
| 1066C: | | | |
| Malardi | 60 | 103 | 22 |
| Hawick | 25 | 103 | 22 |
| 1066E: | | | |
| Malardi | 55 | 103 | 24 |
| Hawick | 30 | 103 | 24 |
| 1075: | | | |
| Klossner, ponded | 40 | 103 | 24 |
| Muskego, ponded | 40 | 103 | 24 |
| 1080: | | | |
| Klossner, ponded | 30 | 103 | 24 |
| Okoboji, ponded | 30 | 103 | 24 |
| Glencoe, ponded | 30 | 103 | 24 |
| 1087B: | | | |
| Angus | 55 | 103 | 6 |
| Malardi | 30 | 103 | 22 |
| 1094B: | | | |
| Angus | 60 | 103 | 6 |
| Cordova | 30 | 103 | 1 |
| 1099: | | | |
| Granby, very wet | 85 | 103 | 24 |
| 1110: | | | |
| Isan | 90 | 091 | 7 |
| 1156: | | | |
| Cordova | 85 | 103 | 1 |
| 1161: | | | |
| Barry | 85 | 103 | 1 |
| 1163: | | | |
| Suckercreek, frequently flooded | 85 | 103 | 16 |
| 1165: | | | |
| Lundlake, depressional | 90 | 103 | 13 |
| 1173: | | | |
| Muskego, frequently flooded | 45 | 103 | 24 |
| Klossner, frequently flooded | 45 | 103 | 24 |

Table 8.--Forage Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | MLRA | Forage suitability group |
|---|---|---|---|
| 1186: | | | |
| Forestcity | 75 | 103 | 5 |
| Lundlake, depressional | 20 | 103 | 13 |
| 1196B: | | | |
| Lida | 60 | 091 | 22 |
| Two Inlets | 30 | 091 | 22 |
| 1196C: | | | |
| Lida | 55 | 091 | 22 |
| Two Inlets | 30 | 091 | 22 |
| 1196E: | | | |
| Lida | 50 | 091 | 24 |
| Two Inlets | 40 | 091 | 24 |
| 1197: | | | |
| Suckercreek, occasionally flooded | 80 | 103 | 9 |
| 1199: | | | |
| Klossner, ponded | 45 | 103 | 24 |
| Lundlake, ponded | 45 | 103 | 24 |
| 1203: | | | |
| Muskego, ponded | 30 | 103 | 24 |
| Blue Earth, ponded | 30 | 103 | 24 |
| Houghton, ponded | 30 | 103 | 24 |
| 1204B: | | | |
| Reedslake | 85 | 103 | 2 |
| 1207B: | | | |
| Reedslake | 60 | 103 | 2 |
| Le Sueur | 25 | 103 | 6 |
| 1213C: | | | |
| Cokato, eroded | 65 | 103 | 2 |
| Storden | 20 | 103 | 10 |
| 1213D: | | | |
| Cokato, eroded | 60 | 103 | 23 |
| Storden | 25 | 103 | 23 |
| 1220C: | | | |
| Cokato, eroded | 50 | 103 | 2 |
| Storden | 20 | 103 | 10 |
| Hawick | 15 | 103 | 22 |

Table 8.--Forage Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | MLRA | Forage suitability group |
|---|---|---|---|
| 1223: | | | |
| Sandberg, MAP >25 | 60 | 091 | 22 |
| Arvilla, MAP >25 | 30 | 091 | 22 |
| 1224: | | | |
| Hubbard | 60 | 091 | 22 |
| Verndale, acid substratum | 30 | 091 | 22 |
| 1231: | | | |
| Hubbard | 60 | 091 | 22 |
| Mosford | 30 | 091 | 22 |
| 1255: | | | |
| Elkriver, occasionally flooded | 80 | 091 | 5 |
| 1256: | | | |
| Cantlin | 90 | 091 | 8 |
| 1257: | | | |
| Elkriver, rarely flooded | 55 | 091 | 6 |
| Mosford, rarely flooded | 35 | 091 | 22 |
| 1260B: | | | |
| Stonelake | 55 | 091 | 22 |
| Nebish, moderately wet | 30 | 091 | 6 |
| 1260C: | | | |
| Stonelake | 55 | 091 | 22 |
| Nebish | 30 | 091 | 6 |
| 1260E: | | | |
| Stonelake | 60 | 091 | 22 |
| Nebish | 25 | 091 | 17 |
| 1288: | | | |
| Seelyeville, ponded | 45 | 091 | 24 |
| Markey, ponded | 45 | 091 | 24 |
| 1362B: | | | |
| Angus | 85 | 103 | 6 |
| 1368: | | | |
| Southhaven | 90 | 091 | 6 |
| 1377B: | | | |
| Dorset | 70 | 091 | 22 |
| Two Inlets | 20 | 091 | 22 |

Table 8.--Forage Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | MLRA | Forage suitability group |
|---|---|---|---|
| 1377C: | | | |
| Dorset | 50 | 091 | 22 |
| Two Inlets | 35 | 091 | 22 |
| 1377D: | | | |
| Dorset | 45 | 091 | 22 |
| Two Inlets | 40 | 091 | 22 |
| 1377E: | | | |
| Dorset | 45 | 091 | 24 |
| Two Inlets | 45 | 091 | 24 |
| 1378: | | | |
| Fordum, occasionally flooded | 85 | 091 | 5 |
| 1379B: | | | |
| Dorset | 65 | 091 | 22 |
| Almora | 25 | 091 | 6 |
| 1380A: | | | |
| Bygland, MAP >25 | 85 | 091 | 2 |
| 1380B: | | | |
| Bygland, MAP >25 | 70 | 091 | 2 |
| 1380C: | | | |
| Bygland, MAP >25 | 70 | 091 | 2 |
| 1381: | | | |
| Lindaas, morainic | 80 | 091 | 1 |
| 1383A: | | | |
| Shorewood, moderately wet | 95 | 103 | 2 |
| 1388B: | | | |
| Terril, moderately wet | 85 | 103 | 2 |
| 1406: | | | |
| Medo, ponded | 30 | 103 | 24 |
| Dassel, ponded | 30 | 103 | 24 |
| Biscay, ponded | 30 | 103 | 24 |
| 1408B: | | | |
| Angus | 45 | 103 | 6 |
| Kilkenny | 40 | 103 | 6 |
| 1438B: | | | |
| Braham, moderately wet | 85 | 091 | 6 |
| 1443: | | | |
| Belleville | 85 | 103 | 1 |

Table 8.--Forage Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | MLRA | Forage suitability group |
|---|---|---|---|
| 1901B: | | | |
| Angus | 60 | 103 | 6 |
| Le Sueur | 30 | 103 | 6 |
| 1931: | | | |
| Essexville | 75 | 103 | 9 |
| 1942: | | | |
| Forada, depressional | 85 | 091 | 24 |
| 1946: | | | |
| Fordum, frequently flooded | 70 | 091 | 16 |
| Winterfield, frequently flooded | 20 | 091 | 7 |
| 1975: | | | |
| Oylen | 90 | 091 | 8 |

Table 9.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name)

| Map symbol | Soil name |
|---|---|
| 74B | Dickinson fine sandy loam, 1 to 6 percent slopes |
| 86 | Canisteo clay loam, moderately fine substratum, 0 to 2 percent slopes (where drained) |
| 109 | Cordova clay loam, 0 to 2 percent slopes (where drained) |
| 114 | Glencoe clay loam, depressional, 0 to 1 percent slopes (where drained) |
| 138 | Lerdal silty clay loam, 1 to 3 percent slopes |
| 229 | Waldorf silty clay loam, 0 to 2 percent slopes (where drained) |
| 235 | Nessel loam, 1 to 3 percent slopes |
| 239 | Le Sueur clay loam, 1 to 3 percent slopes |
| 247 | Linder loam, 0 to 2 percent slopes |
| 255 | Mayer loam, 0 to 2 percent slopes (where drained) |
| 256 | Mazaska silty clay loam, 0 to 2 percent slopes (where drained) |
| 286B | Shorewood silty clay loam, 3 to 6 percent slopes |
| 294A | Rasset sandy loam, 0 to 2 percent slopes |
| 323 | Shields silty clay loam, 0 to 3 percent slopes (where drained) |
| 375 | Forada loam, 0 to 2 percent slopes (where drained) |
| 392 | Biscay loam, 0 to 2 percent slopes (where drained) |
| 414 | Hamel loam, 1 to 3 percent slopes (where drained) |
| 441 | Almora loam, 0 to 2 percent slopes |
| 461B | Koronis loam, 2 to 6 percent slopes |
| 511 | Marcellon loam, MAP <30, 0 to 3 percent slopes |
| 603 | Hanlon fine sandy loam, 0 to 2 percent slopes, occasionally flooded |
| 740 | Hamel-Glencoe, depressional, complex, 0 to 3 percent slopes (where drained) |
| 771 | Elkriver fine sandy loam, 0 to 2 percent slopes, rarely flooded |
| 804B | Koronis-Sunburg-Hawick complex, 2 to 6 percent slopes |
| 956 | Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes (where drained) |
| 978 | Cordova-Rolfe, depressional, complex, 0 to 2 percent slopes (where drained) |
| 1026B | Lizzie silt loam, moderately wet, 1 to 5 percent slopes |
| 1036B | Angus fine sandy loam, 2 to 5 percent slopes |
| 1094B | Angus-Cordova complex, 0 to 5 percent slopes |
| 1156 | Cordova loam, 0 to 2 percent slopes (where drained) |
| 1161 | Barry loam, 0 to 2 percent slopes (where drained) |
| 1165 | Lundlake silty clay loam, depressional, 0 to 1 percent slopes (where drained) |
| 1186 | Forestcity-Lundlake, depressional, complex, 0 to 3 percent slopes (where drained) |
| 1197 | Suckercreek fine sandy loam, 0 to 2 percent slopes, occasionally flooded (where protected from flooding or not frequently flooded during the growing season) |
| 1204B | Reedslake loam, 2 to 5 percent slopes |
| 1207B | Reedslake-Le Sueur complex, 1 to 5 percent slopes |
| 1255 | Elkriver fine sandy loam, 0 to 2 percent slopes, occasionally flooded (where protected from flooding or not frequently flooded during the growing season) |
| 1362B | Angus loam, 2 to 5 percent slopes |
| 1368 | Southhaven loam, 0 to 2 percent slopes |
| 1380A | Bygland silt loam, MAP >25, 0 to 2 percent slopes |
| 1380B | Bygland silt loam, MAP >25, 2 to 6 percent slopes |
| 1381 | Lindaas silt loam, morainic, 0 to 2 percent slopes (where drained) |
| 1383A | Shorewood silty clay loam, moderately wet, 0 to 3 percent slopes |
| 1388B | Terril loam, moderately wet, 2 to 6 percent slopes |
| 1408B | Angus-Kilkenny complex, 2 to 6 percent slopes |
| 1901B | Angus-Le Sueur complex, 1 to 5 percent slopes |

Table 10.--Windbreaks and Environmental Plantings

(Only the soils suitable for windbreaks and environmental plantings are listed. Absence of an entry indicates that trees generally do not grow to the given height)

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 7A: | | | | | | |
| Hubbard | 95 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |
| 7B: | | | | | | |
| Hubbard | 90 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |
| 7C: | | | | | | |
| Hubbard | 80 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |
| 8B: | | | | | | |
| Sparta | 95 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |
| 35: | | | | | | |
| Blue Earth, depressional | 80 | Redosier dogwood | Gray dogwood, silky dogwood | Northern whitecedar, black ash, tall purple willow | Black willow, golden willow, white willow | Eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 74B: | | | | | | |
| Dickinson | 95 | Hedge cotoneaster | American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar | Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce | Eastern white pine, green ash | Silver maple, eastern cottonwood |
| 86: | | | | | | |
| Canisteo | 80 | Redosier dogwood | Gray dogwood, silky dogwood | Northern whitecedar, black ash, tall purple willow | Black willow, golden willow, white willow | Eastern cottonwood |
| 106C2: | | | | | | |
| Lester, eroded | 70 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 106D2: | | | | | | |
| Lester, eroded | 80 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 106E: | | | | | | |
| Lester | 80 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 109: | | | | | | |
| Cordova | 90 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |
| 114: | | | | | | |
| Glencoe, depressional | 90 | Redosier dogwood | Silky dogwood | Green ash, northern whitecedar | Golden willow | Eastern cottonwood |
| 138: | | | | | | |
| Lerdal | 80 | Hedge cotoneaster | American cranberrybush, Siberian peashrub, common chokecherry, common lilac, cotoneaster, American plum, silver buffaloberry | Black Hills spruce, Siberian crabapple, eastern redcedar, white spruce, Amur maple, Austrian pine, ponderosa pine, common hackberry, eastern white pine, red pine | Green ash, jack pine | Silver maple, eastern cottonwood |
| 158A: | | | | | | |
| Zimmerman | 90 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |
| 158B: | | | | | | |
| Zimmerman | 90 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 158C: | | | | | | |
| Zimmerman | 90 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |
| 158E: | | | | | | |
| Zimmerman | 85 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |
| 169C: | | | | | | |
| Braham | 90 | Nanking cherry, western sandcherry | Siberian peashrub, Amur maple, Harbin pear, common chokecherry, eastern redcedar | Black Hills spruce, Manchurian crabapple, blue spruce, bur oak, white spruce, common hackberry, northern red oak, red pine | Green ash, eastern white pine, Siberian elm | Silver maple, Siouxland cottonwood, eastern cottonwood |
| 181: | | | | | | |
| Litchfield | 95 | --- | Nanking cherry, Siberian peashrub, common chokecherry, redosier dogwood, sargent crabapple, silver buffaloberry, American plum, common lilac | Black Hills spruce, Norway spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry, red pine | American basswood, Austrian pine, eastern white pine, northern red oak, green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 229: | | | | | | |
| Waldorf | 90 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |
| 231C: | | | | | | |
| Lester | 80 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 231D: | | | | | | |
| Lester | 80 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 235: | | | | | | |
| Nessel | 85 | --- | American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac | Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry | Eastern white pine, northern red oak, green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 239: | | | | | | |
| Le Sueur | 80 | --- | American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac | Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry | Eastern white pine, northern red oak, green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 247: | | | | | | |
| Linder | 90 | --- | American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac | Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry | Eastern white pine, northern red oak, green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 255: | | | | | | |
| Mayer | 85 | Redosier dogwood | Common chokecherry, common lilac, American plum, silver buffaloberry | Black Hills spruce, eastern redcedar, blue spruce, white spruce, common hackberry, ponderosa pine | Green ash | Golden willow, eastern cottonwood, Siouxland cottonwood |
| 256: | | | | | | |
| Mazaska | 90 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 258B: | | | | | | |
| Sandberg | 95 | Cotoneaster, western sandcherry | Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar | American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple | Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood | Siberian elm, imperial Carolina poplar |
| 258C: | | | | | | |
| Sandberg | 90 | Cotoneaster, western sandcherry | Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar | American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple | Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood | Siberian elm, imperial Carolina poplar |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 258E: | | | | | | |
| Sandberg | 85 | Cotoneaster, western sandcherry | Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar | American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple | Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood | Siberian elm, imperial Carolina poplar |
| 260: | | | | | | |
| Duelm | 90 | Peking cotoneaster, western sandcherry | Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry | Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce | Northern red oak, red pine, eastern white pine, green ash | Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood |
| 286B: | | | | | | |
| Shorewood | 95 | Hedge cotoneaster | American cranberrybush, Siberian peashrub, common chokecherry, common lilac, cotoneaster, American plum, silver buffaloberry | Black Hills spruce, Siberian crabapple, eastern redcedar, white spruce, Amur maple, Austrian pine, ponderosa pine, common hackberry, eastern white pine, red pine | Green ash, jack pine | Silver maple, eastern cottonwood |
| 294A: | | | | | | |
| Rasset | 90 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 323: | | | | | | |
| Shields | 95 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |
| 327A: | | | | | | |
| Dickman | 85 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |
| 327B: | | | | | | |
| Dickman | 85 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |
| 375: | | | | | | |
| Forada | 85 | Nanking cherry | American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry | Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian-olive, common hackberry | Norway spruce, green ash, red pine, golden willow | Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 392: | | | | | | |
| Biscay | 90 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |
| 406: | | | | | | |
| Dorset | 90 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |
| 414: | | | | | | |
| Hamel | 90 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |
| 441: | | | | | | |
| Almora | 90 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |
| 461B: | | | | | | |
| Koronis | 85 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 461C2: | | | | | | |
| Koronis, eroded | 80 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 461E: | | | | | | |
| Koronis | 80 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 511: | | | | | | |
| Marcellon, MAP <30 | 85 | --- | American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac | Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry | Eastern white pine, northern red oak, green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 523: | | | | | | |
| Houghton, drained | 80 | --- | Redosier dogwood, silky dogwood | Black ash | Golden willow | --- |
| 539: | | | | | | |
| Klossner, drained | 80 | --- | Redosier dogwood, silky dogwood | Black ash | Golden willow | --- |
| 548: | | | | | | |
| Medo, drained | 80 | --- | Redosier dogwood, silky dogwood | Black ash | Golden willow | --- |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 603: | | | | | | |
| Hanlon, occasionally flooded | 80 | --- | American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac | Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry | Eastern white pine, northern red oak, green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 611D: | | | | | | |
| Hawick | 85 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |
| 708: | | | | | | |
| Rushlake | 85 | Nanking cherry, western sandcherry | Siberian peashrub, Harbin pear, blue spruce, common chokecherry | Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce | Northern red oak, red pine, eastern white pine, green ash | Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood |
| 740: | | | | | | |
| Hamel | 70 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |
| Glencoe, depressional | 20 | Redosier dogwood | Silky dogwood | Green ash, northern whitecedar | Golden willow | Eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 768: | | | | | | |
| Mosford | 85 | Cotoneaster, western sandcherry | Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar | American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple | Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood | Siberian elm, imperial Carolina poplar |
| 771: | | | | | | |
| Elkriver, rarely flooded | 85 | Peking cotoneaster, western sandcherry | Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry | Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce | Northern red oak, red pine, eastern white pine, green ash | Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood |
| 783C2: | | | | | | |
| Lester, eroded | 50 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Kilkenny, eroded | 30 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 804B: | | | | | | |
| Koronis | 50 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Sunburg | 20 | American plum, common lilac | Siberian peashrub, Black Hills spruce, common hackberry, eastern redcedar | Green ash, ponderosa pine, honeylocust | Eastern cottonwood | --- |
| Hawick | 15 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |
| 804C2: | | | | | | |
| Koronis, eroded | 45 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Sunburg | 25 | American plum, common lilac | Siberian peashrub, Black Hills spruce, common hackberry, eastern redcedar | Green ash, ponderosa pine, honeylocust | Eastern cottonwood | --- |
| Hawick | 15 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 804D2: | | | | | | |
| Koronis, eroded | 40 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Sunburg | 30 | American plum, common lilac | Siberian peashrub, Black Hills spruce, common hackberry, eastern redcedar | Green ash, ponderosa pine, honeylocust | Eastern cottonwood | --- |
| Hawick | 15 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |
| 804E: | | | | | | |
| Koronis | 50 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Sunburg | 20 | American plum, common lilac | Siberian peashrub, Black Hills spruce, common hackberry, eastern redcedar | Green ash, ponderosa pine, honeylocust | Eastern cottonwood | --- |
| Hawick | 15 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 807D2: | | | | | | |
| Koronis, eroded | 65 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Sunburg | 20 | American plum, common lilac | Siberian peashrub, Black Hills spruce, common hackberry, eastern redcedar | Green ash, ponderosa pine, honeylocust | Eastern cottonwood | --- |
| 875B: | | | | | | |
| Estherville | 60 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |
| Hawick | 30 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |
| 875C: | | | | | | |
| Hawick | 60 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 875C: | | | | | | |
| Estherville | 25 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |
| 896B: | | | | | | |
| Kingsley | 70 | Hedge cotoneaster | American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar | Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce | Eastern white pine, green ash | Silver maple, eastern cottonwood |
| Gotham | 25 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |
| 896C: | | | | | | |
| Kingsley | 70 | Hedge cotoneaster | American cranberrybush, American plum, common chokecherry, common lilac, silver buffaloberry, eastern redcedar | Black Hills spruce, blue spruce, ponderosa pine, Amur maple, common hackberry, white spruce | Eastern white pine, green ash | Silver maple, eastern cottonwood |
| Gotham | 25 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 945C2: | | | | | | |
| Lester, eroded---------- | 50 | Nanking cherry------ | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash---------- | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Storden, eroded--------- | 30 | American plum, common lilac | Siberian peashrub, Black Hills spruce, common hackberry, eastern redcedar | Green ash, ponderosa pine, honeylocust | Eastern cottonwood | --- |
| 945D2: | | | | | | |
| Lester, eroded---------- | 60 | Nanking cherry------ | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash---------- | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Storden, eroded--------- | 20 | American plum, common lilac | Siberian peashrub, Black Hills spruce, common hackberry, eastern redcedar | Green ash, ponderosa pine, honeylocust | Eastern cottonwood | --- |
| 956: | | | | | | |
| Canisteo---------- | 65 | Redosier dogwood---- | Gray dogwood, silky dogwood | Northern whitecedar, black ash, tall purple willow | Black willow, golden willow, white willow | Eastern cottonwood |
| Glencoe, depressional--- | 25 | Redosier dogwood---- | Silky dogwood------- | Green ash, northern whitecedar | Golden willow------- | Eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 978: | | | | | | |
| Cordova | 60 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |
| Rolfe, depressional | 30 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |
| 1000: | | | | | | |
| Arvilla, MAP >25 | 90 | Nanking cherry, western sandcherry | Siberian peashrub, Amur maple, Harbin pear, Manchurian crabapple, bur oak, common chokecherry, eastern redcedar, northern red oak | Black Hills spruce, blue spruce, eastern white pine, red pine, Siberian elm | Green ash, silver maple, Siouxland cottonwood | Eastern cottonwood |
| 1023C: | | | | | | |
| Lester, eroded | 50 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Malardi | 35 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1023D: | | | | | | |
| Lester, eroded | 45 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Malardi | 40 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |
| 1026B: | | | | | | |
| Lizzie, moderately wet | 90 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 1035B: | | | | | | |
| Crowfork | 90 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |
| 1035C: | | | | | | |
| Crowfork | 90 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1035D: | | | | | | |
| Crowfork | 85 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |
| 1036B: | | | | | | |
| Angus | 85 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 1037: | | | | | | |
| Eckvoll, MAP >25 | 90 | Nanking cherry, western sandcherry | Siberian peashrub, Harbin pear, blue spruce, common chokecherry | Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce | Northern red oak, red pine, eastern white pine, green ash | Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood |
| 1038A: | | | | | | |
| Verndale, acid substratum | 90 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |
| 1038B: | | | | | | |
| Verndale, acid substratum | 85 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1066B: | | | | | | |
| Malardi | 65 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |
| Hawick | 25 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |
| 1066C: | | | | | | |
| Malardi | 60 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |
| Hawick | 25 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |
| 1066E: | | | | | | |
| Malardi | 55 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1066E: | | | | | | |
| Hawick | 30 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |
| 1087B: | | | | | | |
| Angus | 55 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Malardi | 30 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, ponderosa pine, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |
| 1094B: | | | | | | |
| Angus | 60 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Cordova | 30 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1110: | | | | | | |
| Isan | 90 | Nanking cherry, western sandcherry | Siberian peashrub, Harbin pear, common chokecherry, eastern redcedar | Amur maple, Black Hills spruce, Manchurian crabapple, blue spruce, white spruce, common hackberry | Eastern white pine, green ash, red pine, Siberian elm | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 1156: | | | | | | |
| Cordova | 85 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |
| 1161: | | | | | | |
| Barry | 85 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |
| 1165: | | | | | | |
| Lundlake, depressional | 90 | Redosier dogwood | Silky dogwood | Green ash, northern whitecedar | Golden willow | Eastern cottonwood |
| 1186: | | | | | | |
| Forestcity | 75 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |
| Lundlake, depressional | 20 | Redosier dogwood | Silky dogwood | Green ash, northern whitecedar | Golden willow | Eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1196B: | | | | | | |
| Lida | 60 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |
| Two Inlets | 30 | Cotoneaster, western sandcherry | Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar | American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple | Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood | Siberian elm, imperial Carolina poplar |
| 1196C: | | | | | | |
| Lida | 55 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1196C: | | | | | | |
| Two Inlets | 30 | Cotoneaster, western sandcherry | Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar | American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple | Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood | Siberian elm, imperial Carolina poplar |
| 1196E: | | | | | | |
| Lida | 50 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |
| Two Inlets | 40 | Cotoneaster, western sandcherry | Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar | American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple | Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood | Siberian elm, imperial Carolina poplar |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1204B: | | | | | | |
| Reedslake | 85 | --- | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian peashrub, common lilac | Black Hills spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine | Green ash, honeylocust, jack pine | Silver maple, eastern cottonwood, quaking aspen, Siouxland cottonwood, Carolina poplar |
| 1207B: | | | | | | |
| Reedslake | 60 | --- | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, Siberian peashrub, common lilac | Black Hills spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine, red pine | Green ash, honeylocust, jack pine | Silver maple, eastern cottonwood, quaking aspen, Siouxland cottonwood, Carolina poplar |
| Le Sueur | 25 | --- | American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac | Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry | Eastern white pine, northern red oak, green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 1213C: | | | | | | |
| Cokato, eroded | 65 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1213C: | | | | | | |
| Storden | 20 | American plum, common lilac | Siberian peashrub, Black Hills spruce, common hackberry, eastern redcedar | Green ash, ponderosa pine, honeylocust | Eastern cottonwood | --- |
| 1213D: | | | | | | |
| Cokato, eroded | 60 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Storden | 25 | American plum, common lilac | Siberian peashrub, Black Hills spruce, common hackberry, eastern redcedar | Green ash, ponderosa pine, honeylocust | Eastern cottonwood | --- |
| 1220C: | | | | | | |
| Cokato, eroded | 50 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| Storden | 20 | American plum, common lilac | Siberian peashrub, Black Hills spruce, common hackberry, eastern redcedar | Green ash, ponderosa pine, honeylocust | Eastern cottonwood | --- |
| Hawick | 15 | --- | American plum, common chokecherry, common lilac, sargent crabapple, silver buffaloberry | Black Hills spruce, eastern redcedar, ponderosa pine, white spruce, Austrian pine, green ash, silver maple | Eastern white pine, Scotch pine, eastern cottonwood | --- |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1223: | | | | | | |
| Sandberg, MAP >25 | 60 | Cotoneaster, western sandcherry | Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar | American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple | Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood | Siberian elm, imperial Carolina poplar |
| Arvilla, MAP >25 | 30 | Nanking cherry, western sandcherry | Amur maple, Harbin pear, Manchurian crabapple, Siberian peashrub, bur oak, common chokecherry, eastern redcedar, northern red oak | Black Hills spruce, blue spruce, eastern white pine, red pine, Siberian elm | Green ash, silver maple, Siouxland cottonwood | Eastern cottonwood |
| 1224: | | | | | | |
| Hubbard | 60 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |
| Verndale, acid substratum | 30 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1231: | | | | | | |
| Hubbard | 60 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |
| Mosford | 30 | Cotoneaster, western sandcherry | Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar | American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple | Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood | Siberian elm, imperial Carolina poplar |
| 1255: | | | | | | |
| Elkriver, occasionally flooded | 80 | Peking cotoneaster, western sandcherry | Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry | Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce | Northern red oak, red pine, eastern white pine, green ash | Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood |
| 1256: | | | | | | |
| Cantlin | 90 | Nanking cherry, western sandcherry | Siberian peashrub, Harbin pear, blue spruce, common chokecherry | Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce | Northern red oak, red pine, eastern white pine, green ash | Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1257: | | | | | | |
| Elkriver, rarely flooded | 55 | Peking cotoneaster, western sandcherry | Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry | Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce | Northern red oak, red pine, eastern white pine, green ash | Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood |
| Mosford, rarely flooded | 35 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |
| 1260B: | | | | | | |
| Stonelake | 55 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |
| Nebish, moderately wet | 30 | Nanking cherry, western sandcherry | Siberian peashrub, Amur maple, Harbin pear, common chokecherry | Black Hills spruce, Manchurian crabapple, blue spruce, eastern redcedar, white spruce, bur oak, northern red oak, common hackberry | Green ash, eastern white pine, red pine, Siberian elm, silver maple | Eastern cottonwood, Siouxland cottonwood |
| 1260C: | | | | | | |
| Stonelake | 55 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1260C: | | | | | | |
| Nebish | 30 | Nanking cherry, western sandcherry | Siberian peashrub, Amur maple, Harbin pear, common chokecherry | Black Hills spruce, Manchurian crabapple, blue spruce, eastern redcedar, white spruce, bur oak, northern red oak, common hackberry | Green ash, eastern white pine, red pine, Siberian elm, silver maple | Eastern cottonwood, Siouxland cottonwood |
| 1260E: | | | | | | |
| Stonelake | 60 | Nanking cherry, western sandcherry | Siberian peashrub, common chokecherry, Amur maple, Harbin pear, Manchurian crabapple, blue spruce, bur oak, eastern redcedar, northern red oak | Black Hills spruce, green ash, red pine | Eastern white pine, silver maple, Siouxland cottonwood, eastern cottonwood | Siberian elm |
| Nebish | 25 | Nanking cherry, western sandcherry | Siberian peashrub, Amur maple, Harbin pear, common chokecherry | Black Hills spruce, Manchurian crabapple, blue spruce, eastern redcedar, white spruce, bur oak, northern red oak, common hackberry | Green ash, eastern white pine, red pine, Siberian elm, silver maple | Eastern cottonwood, Siouxland cottonwood |
| 1362B: | | | | | | |
| Angus | 85 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1368: | | | | | | |
| Southhaven | 90 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce | Norway spruce, green ash, eastern white pine, silver maple | Eastern cottonwood, Siouxland cottonwood |
| 1377B: | | | | | | |
| Dorset | 70 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |
| Two Inlets | 20 | Cotoneaster, western sandcherry | Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar | American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple | Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood | Siberian elm, imperial Carolina poplar |
| 1377C: | | | | | | |
| Dorset | 50 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1377C: | | | | | | |
| Two Inlets | 35 | Cotoneaster, western sandcherry | Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar | American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple | Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood | Siberian elm, imperial Carolina poplar |
| 1377D: | | | | | | |
| Dorset | 45 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |
| Two Inlets | 40 | Cotoneaster, western sandcherry | Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar | American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple | Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood | Siberian elm, imperial Carolina poplar |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1377E: | | | | | | |
| Dorset | 45 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |
| Two Inlets | 45 | Cotoneaster, western sandcherry | Nanking cherry, common chokecherry, common lilac, late lilac, sargent crabapple, silver buffaloberry, Amur maple, Harbin pear, Manchurian crabapple, Siberian crabapple, Siberian peashrub, blue spruce, common hackberry, eastern redcedar, northern whitecedar | American basswood, Austrian pine, Black Hills spruce, Norway spruce, Russian-olive, Scotch pine, green ash, white spruce, red pine, silver maple | Eastern white pine, jack pine, Siouxland cottonwood, eastern cottonwood | Siberian elm, imperial Carolina poplar |
| 1379B: | | | | | | |
| Dorset | 65 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |
| Almora | 25 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1380A: | | | | | | |
| Bygland, MAP >25-------- | 85 | Peking cotoneaster, hedge cotoneaster | American cranberrybush, American plum, Siberian peashrub, common lilac, late lilac, sargent crabapple, Amur maple, bur oak, common chokecherry, gray dogwood, northern whitecedar, silver buffaloberry | Black Hills spruce, Manchurian crabapple, Russian-olive, Siberian crabapple, blue spruce, eastern redcedar, nannyberry, sugar maple, white spruce, Austrian pine, common hackberry | American basswood, Siberian elm, eastern white pine, green ash, jack pine, red pine, silver maple | Eastern cottonwood, Siouxland cottonwood, Carolina poplar |
| 1380B: | | | | | | |
| Bygland, MAP >25-------- | 70 | Peking cotoneaster, hedge cotoneaster | American cranberrybush, American plum, Siberian peashrub, common lilac, late lilac, sargent crabapple, Amur maple, bur oak, common chokecherry, gray dogwood, northern whitecedar, silver buffaloberry | Black Hills spruce, Manchurian crabapple, Russian-olive, Siberian crabapple, blue spruce, eastern redcedar, nannyberry, sugar maple, white spruce, Austrian pine, common hackberry | American basswood, Siberian elm, eastern white pine, green ash, jack pine, red pine, silver maple | Eastern cottonwood, Siouxland cottonwood, Carolina poplar |
| 1380C: | | | | | | |
| Bygland, MAP >25-------- | 70 | Peking cotoneaster, hedge cotoneaster | American cranberrybush, American plum, Siberian peashrub, common lilac, late lilac, sargent crabapple, Amur maple, bur oak, common chokecherry, gray dogwood, northern whitecedar, silver buffaloberry | Black Hills spruce, Manchurian crabapple, Russian-olive, Siberian crabapple, blue spruce, eastern redcedar, nannyberry, sugar maple, white spruce, Austrian pine, common hackberry | American basswood, Siberian elm, eastern white pine, green ash, jack pine, red pine, silver maple | Eastern cottonwood, Siouxland cottonwood, Carolina poplar |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1381: | | | | | | |
| Lindaas, morainic | 80 | Nanking cherry | American cranberrybush, Siberian peashrub, common lilac, cotoneaster, redosier dogwood, sargent crabapple, American plum, common chokecherry, eastern redcedar, silver buffaloberry | Amur maple, Black Hills spruce, blue spruce, Austrian pine, Manchurian crabapple, Siberian crabapple, white spruce, Russian-olive, common hackberry | Norway spruce, green ash, red pine, golden willow | Silver maple, eastern cottonwood, Siouxland cottonwood, Carolina poplar |
| 1383A: | | | | | | |
| Shorewood, moderately wet | 95 | Hedge cotoneaster | American cranberrybush, Siberian peashrub, common chokecherry, common lilac, cotoneaster, American plum, silver buffaloberry | Black Hills spruce, Siberian crabapple, eastern redcedar, white spruce, Amur maple, Austrian pine, ponderosa pine, common hackberry, eastern white pine, red pine | Green ash, jack pine | Silver maple, eastern cottonwood |
| 1388B: | | | | | | |
| Terril, moderately wet | 85 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 1408B: | | | | | | |
| Angus | 45 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1408B: | | | | | | |
| Kilkenny | 40 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 1438B: | | | | | | |
| Braham, moderately wet | 85 | Peking cotoneaster, hedge cotoneaster | American cranberrybush, American plum, Siberian peashrub, common lilac, sargent crabapple, Amur maple, Siberian crabapple, common chokecherry, eastern redcedar, late lilac, silver buffaloberry | Blue spruce, nannyberry, northern whitecedar, sugar maple, Austrian pine, Black Hills spruce, Manchurian crabapple, Russian-olive, bur oak, white spruce, Norway spruce, Scotch pine, red pine | Green ash, eastern white pine, jack pine, Siberian elm | Silver maple, Siouxland cottonwood, eastern cottonwood |
| 1443: | | | | | | |
| Belleville | 85 | Nanking cherry | American cranberrybush, cotoneaster, sargent crabapple, common lilac, eastern redcedar, redosier dogwood, silver buffaloberry | American plum, blue spruce, Black Hills spruce, ponderosa pine, common hackberry | Eastern white pine, golden willow | Green ash, silver maple, Siouxland cottonwood, eastern cottonwood |
| 1901B: | | | | | | |
| Angus | 60 | Nanking cherry | American cranberrybush, common chokecherry, cotoneaster, sargent crabapple, silver buffaloberry, American plum, Amur maple, common lilac | Black Hills spruce, blue spruce, eastern redcedar, white spruce, Norway spruce, ponderosa pine, eastern white pine | Green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |

Table 10.--Windbreaks and Environmental Plantings--Continued

| Map symbol and soil name | Pct. of map unit | Trees having predicted 20-year average height, in feet, of-- <8 | 8-15 | 16-25 | 26-35 | >35 |
|---|---|---|---|---|---|---|
| 1901B: | | | | | | |
| Le Sueur | 30 | --- | American cranberrybush, Nanking cherry, common chokecherry, redosier dogwood, sargent crabapple, American plum, common lilac | Black Hills spruce, blue spruce, white spruce, eastern redcedar, ponderosa pine, Amur maple, common hackberry | Eastern white pine, northern red oak, green ash | Silver maple, eastern cottonwood, Siouxland cottonwood |
| 1931: | | | | | | |
| Essexville | 75 | Redosier dogwood | Gray dogwood, silky dogwood | Northern whitecedar, black ash, tall purple willow | Black willow, golden willow, white willow | Eastern cottonwood |
| 1946: | | | | | | |
| Fordum, frequently flooded | 70 | --- | --- | --- | --- | --- |
| Winterfield, frequently flooded | 20 | Peking cotoneaster, western sandcherry | Nanking cherry, Siberian peashrub, Harbin pear, blue spruce, common chokecherry | Amur maple, Black Hills spruce, Manchurian crabapple, eastern redcedar, bur oak, common hackberry, white spruce | Northern red oak, red pine, eastern white pine, green ash | Siberian elm, silver maple, eastern cottonwood, Siouxland cottonwood |
| 1975: | | | | | | |
| Oylen | 90 | Common lilac, hedge cotoneaster, late lilac | American plum, Siberian crabapple, sargent crabapple, Amur maple, common chokecherry, eastern redcedar, silver buffaloberry | Austrian pine, Black Hills spruce, blue spruce, white spruce, eastern white pine | Green ash, silver maple | Eastern cottonwood |

Table 11.--Windbreak Suitability Groups

(Suitable shrubs and trees with their mature heights are listed in table 10. Absence of an entry indicates that a windbreak suitability group is not assigned)

| Map symbol and component name | Pct. of map unit | Windbreak suitability group |
|---|---|---|
| 7A: | | |
| Hubbard | 95 | 7 |
| 7B: | | |
| Hubbard | 90 | 7 |
| 7C: | | |
| Hubbard | 80 | 7 |
| 8B: | | |
| Sparta | 95 | 7 |
| 35: | | |
| Blue Earth, depressional | 80 | 2K |
| 74B: | | |
| Dickinson | 95 | 5 |
| 86: | | |
| Canisteo | 80 | 2K |
| 106C2: | | |
| Lester, eroded | 70 | 3 |
| 106D2: | | |
| Lester, eroded | 80 | 3 |
| 106E: | | |
| Lester | 80 | 3 |
| 109: | | |
| Cordova | 90 | 2 |
| 114: | | |
| Glencoe, depressional | 90 | 2 |
| 138: | | |
| Lerdal | 80 | 4 |
| 158A: | | |
| Zimmerman | 90 | 7 |
| 158B: | | |
| Zimmerman | 90 | 7 |
| 158C: | | |
| Zimmerman | 90 | 7 |
| 158E: | | |
| Zimmerman | 85 | 7 |
| 169C: | | |
| Braham | 90 | 5 |
| 181: | | |
| Litchfield | 95 | 1 |

Table 11.--Windbreak Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | Windbreak suitability group |
|---|---|---|
| 229: | | |
| Waldorf | 90 | 2 |
| 231C: | | |
| Lester | 80 | 3 |
| 231D: | | |
| Lester | 80 | 3 |
| 235: | | |
| Nessel | 85 | 1 |
| 239: | | |
| Le Sueur | 80 | 1 |
| 247: | | |
| Linder | 90 | 1 |
| 255: | | |
| Mayer | 85 | 2K |
| 256: | | |
| Mazaska | 90 | 2 |
| 258B: | | |
| Sandberg | 95 | 7 |
| 258C: | | |
| Sandberg | 90 | 7 |
| 258E: | | |
| Sandberg | 85 | 7 |
| 260: | | |
| Duelm | 90 | 1 |
| 261: | | |
| Isan, depressional | 90 | 10 |
| 286B: | | |
| Shorewood | 95 | 4 |
| 294A: | | |
| Rasset | 90 | 6G |
| 323: | | |
| Shields | 95 | 2 |
| 327A: | | |
| Dickman | 85 | 7 |
| 327B: | | |
| Dickman | 85 | 7 |
| 375: | | |
| Forada | 85 | 2 |
| 392: | | |
| Biscay | 90 | 2 |
| 406: | | |
| Dorset | 90 | 6G |

Table 11.--Windbreak Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | Windbreak suitability group |
|---|---|---|
| 414: | | |
| Hamel | 90 | 2 |
| 441: | | |
| Almora | 90 | 6G |
| 461B: | | |
| Koronis | 85 | 3 |
| 461C2: | | |
| Koronis, eroded | 80 | 3 |
| 461E: | | |
| Koronis | 80 | 3 |
| 511: | | |
| Marcellon, MAP <30 | 85 | 1 |
| 523: | | |
| Houghton, drained | 80 | 2H |
| 525: | | |
| Muskego, surface drained | 75 | 10 |
| 539: | | |
| Klossner, drained | 80 | 2H |
| 540: | | |
| Seelyeville, surface drained | 80 | 10 |
| 543: | | |
| Markey, surface drained | 80 | 10 |
| 548: | | |
| Medo, drained | 80 | 2H |
| 603: | | |
| Hanlon, occasionally flooded | 80 | 1 |
| 611D: | | |
| Hawick | 85 | 7 |
| 708: | | |
| Rushlake | 85 | 1 |
| 740: | | |
| Hamel | 70 | 2 |
| Glencoe, depressional | 20 | 2 |
| 768: | | |
| Mosford | 85 | 7 |
| 771: | | |
| Elkriver, rarely flooded | 85 | 1 |

Table 11.--Windbreak Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | Windbreak suitability group |
|---|---|---|
| 783C2: | | |
| Lester, eroded | 50 | 3 |
| Kilkenny, eroded | 30 | 3 |
| 792: | | |
| Fordum, frequently flooded | 90 | 10 |
| 799: | | |
| Seelyeville, frequently flooded | 45 | 10 |
| Bowstring, frequently flooded | 45 | 10 |
| 804B: | | |
| Koronis | 50 | 3 |
| Sunburg | 20 | 8 |
| Hawick | 15 | 7 |
| 804C2: | | |
| Koronis, eroded | 45 | 3 |
| Sunburg | 25 | 8 |
| Hawick | 15 | 7 |
| 804D2: | | |
| Koronis, eroded | 40 | 3 |
| Sunburg | 30 | 8 |
| Hawick | 15 | 7 |
| 804E: | | |
| Koronis | 50 | 3 |
| Sunburg | 20 | 8 |
| Hawick | 15 | 7 |
| 807D2: | | |
| Koronis, eroded | 65 | 3 |
| Sunburg | 20 | 8 |
| 875B: | | |
| Estherville | 60 | 7 |
| Hawick | 30 | 7 |
| 875C: | | |
| Hawick | 60 | 7 |
| Estherville | 25 | 7 |
| 896B: | | |
| Kingsley | 70 | 5 |
| Gotham | 25 | 7 |

Table 11.--Windbreak Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | Windbreak suitability group |
|---|---|---|
| 896C: | | |
| Kingsley | 70 | 5 |
| Gotham | 25 | 7 |
| 945C2: | | |
| Lester, eroded | 50 | 3 |
| Storden, eroded | 30 | 8 |
| 945D2: | | |
| Lester, eroded | 60 | 3 |
| Storden, eroded | 20 | 8 |
| 956: | | |
| Canisteo | 65 | 2K |
| Glencoe, depressional | 25 | 2 |
| 978: | | |
| Cordova | 60 | 2 |
| Rolfe, depressional | 30 | 2 |
| 1000: | | |
| Arvilla, MAP >25 | 90 | 6G |
| 1023C: | | |
| Lester, eroded | 50 | 3 |
| Malardi | 35 | 6G |
| 1023D: | | |
| Lester, eroded | 45 | 3 |
| Malardi | 40 | 6G |
| 1026B: | | |
| Lizzie, moderately wet | 90 | 3 |
| 1035B: | | |
| Crowfork | 90 | 7 |
| 1035C: | | |
| Crowfork | 90 | 7 |
| 1035D: | | |
| Crowfork | 85 | 7 |
| 1036B: | | |
| Angus | 85 | 3 |
| 1037: | | |
| Eckvoll, MAP >25 | 90 | 1 |
| 1038A: | | |
| Verndale, acid substratum | 90 | 6G |
| 1038B: | | |
| Verndale, acid substratum | 85 | 6G |

Table 11.--Windbreak Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | Windbreak suitability group |
|---|---|---|
| 1066B: | | |
| Malardi | 65 | 6G |
| Hawick | 25 | 7 |
| 1066C: | | |
| Malardi | 60 | 6G |
| Hawick | 25 | 7 |
| 1066E: | | |
| Malardi | 55 | 6G |
| Hawick | 30 | 7 |
| 1075: | | |
| Klossner, ponded | 40 | 10 |
| Muskego, ponded | 40 | 10 |
| 1080: | | |
| Klossner, ponded | 30 | 10 |
| Okoboji, ponded | 30 | 10 |
| Glencoe, ponded | 30 | 10 |
| 1087B: | | |
| Angus | 55 | 3 |
| Malardi | 30 | 6G |
| 1094B: | | |
| Angus | 60 | 3 |
| Cordova | 30 | 2 |
| 1099: | | |
| Granby, very wet | 85 | 10 |
| 1110: | | |
| Isan | 90 | 2 |
| 1156: | | |
| Cordova | 85 | 2 |
| 1161: | | |
| Barry | 85 | 2 |
| 1163: | | |
| Suckercreek, frequently flooded | 85 | 10 |
| 1165: | | |
| Lundlake, depressional | 90 | 2 |
| 1173: | | |
| Muskego, frequently flooded | 45 | 10 |
| Klossner, frequently flooded | 45 | 10 |

Table 11.--Windbreak Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | Windbreak suitability group |
|---|---|---|
| 1186: | | |
| Forestcity | 75 | 2 |
| Lundlake, depressional | 20 | 2 |
| 1196B: | | |
| Lida | 60 | 6G |
| Two Inlets | 30 | 7 |
| 1196C: | | |
| Lida | 55 | 6G |
| Two Inlets | 30 | 7 |
| 1196E: | | |
| Lida | 50 | 6G |
| Two Inlets | 40 | 7 |
| 1197: | | |
| Suckercreek, occasionally flooded | 80 | 10 |
| 1199: | | |
| Klossner, ponded | 45 | 10 |
| Lundlake, ponded | 45 | 10 |
| 1203: | | |
| Muskego, ponded | 30 | 10 |
| Blue Earth, ponded | 30 | 10 |
| Houghton, ponded | 30 | 10 |
| 1204B: | | |
| Reedslake | 85 | 3 |
| 1207B: | | |
| Reedslake | 60 | 3 |
| Le Sueur | 25 | 1 |
| 1213C: | | |
| Cokato, eroded | 65 | 3 |
| Storden | 20 | 8 |
| 1213D: | | |
| Cokato, eroded | 60 | 3 |
| Storden | 25 | 8 |
| 1220C: | | |
| Cokato, eroded | 50 | 3 |
| Storden | 20 | 8 |
| Hawick | 15 | 7 |

Table 11.--Windbreak Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | Windbreak suitability group |
|---|---|---|
| 1223: | | |
| Sandberg, MAP >25----- | 60 | 7 |
| Arvilla, MAP >25------ | 30 | 6G |
| 1224: | | |
| Hubbard---------- | 60 | 7 |
| Verndale, acid substratum---------- | 30 | 6G |
| 1231: | | |
| Hubbard---------- | 60 | 7 |
| Mosford---------- | 30 | 7 |
| 1255: | | |
| Elkriver, occasionally flooded---------- | 80 | 1 |
| 1256: | | |
| Cantlin---------- | 90 | 1 |
| 1257: | | |
| Elkriver, rarely flooded---------- | 55 | 1 |
| Mosford, rarely flooded---------- | 35 | 7 |
| 1260B: | | |
| Stonelake---------- | 55 | 7 |
| Nebish, moderately wet | 30 | 3 |
| 1260C: | | |
| Stonelake---------- | 55 | 7 |
| Nebish---------- | 30 | 3 |
| 1260E: | | |
| Stonelake---------- | 60 | 7 |
| Nebish---------- | 25 | 3 |
| 1288: | | |
| Seelyeville, ponded--- | 45 | 10 |
| Markey, ponded-------- | 45 | 10 |
| 1362B: | | |
| Angus---------- | 85 | 3 |
| 1368: | | |
| Southhaven---------- | 90 | 3 |
| 1377B: | | |
| Dorset---------- | 70 | 6G |
| Two Inlets---------- | 20 | 7 |

Table 11.--Windbreak Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | Windbreak suitability group |
|---|---|---|
| 1377C: | | |
| Dorset | 50 | 6G |
| Two Inlets | 35 | 7 |
| 1377D: | | |
| Dorset | 45 | 6G |
| Two Inlets | 40 | 7 |
| 1377E: | | |
| Dorset | 45 | 6G |
| Two Inlets | 45 | 7 |
| 1378: | | |
| Fordum, occasionally flooded | 85 | 10 |
| 1379B: | | |
| Dorset | 65 | 6G |
| Almora | 25 | 6G |
| 1380A: | | |
| Bygland, MAP >25 | 85 | 4 |
| 1380B: | | |
| Bygland, MAP >25 | 70 | 4 |
| 1380C: | | |
| Bygland, MAP >25 | 70 | 4 |
| 1381: | | |
| Lindaas, morainic | 80 | 2 |
| 1383A: | | |
| Shorewood, moderately wet | 95 | 4 |
| 1388B: | | |
| Terril, moderately wet | 85 | 3 |
| 1406: | | |
| Medo, ponded | 30 | 10 |
| Dassel, ponded | 30 | 10 |
| Biscay, ponded | 30 | 10 |
| 1408B: | | |
| Angus | 45 | 3 |
| Kilkenny | 40 | 3 |
| 1438B: | | |
| Braham, moderately wet | 85 | 5 |
| 1443: | | |
| Belleville | 85 | 2 |

Table 11.--Windbreak Suitability Groups--Continued

| Map symbol and component name | Pct. of map unit | Windbreak suitability group |
|---|---|---|
| 1901B: | | |
| Angus | 60 | 3 |
| Le Sueur | 30 | 1 |
| 1931: | | |
| Essexville | 75 | 2K |
| 1942: | | |
| Forada, depressional | 85 | 10 |
| 1946: | | |
| Fordum, frequently flooded | 70 | 10 |
| Winterfield, frequently flooded | 20 | 1 |
| 1975: | | |
| Oylen | 90 | 6G |

Table 12a.--Recreation

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

| Map symbol and soil name | Pct. of map unit | Camp areas | | Picnic areas | | Playgrounds | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 7A: | | | | | | | |
| Hubbard | 95 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.81 | Too sandy | 0.81 | Too sandy | 0.81 |
| 7B: | | | | | | | |
| Hubbard | 90 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.81 | Too sandy | 0.81 | Too sandy | 0.81 |
| | | | | | | Slope | 0.12 |
| 7C: | | | | | | | |
| Hubbard | 80 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Too sandy | 0.81 | Too sandy | 0.81 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Too sandy | 0.81 |
| 8B: | | | | | | | |
| Sparta | 95 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.84 | Too sandy | 0.84 | Too sandy | 0.84 |
| | | | | | | Slope | 0.12 |
| 35: | | | | | | | |
| Blue Earth, depressional | 80 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | | | Depth to saturated zone | 1.00 | | |
| | | Ponding | 1.00 | | | Ponding | 1.00 |
| 74B: | | | | | | | |
| Dickinson | 95 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |
| 86: | | | | | | | |
| Canisteo | 80 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 106C2: | | | | | | | |
| Lester, eroded | 70 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 106D2: | | | | | | | |
| Lester, eroded | 80 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 106E: | | | | | | | |
| Lester | 80 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 109: | | | | | | | |
| Cordova | 90 | 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 | 0.21 | Restricted permeability | 0.21 | Restricted permeability | 0.21 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas: Rating class and limiting features | Value | Picnic areas: Rating class and limiting features | Value | Playgrounds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 114: | | | | | | | |
| Glencoe, depressional | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| 138: | | | | | | | |
| Lerdal | 80 | Very limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.99 | Restricted permeability | 0.94 | Depth to saturated zone | 0.99 |
| | | Restricted permeability | 0.94 | Depth to saturated zone | 0.78 | Restricted permeability | 0.94 |
| 158A: | | | | | | | |
| Zimmerman | 90 | Very limited | | Very limited | | Very limited | |
| | | Too sandy | 1.00 | Too sandy | 1.00 | Too sandy | 1.00 |
| 158B: | | | | | | | |
| Zimmerman | 90 | Very limited | | Very limited | | Very limited | |
| | | Too sandy | 1.00 | Too sandy | 1.00 | Too sandy | 1.00 |
| | | | | | | Slope | 0.12 |
| 158C: | | | | | | | |
| Zimmerman | 90 | Very limited | | Very limited | | Very limited | |
| | | Too sandy | 1.00 | Too sandy | 1.00 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Too sandy | 1.00 |
| 158E: | | | | | | | |
| Zimmerman | 85 | Very limited | | Very limited | | Very limited | |
| | | Too sandy | 1.00 | Too sandy | 1.00 | Slope | 1.00 |
| | | Slope | 1.00 | Slope | 1.00 | Too sandy | 1.00 |
| 169C: | | | | | | | |
| Braham | 90 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Too sandy | 0.37 | Too sandy | 0.37 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Too sandy | 0.37 |
| 181: | | | | | | | |
| Litchfield | 95 | Very limited | | Somewhat limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Too sandy | 0.92 | Depth to saturated zone | 1.00 |
| | | Too sandy | 0.92 | Depth to saturated zone | 0.90 | Too sandy | 0.92 |
| 229: | | | | | | | |
| Waldorf | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Restricted permeability | 0.43 | Restricted permeability | 0.43 | Restricted permeability | 0.43 |
| 231C: | | | | | | | |
| Lester | 80 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 231D: | | | | | | | |
| Lester | 80 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas | | Picnic areas | | Playgrounds | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 235: | | | | | | | |
| Nessel | 85 | Not limited | | Not limited | | Not limited | |
| 239: | | | | | | | |
| Le Sueur | 80 | Very limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.99 | Depth to saturated zone | 0.78 | Depth to saturated zone | 0.99 |
| 247: | | | | | | | |
| Linder | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.90 | Depth to saturated zone | 1.00 |
| 255: | | | | | | | |
| Mayer | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 256: | | | | | | | |
| Mazaska | 90 | 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 | 0.96 | Restricted permeability | 0.96 | Restricted permeability | 0.96 |
| 258B: | | | | | | | |
| Sandberg | 95 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Too sandy | 0.87 |
| | | | | | | Gravel content | 0.78 |
| | | | | | | Slope | 0.12 |
| 258C: | | | | | | | |
| Sandberg | 90 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Too sandy | 0.87 |
| | | | | | | Gravel content | 0.78 |
| 258E: | | | | | | | |
| Sandberg | 85 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Too sandy | 0.87 |
| | | | | | | Gravel content | 0.78 |
| 260: | | | | | | | |
| Duelm | 90 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Too sandy | 0.87 |
| 261: | | | | | | | |
| Isan, depressional | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| 286B: | | | | | | | |
| Shorewood | 95 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.98 | Depth to saturated zone | 0.75 | Depth to saturated zone | 0.98 |
| | | Restricted permeability | 0.60 | Restricted permeability | 0.60 | Restricted permeability | 0.60 |
| | | | | | | Slope | 0.50 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas: Rating class and limiting features | Value | Picnic areas: Rating class and limiting features | Value | Playgrounds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 294A: | | | | | | | |
| Rasset | 90 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Gravel content | 0.04 |
| 323: | | | | | | | |
| Shields | 95 | 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 | 0.96 | Restricted permeability | 0.96 | Restricted permeability | 0.96 |
| 327A: | | | | | | | |
| Dickman | 85 | Not limited | | Not limited | | Not limited | |
| 327B: | | | | | | | |
| Dickman | 85 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |
| 375: | | | | | | | |
| Forada | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 392: | | | | | | | |
| Biscay | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 406: | | | | | | | |
| Dorset | 90 | Not limited | | Not limited | | Not limited | |
| 414: | | | | | | | |
| Hamel | 90 | 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 | 0.21 | Restricted permeability | 0.21 | Restricted permeability | 0.21 |
| 441: | | | | | | | |
| Almora | 90 | Not limited | | Not limited | | Not limited | |
| 461B: | | | | | | | |
| Koronis | 85 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |
| | | | | | | Gravel content | 0.04 |
| 461C2: | | | | | | | |
| Koronis, eroded | 80 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| | | | | | | Gravel content | 0.04 |
| 461E: | | | | | | | |
| Koronis | 80 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | | | Gravel content | 0.04 |
| 511: | | | | | | | |
| Marcellon, MAP <30-- | 85 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.98 | Depth to saturated zone | 0.75 | Depth to saturated zone | 0.98 |
| | | | | | | Gravel content | 0.04 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas | | Picnic areas | | Playgrounds | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 523: | | | | | | | |
| Houghton, drained | 80 | Not rated | | Not rated | | Not rated | |
| 525: | | | | | | | |
| Muskego, surface drained | 75 | Not rated | | Not rated | | Not rated | |
| 539: | | | | | | | |
| Klossner, drained | 80 | Not rated | | Not rated | | Not rated | |
| 540: | | | | | | | |
| Seelyeville, surface drained | 80 | Not rated | | Not rated | | Not rated | |
| 543: | | | | | | | |
| Markey, surface drained | 80 | Not rated | | Not rated | | Not rated | |
| 548: | | | | | | | |
| Medo, drained | 80 | Not rated | | Not rated | | Not rated | |
| 603: | | | | | | | |
| Hanlon, occasionally flooded | 80 | Very limited | | Not limited | | Somewhat limited | |
| | | Flooding | 1.00 | | | Flooding | 0.60 |
| 611D: | | | | | | | |
| Hawick | 85 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | | | Gravel content | 0.90 |
| 708: | | | | | | | |
| Rushlake | 85 | Very limited | | Very limited | | Very limited | |
| | | Too sandy | 1.00 | Too sandy | 1.00 | Too sandy | 1.00 |
| | | Depth to saturated zone | 0.39 | Depth to saturated zone | 0.19 | Depth to saturated zone | 0.39 |
| | | | | | | Gravel content | 0.06 |
| 740: | | | | | | | |
| Hamel | 70 | 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 | 0.21 | Restricted permeability | 0.21 | Restricted permeability | 0.21 |
| Glencoe, depressional | 20 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| 768: | | | | | | | |
| Mosford | 85 | Not limited | | Not limited | | Not limited | |
| 771: | | | | | | | |
| Elkriver, rarely flooded | 85 | Very limited | | Not limited | | Not limited | |
| | | Flooding | 1.00 | | | | |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas: Rating class and limiting features | Value | Picnic areas: Rating class and limiting features | Value | Playgrounds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 783C2: | | | | | | | |
| Lester, eroded | 50 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Kilkenny, eroded | 30 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Restricted permeability | 0.21 | Restricted permeability | 0.21 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Restricted permeability | 0.21 |
| 792: | | | | | | | |
| Fordum, frequently flooded | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Flooding | 1.00 | Flooding | 0.40 | Flooding | 1.00 |
| | | | | | | Gravel content | 0.05 |
| 799: | | | | | | | |
| Seelyeville, frequently flooded | 45 | Not rated | | Not rated | | Not rated | |
| Bowstring, frequently flooded | 45 | Not rated | | Not rated | | Not rated | |
| 804B: | | | | | | | |
| Koronis | 50 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.50 |
| | | | | | | Gravel content | 0.04 |
| Sunburg | 20 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.50 |
| | | | | | | Gravel content | 0.17 |
| Hawick | 15 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.50 |
| | | | | | | Gravel content | 0.04 |
| 804C2: | | | | | | | |
| Koronis, eroded | 45 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| | | | | | | Gravel content | 0.04 |
| Sunburg | 25 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| | | | | | | Gravel content | 0.17 |
| Hawick | 15 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| | | | | | | Gravel content | 0.04 |
| 804D2: | | | | | | | |
| Koronis, eroded | 40 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | | | Gravel content | 0.04 |
| Sunburg | 30 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | | | Gravel content | 0.17 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas | | Picnic areas | | Playgrounds | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 804D2: | | | | | | | |
| Hawick | 15 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | | | Gravel content | 0.04 |
| 804E: | | | | | | | |
| Koronis | 50 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | | | Gravel content | 0.04 |
| Sunburg | 20 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | | | Gravel content | 0.17 |
| Hawick | 15 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Too sandy | 0.77 | Too sandy | 0.77 | Gravel content | 0.90 |
| | | | | | | Too sandy | 0.77 |
| 807D2: | | | | | | | |
| Koronis, eroded | 65 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | | | Gravel content | 0.04 |
| Sunburg | 20 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | | | Gravel content | 0.17 |
| 875B: | | | | | | | |
| Estherville | 60 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |
| Hawick | 30 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |
| | | | | | | Gravel content | 0.04 |
| 875C: | | | | | | | |
| Hawick | 60 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| | | | | | | Gravel content | 0.04 |
| Estherville | 25 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 896B: | | | | | | | |
| Kingsley | 70 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Restricted permeability | 0.15 | Restricted permeability | 0.15 | Slope | 0.50 |
| | | | | | | Restricted permeability | 0.15 |
| | | | | | | Gravel content | 0.04 |
| Gotham | 25 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.57 | Too sandy | 0.57 | Too sandy | 0.57 |
| | | | | | | Slope | 0.50 |
| 896C: | | | | | | | |
| Kingsley | 70 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Restricted permeability | 0.15 | Restricted permeability | 0.15 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Restricted permeability | 0.15 |
| | | | | | | Gravel content | 0.04 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas: Rating class and limiting features | Value | Picnic areas: Rating class and limiting features | Value | Playgrounds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 896C: | | | | | | | |
| Gotham | 25 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Too sandy | 0.57 | Too sandy | 0.57 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Too sandy | 0.57 |
| 945C2: | | | | | | | |
| Lester, eroded | 50 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Storden, eroded | 30 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 945D2: | | | | | | | |
| Lester, eroded | 60 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Storden, eroded | 20 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 956: | | | | | | | |
| Canisteo | 65 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| Glencoe, depressional | 25 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| 978: | | | | | | | |
| Cordova | 60 | 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 | 0.21 | Restricted permeability | 0.21 | Restricted permeability | 0.21 |
| Rolfe, depressional | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Restricted permeability | 0.96 | Restricted permeability | 0.96 | Restricted permeability | 0.96 |
| 1000: | | | | | | | |
| Arvilla, MAP >25 | 90 | Not limited | | Not limited | | Not limited | |
| 1015: | | | | | | | |
| Udipsamments (cut and fill land) | 100 | Not rated | | Not rated | | Not rated | |
| 1016: | | | | | | | |
| Udorthents, loamy | 100 | Not rated | | Not rated | | Not rated | |
| 1023C: | | | | | | | |
| Lester, eroded | 50 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Malardi | 35 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas | | Picnic areas | | Playgrounds | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 1023D: | | | | | | | |
| Lester, eroded | 45 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Malardi | 40 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 1026B: | | | | | | | |
| Lizzie, moderately wet | 90 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |
| 1027: | | | | | | | |
| Udorthents, wet substratum | 100 | Not rated | | Not rated | | Not rated | |
| 1030: | | | | | | | |
| Pits, gravel | 80 | Not rated | | Not rated | | Not rated | |
| Udipsamments | 20 | Not rated | | Not rated | | Not rated | |
| 1035B: | | | | | | | |
| Crowfork | 90 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.42 | Too sandy | 0.42 | Too sandy | 0.42 |
| | | | | | | Slope | 0.12 |
| 1035C: | | | | | | | |
| Crowfork | 90 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Too sandy | 0.42 | Too sandy | 0.42 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Too sandy | 0.42 |
| 1035D: | | | | | | | |
| Crowfork | 85 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Too sandy | 0.42 | Too sandy | 0.42 | Too sandy | 0.42 |
| 1036B: | | | | | | | |
| Angus | 85 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.50 |
| 1037: | | | | | | | |
| Eckvoll, MAP >25 | 90 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.98 | Too sandy | 0.89 | Depth to saturated zone | 0.98 |
| | | Too sandy | 0.89 | Depth to saturated zone | 0.75 | Too sandy | 0.89 |
| 1038A: | | | | | | | |
| Verndale, acid substratum | 90 | Not limited | | Not limited | | Not limited | |
| 1038B: | | | | | | | |
| Verndale, acid substratum | 85 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |
| 1066B: | | | | | | | |
| Malardi | 65 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas: Rating class and limiting features | Value | Picnic areas: Rating class and limiting features | Value | Playgrounds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1066B: | | | | | | | |
| Hawick | 25 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.50 |
| | | | | | | Gravel content | 0.04 |
| 1066C: | | | | | | | |
| Malardi | 60 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Hawick | 25 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.16 | Slope | 0.16 | Slope | 1.00 |
| | | | | | | Gravel content | 0.04 |
| 1066E: | | | | | | | |
| Malardi | 55 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Hawick | 30 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | | | Gravel content | 0.04 |
| 1072: | | | | | | | |
| Udorthents, shallow | 100 | Not rated | | Not rated | | Not rated | |
| 1075: | | | | | | | |
| Klossner, ponded | 40 | Not rated | | Not rated | | Not rated | |
| Muskego, ponded | 40 | Not rated | | Not rated | | Not rated | |
| 1080: | | | | | | | |
| Klossner, ponded | 30 | Not rated | | Not rated | | Not rated | |
| Okoboji, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Restricted permeability | 0.15 | Restricted permeability | 0.15 | Restricted permeability | 0.15 |
| Glencoe, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| 1087B: | | | | | | | |
| Angus | 55 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |
| Malardi | 30 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |
| 1094B: | | | | | | | |
| Angus | 60 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |
| Cordova | 30 | 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 | 0.21 | Restricted permeability | 0.21 | Restricted permeability | 0.21 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas | | Picnic areas | | Playgrounds | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 1099: | | | | | | | |
| Granby, very wet | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Too sandy | 0.89 | Too sandy | 0.89 | Too sandy | 0.89 |
| 1110: | | | | | | | |
| Isan | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 1156: | | | | | | | |
| Cordova | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Restricted permeability | 0.21 | Restricted permeability | 0.21 | Restricted permeability | 0.21 |
| 1161: | | | | | | | |
| Barry | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 1163: | | | | | | | |
| Suckercreek, frequently flooded | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Flooding | 1.00 | Flooding | 0.40 | Flooding | 1.00 |
| 1165: | | | | | | | |
| Lundlake, depressional | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| 1173: | | | | | | | |
| Muskego, frequently flooded | 45 | Not rated | | Not rated | | Not rated | |
| Klossner, frequently flooded | 45 | Not rated | | Not rated | | Not rated | |
| 1186: | | | | | | | |
| Forestcity | 75 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| Lundlake, depressional | 20 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| 1196B: | | | | | | | |
| Lida | 60 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.50 |
| | | | | | | Content of large stones | 0.01 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas: Rating class and limiting features | Value | Picnic areas: Rating class and limiting features | Value | Playgrounds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1196B: | | | | | | | |
| Two Inlets | 30 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Too sandy | 0.87 |
| | | | | | | Slope | 0.50 |
| | | | | | | Gravel content | 0.22 |
| 1196C: | | | | | | | |
| Lida | 55 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.37 | Slope | 0.37 | Slope | 1.00 |
| | | | | | | Content of large stones | 0.01 |
| Two Inlets | 30 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Slope | 1.00 |
| | | Slope | 0.37 | Slope | 0.37 | Too sandy | 0.87 |
| | | | | | | Gravel content | 0.22 |
| 1196E: | | | | | | | |
| Lida | 50 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | | | Content of large stones | 0.01 |
| Two Inlets | 40 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Too sandy | 0.87 |
| | | | | | | Gravel content | 0.22 |
| 1197: | | | | | | | |
| Suckercreek, occasionally flooded | 80 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Flooding | 1.00 | | | Flooding | 0.60 |
| 1199: | | | | | | | |
| Klossner, ponded | 45 | Not rated | | Not rated | | Not rated | |
| Lundlake, ponded | 45 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| 1203: | | | | | | | |
| Muskego, ponded | 30 | Not rated | | Not rated | | Not rated | |
| Blue Earth, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| Houghton, ponded | 30 | Not rated | | Not rated | | Not rated | |
| 1204B: | | | | | | | |
| Reedslake | 85 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas: Rating class and limiting features | Value | Picnic areas: Rating class and limiting features | Value | Playgrounds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1207B: | | | | | | | |
| Reedslake | 60 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.50 |
| Le Sueur | 25 | Very limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.99 | Depth to saturated zone | 0.78 | Depth to saturated zone | 0.99 |
| | | | | | | Slope | 0.12 |
| 1213C: | | | | | | | |
| Cokato, eroded | 65 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Storden | 20 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 1213D: | | | | | | | |
| Cokato, eroded | 60 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Storden | 25 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 1220C: | | | | | | | |
| Cokato, eroded | 50 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Storden | 20 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Hawick | 15 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| | | | | | | Gravel content | 0.90 |
| 1223: | | | | | | | |
| Sandberg, MAP >25 | 60 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.77 | Too sandy | 0.77 | Gravel content | 0.78 |
| | | | | | | Too sandy | 0.77 |
| Arvilla, MAP >25 | 30 | Not limited | | Not limited | | Not limited | |
| 1224: | | | | | | | |
| Hubbard | 60 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.70 | Too sandy | 0.70 | Too sandy | 0.70 |
| Verndale, acid substratum | 30 | Not limited | | Not limited | | Not limited | |
| 1231: | | | | | | | |
| Hubbard | 60 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.81 | Too sandy | 0.81 | Too sandy | 0.81 |
| Mosford | 30 | Not limited | | Not limited | | Not limited | |
| 1255: | | | | | | | |
| Elkriver, occasionally flooded | 80 | Very limited | | Somewhat limited | | Somewhat limited | |
| | | Flooding | 1.00 | Depth to saturated zone | 0.75 | Depth to saturated zone | 0.98 |
| | | Depth to saturated zone | 0.98 | | | Flooding | 0.60 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas: Rating class and limiting features | Value | Picnic areas: Rating class and limiting features | Value | Playgrounds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1256: | | | | | | | |
| Cantlin | 90 | Somewhat limited<br>Too sandy | <br>0.96 | Somewhat limited<br>Too sandy | <br>0.96 | Somewhat limited<br>Too sandy | <br>0.96 |
| 1257: | | | | | | | |
| Elkriver, rarely flooded | 55 | Very limited<br>Flooding | <br>1.00 | Not limited | | Somewhat limited<br>Slope | <br>0.12 |
| Mosford, rarely flooded | 35 | Very limited<br>Flooding | <br>1.00 | Not limited | | Somewhat limited<br>Slope | <br>0.12 |
| 1260B: | | | | | | | |
| Stonelake | 55 | Somewhat limited<br>Too sandy | <br>0.50 | Somewhat limited<br>Too sandy | <br>0.50 | Somewhat limited<br>Too sandy<br>Slope<br>Gravel content | <br>0.50<br>0.12<br>0.04 |
| Nebish, moderately wet | 30 | Not limited | | Not limited | | Somewhat limited<br>Slope | <br>0.12 |
| 1260C: | | | | | | | |
| Stonelake | 55 | Somewhat limited<br>Too sandy<br>Slope | <br>0.57<br>0.04 | Somewhat limited<br>Too sandy<br>Slope | <br>0.57<br>0.04 | Very limited<br>Slope<br>Too sandy<br>Gravel content | <br>1.00<br>0.57<br>0.04 |
| Nebish | 30 | Somewhat limited<br>Slope | <br>0.04 | Somewhat limited<br>Slope | <br>0.04 | Very limited<br>Slope | <br>1.00 |
| 1260E: | | | | | | | |
| Stonelake | 60 | Very limited<br>Slope<br>Gravel content | <br>1.00<br>0.36 | Very limited<br>Slope<br>Gravel content | <br>1.00<br>0.36 | Very limited<br>Gravel content<br>Slope<br>Content of large stones | <br>1.00<br>1.00<br>0.01 |
| Nebish | 25 | Very limited<br>Slope | <br>1.00 | Very limited<br>Slope | <br>1.00 | Very limited<br>Slope | <br>1.00 |
| 1288: | | | | | | | |
| Seelyeville, ponded | 45 | Not rated | | Not rated | | Not rated | |
| Markey, ponded | 45 | Not rated | | Not rated | | Not rated | |
| 1356: | | | | | | | |
| Water, miscellaneous | 100 | Not rated | | Not rated | | Not rated | |
| 1362B: | | | | | | | |
| Angus | 85 | Not limited | | Not limited | | Somewhat limited<br>Slope | <br>0.50 |
| 1368: | | | | | | | |
| Southhaven | 90 | Not limited | | Not limited | | Not limited | |
| 1377B: | | | | | | | |
| Dorset | 70 | Not limited | | Not limited | | Somewhat limited<br>Slope | <br>0.12 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas | | Picnic areas | | Playgrounds | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 1377B: | | | | | | | |
| Two Inlets---------- | 20 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Too sandy | 0.87 |
| | | | | | | Slope | 0.50 |
| | | | | | | Gravel content | 0.22 |
| 1377C: | | | | | | | |
| Dorset---------- | 50 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Two Inlets---------- | 35 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Too sandy | 0.87 |
| | | | | | | Gravel content | 0.22 |
| 1377D: | | | | | | | |
| Dorset---------- | 45 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Two Inlets---------- | 40 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Too sandy | 0.87 |
| | | | | | | Gravel content | 0.22 |
| 1377E: | | | | | | | |
| Dorset---------- | 45 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Two Inlets---------- | 45 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Too sandy | 0.87 |
| | | | | | | Gravel content | 0.22 |
| 1378: | | | | | | | |
| Fordum, occasionally flooded---------- | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Flooding | 1.00 | | | Flooding | 0.60 |
| | | | | | | Gravel content | 0.05 |
| 1379B: | | | | | | | |
| Dorset---------- | 65 | Not limited | | Not limited | | Not limited | |
| Almora---------- | 25 | Not limited | | Not limited | | Not limited | |
| 1380A: | | | | | | | |
| Bygland, MAP >25---- | 85 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Restricted permeability | 0.43 | Restricted permeability | 0.43 | Restricted permeability | 0.43 |
| 1380B: | | | | | | | |
| Bygland, MAP >25---- | 70 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Restricted permeability | 0.43 | Restricted permeability | 0.43 | Restricted permeability | 0.43 |
| | | | | | | Slope | 0.12 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas: Rating class and limiting features | Value | Picnic areas: Rating class and limiting features | Value | Playgrounds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1380C: | | | | | | | |
| Bygland, MAP >25---- | 70 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Restricted permeability | 0.43 | Restricted permeability | 0.43 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Restricted permeability | 0.43 |
| 1381: | | | | | | | |
| Lindaas, morainic--- | 80 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Restricted permeability | 0.96 | Restricted permeability | 0.96 | Restricted permeability | 0.96 |
| 1383A: | | | | | | | |
| Shorewood, moderately wet----- | 95 | 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 | 0.60 | Restricted permeability | 0.60 | Restricted permeability | 0.60 |
| 1388B: | | | | | | | |
| Terril, moderately wet---------- | 85 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |
| 1406: | | | | | | | |
| Medo, ponded-------- | 30 | Not rated | | Not rated | | Not rated | |
| Dassel, ponded------ | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| Biscay, ponded------ | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| 1408B: | | | | | | | |
| Angus---------- | 45 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.12 |
| Kilkenny---------- | 40 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.88 | Depth to saturated zone | 0.56 | Depth to saturated zone | 0.88 |
| | | Restricted permeability | 0.21 | Restricted permeability | 0.21 | Restricted permeability | 0.21 |
| | | | | | | Slope | 0.12 |
| 1438B: | | | | | | | |
| Braham, moderately wet---------- | 85 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.37 | Too sandy | 0.37 | Too sandy | 0.37 |
| | | | | | | Slope | 0.12 |

Table 12a.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Camp areas | | Picnic areas | | Playgrounds | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 1443: | | | | | | | |
| Belleville---------- | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Restricted permeability | 0.21 | Restricted permeability | 0.21 | Restricted permeability | 0.21 |
| 1901B: | | | | | | | |
| Angus---------- | 60 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.50 |
| Le Sueur---------- | 30 | Very limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.99 | Depth to saturated zone | 0.78 | Depth to saturated zone | 0.99 |
| | | | | | | Slope | 0.50 |
| 1931: | | | | | | | |
| Essexville---------- | 75 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 1942: | | | | | | | |
| Forada, depressional | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Ponding | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| 1946: | | | | | | | |
| Fordum, frequently flooded---------- | 70 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Flooding | 1.00 | Flooding | 0.40 | Flooding | 1.00 |
| | | | | | | Gravel content | 0.05 |
| Winterfield, frequently flooded | 20 | Very limited | | Somewhat limited | | Very limited | |
| | | Flooding | 1.00 | Too sandy | 0.96 | Flooding | 1.00 |
| | | Depth to saturated zone | 0.98 | Depth to saturated zone | 0.75 | Depth to saturated zone | 0.98 |
| | | Too sandy | 0.96 | Flooding | 0.40 | Too sandy | 0.96 |
| 1975: | | | | | | | |
| Oylen---------- | 90 | Not limited | | Not limited | | Not limited | |
| W: | | | | | | | |
| Water---------- | 100 | Not rated | | Not rated | | Not rated | |

Table 12b.--Recreation

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

| Map symbol and soil name | Pct. of map unit | Paths and trails | | Off-road motorcycle trails | | Golf fairways | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 7A: | | | | | | | |
| Hubbard | 95 | Somewhat limited<br>Too sandy | 0.81 | Somewhat limited<br>Too sandy | 0.81 | Somewhat limited<br>Droughty | 0.50 |
| 7B: | | | | | | | |
| Hubbard | 90 | Somewhat limited<br>Too sandy | 0.81 | Somewhat limited<br>Too sandy | 0.81 | Somewhat limited<br>Droughty | 0.59 |
| 7C: | | | | | | | |
| Hubbard | 80 | Somewhat limited<br>Too sandy | 0.81 | Somewhat limited<br>Too sandy | 0.81 | Somewhat limited<br>Droughty<br>Slope | 0.83<br>0.04 |
| 8B: | | | | | | | |
| Sparta | 95 | Somewhat limited<br>Too sandy | 0.84 | Somewhat limited<br>Too sandy | 0.84 | Somewhat limited<br>Droughty | 0.15 |
| 35: | | | | | | | |
| Blue Earth, depressional | 80 | Very limited<br>Depth to saturated zone<br>Ponding | 1.00<br>1.00 | Very limited<br>Depth to saturated zone<br>Ponding | 1.00<br>1.00 | Very limited<br>Ponding<br>Depth to saturated zone | 1.00<br>1.00 |
| 74B: | | | | | | | |
| Dickinson | 95 | Not limited | | Not limited | | Not limited | |
| 86: | | | | | | | |
| Canisteo | 80 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 |
| 106C2: | | | | | | | |
| Lester, eroded | 70 | Not limited | | Not limited | | Somewhat limited<br>Slope | 0.04 |
| 106D2: | | | | | | | |
| Lester, eroded | 80 | Not limited | | Not limited | | Very limited<br>Slope | 1.00 |
| 106E: | | | | | | | |
| Lester | 80 | Somewhat limited<br>Slope | 0.68 | Not limited | | Very limited<br>Slope | 1.00 |
| 109: | | | | | | | |
| Cordova | 90 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 |
| 114: | | | | | | | |
| Glencoe, depressional | 90 | Very limited<br>Depth to saturated zone<br>Ponding | 1.00<br>1.00 | Very limited<br>Depth to saturated zone<br>Ponding | 1.00<br>1.00 | Very limited<br>Ponding<br>Depth to saturated zone | 1.00<br>1.00 |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails: Rating class and limiting features | Value | Off-road motorcycle trails: Rating class and limiting features | Value | Golf fairways: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 138: | | | | | | | |
| Lerdal | 80 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.50 | Depth to saturated zone | 0.50 | Depth to saturated zone | 0.78 |
| 158A: | | | | | | | |
| Zimmerman | 90 | Very limited | | Very limited | | Somewhat limited | |
| | | Too sandy | 1.00 | Too sandy | 1.00 | Droughty | 0.34 |
| 158B: | | | | | | | |
| Zimmerman | 90 | Very limited | | Very limited | | Somewhat limited | |
| | | Too sandy | 1.00 | Too sandy | 1.00 | Droughty | 0.34 |
| 158C: | | | | | | | |
| Zimmerman | 90 | Very limited | | Very limited | | Somewhat limited | |
| | | Too sandy | 1.00 | Too sandy | 1.00 | Droughty | 0.34 |
| | | | | | | Slope | 0.04 |
| 158E: | | | | | | | |
| Zimmerman | 85 | Very limited | | Very limited | | Very limited | |
| | | Too sandy | 1.00 | Too sandy | 1.00 | Slope | 1.00 |
| | | Slope | 0.50 | | | Droughty | 0.34 |
| 169C: | | | | | | | |
| Braham | 90 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.37 | Too sandy | 0.37 | Slope | 0.04 |
| 181: | | | | | | | |
| Litchfield | 95 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.92 | Too sandy | 0.92 | Depth to saturated zone | 0.90 |
| | | Depth to saturated zone | 0.78 | Depth to saturated zone | 0.78 | | |
| 229: | | | | | | | |
| Waldorf | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 231C: | | | | | | | |
| Lester | 80 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.04 |
| 231D: | | | | | | | |
| Lester | 80 | Not limited | | Not limited | | Very limited | |
| | | | | | | Slope | 1.00 |
| 235: | | | | | | | |
| Nessel | 85 | Not limited | | Not limited | | Not limited | |
| 239: | | | | | | | |
| Le Sueur | 80 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.50 | Depth to saturated zone | 0.50 | Depth to saturated zone | 0.78 |
| 247: | | | | | | | |
| Linder | 90 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.78 | Depth to saturated zone | 0.78 | Depth to saturated zone | 0.90 |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails: Rating class and limiting features | Value | Off-road motorcycle trails: Rating class and limiting features | Value | Golf fairways: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 255: | | | | | | | |
| Mayer | 85 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 |
| 256: | | | | | | | |
| Mazaska | 90 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 |
| 258B: | | | | | | | |
| Sandberg | 95 | Somewhat limited<br>Too sandy | 0.87 | Somewhat limited<br>Too sandy | 0.87 | Somewhat limited<br>Droughty | 0.79 |
| 258C: | | | | | | | |
| Sandberg | 90 | Somewhat limited<br>Too sandy | 0.87 | Somewhat limited<br>Too sandy | 0.87 | Somewhat limited<br>Droughty<br>Slope | 0.79<br>0.04 |
| 258E: | | | | | | | |
| Sandberg | 85 | Somewhat limited<br>Too sandy<br>Slope | 0.87<br>0.50 | Somewhat limited<br>Too sandy | 0.87 | Very limited<br>Slope<br>Droughty | 1.00<br>0.79 |
| 260: | | | | | | | |
| Duelm | 90 | Somewhat limited<br>Too sandy | 0.87 | Somewhat limited<br>Too sandy | 0.87 | Somewhat limited<br>Droughty | 0.21 |
| 261: | | | | | | | |
| Isan, depressional | 90 | Very limited<br>Depth to saturated zone<br>Ponding | 1.00<br>1.00 | Very limited<br>Depth to saturated zone<br>Ponding | 1.00<br>1.00 | Very limited<br>Ponding<br>Depth to saturated zone<br>Droughty | 1.00<br>1.00<br>0.04 |
| 286B: | | | | | | | |
| Shorewood | 95 | Somewhat limited<br>Depth to saturated zone | 0.44 | Somewhat limited<br>Depth to saturated zone | 0.44 | Somewhat limited<br>Depth to saturated zone | 0.75 |
| 294A: | | | | | | | |
| Rasset | 90 | Not limited | | Not limited | | Not limited | |
| 323: | | | | | | | |
| Shields | 95 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 |
| 327A: | | | | | | | |
| Dickman | 85 | Not limited | | Not limited | | Somewhat limited<br>Droughty | 0.07 |
| 327B: | | | | | | | |
| Dickman | 85 | Not limited | | Not limited | | Somewhat limited<br>Droughty | 0.07 |
| 375: | | | | | | | |
| Forada | 85 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails: Rating class and limiting features | Value | Off-road motorcycle trails: Rating class and limiting features | Value | Golf fairways: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 392: | | | | | | | |
| Biscay | 90 | Very limited: Depth to saturated zone | 1.00 | Very limited: Depth to saturated zone | 1.00 | Very limited: Depth to saturated zone | 1.00 |
| 406: | | | | | | | |
| Dorset | 90 | Not limited | | Not limited | | Not limited | |
| 414: | | | | | | | |
| Hamel | 90 | Very limited: Depth to saturated zone | 1.00 | Very limited: Depth to saturated zone | 1.00 | Very limited: Depth to saturated zone | 1.00 |
| 441: | | | | | | | |
| Almora | 90 | Not limited | | Not limited | | Not limited | |
| 461B: | | | | | | | |
| Koronis | 85 | Not limited | | Not limited | | Not limited | |
| 461C2: | | | | | | | |
| Koronis, eroded | 80 | Not limited | | Not limited | | Somewhat limited: Slope | 0.04 |
| 461E: | | | | | | | |
| Koronis | 80 | Very limited: Slope | 1.00 | Somewhat limited: Slope | 0.22 | Very limited: Slope | 1.00 |
| 511: | | | | | | | |
| Marcellon, MAP <30 | 85 | Somewhat limited: Depth to saturated zone | 0.44 | Somewhat limited: Depth to saturated zone | 0.44 | Somewhat limited: Depth to saturated zone | 0.75 |
| 523: | | | | | | | |
| Houghton, drained | 80 | Not rated | | Not rated | | Not rated | |
| 525: | | | | | | | |
| Muskego, surface drained | 75 | Not rated | | Not rated | | Not rated | |
| 539: | | | | | | | |
| Klossner, drained | 80 | Not rated | | Not rated | | Not rated | |
| 540: | | | | | | | |
| Seelyeville, surface drained | 80 | Not rated | | Not rated | | Not rated | |
| 543: | | | | | | | |
| Markey, surface drained | 80 | Not rated | | Not rated | | Not rated | |
| 548: | | | | | | | |
| Medo, drained | 80 | Not rated | | Not rated | | Not rated | |
| 603: | | | | | | | |
| Hanlon, occasionally flooded | 80 | Not limited | | Not limited | | Somewhat limited: Flooding | 0.60 |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails: Rating class and limiting features | Value | Off-road motorcycle trails: Rating class and limiting features | Value | Golf fairways: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 611D: | | | | | | | |
| Hawick | 85 | Somewhat limited | | Not limited | | Very limited | |
| | | Slope | 0.18 | | | Slope | 1.00 |
| | | | | | | Droughty | 1.00 |
| 708: | | | | | | | |
| Rushlake | 85 | Very limited | | Very limited | | Very limited | |
| | | Too sandy | 1.00 | Too sandy | 1.00 | Too sandy | 1.00 |
| | | | | | | Droughty | 0.92 |
| | | | | | | Depth to saturated zone | 0.19 |
| 740: | | | | | | | |
| Hamel | 70 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| Glencoe, depressional | 20 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Ponding | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| 768: | | | | | | | |
| Mosford | 85 | Not limited | | Not limited | | Not limited | |
| 771: | | | | | | | |
| Elkriver, rarely flooded | 85 | Not limited | | Not limited | | Not limited | |
| 783C2: | | | | | | | |
| Lester, eroded | 50 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.04 |
| Kilkenny, eroded | 30 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.04 |
| 792: | | | | | | | |
| Fordum, frequently flooded | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Flooding | 1.00 |
| | | Flooding | 0.40 | Flooding | 0.40 | Depth to saturated zone | 1.00 |
| 799: | | | | | | | |
| Seelyeville, frequently flooded | 45 | Not rated | | Not rated | | Not rated | |
| Bowstring, frequently flooded | 45 | Not rated | | Not rated | | Not rated | |
| 804B: | | | | | | | |
| Koronis | 50 | Not limited | | Not limited | | Not limited | |
| Sunburg | 20 | Not limited | | Not limited | | Not limited | |
| Hawick | 15 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.91 |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails: Rating class and limiting features | Value | Off-road motorcycle trails: Rating class and limiting features | Value | Golf fairways: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 804C2: | | | | | | | |
| Koronis, eroded | 45 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.04 |
| Sunburg | 25 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.04 |
| Hawick | 15 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.91 |
| | | | | | | Slope | 0.04 |
| 804D2: | | | | | | | |
| Koronis, eroded | 40 | Not limited | | Not limited | | Very limited | |
| | | | | | | Slope | 1.00 |
| Sunburg | 30 | Not limited | | Not limited | | Very limited | |
| | | | | | | Slope | 1.00 |
| Hawick | 15 | Not limited | | Not limited | | Very limited | |
| | | | | | | Slope | 1.00 |
| | | | | | | Droughty | 0.91 |
| 804E: | | | | | | | |
| Koronis | 50 | Very limited | | Somewhat limited | | Very limited | |
| | | Slope | 1.00 | Slope | 0.22 | Slope | 1.00 |
| Sunburg | 20 | Very limited | | Somewhat limited | | Very limited | |
| | | Slope | 1.00 | Slope | 0.22 | Slope | 1.00 |
| Hawick | 15 | Very limited | | Somewhat limited | | Very limited | |
| | | Slope | 1.00 | Too sandy | 0.77 | Slope | 1.00 |
| | | Too sandy | 0.77 | Slope | 0.22 | Droughty | 0.98 |
| | | | | | | Too sandy | 0.50 |
| 807D2: | | | | | | | |
| Koronis, eroded | 65 | Not limited | | Not limited | | Very limited | |
| | | | | | | Slope | 1.00 |
| Sunburg | 20 | Not limited | | Not limited | | Very limited | |
| | | | | | | Slope | 1.00 |
| 875B: | | | | | | | |
| Estherville | 60 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.12 |
| Hawick | 30 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.91 |
| 875C: | | | | | | | |
| Hawick | 60 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.91 |
| | | | | | | Slope | 0.04 |
| Estherville | 25 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.12 |
| | | | | | | Slope | 0.04 |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails: Rating class and limiting features | Value | Off-road motorcycle trails: Rating class and limiting features | Value | Golf fairways: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 896B: | | | | | | | |
| Kingsley | 70 | Not limited | | Not limited | | Not limited | |
| Gotham | 25 | Somewhat limited<br>Too sandy | 0.57 | Somewhat limited<br>Too sandy | 0.57 | Somewhat limited<br>Droughty | 0.01 |
| 896C: | | | | | | | |
| Kingsley | 70 | Not limited | | Not limited | | Somewhat limited<br>Slope | 0.04 |
| Gotham | 25 | Somewhat limited<br>Too sandy | 0.57 | Somewhat limited<br>Too sandy | 0.57 | Somewhat limited<br>Slope<br>Droughty | 0.04<br>0.01 |
| 945C2: | | | | | | | |
| Lester, eroded | 50 | Not limited | | Not limited | | Somewhat limited<br>Slope | 0.04 |
| Storden, eroded | 30 | Not limited | | Not limited | | Somewhat limited<br>Slope | 0.04 |
| 945D2: | | | | | | | |
| Lester, eroded | 60 | Not limited | | Not limited | | Very limited<br>Slope | 1.00 |
| Storden, eroded | 20 | Not limited | | Not limited | | Very limited<br>Slope | 1.00 |
| 956: | | | | | | | |
| Canisteo | 65 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 |
| Glencoe, depressional | 25 | Very limited<br>Depth to saturated zone<br>Ponding | 1.00<br>1.00 | Very limited<br>Depth to saturated zone<br>Ponding | 1.00<br>1.00 | Very limited<br>Ponding<br>Depth to saturated zone | 1.00<br>1.00 |
| 978: | | | | | | | |
| Cordova | 60 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 | Very limited<br>Depth to saturated zone | 1.00 |
| Rolfe, depressional | 30 | Very limited<br>Depth to saturated zone<br>Ponding | 1.00<br>1.00 | Very limited<br>Depth to saturated zone<br>Ponding | 1.00<br>1.00 | Very limited<br>Ponding<br>Depth to saturated zone | 1.00<br>1.00 |
| 1000: | | | | | | | |
| Arvilla, MAP >25 | 90 | Not limited | | Not limited | | Somewhat limited<br>Droughty | 0.10 |
| 1015: | | | | | | | |
| Udipsamments (cut and fill land) | 100 | Not rated | | Not rated | | Not rated | |
| 1016: | | | | | | | |
| Udorthents, loamy | 100 | Not rated | | Not rated | | Not rated | |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails | | Off-road motorcycle trails | | Golf fairways | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 1023C: | | | | | | | |
| Lester, eroded------ | 50 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.04 |
| Malardi---------- | 35 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.06 |
| | | | | | | Slope | 0.04 |
| 1023D: | | | | | | | |
| Lester, eroded------ | 45 | Not limited | | Not limited | | Very limited | |
| | | | | | | Slope | 1.00 |
| Malardi---------- | 40 | Not limited | | Not limited | | Very limited | |
| | | | | | | Slope | 1.00 |
| | | | | | | Droughty | 0.32 |
| 1026B: | | | | | | | |
| Lizzie, moderately wet---------- | 90 | Not limited | | Not limited | | Not limited | |
| 1027: | | | | | | | |
| Udorthents, wet substratum--------- | 100 | Not rated | | Not rated | | Not rated | |
| 1030: | | | | | | | |
| Pits, gravel-------- | 80 | Not rated | | Not rated | | Not rated | |
| Udipsamments-------- | 20 | Not rated | | Not rated | | Not rated | |
| 1035B: | | | | | | | |
| Crowfork---------- | 90 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.42 | Too sandy | 0.42 | Droughty | 0.02 |
| 1035C: | | | | | | | |
| Crowfork---------- | 90 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.42 | Too sandy | 0.42 | Slope | 0.04 |
| | | | | | | Droughty | 0.02 |
| 1035D: | | | | | | | |
| Crowfork---------- | 85 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Too sandy | 0.42 | Too sandy | 0.42 | Slope | 1.00 |
| | | | | | | Droughty | 0.02 |
| 1036B: | | | | | | | |
| Angus---------- | 85 | Not limited | | Not limited | | Not limited | |
| 1037: | | | | | | | |
| Eckvoll, MAP >25---- | 90 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.89 | Too sandy | 0.89 | Depth to saturated zone | 0.75 |
| | | Depth to saturated zone | 0.44 | Depth to saturated zone | 0.44 | | |
| 1038A: | | | | | | | |
| Verndale, acid substratum--------- | 90 | Not limited | | Not limited | | Not limited | |
| 1038B: | | | | | | | |
| Verndale, acid substratum--------- | 85 | Not limited | | Not limited | | Not limited | |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails: Rating class and limiting features | Value | Off-road motorcycle trails: Rating class and limiting features | Value | Golf fairways: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1066B: | | | | | | | |
| Malardi | 65 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.06 |
| Hawick | 25 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.91 |
| 1066C: | | | | | | | |
| Malardi | 60 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.06 |
| | | | | | | Slope | 0.04 |
| Hawick | 25 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.91 |
| | | | | | | Slope | 0.16 |
| 1066E: | | | | | | | |
| Malardi | 55 | Very limited | | Not limited | | Very limited | |
| | | Slope | 1.00 | | | Slope | 1.00 |
| | | | | | | Droughty | 0.32 |
| Hawick | 30 | Very limited | | Not limited | | Very limited | |
| | | Slope | 1.00 | | | Slope | 1.00 |
| | | | | | | Droughty | 0.91 |
| 1072: | | | | | | | |
| Udorthents, shallow | 100 | Not rated | | Not rated | | Not rated | |
| 1075: | | | | | | | |
| Klossner, ponded | 40 | Not rated | | Not rated | | Not rated | |
| Muskego, ponded | 40 | Not rated | | Not rated | | Not rated | |
| 1080: | | | | | | | |
| Klossner, ponded | 30 | Not rated | | Not rated | | Not rated | |
| Okoboji, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Ponding | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| Glencoe, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Ponding | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| 1087B: | | | | | | | |
| Angus | 55 | Not limited | | Not limited | | Not limited | |
| Malardi | 30 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.06 |
| 1094B: | | | | | | | |
| Angus | 60 | Not limited | | Not limited | | Not limited | |
| Cordova | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails | | Off-road motorcycle trails | | Golf fairways | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 1099: | | | | | | | |
| Granby, very wet | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Ponding | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| | | Too sandy | 0.89 | Too sandy | 0.89 | Droughty | 0.13 |
| 1110: | | | | | | | |
| Isan | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | | | | | Droughty | 0.03 |
| 1156: | | | | | | | |
| Cordova | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 1161: | | | | | | | |
| Barry | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 1163: | | | | | | | |
| Suckercreek, frequently flooded | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Flooding | 1.00 |
| | | Flooding | 0.40 | Flooding | 0.40 | Depth to saturated zone | 1.00 |
| 1165: | | | | | | | |
| Lundlake, depressional | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Ponding | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| 1173: | | | | | | | |
| Muskego, frequently flooded | 45 | Not rated | | Not rated | | Not rated | |
| Klossner, frequently flooded | 45 | Not rated | | Not rated | | Not rated | |
| 1186: | | | | | | | |
| Forestcity | 75 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| Lundlake, depressional | 20 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Ponding | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails: Rating class and limiting features | Value | Off-road motorcycle trails: Rating class and limiting features | Value | Golf fairways: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1196B: | | | | | | | |
| Lida | 60 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.16 |
| | | | | | | Content of large stones | 0.01 |
| Two Inlets | 30 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Droughty | 0.80 |
| 1196C: | | | | | | | |
| Lida | 55 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.37 |
| | | | | | | Droughty | 0.16 |
| | | | | | | Content of large stones | 0.01 |
| Two Inlets | 30 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Droughty | 0.80 |
| | | | | | | Slope | 0.37 |
| 1196E: | | | | | | | |
| Lida | 50 | Somewhat limited | | Not limited | | Very limited | |
| | | Slope | 0.98 | | | Slope | 1.00 |
| | | | | | | Droughty | 0.16 |
| | | | | | | Content of large stones | 0.01 |
| Two Inlets | 40 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.98 | Too sandy | 0.87 | Slope | 1.00 |
| | | Too sandy | 0.87 | | | Droughty | 0.76 |
| 1197: | | | | | | | |
| Suckercreek, occasionally flooded | 80 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | | | | | Flooding | 0.60 |
| 1199: | | | | | | | |
| Klossner, ponded | 45 | Not rated | | Not rated | | Not rated | |
| Lundlake, ponded | 45 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Ponding | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| 1203: | | | | | | | |
| Muskego, ponded | 30 | Not rated | | Not rated | | Not rated | |
| Blue Earth, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Ponding | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| Houghton, ponded | 30 | Not rated | | Not rated | | Not rated | |
| 1204B: | | | | | | | |
| Reedslake | 85 | Not limited | | Not limited | | Not limited | |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails: Rating class and limiting features | Value | Off-road motorcycle trails: Rating class and limiting features | Value | Golf fairways: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1207B: | | | | | | | |
| Reedslake | 60 | Not limited | | Not limited | | Not limited | |
| Le Sueur | 25 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.50 | Depth to saturated zone | 0.50 | Depth to saturated zone | 0.78 |
| 1213C: | | | | | | | |
| Cokato, eroded | 65 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.04 |
| Storden | 20 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.04 |
| 1213D: | | | | | | | |
| Cokato, eroded | 60 | Not limited | | Not limited | | Very limited | |
| | | | | | | Slope | 1.00 |
| Storden | 25 | Not limited | | Not limited | | Very limited | |
| | | | | | | Slope | 1.00 |
| 1220C: | | | | | | | |
| Cokato, eroded | 50 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.04 |
| Storden | 20 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.04 |
| Hawick | 15 | Not limited | | Not limited | | Very limited | |
| | | | | | | Droughty | 1.00 |
| | | | | | | Slope | 0.04 |
| 1223: | | | | | | | |
| Sandberg, MAP >25 | 60 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.77 | Too sandy | 0.77 | Too sandy | 0.50 |
| | | | | | | Droughty | 0.41 |
| Arvilla, MAP >25 | 30 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.27 |
| 1224: | | | | | | | |
| Hubbard | 60 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.70 | Too sandy | 0.70 | Droughty | 0.85 |
| | | | | | | Too sandy | 0.50 |
| Verndale, acid substratum | 30 | Not limited | | Not limited | | Not limited | |
| 1231: | | | | | | | |
| Hubbard | 60 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.81 | Too sandy | 0.81 | Droughty | 0.50 |
| Mosford | 30 | Not limited | | Not limited | | Not limited | |
| 1255: | | | | | | | |
| Elkriver, occasionally flooded | 80 | 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 |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails: Rating class and limiting features | Value | Off-road motorcycle trails: Rating class and limiting features | Value | Golf fairways: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1256: | | | | | | | |
| Cantlin | 90 | Somewhat limited<br>Too sandy | 0.96 | Somewhat limited<br>Too sandy | 0.96 | Somewhat limited<br>Droughty | 0.57 |
| 1257: | | | | | | | |
| Elkriver, rarely flooded | 55 | Not limited | | Not limited | | Not limited | |
| Mosford, rarely flooded | 35 | Not limited | | Not limited | | Somewhat limited<br>Droughty | 0.01 |
| 1260B: | | | | | | | |
| Stonelake | 55 | Somewhat limited<br>Too sandy | 0.50 | Somewhat limited<br>Too sandy | 0.50 | Somewhat limited<br>Droughty<br>Too sandy | 0.82<br>0.50 |
| Nebish, moderately wet | 30 | Not limited | | Not limited | | Not limited | |
| 1260C: | | | | | | | |
| Stonelake | 55 | Somewhat limited<br>Too sandy | 0.57 | Somewhat limited<br>Too sandy | 0.57 | Somewhat limited<br>Droughty<br>Slope | 0.88<br>0.04 |
| Nebish | 30 | Not limited | | Not limited | | Somewhat limited<br>Slope | 0.04 |
| 1260E: | | | | | | | |
| Stonelake | 60 | Somewhat limited<br>Slope | 0.18 | Not limited | | Very limited<br>Slope<br>Droughty<br>Gravel content<br>Content of large stones | 1.00<br>0.99<br>0.36<br>0.01 |
| Nebish | 25 | Somewhat limited<br>Slope | 0.18 | Not limited | | Very limited<br>Slope | 1.00 |
| 1288: | | | | | | | |
| Seelyeville, ponded | 45 | Not rated | | Not rated | | Not rated | |
| Markey, ponded | 45 | Not rated | | Not rated | | Not rated | |
| 1356: | | | | | | | |
| Water, miscellaneous | 100 | Not rated | | Not rated | | Not rated | |
| 1362B: | | | | | | | |
| Angus | 85 | Not limited | | Not limited | | Not limited | |
| 1368: | | | | | | | |
| Southhaven | 90 | Not limited | | Not limited | | Not limited | |
| 1377B: | | | | | | | |
| Dorset | 70 | Not limited | | Not limited | | Not limited | |
| Two Inlets | 20 | Somewhat limited<br>Too sandy | 0.87 | Somewhat limited<br>Too sandy | 0.87 | Somewhat limited<br>Droughty | 0.80 |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails: Rating class and limiting features | Value | Off-road motorcycle trails: Rating class and limiting features | Value | Golf fairways: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1377C: | | | | | | | |
| Dorset | 50 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.04 |
| Two Inlets | 35 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Droughty | 0.80 |
| | | | | | | Slope | 0.04 |
| 1377D: | | | | | | | |
| Dorset | 45 | Not limited | | Not limited | | Very limited | |
| | | | | | | Slope | 1.00 |
| | | | | | | Droughty | 0.17 |
| Two Inlets | 40 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Too sandy | 0.87 | Too sandy | 0.87 | Slope | 1.00 |
| | | | | | | Droughty | 0.80 |
| 1377E: | | | | | | | |
| Dorset | 45 | Very limited | | Not limited | | Very limited | |
| | | Slope | 1.00 | | | Slope | 1.00 |
| | | | | | | Droughty | 0.12 |
| Two Inlets | 45 | Very limited | | Somewhat limited | | Very limited | |
| | | Slope | 1.00 | Too sandy | 0.87 | Slope | 1.00 |
| | | Too sandy | 0.87 | | | Droughty | 0.76 |
| 1378: | | | | | | | |
| Fordum, occasionally flooded | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | | | | | Flooding | 0.60 |
| 1379B: | | | | | | | |
| Dorset | 65 | Not limited | | Not limited | | Not limited | |
| Almora | 25 | Not limited | | Not limited | | Not limited | |
| 1380A: | | | | | | | |
| Bygland, MAP >25 | 85 | Not limited | | Not limited | | Not limited | |
| 1380B: | | | | | | | |
| Bygland, MAP >25 | 70 | Not limited | | Not limited | | Not limited | |
| 1380C: | | | | | | | |
| Bygland, MAP >25 | 70 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Slope | 0.04 |
| 1381: | | | | | | | |
| Lindaas, morainic | 80 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 1383A: | | | | | | | |
| Shorewood, moderately wet | 95 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails: Rating class and limiting features | Value | Off-road motorcycle trails: Rating class and limiting features | Value | Golf fairways: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1388B: | | | | | | | |
| Terril, moderately wet | 85 | Not limited | | Not limited | | Not limited | |
| 1406: | | | | | | | |
| Medo, ponded | 30 | Not rated | | Not rated | | Not rated | |
| Dassel, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Ponding | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| Biscay, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Ponding | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| 1408B: | | | | | | | |
| Angus | 45 | Not limited | | Not limited | | Not limited | |
| Kilkenny | 40 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.18 | Depth to saturated zone | 0.18 | Depth to saturated zone | 0.56 |
| 1438B: | | | | | | | |
| Braham, moderately wet | 85 | Somewhat limited | | Somewhat limited | | Not limited | |
| | | Too sandy | 0.37 | Too sandy | 0.37 | | |
| 1443: | | | | | | | |
| Belleville | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 1901B: | | | | | | | |
| Angus | 60 | Not limited | | Not limited | | Not limited | |
| Le Sueur | 30 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.50 | Depth to saturated zone | 0.50 | Depth to saturated zone | 0.78 |
| 1931: | | | | | | | |
| Essexville | 75 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 1942: | | | | | | | |
| Forada, depressional | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Ponding | 1.00 |
| | | Ponding | 1.00 | Ponding | 1.00 | Depth to saturated zone | 1.00 |
| 1946: | | | | | | | |
| Fordum, frequently flooded | 70 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Flooding | 1.00 |
| | | Flooding | 0.40 | Flooding | 0.40 | Depth to saturated zone | 1.00 |

Table 12b.--Recreation--Continued

| Map symbol and soil name | Pct. of map unit | Paths and trails | | Off-road motorcycle trails | | Golf fairways | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 1946: | | | | | | | |
| Winterfield, frequently flooded | 20 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Too sandy | 0.96 | Too sandy | 0.96 | Flooding | 1.00 |
| | | Depth to saturated zone | 0.44 | Depth to saturated zone | 0.44 | Depth to saturated zone | 0.75 |
| | | Flooding | 0.40 | Flooding | 0.40 | Droughty | 0.22 |
| 1975: | | | | | | | |
| Oylen | 90 | Not limited | | Not limited | | Somewhat limited | |
| | | | | | | Droughty | 0.01 |
| W: | | | | | | | |
| Water | 100 | Not rated | | Not rated | | Not rated | |

Table 13.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable)

| Map symbol and component name | Pct. of map unit | Potential for habitat elements: Grain and seed crops | Grasses and legumes | Wild herbaceous plants | Hardwood trees | Coniferous plants | Wetland plants | Shallow water areas | Potential as habitat for--: Openland wildlife | Woodland wildlife | Wetland wildlife |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 7A: | | | | | | | | | | | |
| Hubbard | 95 | Fair | Good | Fair | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 7B: | | | | | | | | | | | |
| Hubbard | 90 | Fair | Good | Fair | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 7C: | | | | | | | | | | | |
| Hubbard | 80 | Poor | Good | Fair | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 8B: | | | | | | | | | | | |
| Sparta | 95 | Fair | Fair | Fair | Fair | Good | Very poor | Very poor | Good | Fair | Very poor |
| 35: | | | | | | | | | | | |
| Blue Earth, depressional | 80 | Fair | Fair | Fair | Fair | Poor | Good | Good | Fair | Poor | Good |
| 74B: | | | | | | | | | | | |
| Dickinson | 95 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 86: | | | | | | | | | | | |
| Canisteo | 80 | Good | Good | Fair | Fair | Fair | Good | Good | Good | Fair | Good |
| 106C2: | | | | | | | | | | | |
| Lester, eroded | 70 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 106D2: | | | | | | | | | | | |
| Lester, eroded | 80 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 106E: | | | | | | | | | | | |
| Lester | 80 | Poor | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 109: | | | | | | | | | | | |
| Cordova | 90 | Good | Good | Good | Fair | Fair | Good | Good | Good | Fair | Good |
| 114: | | | | | | | | | | | |
| Glencoe, depressional | 90 | Good | Good | Fair | Fair | Fair | Good | Good | Good | Fair | Good |
| 138: | | | | | | | | | | | |
| Lerdal | 80 | Good | Good | Good | Good | Good | Poor | Poor | Good | Good | Poor |
| 158A: | | | | | | | | | | | |
| Zimmerman | 90 | Fair | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| 158B: | | | | | | | | | | | |
| Zimmerman | 90 | Fair | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| 158C: | | | | | | | | | | | |
| Zimmerman | 90 | Fair | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |

Table 13.--Wildlife Habitat--Continued

| Map symbol and component name | Pct. of map unit | Potential for habitat elements: Grain and seed crops | Grasses and legumes | Wild herbaceous plants | Hardwood trees | Coniferous plants | Wetland plants | Shallow water areas | Potential as habitat for--: Openland wildlife | Woodland wildlife | Wetland wildlife |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 158E: | | | | | | | | | | | |
| Zimmerman | 85 | Poor | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| 169C: | | | | | | | | | | | |
| Braham | 90 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 181: | | | | | | | | | | | |
| Litchfield | 95 | Fair | Good | Good | Good | Good | Fair | Poor | Good | Good | Poor |
| 229: | | | | | | | | | | | |
| Waldorf | 90 | Good | Good | Good | Good | Good | Good | Good | Good | Fair | Good |
| 231C: | | | | | | | | | | | |
| Lester | 80 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 231D: | | | | | | | | | | | |
| Lester | 80 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 235: | | | | | | | | | | | |
| Nessel | 85 | Good | Good | Good | Good | Good | Poor | Poor | Good | Good | Poor |
| 239: | | | | | | | | | | | |
| Le Sueur | 80 | Good | Good | Good | Good | Good | Poor | Poor | Good | Good | Poor |
| 247: | | | | | | | | | | | |
| Linder | 90 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 255: | | | | | | | | | | | |
| Mayer | 85 | Good | Good | Good | Good | Good | Good | Good | Good | Good | Good |
| 256: | | | | | | | | | | | |
| Mazaska | 90 | Good | Good | Good | Fair | Fair | Good | Good | Good | Fair | Good |
| 258B: | | | | | | | | | | | |
| Sandberg | 95 | Poor | Fair | Fair | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 258C: | | | | | | | | | | | |
| Sandberg | 90 | Poor | Fair | Fair | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 258E: | | | | | | | | | | | |
| Sandberg | 85 | Poor | Fair | Fair | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 260: | | | | | | | | | | | |
| Duelm | 90 | Fair | Good | Good | Good | Good | Poor | Poor | Good | Good | Poor |
| 261: | | | | | | | | | | | |
| Isan, depressional | 90 | Very poor | Poor | Good | Poor | Poor | Good | Good | Poor | Poor | Good |
| 286B: | | | | | | | | | | | |
| Shorewood | 95 | Good | Good | Good | Good | Good | Poor | Poor | Fair | Good | Poor |
| 294A: | | | | | | | | | | | |
| Rasset | 90 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |

Table 13.--Wildlife Habitat--Continued

| Map symbol and component name | Pct. of map unit | Potential for habitat elements: Grain and seed crops | Grasses and legumes | Wild herbaceous plants | Hardwood trees | Coniferous plants | Wetland plants | Shallow water areas | Potential as habitat for--: Openland wildlife | Woodland wildlife | Wetland wildlife |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 323: | | | | | | | | | | | |
| Shields | 95 | Good | Good | Good | Good | Good | Fair | Fair | Good | Good | Fair |
| 327A: | | | | | | | | | | | |
| Dickman | 85 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 327B: | | | | | | | | | | | |
| Dickman | 85 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 375: | | | | | | | | | | | |
| Forada | 85 | Good | Good | Fair | Fair | Fair | Good | Good | Good | Fair | Good |
| 392: | | | | | | | | | | | |
| Biscay | 90 | Good | Good | Good | Good | Good | Good | Good | Good | Good | Good |
| 406: | | | | | | | | | | | |
| Dorset | 90 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 414: | | | | | | | | | | | |
| Hamel | 90 | Good | Good | Good | Good | Good | Good | Good | Good | Good | Good |
| 441: | | | | | | | | | | | |
| Almora | 90 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 461B: | | | | | | | | | | | |
| Koronis | 85 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 461C2: | | | | | | | | | | | |
| Koronis, eroded | 80 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 461E: | | | | | | | | | | | |
| Koronis | 80 | Poor | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 511: | | | | | | | | | | | |
| Marcellon, MAP <30 | 85 | Good | Good | Good | Good | Good | Fair | Fair | Good | Good | Fair |
| 523: | | | | | | | | | | | |
| Houghton, drained | 80 | Good | Good | Good | Good | Good | Poor | Fair | Good | Good | Poor |
| 525: | | | | | | | | | | | |
| Muskego, surface drained | 75 | Poor | Poor | Good | Poor | Poor | Good | Good | Poor | Poor | Good |
| 539: | | | | | | | | | | | |
| Klossner, drained | 80 | Good | Good | Good | Good | Good | Poor | Fair | Good | Good | Poor |
| 540: | | | | | | | | | | | |
| Seelyeville, surface drained | 80 | Poor | Poor | Good | Poor | Poor | Good | Good | Poor | Poor | Good |
| 543: | | | | | | | | | | | |
| Markey, surface drained | 80 | Poor | Poor | Good | Poor | Poor | Good | Good | Poor | Poor | Good |
| 548: | | | | | | | | | | | |
| Medo, drained | 80 | Good | Good | Good | Good | Good | Poor | Fair | Good | Good | Poor |

Table 13.--Wildlife Habitat--Continued

| Map symbol and component name | Pct. of map unit | Potential for habitat elements: Grain and seed crops | Grasses and legumes | Wild herbaceous plants | Hardwood trees | Coniferous plants | Wetland plants | Shallow water areas | Potential as habitat for--: Openland wildlife | Woodland wildlife | Wetland wildlife |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 603: | | | | | | | | | | | |
| Hanlon, occasionally flooded | 80 | Good | Good | Good | Good | Good | Poor | Poor | Good | Good | Poor |
| 611D: | | | | | | | | | | | |
| Hawick | 85 | Poor | Fair | Good | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 708: | | | | | | | | | | | |
| Rushlake | 85 | Poor | Good | Good | Good | Good | Fair | Poor | Good | Good | Fair |
| 740: | | | | | | | | | | | |
| Hamel | 70 | Good | Good | Good | Good | Good | Good | Good | Good | Good | Good |
| Glencoe, depressional | 20 | Good | Good | Fair | Fair | Fair | Good | Good | Good | Fair | Good |
| 768: | | | | | | | | | | | |
| Mosford | 85 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 771: | | | | | | | | | | | |
| Elkriver, rarely flooded | 85 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 783C2: | | | | | | | | | | | |
| Lester, eroded | 50 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Kilkenny, eroded | 30 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 792: | | | | | | | | | | | |
| Fordum, frequently flooded | 90 | Very poor | Very poor | Good | Fair | Fair | Good | Good | Very poor | Fair | Good |
| 799: | | | | | | | | | | | |
| Seelyeville, frequently flooded | 45 | Very poor | Fair | Good | Poor | Poor | Good | Good | Fair | Poor | Good |
| Bowstring, frequently flooded | 45 | Very poor | Fair | Good | Poor | Poor | Good | Good | Fair | Poor | Good |
| 804B: | | | | | | | | | | | |
| Koronis | 50 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Sunburg | 20 | Good | Good | Good | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| Hawick | 15 | Poor | Fair | Good | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 804C2: | | | | | | | | | | | |
| Koronis, eroded | 45 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Sunburg | 25 | Good | Good | Good | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |

Table 13.--Wildlife Habitat--Continued

| Map symbol and component name | Pct. of map unit | Potential for habitat elements: Grain and seed crops | Grasses and legumes | Wild herbaceous plants | Hardwood trees | Coniferous plants | Wetland plants | Shallow water areas | Potential as habitat for--: Openland wildlife | Woodland wildlife | Wetland wildlife |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 804C2: | | | | | | | | | | | |
| Hawick | 15 | Poor | Fair | Good | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 804D2: | | | | | | | | | | | |
| Koronis, eroded | 40 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Sunburg | 30 | Fair | Good | Good | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| Hawick | 15 | Poor | Fair | Good | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 804E: | | | | | | | | | | | |
| Koronis | 50 | Poor | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Sunburg | 20 | Poor | Good | Good | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| Hawick | 15 | Very poor | Fair | Fair | Poor | Poor | Very poor | Very poor | Fair | Poor | Very poor |
| 807D2: | | | | | | | | | | | |
| Koronis, eroded | 65 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Sunburg | 20 | Fair | Good | Good | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 875B: | | | | | | | | | | | |
| Estherville | 60 | Fair | Fair | Good | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| Hawick | 30 | Poor | Fair | Good | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 875C: | | | | | | | | | | | |
| Hawick | 60 | Poor | Fair | Good | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| Estherville | 25 | Fair | Fair | Good | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 896B: | | | | | | | | | | | |
| Kingsley | 70 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Gotham | 25 | Poor | Good | Good | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 896C: | | | | | | | | | | | |
| Kingsley | 70 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Gotham | 25 | Poor | Good | Good | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 945C2: | | | | | | | | | | | |
| Lester, eroded | 50 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |

Table 13.--Wildlife Habitat--Continued

| Map symbol and component name | Pct. of map unit | Potential for habitat elements: Grain and seed crops | Grasses and legumes | Wild herbaceous plants | Hardwood trees | Coniferous plants | Wetland plants | Shallow water areas | Potential as habitat for--: Openland wildlife | Woodland wildlife | Wetland wildlife |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 945C2: | | | | | | | | | | | |
| Storden, eroded | 30 | Fair | Good | Good | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| 945D2: | | | | | | | | | | | |
| Lester, eroded | 60 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Storden, eroded | 20 | Fair | Good | Good | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| 956: | | | | | | | | | | | |
| Canisteo | 65 | Good | Good | Fair | Fair | Fair | Good | Good | Good | Fair | Good |
| Glencoe, depressional | 25 | Good | Good | Fair | Fair | Fair | Good | Good | Good | Fair | Good |
| 978: | | | | | | | | | | | |
| Cordova | 60 | Good | Good | Good | Fair | Fair | Good | Good | Good | Fair | Good |
| Rolfe, depressional | 30 | Fair | Fair | Good | Fair | Poor | Good | Good | Fair | Fair | Good |
| 1000: | | | | | | | | | | | |
| Arvilla, MAP >25 | 90 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1015. | | | | | | | | | | | |
| Udipsamments (cut and fill land) | | | | | | | | | | | |
| 1016. | | | | | | | | | | | |
| Udorthents, loamy | | | | | | | | | | | |
| 1023C: | | | | | | | | | | | |
| Lester, eroded | 50 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Malardi | 35 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1023D: | | | | | | | | | | | |
| Lester, eroded | 45 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Malardi | 40 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1026B: | | | | | | | | | | | |
| Lizzie, moderately wet | 90 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1027. | | | | | | | | | | | |
| Udorthents, wet substratum | | | | | | | | | | | |
| 1030: | | | | | | | | | | | |
| Pits, gravel. | | | | | | | | | | | |
| Udipsamments. | | | | | | | | | | | |
| 1035B: | | | | | | | | | | | |
| Crowfork | 90 | Fair | Fair | Fair | Fair | Good | Very poor | Very poor | Good | Fair | Very poor |

Table 13.--Wildlife Habitat--Continued

| Map symbol and component name | Pct. of map unit | Potential for habitat elements: Grain and seed crops | Grasses and legumes | Wild herbaceous plants | Hardwood trees | Coniferous plants | Wetland plants | Shallow water areas | Potential as habitat for--: Openland wildlife | Woodland wildlife | Wetland wildlife |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1035C: | | | | | | | | | | | |
| Crowfork | 90 | Fair | Fair | Fair | Fair | Good | Very poor | Very poor | Good | Fair | Very poor |
| 1035D: | | | | | | | | | | | |
| Crowfork | 85 | Fair | Fair | Fair | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 1036B: | | | | | | | | | | | |
| Angus | 85 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1037: | | | | | | | | | | | |
| Eckvoll, MAP >25 | 90 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1038A: | | | | | | | | | | | |
| Verndale, acid substratum | 90 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1038B: | | | | | | | | | | | |
| Verndale, acid substratum | 85 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1066B: | | | | | | | | | | | |
| Malardi | 65 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Hawick | 25 | Poor | Fair | Good | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 1066C: | | | | | | | | | | | |
| Malardi | 60 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Hawick | 25 | Poor | Fair | Good | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 1066E: | | | | | | | | | | | |
| Malardi | 55 | Poor | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Hawick | 30 | Poor | Fair | Good | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 1072. | | | | | | | | | | | |
| Udorthents, shallow | | | | | | | | | | | |
| 1075: | | | | | | | | | | | |
| Klossner, ponded | 40 | Very poor | Very poor | Good | Very poor | Very poor | Good | Good | Very poor | Very poor | Good |
| Muskego, ponded | 40 | Very poor | Very poor | Good | Very poor | Very poor | Good | Good | Very poor | Very poor | Good |
| 1080: | | | | | | | | | | | |
| Klossner, ponded | 30 | Very poor | Very poor | Good | Very poor | Very poor | Good | Good | Very poor | Very poor | Good |

Table 13.--Wildlife Habitat--Continued

| Map symbol and component name | Pct. of map unit | Potential for habitat elements: Grain and seed crops | Grasses and legumes | Wild herbaceous plants | Hardwood trees | Coniferous plants | Wetland plants | Shallow water areas | Potential as habitat for--: Openland wildlife | Woodland wildlife | Wetland wildlife |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1080: | | | | | | | | | | | |
| Okoboji, ponded | 30 | Very poor | Very poor | Good | Very poor | Very poor | Good | Good | Very poor | Very poor | Good |
| Glencoe, ponded | 30 | Very poor | Very poor | Good | Very poor | Very poor | Good | Good | Very poor | Very poor | Good |
| 1087B: | | | | | | | | | | | |
| Angus | 55 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Malardi | 30 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1094B: | | | | | | | | | | | |
| Angus | 60 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Cordova | 30 | Good | Good | Good | Good | Good | Good | Good | Good | Good | Good |
| 1099: | | | | | | | | | | | |
| Granby, very wet | 85 | Poor | Good | Good | Poor | Poor | Good | Good | Good | Poor | Good |
| 1110: | | | | | | | | | | | |
| Isan | 90 | Poor | Fair | Good | Poor | Poor | Good | Good | Fair | Poor | Good |
| 1156: | | | | | | | | | | | |
| Cordova | 85 | Good | Good | Good | Good | Good | Good | Good | Good | Good | Good |
| 1161: | | | | | | | | | | | |
| Barry | 85 | Good | Good | Good | Fair | Fair | Good | Good | Good | Fair | Good |
| 1163: | | | | | | | | | | | |
| Suckercreek, frequently flooded | 85 | Poor | Fair | Good | Poor | Poor | Good | Good | Poor | Poor | Good |
| 1165: | | | | | | | | | | | |
| Lundlake, depressional | 90 | Good | Good | Good | Fair | Fair | Good | Good | Good | Fair | Good |
| 1173: | | | | | | | | | | | |
| Muskego, frequently flooded | 45 | Poor | Poor | Good | Poor | Poor | Good | Good | Poor | Poor | Good |
| Klossner, frequently flooded | 45 | Poor | Poor | Good | Poor | Poor | Good | Good | Poor | Poor | Good |
| 1186: | | | | | | | | | | | |
| Forestcity | 75 | Good | Good | Good | Fair | Fair | Good | Good | Good | Fair | Good |
| Lundlake, depressional | 20 | Good | Good | Good | Fair | Fair | Good | Good | Good | Fair | Good |
| 1196B: | | | | | | | | | | | |
| Lida | 60 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Two Inlets | 30 | Fair | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |

Table 13.--Wildlife Habitat--Continued

| Map symbol and component name | Pct. of map unit | Potential for habitat elements: Grain and seed crops | Grasses and legumes | Wild herbaceous plants | Hardwood trees | Coniferous plants | Wetland plants | Shallow water areas | Potential as habitat for--: Openland wildlife | Woodland wildlife | Wetland wildlife |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1196C: | | | | | | | | | | | |
| Lida | 55 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Two Inlets | 30 | Fair | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| 1196E: | | | | | | | | | | | |
| Lida | 50 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Two Inlets | 40 | Very poor | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| 1197: | | | | | | | | | | | |
| Suckercreek, occasionally flooded | 80 | Good | Good | Good | Good | Good | Good | Good | Good | Good | Good |
| 1199: | | | | | | | | | | | |
| Klossner, ponded | 45 | Very poor | Very poor | Good | Very poor | Very poor | Good | Good | Very poor | Very poor | Good |
| Lundlake, ponded | 45 | Very poor | Very poor | Good | Very poor | Very poor | Good | Good | Very poor | Very poor | Good |
| 1203: | | | | | | | | | | | |
| Muskego, ponded | 30 | Very poor | Very poor | Good | Very poor | Very poor | Good | Good | Very poor | Very poor | Good |
| Blue Earth, ponded | 30 | Very poor | Very poor | Good | Very poor | Very poor | Good | Good | Very poor | Very poor | Good |
| Houghton, ponded | 30 | Very poor | Very poor | Good | Very poor | Very poor | Good | Good | Very poor | Very poor | Good |
| 1204B: | | | | | | | | | | | |
| Reedslake | 85 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1207B: | | | | | | | | | | | |
| Reedslake | 60 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Le Sueur | 25 | Good | Good | Good | Good | Good | Poor | Poor | Good | Good | Poor |
| 1213C: | | | | | | | | | | | |
| Cokato, eroded | 65 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Storden | 20 | Fair | Good | Good | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| 1213D: | | | | | | | | | | | |
| Cokato, eroded | 60 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Storden | 25 | Fair | Good | Good | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |

Table 13.--Wildlife Habitat--Continued

| Map symbol and component name | Pct. of map unit | Potential for habitat elements: Grain and seed crops | Grasses and legumes | Wild herbaceous plants | Hardwood trees | Coniferous plants | Wetland plants | Shallow water areas | Potential as habitat for--: Openland wildlife | Woodland wildlife | Wetland wildlife |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1220C: | | | | | | | | | | | |
| Cokato, eroded | 50 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Storden | 20 | Fair | Good | Good | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| Hawick | 15 | Poor | Fair | Good | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 1223: | | | | | | | | | | | |
| Sandberg, MAP >25 | 60 | Poor | Fair | Fair | Poor | Fair | Very poor | Very poor | Good | Fair | Very poor |
| Arvilla, MAP >25 | 30 | Fair | Good | Good | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| 1224: | | | | | | | | | | | |
| Hubbard | 60 | Fair | Good | Fair | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| Verndale, acid substratum | 30 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1231: | | | | | | | | | | | |
| Hubbard | 60 | Fair | Good | Fair | Fair | Fair | Very poor | Very poor | Good | Fair | Very poor |
| Mosford | 30 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1255: | | | | | | | | | | | |
| Elkriver, occasionally flooded | 80 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1256: | | | | | | | | | | | |
| Cantlin | 90 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1257: | | | | | | | | | | | |
| Elkriver, rarely flooded | 55 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Mosford, rarely flooded | 35 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1260B: | | | | | | | | | | | |
| Stonelake | 55 | Poor | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| Nebish, moderately wet | 30 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1260C: | | | | | | | | | | | |
| Stonelake | 55 | Poor | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| Nebish | 30 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |

Table 13.--Wildlife Habitat--Continued

| Map symbol and component name | Pct. of map unit | Potential for habitat elements: Grain and seed crops | Grasses and legumes | Wild herbaceous plants | Hardwood trees | Coniferous plants | Wetland plants | Shallow water areas | Potential as habitat for--: Openland wildlife | Woodland wildlife | Wetland wildlife |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1260E: | | | | | | | | | | | |
| Stonelake | 60 | Very poor | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| Nebish | 25 | Poor | Fair | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1288: | | | | | | | | | | | |
| Seelyeville, ponded | 45 | Very poor | Very poor | Good | Very poor | Very poor | Good | Good | Very poor | Very poor | Good |
| Markey, ponded | 45 | Very poor | Very poor | Good | Very poor | Very poor | Good | Good | Very poor | Very poor | Good |
| 1356. | | | | | | | | | | | |
| Water, miscellaneous | | | | | | | | | | | |
| 1362B: | | | | | | | | | | | |
| Angus | 85 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1368: | | | | | | | | | | | |
| Southhaven | 90 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1377B: | | | | | | | | | | | |
| Dorset | 70 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Two Inlets | 20 | Fair | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| 1377C: | | | | | | | | | | | |
| Dorset | 50 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Two Inlets | 35 | Fair | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| 1377D: | | | | | | | | | | | |
| Dorset | 45 | Poor | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Two Inlets | 40 | Poor | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| 1377E: | | | | | | | | | | | |
| Dorset | 45 | Very poor | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Two Inlets | 45 | Very poor | Fair | Fair | Fair | Fair | Very poor | Very poor | Fair | Fair | Very poor |
| 1378: | | | | | | | | | | | |
| Fordum, occasionally flooded | 85 | Poor | Fair | Good | Fair | Fair | Good | Good | Fair | Fair | Good |
| 1379B: | | | | | | | | | | | |
| Dorset | 65 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Almora | 25 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |

Table 13.--Wildlife Habitat--Continued

| Map symbol and component name | Pct. of map unit | Potential for habitat elements: Grain and seed crops | Grasses and legumes | Wild herbaceous plants | Hardwood trees | Coniferous plants | Wetland plants | Shallow water areas | Potential as habitat for--: Openland wildlife | Woodland wildlife | Wetland wildlife |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1380A: | | | | | | | | | | | |
| Bygland, MAP >25-------- | 85 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1380B: | | | | | | | | | | | |
| Bygland, MAP >25-------- | 70 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1380C: | | | | | | | | | | | |
| Bygland, MAP >25-------- | 70 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1381: | | | | | | | | | | | |
| Lindaas, morainic------- | 80 | Good | Good | Good | Good | Good | Good | Good | Good | Good | Good |
| 1383A: | | | | | | | | | | | |
| Shorewood, moderately wet---------- | 95 | Good | Good | Good | Good | Good | Poor | Poor | Good | Good | Poor |
| 1388B: | | | | | | | | | | | |
| Terril, moderately wet-- | 85 | Good | Good | Good | Good | Good | Poor | Poor | Good | Good | Poor |
| 1406: | | | | | | | | | | | |
| Medo, ponded---------- | 30 | Very poor | Poor | Good | Very poor | Very poor | Good | Good | Good | Very poor | Good |
| Dassel, ponded---------- | 30 | Very poor | Poor | Good | Very poor | Very poor | Good | Good | Good | Very poor | Good |
| Biscay, ponded---------- | 30 | Very poor | Poor | Good | Very poor | Very poor | Good | Good | Good | Very poor | Good |
| 1408B: | | | | | | | | | | | |
| Angus---------- | 45 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Kilkenny---------- | 40 | Good | Good | Good | Good | Good | Poor | Very poor | Good | Good | Very poor |
| 1438B: | | | | | | | | | | | |
| Braham, moderately wet-- | 85 | Fair | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| 1443: | | | | | | | | | | | |
| Belleville---------- | 85 | Fair | Good | Good | Fair | Fair | Good | Good | Fair | Fair | Good |
| 1901B: | | | | | | | | | | | |
| Angus---------- | 60 | Good | Good | Good | Good | Good | Very poor | Very poor | Good | Good | Very poor |
| Le Sueur---------- | 30 | Good | Good | Good | Good | Good | Poor | Poor | Good | Good | Poor |
| 1931: | | | | | | | | | | | |
| Essexville---------- | 75 | Fair | Fair | Good | Fair | Fair | Good | Good | Fair | Poor | Good |
| 1942: | | | | | | | | | | | |
| Forada, depressional---- | 85 | Poor | Poor | Poor | Poor | Poor | Good | Good | Poor | Poor | Good |
| 1946: | | | | | | | | | | | |
| Fordum, frequently flooded---------- | 70 | Very poor | Very poor | Good | Fair | Fair | Good | Good | Very poor | Fair | Good |

Table 13.--Wildlife Habitat--Continued

| Map symbol and component name | Pct. of map unit | Potential for habitat elements: Grain and seed crops | Grasses and legumes | Wild herbaceous plants | Hardwood trees | Coniferous plants | Wetland plants | Shallow water areas | Potential as habitat for--: Openland wildlife | Woodland wildlife | Wetland wildlife |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1946: | | | | | | | | | | | |
| Winterfield, frequently flooded | 20 | Poor | Fair | Good | Good | Good | Fair | Fair | Fair | Good | Fair |
| 1975: | | | | | | | | | | | |
| Oylen | 90 | Good | Good | Good | Good | Good | Poor | Poor | Good | Good | Poor |
| W. Water | | | | | | | | | | | |

Table 14a.--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 | Pct. of map unit | 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 |
| 7A: | | | | | | | |
| Hubbard | 95 | Not limited | | Not limited | | Not limited | |
| 7B: | | | | | | | |
| Hubbard | 90 | Not limited | | Not limited | | Not limited | |
| 7C: | | | | | | | |
| Hubbard | 80 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 8B: | | | | | | | |
| Sparta | 95 | Not limited | | Not limited | | Not limited | |
| 35: | | | | | | | |
| Blue Earth, depressional | 80 | 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 |
| | | Content of organic matter | 1.00 | | | Content of organic matter | 1.00 |
| 74B: | | | | | | | |
| Dickinson | 95 | Not limited | | Not limited | | Not limited | |
| 86: | | | | | | | |
| Canisteo | 80 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 106C2: | | | | | | | |
| Lester, eroded | 70 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Shrink-swell | 0.50 |
| 106D2: | | | | | | | |
| Lester, eroded | 80 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| 106E: | | | | | | | |
| Lester | 80 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 109: | | | | | | | |
| Cordova | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 114: | | | | | | | |
| Glencoe, depressional | 90 | 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 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| 138: | | | | | | | |
| Lerdal | 80 | Very limited | | Very limited | | Very limited | |
| | | Shrink-swell | 1.00 | Depth to saturated zone | 1.00 | Shrink-swell | 1.00 |
| | | Depth to saturated zone | 0.99 | Shrink-swell | 1.00 | Depth to saturated zone | 0.99 |
| 158A: | | | | | | | |
| Zimmerman | 90 | Not limited | | Not limited | | Not limited | |
| 158B: | | | | | | | |
| Zimmerman | 90 | Not limited | | Not limited | | Not limited | |
| 158C: | | | | | | | |
| Zimmerman | 90 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 158E: | | | | | | | |
| Zimmerman | 85 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 169C: | | | | | | | |
| Braham | 90 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Shrink-swell | 0.50 | Slope | 1.00 |
| | | | | Slope | 0.04 | | |
| 181: | | | | | | | |
| Litchfield | 95 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 229: | | | | | | | |
| Waldorf | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 1.00 | Shrink-swell | 1.00 | Shrink-swell | 1.00 |
| 231C: | | | | | | | |
| Lester | 80 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Shrink-swell | 0.50 |
| 231D: | | | | | | | |
| Lester | 80 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 235: | | | | | | | |
| Nessel | 85 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 1.00 | Shrink-swell | 0.50 |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 239: | | | | | | | |
| Le Sueur | 80 | Somewhat limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 0.99 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.99 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 247: | | | | | | | |
| Linder | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 255: | | | | | | | |
| Mayer | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 256: | | | | | | | |
| Mazaska | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 1.00 | | | Shrink-swell | 1.00 |
| 258B: | | | | | | | |
| Sandberg | 95 | Not limited | | Not limited | | Not limited | |
| 258C: | | | | | | | |
| Sandberg | 90 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 258E: | | | | | | | |
| Sandberg | 85 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 260: | | | | | | | |
| Duelm | 90 | Not limited | | Very limited | | Not limited | |
| | | | | Depth to saturated zone | 1.00 | | |
| 261: | | | | | | | |
| Isan, depressional | 90 | 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 |
| 286B: | | | | | | | |
| Shorewood | 95 | Very limited | | Very limited | | Very limited | |
| | | Shrink-swell | 1.00 | Depth to saturated zone | 1.00 | Shrink-swell | 1.00 |
| | | Depth to saturated zone | 0.98 | Shrink-swell | 1.00 | Depth to saturated zone | 0.98 |
| 294A: | | | | | | | |
| Rasset | 90 | Not limited | | Not limited | | Not limited | |
| 323: | | | | | | | |
| Shields | 95 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 1.00 | Shrink-swell | 1.00 | Shrink-swell | 1.00 |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 327A: | | | | | | | |
| Dickman | 85 | Not limited | | Not limited | | Not limited | |
| 327B: | | | | | | | |
| Dickman | 85 | Not limited | | Not limited | | Not limited | |
| 375: | | | | | | | |
| Forada | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 392: | | | | | | | |
| Biscay | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 406: | | | | | | | |
| Dorset | 90 | Not limited | | Not limited | | Not limited | |
| 414: | | | | | | | |
| Hamel | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 441: | | | | | | | |
| Almora | 90 | Not limited | | Not limited | | Not limited | |
| 461B: | | | | | | | |
| Koronis | 85 | Not limited | | Not limited | | Not limited | |
| 461C2: | | | | | | | |
| Koronis, eroded | 80 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 461E: | | | | | | | |
| Koronis | 80 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 511: | | | | | | | |
| Marcellon, MAP <30-- | 85 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.98 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.98 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 523: | | | | | | | |
| Houghton, drained | 80 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Content of organic matter | 1.00 | Content of organic matter | 1.00 |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 525: | | | | | | | |
| Muskego, surface drained | 75 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Content of organic matter | 1.00 | Content of organic matter | 1.00 |
| 539: | | | | | | | |
| Klossner, drained | 80 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Shrink-swell | 0.50 | Content of organic matter | 1.00 |
| 540: | | | | | | | |
| Seelyeville, surface drained | 80 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Content of organic matter | 1.00 | Content of organic matter | 1.00 |
| 543: | | | | | | | |
| Markey, surface drained | 80 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | | | Content of organic matter | 1.00 |
| 548: | | | | | | | |
| Medo, drained | 80 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | | | Content of organic matter | 1.00 |
| 603: | | | | | | | |
| Hanlon, occasionally flooded | 80 | Very limited | | Very limited | | Very limited | |
| | | Flooding | 1.00 | Flooding | 1.00 | Flooding | 1.00 |
| | | | | Depth to saturated zone | 1.00 | | |
| 611D: | | | | | | | |
| Hawick | 85 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 708: | | | | | | | |
| Rushlake | 85 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.39 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.39 |
| 740: | | | | | | | |
| Hamel | 70 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| Glencoe, depressional | 20 | 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 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| 768: | | | | | | | |
| Mosford | 85 | Not limited | | Not limited | | Not limited | |
| 771: | | | | | | | |
| Elkriver, rarely flooded | 85 | Very limited | | Very limited | | Very limited | |
| | | Flooding | 1.00 | Flooding | 1.00 | Flooding | 1.00 |
| | | | | Depth to saturated zone | 0.95 | | |
| 783C2: | | | | | | | |
| Lester, eroded | 50 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Shrink-swell | 0.50 |
| Kilkenny, eroded | 30 | Somewhat limited | | Very limited | | Very limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 1.00 | Slope | 1.00 |
| | | Slope | 0.04 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| | | | | Slope | 0.04 | | |
| 792: | | | | | | | |
| Fordum, frequently flooded | 90 | Very limited | | Very limited | | Very limited | |
| | | Flooding | 1.00 | Flooding | 1.00 | Flooding | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 799: | | | | | | | |
| Seelyeville, frequently flooded | 45 | Very limited | | Very limited | | Very limited | |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Flooding | 1.00 | Flooding | 1.00 | Flooding | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Content of organic matter | 1.00 | Content of organic matter | 1.00 |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 799: | | | | | | | |
| Bowstring, frequently flooded | 45 | Very limited | | Very limited | | Very limited | |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Flooding | 1.00 | Flooding | 1.00 | Flooding | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Content of organic matter | 1.00 | Content of organic matter | 1.00 |
| 804B: | | | | | | | |
| Koronis | 50 | Not limited | | Not limited | | Not limited | |
| Sunburg | 20 | Not limited | | Not limited | | Not limited | |
| Hawick | 15 | Not limited | | Not limited | | Not limited | |
| 804C2: | | | | | | | |
| Koronis, eroded | 45 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Sunburg | 25 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Hawick | 15 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 804D2: | | | | | | | |
| Koronis, eroded | 40 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Sunburg | 30 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Hawick | 15 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 804E: | | | | | | | |
| Koronis | 50 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Sunburg | 20 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Hawick | 15 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 807D2: | | | | | | | |
| Koronis, eroded | 65 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Sunburg | 20 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 875B: | | | | | | | |
| Estherville | 60 | Not limited | | Not limited | | Not limited | |
| Hawick | 30 | Not limited | | Not limited | | Not limited | |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 875C: | | | | | | | |
| Hawick | 60 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Estherville | 25 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 896B: | | | | | | | |
| Kingsley | 70 | Not limited | | Not limited | | Not limited | |
| Gotham | 25 | Not limited | | Not limited | | Not limited | |
| 896C: | | | | | | | |
| Kingsley | 70 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Gotham | 25 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 945C2: | | | | | | | |
| Lester, eroded | 50 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Shrink-swell | 0.50 |
| Storden, eroded | 30 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Shrink-swell | 0.50 |
| 945D2: | | | | | | | |
| Lester, eroded | 60 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| Storden, eroded | 20 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| 956: | | | | | | | |
| Canisteo | 65 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| Glencoe, depressional | 25 | 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 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| 978: | | | | | | | |
| Cordova | 60 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| Rolfe, depressional | 30 | 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 |
| | | Shrink-swell | 1.00 | Shrink-swell | 0.50 | Shrink-swell | 1.00 |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1000: | | | | | | | |
| Arvilla, MAP >25 | 90 | Not limited | | Not limited | | Not limited | |
| 1015: | | | | | | | |
| Udipsamments (cut and fill land) | 100 | Not rated | | Not rated | | Not rated | |
| 1016: | | | | | | | |
| Udorthents, loamy | 100 | Not rated | | Not rated | | Not rated | |
| 1023C: | | | | | | | |
| Lester, eroded | 50 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Shrink-swell | 0.50 |
| Malardi | 35 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 1023D: | | | | | | | |
| Lester, eroded | 45 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| Malardi | 40 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 1026B: | | | | | | | |
| Lizzie, moderately wet | 90 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | Shrink-swell | 0.50 |
| 1027: | | | | | | | |
| Udorthents, wet substratum | 100 | Not rated | | Not rated | | Not rated | |
| 1030: | | | | | | | |
| Pits, gravel | 80 | Not rated | | Not rated | | Not rated | |
| Udipsamments | 20 | Not rated | | Not rated | | Not rated | |
| 1035B: | | | | | | | |
| Crowfork | 90 | Not limited | | Not limited | | Not limited | |
| 1035C: | | | | | | | |
| Crowfork | 90 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 1035D: | | | | | | | |
| Crowfork | 85 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 1036B: | | | | | | | |
| Angus | 85 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | Shrink-swell | 0.50 |
| | | | | Shrink-swell | 0.50 | | |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1037: | | | | | | | |
| Eckvoll, MAP >25 | 90 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.98 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.98 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| 1038A: | | | | | | | |
| Verndale, acid substratum | 90 | Not limited | | Not limited | | Not limited | |
| 1038B: | | | | | | | |
| Verndale, acid substratum | 85 | Not limited | | Not limited | | Not limited | |
| 1066B: | | | | | | | |
| Malardi | 65 | Not limited | | Not limited | | Not limited | |
| Hawick | 25 | Not limited | | Not limited | | Not limited | |
| 1066C: | | | | | | | |
| Malardi | 60 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Hawick | 25 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.16 | Slope | 0.16 | Slope | 1.00 |
| 1066E: | | | | | | | |
| Malardi | 55 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Hawick | 30 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| 1072: | | | | | | | |
| Udorthents, shallow | 100 | Not rated | | Not rated | | Not rated | |
| 1075: | | | | | | | |
| Klossner, ponded | 40 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Shrink-swell | 0.50 | Content of organic matter | 1.00 |
| Muskego, ponded | 40 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Content of organic matter | 1.00 | Content of organic matter | 1.00 |
| 1080: | | | | | | | |
| Klossner, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Shrink-swell | 0.50 | Content of organic matter | 1.00 |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1080: | | | | | | | |
| Okoboji, ponded | 30 | 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 |
| | | Shrink-swell | 1.00 | Shrink-swell | 1.00 | Shrink-swell | 1.00 |
| Glencoe, ponded | 30 | 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 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| 1087B: | | | | | | | |
| Angus | 55 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | Shrink-swell | 0.50 |
| Malardi | 30 | Not limited | | Not limited | | Not limited | |
| 1094B: | | | | | | | |
| Angus | 60 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | Shrink-swell | 0.50 |
| Cordova | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 1099: | | | | | | | |
| Granby, very wet | 85 | 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 |
| 1110: | | | | | | | |
| Isan | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 1156: | | | | | | | |
| Cordova | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 1161: | | | | | | | |
| Barry | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 1163: | | | | | | | |
| Suckercreek, frequently flooded | 85 | Very limited | | Very limited | | Very limited | |
| | | Flooding | 1.00 | Flooding | 1.00 | Flooding | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1165: | | | | | | | |
| Lundlake, depressional | 90 | 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 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 1173: | | | | | | | |
| Muskego, frequently flooded | 45 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Flooding | 1.00 | Flooding | 1.00 | Flooding | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Content of organic matter | 1.00 | Content of organic matter | 1.00 |
| Klossner, frequently flooded | 45 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Flooding | 1.00 | Flooding | 1.00 | Flooding | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Shrink-swell | 0.50 | Content of organic matter | 1.00 |
| 1186: | | | | | | | |
| Forestcity | 75 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| Lundlake, depressional | 20 | 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 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| 1196B: | | | | | | | |
| Lida | 60 | Not limited | | Not limited | | Not limited | |
| Two Inlets | 30 | Not limited | | Not limited | | Not limited | |
| 1196C: | | | | | | | |
| Lida | 55 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.37 | Slope | 0.37 | Slope | 1.00 |
| Two Inlets | 30 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.37 | Slope | 0.37 | Slope | 1.00 |
| 1196E: | | | | | | | |
| Lida | 50 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Two Inlets | 40 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1197: | | | | | | | |
| Suckercreek, occasionally flooded | 80 | Very limited | | Very limited | | Very limited | |
| | | Flooding | 1.00 | Flooding | 1.00 | Flooding | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| 1199: | | | | | | | |
| Klossner, ponded | 45 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Shrink-swell | 0.50 | Content of organic matter | 1.00 |
| Lundlake, ponded | 45 | 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 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 1203: | | | | | | | |
| Muskego, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Content of organic matter | 1.00 | Content of organic matter | 1.00 |
| Blue Earth, ponded | 30 | 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 |
| | | Content of organic matter | 1.00 | Content of organic matter | 1.00 | Content of organic matter | 1.00 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| Houghton, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Content of organic matter | 1.00 | Content of organic matter | 1.00 |
| 1204B: | | | | | | | |
| Reedslake | 85 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | Shrink-swell | 0.50 |
| 1207B: | | | | | | | |
| Reedslake | 60 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | Shrink-swell | 0.50 |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1207B: | | | | | | | |
| Le Sueur | 25 | Somewhat limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 0.99 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.99 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| 1213C: | | | | | | | |
| Cokato, eroded | 65 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Storden | 20 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Shrink-swell | 0.50 |
| 1213D: | | | | | | | |
| Cokato, eroded | 60 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Storden | 25 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| 1220C: | | | | | | | |
| Cokato, eroded | 50 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Storden | 20 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Shrink-swell | 0.50 | Shrink-swell | 0.50 | Slope | 1.00 |
| | | Slope | 0.04 | Slope | 0.04 | Shrink-swell | 0.50 |
| Hawick | 15 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| 1223: | | | | | | | |
| Sandberg, MAP >25 | 60 | Not limited | | Not limited | | Not limited | |
| Arvilla, MAP >25 | 30 | Not limited | | Not limited | | Not limited | |
| 1224: | | | | | | | |
| Hubbard | 60 | Not limited | | Not limited | | Not limited | |
| Verndale, acid substratum | 30 | Not limited | | Not limited | | Not limited | |
| 1231: | | | | | | | |
| Hubbard | 60 | Not limited | | Not limited | | Not limited | |
| Mosford | 30 | Not limited | | Not limited | | Not limited | |
| 1255: | | | | | | | |
| Elkriver, occasionally flooded | 80 | Very limited | | Very limited | | Very limited | |
| | | Flooding | 1.00 | Flooding | 1.00 | Flooding | 1.00 |
| | | Depth to saturated zone | 0.98 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.98 |
| 1256: | | | | | | | |
| Cantlin | 90 | Not limited | | Somewhat limited | | Not limited | |
| | | | | Depth to saturated zone | 0.82 | | |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1257: | | | | | | | |
| Elkriver, rarely flooded | 55 | Very limited | | Very limited | | Very limited | |
| | | Flooding | 1.00 | Flooding | 1.00 | Flooding | 1.00 |
| | | | | Depth to saturated zone | 0.95 | | |
| Mosford, rarely flooded | 35 | Very limited | | Very limited | | Very limited | |
| | | Flooding | 1.00 | Flooding | 1.00 | Flooding | 1.00 |
| | | | | Depth to saturated zone | 0.95 | | |
| 1260B: | | | | | | | |
| Stonelake | 55 | Not limited | | Not limited | | Not limited | |
| Nebish, moderately wet | 30 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | Shrink-swell | 0.50 |
| | | | | Shrink-swell | 0.50 | | |
| 1260C: | | | | | | | |
| Stonelake | 55 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 1.00 |
| Nebish | 30 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Shrink-swell | 0.50 | Slope | 0.04 | Slope | 1.00 |
| | | Slope | 0.04 | | | Shrink-swell | 0.50 |
| 1260E: | | | | | | | |
| Stonelake | 60 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| Nebish | 25 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 1288: | | | | | | | |
| Seelyeville, ponded | 45 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | Content of organic matter | 1.00 | Content of organic matter | 1.00 |
| Markey, ponded | 45 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Content of organic matter | 1.00 | | | Content of organic matter | 1.00 |
| 1356: | | | | | | | |
| Water, miscellaneous | 100 | Not rated | | Not rated | | Not rated | |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1362B: | | | | | | | |
| Angus | 85 | Somewhat limited<br>Shrink-swell | 0.50 | Somewhat limited<br>Depth to saturated zone | 0.78 | Somewhat limited<br>Shrink-swell | 0.50 |
| 1368: | | | | | | | |
| Southhaven | 90 | Not limited | | Somewhat limited<br>Depth to saturated zone | 0.82 | Not limited | |
| 1377B: | | | | | | | |
| Dorset | 70 | Not limited | | Not limited | | Not limited | |
| Two Inlets | 20 | Not limited | | Not limited | | Not limited | |
| 1377C: | | | | | | | |
| Dorset | 50 | Somewhat limited<br>Slope | 0.04 | Somewhat limited<br>Slope | 0.04 | Very limited<br>Slope | 1.00 |
| Two Inlets | 35 | Somewhat limited<br>Slope | 0.04 | Somewhat limited<br>Slope | 0.04 | Very limited<br>Slope | 1.00 |
| 1377D: | | | | | | | |
| Dorset | 45 | Very limited<br>Slope | 1.00 | Very limited<br>Slope | 1.00 | Very limited<br>Slope | 1.00 |
| Two Inlets | 40 | Very limited<br>Slope | 1.00 | Very limited<br>Slope | 1.00 | Very limited<br>Slope | 1.00 |
| 1377E: | | | | | | | |
| Dorset | 45 | Very limited<br>Slope | 1.00 | Very limited<br>Slope | 1.00 | Very limited<br>Slope | 1.00 |
| Two Inlets | 45 | Very limited<br>Slope | 1.00 | Very limited<br>Slope | 1.00 | Very limited<br>Slope | 1.00 |
| 1378: | | | | | | | |
| Fordum, occasionally flooded | 85 | Very limited<br>Flooding<br>Depth to saturated zone | 1.00<br>1.00 | Very limited<br>Flooding<br>Depth to saturated zone | 1.00<br>1.00 | Very limited<br>Flooding<br>Depth to saturated zone | 1.00<br>1.00 |
| 1379B: | | | | | | | |
| Dorset | 65 | Not limited | | Not limited | | Not limited | |
| Almora | 25 | Not limited | | Not limited | | Not limited | |
| 1380A: | | | | | | | |
| Bygland, MAP >25 | 85 | Very limited<br>Shrink-swell | 1.00 | Very limited<br>Depth to saturated zone<br>Shrink-swell | 1.00<br>0.50 | Very limited<br>Shrink-swell | 1.00 |
| 1380B: | | | | | | | |
| Bygland, MAP >25 | 70 | Very limited<br>Shrink-swell | 1.00 | Somewhat limited<br>Depth to saturated zone<br>Shrink-swell | 0.95<br>0.50 | Very limited<br>Shrink-swell | 1.00 |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1380C: | | | | | | | |
| Bygland, MAP >25 | 70 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.95 | Slope | 1.00 |
| | | Slope | 0.04 | Shrink-swell | 0.50 | Shrink-swell | 0.50 |
| | | | | Slope | 0.04 | | |
| 1381: | | | | | | | |
| Lindaas, morainic | 80 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 1.00 | Shrink-swell | 0.50 | Shrink-swell | 1.00 |
| 1383A: | | | | | | | |
| Shorewood, moderately wet | 95 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 1.00 | Shrink-swell | 1.00 | Shrink-swell | 1.00 |
| 1388B: | | | | | | | |
| Terril, moderately wet | 85 | Not limited | | Somewhat limited | | Not limited | |
| | | | | Depth to saturated zone | 0.78 | | |
| 1406: | | | | | | | |
| Medo, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Ponding | 1.00 | Ponding | 1.00 | Ponding | 1.00 |
| | | Subsidence | 1.00 | Subsidence | 1.00 | Subsidence | 1.00 |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| Dassel, ponded | 30 | 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 |
| Biscay, ponded | 30 | 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 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 1408B: | | | | | | | |
| Angus | 45 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | Shrink-swell | 0.50 |
| Kilkenny | 40 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.88 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.88 |
| | | Shrink-swell | 0.50 | | | Shrink-swell | 0.50 |
| 1438B: | | | | | | | |
| Braham, moderately wet | 85 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 1.00 | Shrink-swell | 0.50 |
| | | | | Shrink-swell | 0.50 | | |

Table 14a.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Dwellings without basements: Rating class and limiting features | Value | Dwellings with basements: Rating class and limiting features | Value | Small commercial buildings: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1443: | | | | | | | |
| Belleville | 85 | Very limited<br>Depth to saturated zone | <br>1.00 | Very limited<br>Depth to saturated zone | <br>1.00 | Very limited<br>Depth to saturated zone | <br>1.00 |
| 1901B: | | | | | | | |
| Angus | 60 | Somewhat limited<br>Shrink-swell | <br>0.50 | Somewhat limited<br>Depth to saturated zone | <br>0.78 | Somewhat limited<br>Shrink-swell | <br>0.50 |
| Le Sueur | 30 | Somewhat limited<br>Depth to saturated zone<br>Shrink-swell | <br>0.99<br>0.50 | Very limited<br>Depth to saturated zone<br>Shrink-swell | <br>1.00<br><br>0.50 | Very limited<br>Depth to saturated zone<br>Shrink-swell | <br>0.99<br><br>0.50 |
| 1931: | | | | | | | |
| Essexville | 75 | Very limited<br>Depth to saturated zone | <br>1.00 | Very limited<br>Depth to saturated zone | <br>1.00 | Very limited<br>Depth to saturated zone | <br>1.00 |
| 1942: | | | | | | | |
| Forada, depressional | 85 | Very limited<br>Ponding<br>Depth to saturated zone | <br>1.00<br>1.00 | Very limited<br>Ponding<br>Depth to saturated zone | <br>1.00<br>1.00 | Very limited<br>Ponding<br>Depth to saturated zone | <br>1.00<br>1.00 |
| 1946: | | | | | | | |
| Fordum, frequently flooded | 70 | Very limited<br>Flooding<br>Depth to saturated zone | <br>1.00<br>1.00 | Very limited<br>Flooding<br>Depth to saturated zone | <br>1.00<br>1.00 | Very limited<br>Flooding<br>Depth to saturated zone | <br>1.00<br>1.00 |
| Winterfield, frequently flooded | 20 | Very limited<br>Flooding<br>Depth to saturated zone | <br>1.00<br>0.98 | Very limited<br>Flooding<br>Depth to saturated zone | <br>1.00<br>1.00 | Very limited<br>Flooding<br>Depth to saturated zone | <br>1.00<br>0.98 |
| 1975: | | | | | | | |
| Oylen | 90 | Not limited | | Very limited<br>Depth to saturated zone | <br>1.00 | Not limited | |
| W: | | | | | | | |
| Water | 100 | Not rated | | Not rated | | Not rated | |

Table 14b.--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 | Pct. of map unit | Local roads and streets | | Shallow excavations | | Lawns and landscaping | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 7A: | | | | | | | |
| Hubbard | 95 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.50 |
| 7B: | | | | | | | |
| Hubbard | 90 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.59 |
| 7C: | | | | | | | |
| Hubbard | 80 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Slope | 0.04 | Cutbanks cave | 1.00 | Droughty | 0.83 |
| | | | | Slope | 0.04 | Slope | 0.04 |
| 8B: | | | | | | | |
| Sparta | 95 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.15 |
| 35: | | | | | | | |
| Blue Earth, depressional | 80 | 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 | Content of organic matter | 1.00 | | |
| | | | | Cutbanks cave | 0.10 | | |
| 74B: | | | | | | | |
| Dickinson | 95 | Somewhat limited | | Very limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |
| 86: | | | | | | | |
| Canisteo | 80 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| 106C2: | | | | | | | |
| Lester, eroded | 70 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | Slope | 0.04 |
| | | Frost action | 0.50 | Slope | 0.04 | | |
| | | Slope | 0.04 | | | | |
| 106D2: | | | | | | | |
| Lester, eroded | 80 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | | |
| | | Frost action | 0.50 | | | | |
| 106E: | | | | | | | |
| Lester | 80 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | | |
| | | Frost action | 0.50 | | | | |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 109: | | | | | | | |
| Cordova | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 0.50 | | | | |
| 114: | | | | | | | |
| Glencoe, depressional | 90 | 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 | | | | |
| 138: | | | | | | | |
| Lerdal | 80 | Very limited | | Very limited | | Somewhat limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.78 |
| | | Shrink-swell | 1.00 | Cutbanks cave | 0.10 | | |
| | | Depth to saturated zone | 0.78 | | | | |
| 158A: | | | | | | | |
| Zimmerman | 90 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.34 |
| 158B: | | | | | | | |
| Zimmerman | 90 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.34 |
| 158C: | | | | | | | |
| Zimmerman | 90 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Slope | 0.04 | Cutbanks cave | 1.00 | Droughty | 0.34 |
| | | | | Slope | 0.04 | Slope | 0.04 |
| 158E: | | | | | | | |
| Zimmerman | 85 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Cutbanks cave | 1.00 | Slope | 1.00 |
| | | | | Slope | 1.00 | Droughty | 0.34 |
| 169C: | | | | | | | |
| Braham | 90 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Slope | 0.04 | Cutbanks cave | 1.00 | Slope | 0.04 |
| | | | | Slope | 0.04 | | |
| 181: | | | | | | | |
| Litchfield | 95 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Depth to saturated zone | 0.90 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.90 |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |
| 229: | | | | | | | |
| Waldorf | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Too clayey | 0.28 | | |
| | | Shrink-swell | 1.00 | Cutbanks cave | 0.10 | | |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 231C: | | | | | | | |
| Lester | 80 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | Slope | 0.04 |
| | | Frost action | 0.50 | Slope | 0.04 | | |
| | | Slope | 0.04 | | | | |
| 231D: | | | | | | | |
| Lester | 80 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | | |
| | | Frost action | 0.50 | | | | |
| 235: | | | | | | | |
| Nessel | 85 | Very limited | | Very limited | | Not limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | | |
| 239: | | | | | | | |
| Le Sueur | 80 | Very limited | | Very limited | | Somewhat limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.78 |
| | | Depth to saturated zone | 0.78 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 0.50 | | | | |
| 247: | | | | | | | |
| Linder | 90 | Very limited | | Very limited | | Somewhat limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.90 |
| | | Depth to saturated zone | 0.90 | Cutbanks cave | 1.00 | | |
| 255: | | | | | | | |
| Mayer | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 1.00 | | |
| 256: | | | | | | | |
| Mazaska | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 1.00 | Too clayey | 0.03 | | |
| 258B: | | | | | | | |
| Sandberg | 95 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.79 |
| 258C: | | | | | | | |
| Sandberg | 90 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Slope | 0.04 | Cutbanks cave | 1.00 | Droughty | 0.79 |
| | | | | Slope | 0.04 | Slope | 0.04 |
| 258E: | | | | | | | |
| Sandberg | 85 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Cutbanks cave | 1.00 | Slope | 1.00 |
| | | | | Slope | 1.00 | Droughty | 0.79 |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 260: | | | | | | | |
| Duelm | 90 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | Droughty | 0.21 |
| | | | | Depth to saturated zone | 1.00 | | |
| 261: | | | | | | | |
| Isan, depressional | 90 | 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 | 0.50 | Cutbanks cave | 1.00 | Droughty | 0.04 |
| 286B: | | | | | | | |
| Shorewood | 95 | Very limited | | Very limited | | Somewhat limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.75 |
| | | Shrink-swell | 1.00 | Too clayey | 0.15 | | |
| | | Depth to saturated zone | 0.75 | Cutbanks cave | 0.10 | | |
| 294A: | | | | | | | |
| Rasset | 90 | Somewhat limited | | Very limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |
| 323: | | | | | | | |
| Shields | 95 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Too clayey | 0.12 | | |
| | | Shrink-swell | 1.00 | Cutbanks cave | 0.10 | | |
| 327A: | | | | | | | |
| Dickman | 85 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.07 |
| 327B: | | | | | | | |
| Dickman | 85 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.07 |
| 375: | | | | | | | |
| Forada | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 1.00 | | |
| 392: | | | | | | | |
| Biscay | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 1.00 | | |
| | | Shrink-swell | 0.50 | | | | |
| 406: | | | | | | | |
| Dorset | 90 | Somewhat limited | | Very limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 414: | | | | | | | |
| Hamel | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 0.50 | | | | |
| 441: | | | | | | | |
| Almora | 90 | Somewhat limited | | Very limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |
| 461B: | | | | | | | |
| Koronis | 85 | Somewhat limited | | Somewhat limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | | |
| 461C2: | | | | | | | |
| Koronis, eroded | 80 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | Slope | 0.04 |
| | | Slope | 0.04 | Slope | 0.04 | | |
| 461E: | | | | | | | |
| Koronis | 80 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | | |
| 511: | | | | | | | |
| Marcellon, MAP <30-- | 85 | Very limited | | Very limited | | Somewhat limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.75 |
| | | Depth to saturated zone | 0.75 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 0.50 | | | | |
| 523: | | | | | | | |
| Houghton, drained | 80 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| 525: | | | | | | | |
| Muskego, surface drained | 75 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| 539: | | | | | | | |
| Klossner, drained | 80 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 540: | | | | | | | |
| Seelyeville, surface drained | 80 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| 543: | | | | | | | |
| Markey, surface drained | 80 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Cutbanks cave | 1.00 | | |
| | | Frost action | 1.00 | Content of organic matter | 1.00 | | |
| 548: | | | | | | | |
| Medo, drained | 80 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Cutbanks cave | 1.00 | | |
| | | Frost action | 1.00 | Content of organic matter | 1.00 | | |
| 603: | | | | | | | |
| Hanlon, occasionally flooded | 80 | Very limited | | Very limited | | Somewhat limited | |
| | | Flooding | 1.00 | Cutbanks cave | 1.00 | Flooding | 0.60 |
| | | Frost action | 0.50 | Depth to saturated zone | 1.00 | | |
| | | | | Flooding | 0.60 | | |
| 611D: | | | | | | | |
| Hawick | 85 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Cutbanks cave | 1.00 | Slope | 1.00 |
| | | | | Slope | 1.00 | Droughty | 1.00 |
| 708: | | | | | | | |
| Rushlake | 85 | Somewhat limited | | Very limited | | Very limited | |
| | | Frost action | 0.50 | Depth to saturated zone | 1.00 | Too sandy | 1.00 |
| | | Depth to saturated zone | 0.19 | Cutbanks cave | 1.00 | Droughty | 0.92 |
| | | | | | | Depth to saturated zone | 0.19 |
| 740: | | | | | | | |
| Hamel | 70 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 0.50 | | | | |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets | | Shallow excavations | | Lawns and landscaping | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 740: | | | | | | | |
| Glencoe, depressional | 20 | 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 | | | | |
| 768: | | | | | | | |
| Mosford | 85 | Not limited | | Very limited | | Not limited | |
| | | | | Cutbanks cave | 1.00 | | |
| 771: | | | | | | | |
| Elkriver, rarely flooded | 85 | Somewhat limited | | Very limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |
| | | Flooding | 0.40 | Depth to saturated zone | 0.95 | | |
| 783C2: | | | | | | | |
| Lester, eroded | 50 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | Slope | 0.04 |
| | | Frost action | 0.50 | Slope | 0.04 | | |
| | | Slope | 0.04 | | | | |
| Kilkenny, eroded | 30 | Very limited | | Very limited | | Somewhat limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 1.00 | Slope | 0.04 |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | | |
| | | Slope | 0.04 | Slope | 0.04 | | |
| 792: | | | | | | | |
| Fordum, frequently flooded | 90 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Flooding | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 1.00 | Depth to saturated zone | 1.00 |
| | | Flooding | 1.00 | Flooding | 0.80 | | |
| 799: | | | | | | | |
| Seelyeville, frequently flooded | 45 | Very limited | | Very limited | | Not rated | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Flooding | 0.80 | | |
| | | Flooding | 1.00 | Cutbanks cave | 0.10 | | |
| Bowstring, frequently flooded | 45 | Very limited | | Very limited | | Not rated | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Cutbanks cave | 1.00 | | |
| | | Frost action | 1.00 | Content of organic matter | 1.00 | | |
| | | Flooding | 1.00 | Flooding | 0.80 | | |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 804B: | | | | | | | |
| Koronis | 50 | Somewhat limited<br>Frost action | <br>0.50 | Somewhat limited<br>Cutbanks cave | <br>0.10 | Not limited | |
| Sunburg | 20 | Somewhat limited<br>Frost action | <br>0.50 | Somewhat limited<br>Cutbanks cave | <br>0.10 | Not limited | |
| Hawick | 15 | Not limited | | Very limited<br>Cutbanks cave | <br>1.00 | Somewhat limited<br>Droughty | <br>0.91 |
| 804C2: | | | | | | | |
| Koronis, eroded | 45 | Somewhat limited<br>Frost action<br>Slope | <br>0.50<br>0.04 | Somewhat limited<br>Cutbanks cave<br>Slope | <br>0.10<br>0.04 | Somewhat limited<br>Slope | <br>0.04 |
| Sunburg | 25 | Somewhat limited<br>Frost action<br>Slope | <br>0.50<br>0.04 | Somewhat limited<br>Cutbanks cave<br>Slope | <br>0.10<br>0.04 | Somewhat limited<br>Slope | <br>0.04 |
| Hawick | 15 | Somewhat limited<br>Slope | <br>0.04 | Very limited<br>Cutbanks cave<br>Slope | <br>1.00<br>0.04 | Somewhat limited<br>Droughty<br>Slope | <br>0.91<br>0.04 |
| 804D2: | | | | | | | |
| Koronis, eroded | 40 | Very limited<br>Slope<br>Frost action | <br>1.00<br>0.50 | Very limited<br>Slope<br>Cutbanks cave | <br>1.00<br>0.10 | Very limited<br>Slope | <br>1.00 |
| Sunburg | 30 | Very limited<br>Slope<br>Frost action | <br>1.00<br>0.50 | Very limited<br>Slope<br>Cutbanks cave | <br>1.00<br>0.10 | Very limited<br>Slope | <br>1.00 |
| Hawick | 15 | Very limited<br>Slope | <br>1.00 | Very limited<br>Cutbanks cave<br>Slope | <br>1.00<br>1.00 | Very limited<br>Slope<br>Droughty | <br>1.00<br>0.91 |
| 804E: | | | | | | | |
| Koronis | 50 | Very limited<br>Slope<br>Frost action | <br>1.00<br>0.50 | Very limited<br>Slope<br>Cutbanks cave | <br>1.00<br>0.10 | Very limited<br>Slope | <br>1.00 |
| Sunburg | 20 | Very limited<br>Slope<br>Frost action | <br>1.00<br>0.50 | Very limited<br>Slope<br>Cutbanks cave | <br>1.00<br>0.10 | Very limited<br>Slope | <br>1.00 |
| Hawick | 15 | Very limited<br>Slope | <br>1.00 | Very limited<br>Slope<br>Cutbanks cave | <br>1.00<br>1.00 | Very limited<br>Slope<br>Droughty<br>Too sandy | <br>1.00<br>0.98<br>0.50 |
| 807D2: | | | | | | | |
| Koronis, eroded | 65 | Very limited<br>Slope<br>Frost action | <br>1.00<br>0.50 | Very limited<br>Slope<br>Cutbanks cave | <br>1.00<br>0.10 | Very limited<br>Slope | <br>1.00 |
| Sunburg | 20 | Very limited<br>Slope<br>Frost action | <br>1.00<br>0.50 | Very limited<br>Slope<br>Cutbanks cave | <br>1.00<br>0.10 | Very limited<br>Slope | <br>1.00 |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 875B: | | | | | | | |
| Estherville--------- | 60 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.12 |
| Hawick---------- | 30 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.91 |
| 875C: | | | | | | | |
| Hawick---------- | 60 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Slope | 0.04 | Cutbanks cave | 1.00 | Droughty | 0.91 |
| | | | | Slope | 0.04 | Slope | 0.04 |
| Estherville--------- | 25 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Slope | 0.04 | Cutbanks cave | 1.00 | Droughty | 0.12 |
| | | | | Slope | 0.04 | Slope | 0.04 |
| 896B: | | | | | | | |
| Kingsley---------- | 70 | Not limited | | Somewhat limited | | Not limited | |
| | | | | Cutbanks cave | 0.10 | | |
| Gotham---------- | 25 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.01 |
| 896C: | | | | | | | |
| Kingsley---------- | 70 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Slope | 0.04 | Cutbanks cave | 0.10 | Slope | 0.04 |
| | | | | Slope | 0.04 | | |
| Gotham---------- | 25 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Slope | 0.04 | Cutbanks cave | 1.00 | Slope | 0.04 |
| | | | | Slope | 0.04 | Droughty | 0.01 |
| 945C2: | | | | | | | |
| Lester, eroded------ | 50 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | Slope | 0.04 |
| | | Frost action | 0.50 | Slope | 0.04 | | |
| | | Slope | 0.04 | | | | |
| Storden, eroded----- | 30 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | Slope | 0.04 |
| | | Frost action | 0.50 | Slope | 0.04 | | |
| | | Slope | 0.04 | | | | |
| 945D2: | | | | | | | |
| Lester, eroded------ | 60 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | | |
| | | Frost action | 0.50 | | | | |
| Storden, eroded----- | 20 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | | |
| | | Frost action | 0.50 | | | | |
| 956: | | | | | | | |
| Canisteo---------- | 65 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 956: | | | | | | | |
| Glencoe, depressional | 25 | 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 | | | | |
| 978: | | | | | | | |
| Cordova | 60 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 0.50 | | | | |
| Rolfe, depressional | 30 | 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 | | |
| | | Shrink-swell | 1.00 | Too clayey | 0.02 | | |
| 1000: | | | | | | | |
| Arvilla, MAP >25 | 90 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.10 |
| 1015: | | | | | | | |
| Udipsamments (cut and fill land) | 100 | Not rated | | Not rated | | Not rated | |
| 1016: | | | | | | | |
| Udorthents, loamy | 100 | Not rated | | Not rated | | Not rated | |
| 1023C: | | | | | | | |
| Lester, eroded | 50 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | Slope | 0.04 |
| | | Frost action | 0.50 | Slope | 0.04 | | |
| | | Slope | 0.04 | | | | |
| Malardi | 35 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | Droughty | 0.06 |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 0.04 |
| 1023D: | | | | | | | |
| Lester, eroded | 45 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | | |
| | | Frost action | 0.50 | | | | |
| Malardi | 40 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Cutbanks cave | 1.00 | Slope | 1.00 |
| | | Frost action | 0.50 | Slope | 1.00 | Droughty | 0.32 |
| 1026B: | | | | | | | |
| Lizzie, moderately wet | 90 | Very limited | | Somewhat limited | | Not limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 0.78 | | |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | | |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1027: | | | | | | | |
| Udorthents, wet substratum | 100 | Not rated | | Not rated | | Not rated | |
| 1030: | | | | | | | |
| Pits, gravel | 80 | Not rated | | Not rated | | Not rated | |
| Udipsamments | 20 | Not rated | | Not rated | | Not rated | |
| 1035B: | | | | | | | |
| Crowfork | 90 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.02 |
| 1035C: | | | | | | | |
| Crowfork | 90 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Slope | 0.04 | Cutbanks cave | 1.00 | Slope | 0.04 |
| | | | | Slope | 0.04 | Droughty | 0.02 |
| 1035D: | | | | | | | |
| Crowfork | 85 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Cutbanks cave | 1.00 | Slope | 1.00 |
| | | | | Slope | 1.00 | Droughty | 0.02 |
| 1036B: | | | | | | | |
| Angus | 85 | Somewhat limited | | Somewhat limited | | Not limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | | |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | | |
| 1037: | | | | | | | |
| Eckvoll, MAP >25 | 90 | Very limited | | Very limited | | Somewhat limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.75 |
| | | Depth to saturated zone | 0.75 | Cutbanks cave | 1.00 | | |
| | | Shrink-swell | 0.50 | | | | |
| 1038A: | | | | | | | |
| Verndale, acid substratum | 90 | Somewhat limited | | Very limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |
| 1038B: | | | | | | | |
| Verndale, acid substratum | 85 | Somewhat limited | | Very limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |
| 1066B: | | | | | | | |
| Malardi | 65 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | Droughty | 0.06 |
| Hawick | 25 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.91 |
| 1066C: | | | | | | | |
| Malardi | 60 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | Droughty | 0.06 |
| | | Slope | 0.04 | Slope | 0.04 | Slope | 0.04 |
| Hawick | 25 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Slope | 0.16 | Cutbanks cave | 1.00 | Droughty | 0.91 |
| | | | | Slope | 0.16 | Slope | 0.16 |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1066E: | | | | | | | |
| Malardi | 55 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | Droughty | 0.32 |
| Hawick | 30 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.91 |
| 1072: | | | | | | | |
| Udorthents, shallow | 100 | Not rated | | Not rated | | Not rated | |
| 1075: | | | | | | | |
| Klossner, ponded | 40 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| Muskego, ponded | 40 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| 1080: | | | | | | | |
| Klossner, ponded | 30 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| Okoboji, ponded | 30 | 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 | | |
| | | Shrink-swell | 1.00 | | | | |
| Glencoe, ponded | 30 | 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 | | |
| | | Shrink-swell | 0.50 | | | | |
| 1087B: | | | | | | | |
| Angus | 55 | Somewhat limited | | Somewhat limited | | Not limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | | |
| | | Frost action | 0.50 | | | | |
| | | | | Cutbanks cave | 0.10 | | |
| Malardi | 30 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | Droughty | 0.06 |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets | | Shallow excavations | | Lawns and landscaping | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 1094B: | | | | | | | |
| Angus | 60 | Somewhat limited | | Somewhat limited | | Not limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | | |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | | |
| Cordova | 30 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 0.50 | | | | |
| 1099: | | | | | | | |
| Granby, very wet | 85 | 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 | 1.00 | Droughty | 0.13 |
| 1110: | | | | | | | |
| Isan | 90 | 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 | 0.50 | Cutbanks cave | 1.00 | Droughty | 0.03 |
| 1156: | | | | | | | |
| Cordova | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 0.50 | | | | |
| 1161: | | | | | | | |
| Barry | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 0.50 | | | | |
| 1163: | | | | | | | |
| Suckercreek, frequently flooded | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Flooding | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 1.00 | Depth to saturated zone | 1.00 |
| | | Flooding | 1.00 | Flooding | 0.80 | | |
| 1165: | | | | | | | |
| Lundlake, depressional | 90 | 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 | | |
| | | Shrink-swell | 0.50 | | | | |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1173: | | | | | | | |
| Muskego, frequently flooded | 45 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Flooding | 0.80 | | |
| | | Flooding | 1.00 | Cutbanks cave | 0.10 | | |
| Klossner, frequently flooded | 45 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Flooding | 0.80 | | |
| | | Flooding | 1.00 | Cutbanks cave | 0.10 | | |
| 1186: | | | | | | | |
| Forestcity | 75 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 0.50 | | | | |
| Lundlake, depressional | 20 | 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 | | |
| | | Shrink-swell | 0.50 | | | | |
| 1196B: | | | | | | | |
| Lida | 60 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.16 |
| | | | | | | Content of large stones | 0.01 |
| Two Inlets | 30 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.80 |
| 1196C: | | | | | | | |
| Lida | 55 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Slope | 0.37 | Cutbanks cave | 1.00 | Slope | 0.37 |
| | | | | Slope | 0.37 | Droughty | 0.16 |
| | | | | | | Content of large stones | 0.01 |
| Two Inlets | 30 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Slope | 0.37 | Cutbanks cave | 1.00 | Droughty | 0.80 |
| | | | | Slope | 0.37 | Slope | 0.37 |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets | | Shallow excavations | | Lawns and landscaping | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 1196E: | | | | | | | |
| Lida | 50 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.16 |
| | | | | | | Content of large stones | 0.01 |
| Two Inlets | 40 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.76 |
| 1197: | | | | | | | |
| Suckercreek, occasionally flooded | 80 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Flooding | 0.60 | Flooding | 0.60 |
| | | Flooding | 1.00 | Cutbanks cave | 0.10 | | |
| 1199: | | | | | | | |
| Klossner, ponded | 45 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| Lundlake, ponded | 45 | 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 | | |
| | | Shrink-swell | 0.50 | | | | |
| 1203: | | | | | | | |
| Muskego, ponded | 30 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| Blue Earth, ponded | 30 | 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 | Content of organic matter | 1.00 | | |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | | |
| Houghton, ponded | 30 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1204B: | | | | | | | |
| Reedslake | 85 | Somewhat limited | | Somewhat limited | | Not limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | | |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | | |
| 1207B: | | | | | | | |
| Reedslake | 60 | Somewhat limited | | Somewhat limited | | Not limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | | |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | | |
| Le Sueur | 25 | Very limited | | Very limited | | Somewhat limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.78 |
| | | Depth to saturated zone | 0.78 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 0.50 | | | | |
| 1213C: | | | | | | | |
| Cokato, eroded | 65 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | Slope | 0.04 |
| | | Slope | 0.04 | Slope | 0.04 | | |
| Storden | 20 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | Slope | 0.04 |
| | | Frost action | 0.50 | Slope | 0.04 | | |
| | | Slope | 0.04 | | | | |
| 1213D: | | | | | | | |
| Cokato, eroded | 60 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | | |
| Storden | 25 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | | |
| | | Frost action | 0.50 | | | | |
| 1220C: | | | | | | | |
| Cokato, eroded | 50 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | Slope | 0.04 |
| | | Slope | 0.04 | Slope | 0.04 | | |
| Storden | 20 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | Slope | 0.04 |
| | | Frost action | 0.50 | Slope | 0.04 | | |
| | | Slope | 0.04 | | | | |
| Hawick | 15 | Somewhat limited | | Very limited | | Very limited | |
| | | Slope | 0.04 | Cutbanks cave | 1.00 | Droughty | 1.00 |
| | | | | Slope | 0.04 | Slope | 0.04 |
| 1223: | | | | | | | |
| Sandberg, MAP >25 | 60 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Too sandy | 0.50 |
| | | | | | | Droughty | 0.41 |
| Arvilla, MAP >25 | 30 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.27 |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1224: | | | | | | | |
| Hubbard | 60 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.85 |
| | | | | | | Too sandy | 0.50 |
| Verndale, acid substratum | 30 | Somewhat limited | | Very limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |
| 1231: | | | | | | | |
| Hubbard | 60 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.50 |
| Mosford | 30 | Not limited | | Very limited | | Not limited | |
| | | | | Cutbanks cave | 1.00 | | |
| 1255: | | | | | | | |
| Elkriver, occasionally flooded | 80 | Very limited | | Very limited | | Somewhat limited | |
| | | Flooding | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.75 |
| | | Depth to saturated zone | 0.75 | Cutbanks cave | 1.00 | Flooding | 0.60 |
| | | Frost action | 0.50 | Flooding | 0.60 | | |
| 1256: | | | | | | | |
| Cantlin | 90 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.57 |
| | | | | Depth to saturated zone | 0.82 | | |
| 1257: | | | | | | | |
| Elkriver, rarely flooded | 55 | Somewhat limited | | Very limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |
| | | Flooding | 0.40 | Depth to saturated zone | 0.95 | | |
| Mosford, rarely flooded | 35 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Flooding | 0.40 | Cutbanks cave | 1.00 | Droughty | 0.01 |
| | | | | Depth to saturated zone | 0.95 | | |
| 1260B: | | | | | | | |
| Stonelake | 55 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.82 |
| | | | | | | Too sandy | 0.50 |
| Nebish, moderately wet | 30 | Somewhat limited | | Somewhat limited | | Not limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | | |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | | |
| 1260C: | | | | | | | |
| Stonelake | 55 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Slope | 0.04 | Cutbanks cave | 1.00 | Droughty | 0.88 |
| | | | | Slope | 0.04 | Slope | 0.04 |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1260C: | | | | | | | |
| Nebish | 30 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | Slope | 0.04 |
| | | Frost action | 0.50 | Slope | 0.04 | | |
| | | Slope | 0.04 | | | | |
| 1260E: | | | | | | | |
| Stonelake | 60 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Cutbanks cave | 1.00 | Slope | 1.00 |
| | | | | Slope | 1.00 | Droughty | 0.99 |
| | | | | | | Gravel content | 0.36 |
| | | | | | | Content of large stones | 0.01 |
| Nebish | 25 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | | |
| | | Frost action | 0.50 | | | | |
| 1288: | | | | | | | |
| Seelyeville, ponded | 45 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Content of organic matter | 1.00 | | |
| | | Frost action | 1.00 | Cutbanks cave | 0.10 | | |
| Markey, ponded | 45 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Cutbanks cave | 1.00 | | |
| | | Frost action | 1.00 | Content of organic matter | 1.00 | | |
| 1356: | | | | | | | |
| Water, miscellaneous | 100 | Not rated | | Not rated | | Not rated | |
| 1362B: | | | | | | | |
| Angus | 85 | Somewhat limited | | Somewhat limited | | Not limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | | |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | | |
| 1368: | | | | | | | |
| Southhaven | 90 | Somewhat limited | | Very limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |
| | | | | Depth to saturated zone | 0.82 | | |
| 1377B: | | | | | | | |
| Dorset | 70 | Somewhat limited | | Very limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |
| Two Inlets | 20 | Not limited | | Very limited | | Somewhat limited | |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.80 |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1377C: | | | | | | | |
| Dorset | 50 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | Slope | 0.04 |
| | | Slope | 0.04 | Slope | 0.04 | | |
| Two Inlets | 35 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Slope | 0.04 | Cutbanks cave | 1.00 | Droughty | 0.80 |
| | | | | Slope | 0.04 | Slope | 0.04 |
| 1377D: | | | | | | | |
| Dorset | 45 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Cutbanks cave | 1.00 | Slope | 1.00 |
| | | Frost action | 0.50 | Slope | 1.00 | Droughty | 0.17 |
| Two Inlets | 40 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Cutbanks cave | 1.00 | Slope | 1.00 |
| | | | | Slope | 1.00 | Droughty | 0.80 |
| 1377E: | | | | | | | |
| Dorset | 45 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | Droughty | 0.12 |
| Two Inlets | 45 | Very limited | | Very limited | | Very limited | |
| | | Slope | 1.00 | Slope | 1.00 | Slope | 1.00 |
| | | | | Cutbanks cave | 1.00 | Droughty | 0.76 |
| 1378: | | | | | | | |
| Fordum, occasionally flooded | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 1.00 | Flooding | 0.60 |
| | | Flooding | 1.00 | Flooding | 0.60 | | |
| 1379B: | | | | | | | |
| Dorset | 65 | Somewhat limited | | Very limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |
| Almora | 25 | Somewhat limited | | Very limited | | Not limited | |
| | | Frost action | 0.50 | Cutbanks cave | 1.00 | | |
| 1380A: | | | | | | | |
| Bygland, MAP >25 | 85 | Very limited | | Very limited | | Not limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Shrink-swell | 1.00 | Cutbanks cave | 0.10 | | |
| | | | | Too clayey | 0.04 | | |
| 1380B: | | | | | | | |
| Bygland, MAP >25 | 70 | Very limited | | Somewhat limited | | Not limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 0.95 | | |
| | | Shrink-swell | 1.00 | Cutbanks cave | 0.10 | | |
| | | | | Too clayey | 0.04 | | |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1380C: | | | | | | | |
| Bygland, MAP >25---- | 70 | Very limited | | Somewhat limited | | Somewhat limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 0.95 | Slope | 0.04 |
| | | Shrink-swell | 0.50 | Cutbanks cave | 0.10 | | |
| | | Slope | 0.04 | Too clayey | 0.04 | | |
| | | | | Slope | 0.04 | | |
| 1381: | | | | | | | |
| Lindaas, morainic--- | 80 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Too clayey | 0.12 | | |
| | | Shrink-swell | 1.00 | Cutbanks cave | 0.10 | | |
| 1383A: | | | | | | | |
| Shorewood, moderately wet----- | 95 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Too clayey | 0.15 | | |
| | | Shrink-swell | 1.00 | Cutbanks cave | 0.10 | | |
| 1388B: | | | | | | | |
| Terril, moderately wet---------- | 85 | Somewhat limited | | Somewhat limited | | Not limited | |
| | | Frost action | 0.50 | Depth to saturated zone | 0.78 | | |
| | | | | Cutbanks cave | 0.10 | | |
| 1406: | | | | | | | |
| Medo, ponded-------- | 30 | Very limited | | Very limited | | Not rated | |
| | | Ponding | 1.00 | Ponding | 1.00 | | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | | |
| | | Subsidence | 1.00 | Cutbanks cave | 1.00 | | |
| | | Frost action | 1.00 | Content of organic matter | 1.00 | | |
| | | Shrink-swell | 0.50 | | | | |
| Dassel, ponded------ | 30 | 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 | 1.00 | | |
| Biscay, ponded------ | 30 | 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 | 1.00 | | |
| | | Shrink-swell | 0.50 | | | | |
| 1408B: | | | | | | | |
| Angus---------- | 45 | Somewhat limited | | Somewhat limited | | Not limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | | |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | | |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets: Rating class and limiting features | Value | Shallow excavations: Rating class and limiting features | Value | Lawns and landscaping: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1408B: | | | | | | | |
| Kilkenny | 40 | Very limited | | Very limited | | Somewhat limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.56 |
| | | Depth to saturated zone | 0.56 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 0.50 | | | | |
| 1438B: | | | | | | | |
| Braham, moderately wet | 85 | Somewhat limited | | Very limited | | Not limited | |
| | | Shrink-swell | 0.50 | Cutbanks cave | 1.00 | | |
| | | | | Depth to saturated zone | 1.00 | | |
| 1443: | | | | | | | |
| Belleville | 85 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 1.00 | | |
| 1901B: | | | | | | | |
| Angus | 60 | Somewhat limited | | Somewhat limited | | Not limited | |
| | | Shrink-swell | 0.50 | Depth to saturated zone | 0.78 | | |
| | | Frost action | 0.50 | Cutbanks cave | 0.10 | | |
| Le Sueur | 30 | Very limited | | Very limited | | Somewhat limited | |
| | | Frost action | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 0.78 |
| | | Depth to saturated zone | 0.78 | Cutbanks cave | 0.10 | | |
| | | Shrink-swell | 0.50 | | | | |
| 1931: | | | | | | | |
| Essexville | 75 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 1.00 | | |
| 1942: | | | | | | | |
| Forada, depressional | 85 | 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 | 1.00 | | |
| 1946: | | | | | | | |
| Fordum, frequently flooded | 70 | Very limited | | Very limited | | Very limited | |
| | | Depth to saturated zone | 1.00 | Depth to saturated zone | 1.00 | Flooding | 1.00 |
| | | Frost action | 1.00 | Cutbanks cave | 1.00 | Depth to saturated zone | 1.00 |
| | | Flooding | 1.00 | Flooding | 0.80 | | |
| Winterfield, frequently flooded | 20 | Very limited | | Very limited | | Very limited | |
| | | Flooding | 1.00 | Depth to saturated zone | 1.00 | Flooding | 1.00 |
| | | Depth to saturated zone | 0.75 | Cutbanks cave | 1.00 | Depth to saturated zone | 0.75 |
| | | Frost action | 0.50 | Flooding | 0.80 | Droughty | 0.22 |

Table 14b.--Building Site Development--Continued

| Map symbol and soil name | Pct. of map unit | Local roads and streets | | Shallow excavations | | Lawns and landscaping | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 1975: | | | | | | | |
| Oylen | 90 | Somewhat limited<br>Frost action | 0.50 | Very limited<br>Cutbanks cave<br>Depth to saturated zone | 1.00<br>1.00 | Somewhat limited<br>Droughty | 0.01 |
| W: | | | | | | | |
| Water | 100 | Not rated | | Not rated | | Not rated | |

Table 15a.--Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table)

| Map symbol and soil name | Pct. of map unit | Potential source of gravel | | Potential source of sand | |
|---|---|---|---|---|---|
| | | Rating class | Value | Rating class | Value |
| 7A: | | | | | |
| Hubbard | 95 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.10 |
| | | Thickest layer | 0.00 | Bottom layer | 0.86 |
| 7B: | | | | | |
| Hubbard | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.10 |
| | | Thickest layer | 0.00 | Bottom layer | 0.86 |
| 7C: | | | | | |
| Hubbard | 80 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.51 |
| | | Thickest layer | 0.00 | Bottom layer | 0.58 |
| 8B: | | | | | |
| Sparta | 95 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.10 |
| | | Thickest layer | 0.00 | Bottom layer | 0.82 |
| 35: | | | | | |
| Blue Earth, depressional | 80 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 74B: | | | | | |
| Dickinson | 95 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.64 |
| 86: | | | | | |
| Canisteo | 80 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 106C2: | | | | | |
| Lester, eroded | 70 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 106D2: | | | | | |
| Lester, eroded | 80 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 106E: | | | | | |
| Lester | 80 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel: Rating class | Value | Potential source of sand: Rating class | Value |
|---|---|---|---|---|---|
| 109: | | | | | |
| Cordova | 90 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 114: | | | | | |
| Glencoe, depressional | 90 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 138: | | | | | |
| Lerdal | 80 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 158A: | | | | | |
| Zimmerman | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.28 |
| | | Thickest layer | 0.00 | Bottom layer | 0.36 |
| 158B: | | | | | |
| Zimmerman | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.28 |
| | | Thickest layer | 0.00 | Bottom layer | 0.36 |
| 158C: | | | | | |
| Zimmerman | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.28 |
| | | Thickest layer | 0.00 | Bottom layer | 0.36 |
| 158E: | | | | | |
| Zimmerman | 85 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.28 |
| | | Thickest layer | 0.00 | Bottom layer | 0.36 |
| 169C: | | | | | |
| Braham | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.08 |
| 181: | | | | | |
| Litchfield | 95 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.02 |
| | | Thickest layer | 0.00 | Thickest layer | 0.07 |
| 229: | | | | | |
| Waldorf | 90 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 231C: | | | | | |
| Lester | 80 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 231D: | | | | | |
| Lester | 80 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel | | Potential source of sand | |
|---|---|---|---|---|---|
| | | Rating class | Value | Rating class | Value |
| 235: | | | | | |
| Nessel | 85 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 239: | | | | | |
| Le Sueur | 80 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 247: | | | | | |
| Linder | 90 | Poor | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| | | Bottom layer | 0.00 | Bottom layer | 0.17 |
| 255: | | | | | |
| Mayer | 85 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| 256: | | | | | |
| Mazaska | 90 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 258B: | | | | | |
| Sandberg | 95 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.11 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| 258C: | | | | | |
| Sandberg | 90 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.11 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| 258E: | | | | | |
| Sandberg | 85 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.11 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| 260: | | | | | |
| Duelm | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.11 |
| | | Thickest layer | 0.00 | Bottom layer | 0.66 |
| 261: | | | | | |
| Isan, depressional | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.08 |
| | | Thickest layer | 0.00 | Bottom layer | 0.66 |
| 286B: | | | | | |
| Shorewood | 95 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 294A: | | | | | |
| Rasset | 90 | Poor | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.02 |
| | | Bottom layer | 0.00 | Bottom layer | 0.86 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel: Rating class | Value | Potential source of sand: Rating class | Value |
|---|---|---|---|---|---|
| 323: | | | | | |
| Shields | 95 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 327A: | | | | | |
| Dickman | 85 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.11 |
| | | Thickest layer | 0.00 | Bottom layer | 0.79 |
| 327B: | | | | | |
| Dickman | 85 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.11 |
| | | Thickest layer | 0.00 | Bottom layer | 0.79 |
| 375: | | | | | |
| Forada | 85 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| | | Bottom layer | 0.01 | Bottom layer | 0.54 |
| 392: | | | | | |
| Biscay | 90 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| | | Bottom layer | 0.08 | Bottom layer | 0.08 |
| 406: | | | | | |
| Dorset | 90 | Fair | | Fair | |
| | | Bottom layer | 0.08 | Thickest layer | 0.08 |
| | | Thickest layer | 0.08 | Bottom layer | 0.58 |
| 414: | | | | | |
| Hamel | 90 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 441: | | | | | |
| Almora | 90 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| | | Bottom layer | 0.16 | Bottom layer | 0.58 |
| 461B: | | | | | |
| Koronis | 85 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 461C2: | | | | | |
| Koronis, eroded | 80 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 461E: | | | | | |
| Koronis | 80 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 511: | | | | | |
| Marcellon, MAP <30-- | 85 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.03 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel: Rating class | Value | Potential source of sand: Rating class | Value |
|---|---|---|---|---|---|
| 523: | | | | | |
| Houghton, drained | 80 | Not rated | | Not rated | |
| 525: | | | | | |
| Muskego, surface drained | 75 | Not rated | | Not rated | |
| 539: | | | | | |
| Klossner, drained | 80 | Not rated | | Not rated | |
| 540: | | | | | |
| Seelyeville, surface drained | 80 | Not rated | | Not rated | |
| 543: | | | | | |
| Markey, surface drained | 80 | Not rated | | Not rated | |
| 548: | | | | | |
| Medo, drained | 80 | Not rated | | Not rated | |
| 603: | | | | | |
| Hanlon, occasionally flooded | 80 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.06 |
| 611D: | | | | | |
| Hawick | 85 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.03 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| 708: | | | | | |
| Rushlake | 85 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.51 |
| | | Bottom layer | 0.01 | Bottom layer | 0.57 |
| 740: | | | | | |
| Hamel | 70 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Glencoe, depressional | 20 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 768: | | | | | |
| Mosford | 85 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.69 |
| | | Thickest layer | 0.00 | Bottom layer | 0.79 |
| 771: | | | | | |
| Elkriver, rarely flooded | 85 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.91 |
| 783C2: | | | | | |
| Lester, eroded | 50 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel: Rating class | Value | Potential source of sand: Rating class | Value |
|---|---|---|---|---|---|
| 783C2: | | | | | |
| Kilkenny, eroded | 30 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 792: | | | | | |
| Fordum, frequently flooded | 90 | Fair | | Fair | |
| | | Bottom layer | 0.16 | Thickest layer | 0.01 |
| | | Thickest layer | 0.16 | Bottom layer | 0.86 |
| 799: | | | | | |
| Seelyeville, frequently flooded | 45 | Not rated | | Not rated | |
| Bowstring, frequently flooded | 45 | Not rated | | Not rated | |
| 804B: | | | | | |
| Koronis | 50 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.03 |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| Sunburg | 20 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.03 |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| Hawick | 15 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.03 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| 804C2: | | | | | |
| Koronis, eroded | 45 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.03 |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| Sunburg | 25 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.03 |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| Hawick | 15 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.03 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| 804D2: | | | | | |
| Koronis, eroded | 40 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.03 |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| Sunburg | 30 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.03 |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| Hawick | 15 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.03 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| 804E: | | | | | |
| Koronis | 50 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel: Rating class | Value | Potential source of sand: Rating class | Value |
|---|---|---|---|---|---|
| 804E: | | | | | |
| Sunburg | 20 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Hawick | 15 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.13 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| 807D2: | | | | | |
| Koronis, eroded | 65 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.03 |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| Sunburg | 20 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.03 |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| 875B: | | | | | |
| Estherville | 60 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| | | Bottom layer | 0.05 | Bottom layer | 0.69 |
| Hawick | 30 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.03 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| 875C: | | | | | |
| Hawick | 60 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.03 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| Estherville | 25 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| | | Bottom layer | 0.05 | Bottom layer | 0.69 |
| 896B: | | | | | |
| Kingsley | 70 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.03 |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| Gotham | 25 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.64 |
| | | Thickest layer | 0.00 | Bottom layer | 0.86 |
| 896C: | | | | | |
| Kingsley | 70 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.03 |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| Gotham | 25 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.64 |
| | | Thickest layer | 0.00 | Bottom layer | 0.86 |
| 945C2: | | | | | |
| Lester, eroded | 50 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Storden, eroded | 30 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel: Rating class | Value | Potential source of sand: Rating class | Value |
|---|---|---|---|---|---|
| 945D2: | | | | | |
| Lester, eroded------ | 60 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Storden, eroded----- | 20 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 956: | | | | | |
| Canisteo---------- | 65 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Glencoe, depressional------- | 25 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 978: | | | | | |
| Cordova---------- | 60 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Rolfe, depressional | 30 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1000: | | | | | |
| Arvilla, MAP >25---- | 90 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| | | Bottom layer | 0.12 | Bottom layer | 0.53 |
| 1015: | | | | | |
| Udipsamments (cut and fill land)----- | 100 | Not rated | | Not rated | |
| 1016: | | | | | |
| Udorthents, loamy--- | 100 | Not rated | | Not rated | |
| 1023C: | | | | | |
| Lester, eroded------ | 50 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Malardi---------- | 35 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.13 |
| | | Bottom layer | 0.05 | Bottom layer | 0.86 |
| 1023D: | | | | | |
| Lester, eroded------ | 45 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Malardi---------- | 40 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.03 |
| | | Bottom layer | 0.05 | Bottom layer | 0.86 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel: Rating class | Value | Potential source of sand: Rating class | Value |
|---|---|---|---|---|---|
| 1026B: | | | | | |
| Lizzie, moderately wet | 90 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1027: | | | | | |
| Udorthents, wet substratum | 100 | Not rated | | Not rated | |
| 1030: | | | | | |
| Pits, gravel | 80 | Not rated | | Not rated | |
| Udipsamments | 20 | Not rated | | Not rated | |
| 1035B: | | | | | |
| Crowfork | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.09 |
| | | Thickest layer | 0.00 | Bottom layer | 0.91 |
| 1035C: | | | | | |
| Crowfork | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.09 |
| | | Thickest layer | 0.00 | Bottom layer | 0.91 |
| 1035D: | | | | | |
| Crowfork | 85 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.09 |
| | | Thickest layer | 0.00 | Bottom layer | 0.91 |
| 1036B: | | | | | |
| Angus | 85 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1037: | | | | | |
| Eckvoll, MAP >25 | 90 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1038A: | | | | | |
| Verndale, acid substratum | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.03 |
| | | Thickest layer | 0.00 | Bottom layer | 0.86 |
| 1038B: | | | | | |
| Verndale, acid substratum | 85 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.03 |
| | | Thickest layer | 0.00 | Bottom layer | 0.86 |
| 1066B: | | | | | |
| Malardi | 65 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.13 |
| | | Bottom layer | 0.05 | Bottom layer | 0.86 |
| Hawick | 25 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.03 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel: Rating class | Value | Potential source of sand: Rating class | Value |
|---|---|---|---|---|---|
| 1066C: | | | | | |
| Malardi | 60 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.13 |
| | | Bottom layer | 0.05 | Bottom layer | 0.86 |
| Hawick | 25 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.03 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| 1066E: | | | | | |
| Malardi | 55 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.03 |
| | | Bottom layer | 0.05 | Bottom layer | 0.86 |
| Hawick | 30 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.03 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| 1072: | | | | | |
| Udorthents, shallow | 100 | Not rated | | Not rated | |
| 1075: | | | | | |
| Klossner, ponded | 40 | Not rated | | Not rated | |
| Muskego, ponded | 40 | Not rated | | Not rated | |
| 1080: | | | | | |
| Klossner, ponded | 30 | Not rated | | Not rated | |
| Okoboji, ponded | 30 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Glencoe, ponded | 30 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1087B: | | | | | |
| Angus | 55 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Malardi | 30 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.13 |
| | | Bottom layer | 0.05 | Bottom layer | 0.86 |
| 1094B: | | | | | |
| Angus | 60 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Cordova | 30 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1099: | | | | | |
| Granby, very wet | 85 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.02 |
| | | Thickest layer | 0.00 | Thickest layer | 0.07 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel | | Potential source of sand | |
|---|---|---|---|---|---|
| | | Rating class | Value | Rating class | Value |
| 1110: | | | | | |
| Isan | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.02 |
| | | Thickest layer | 0.00 | Bottom layer | 0.66 |
| 1156: | | | | | |
| Cordova | 85 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1161: | | | | | |
| Barry | 85 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.03 |
| 1163: | | | | | |
| Suckercreek, frequently flooded | 85 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.07 |
| 1165: | | | | | |
| Lundlake, depressional | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.03 |
| | | Thickest layer | 0.00 | Bottom layer | 0.03 |
| 1173: | | | | | |
| Muskego, frequently flooded | 45 | Not rated | | Not rated | |
| Klossner, frequently flooded | 45 | Not rated | | Not rated | |
| 1186: | | | | | |
| Forestcity | 75 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.03 |
| Lundlake, depressional | 20 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.03 |
| 1196B: | | | | | |
| Lida | 60 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.06 |
| | | Bottom layer | 0.12 | Bottom layer | 0.51 |
| Two Inlets | 30 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.13 |
| | | Bottom layer | 0.08 | Bottom layer | 0.91 |
| 1196C: | | | | | |
| Lida | 55 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.06 |
| | | Bottom layer | 0.12 | Bottom layer | 0.51 |
| Two Inlets | 30 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.13 |
| | | Bottom layer | 0.08 | Bottom layer | 0.91 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel: Rating class | Value | Potential source of sand: Rating class | Value |
|---|---|---|---|---|---|
| 1196E: | | | | | |
| Lida | 50 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.06 |
| | | Bottom layer | 0.12 | Bottom layer | 0.51 |
| Two Inlets | 40 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.13 |
| | | Bottom layer | 0.08 | Bottom layer | 0.91 |
| 1197: | | | | | |
| Suckercreek, occasionally flooded | 80 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.00 |
| 1199: | | | | | |
| Klossner, ponded | 45 | Not rated | | Not rated | |
| Lundlake, ponded | 45 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.03 |
| 1203: | | | | | |
| Muskego, ponded | 30 | Not rated | | Not rated | |
| Blue Earth, ponded | 30 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Houghton, ponded | 30 | Not rated | | Not rated | |
| 1204B: | | | | | |
| Reedslake | 85 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1207B: | | | | | |
| Reedslake | 60 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Le Sueur | 25 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1213C: | | | | | |
| Cokato, eroded | 65 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Storden | 20 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1213D: | | | | | |
| Cokato, eroded | 60 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel | | Potential source of sand | |
|---|---|---|---|---|---|
| | | Rating class | Value | Rating class | Value |
| 1213D: | | | | | |
| Storden | 25 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1220C: | | | | | |
| Cokato, eroded | 50 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Storden | 20 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Hawick | 15 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.03 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| 1223: | | | | | |
| Sandberg, MAP >25 | 60 | Fair | | Fair | |
| | | Thickest layer | 0.01 | Thickest layer | 0.51 |
| | | Bottom layer | 0.08 | Bottom layer | 0.58 |
| Arvilla, MAP >25 | 30 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.07 |
| | | Bottom layer | 0.12 | Bottom layer | 0.53 |
| 1224: | | | | | |
| Hubbard | 60 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.08 |
| | | Thickest layer | 0.00 | Bottom layer | 0.86 |
| Verndale, acid substratum | 30 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.69 |
| | | Thickest layer | 0.00 | Bottom layer | 0.86 |
| 1231: | | | | | |
| Hubbard | 60 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.10 |
| | | Thickest layer | 0.00 | Bottom layer | 0.86 |
| Mosford | 30 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.69 |
| | | Thickest layer | 0.00 | Bottom layer | 0.79 |
| 1255: | | | | | |
| Elkriver, occasionally flooded | 80 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.91 |
| 1256: | | | | | |
| Cantlin | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.08 |
| | | Thickest layer | 0.00 | Bottom layer | 0.30 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel: Rating class | Value | Potential source of sand: Rating class | Value |
|---|---|---|---|---|---|
| 1257: | | | | | |
| Elkriver, rarely flooded | 55 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.91 |
| Mosford, rarely flooded | 35 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.79 |
| 1260B: | | | | | |
| Stonelake | 55 | Fair | | Fair | |
| | | Bottom layer | 0.35 | Thickest layer | 0.10 |
| | | Thickest layer | 0.54 | Bottom layer | 0.82 |
| Nebish, moderately wet | 30 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1260C: | | | | | |
| Stonelake | 55 | Fair | | Fair | |
| | | Bottom layer | 0.35 | Bottom layer | 0.54 |
| | | Thickest layer | 0.54 | Thickest layer | 0.64 |
| Nebish | 30 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1260E: | | | | | |
| Stonelake | 60 | Fair | | Fair | |
| | | Bottom layer | 0.35 | Bottom layer | 0.54 |
| | | Thickest layer | 0.54 | Thickest layer | 0.64 |
| Nebish | 25 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1288: | | | | | |
| Seelyeville, ponded | 45 | Not rated | | Not rated | |
| Markey, ponded | 45 | Not rated | | Not rated | |
| 1356: | | | | | |
| Water, miscellaneous | 100 | Not rated | | Not rated | |
| 1362B: | | | | | |
| Angus | 85 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1368: | | | | | |
| Southhaven | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.86 |
| 1377B: | | | | | |
| Dorset | 70 | Fair | | Fair | |
| | | Bottom layer | 0.08 | Thickest layer | 0.08 |
| | | Thickest layer | 0.08 | Bottom layer | 0.58 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel: Rating class | Value | Potential source of sand: Rating class | Value |
|---|---|---|---|---|---|
| 1377B: | | | | | |
| Two Inlets | 20 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.13 |
| | | Bottom layer | 0.08 | Bottom layer | 0.91 |
| 1377C: | | | | | |
| Dorset | 50 | Fair | | Fair | |
| | | Bottom layer | 0.08 | Thickest layer | 0.08 |
| | | Thickest layer | 0.08 | Bottom layer | 0.58 |
| Two Inlets | 35 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.13 |
| | | Bottom layer | 0.08 | Bottom layer | 0.91 |
| 1377D: | | | | | |
| Dorset | 45 | Fair | | Fair | |
| | | Bottom layer | 0.08 | Thickest layer | 0.08 |
| | | Thickest layer | 0.08 | Bottom layer | 0.86 |
| Two Inlets | 40 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.13 |
| | | Bottom layer | 0.08 | Bottom layer | 0.91 |
| 1377E: | | | | | |
| Dorset | 45 | Fair | | Fair | |
| | | Bottom layer | 0.08 | Thickest layer | 0.08 |
| | | Thickest layer | 0.08 | Bottom layer | 0.86 |
| Two Inlets | 45 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.13 |
| | | Bottom layer | 0.08 | Bottom layer | 0.91 |
| 1378: | | | | | |
| Fordum, occasionally flooded | 85 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.06 |
| 1379B: | | | | | |
| Dorset | 65 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| | | Bottom layer | 0.08 | Bottom layer | 0.86 |
| Almora | 25 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| | | Bottom layer | 0.16 | Bottom layer | 0.58 |
| 1380A: | | | | | |
| Bygland, MAP >25 | 85 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1380B: | | | | | |
| Bygland, MAP >25 | 70 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1380C: | | | | | |
| Bygland, MAP >25 | 70 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel: Rating class | Value | Potential source of sand: Rating class | Value |
|---|---|---|---|---|---|
| 1381: | | | | | |
| Lindaas, morainic | 80 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1383A: | | | | | |
| Shorewood, moderately wet | 95 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1388B: | | | | | |
| Terril, moderately wet | 85 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1406: | | | | | |
| Medo, ponded | 30 | Not rated | | Not rated | |
| Dassel, ponded | 30 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Thickest layer | 0.00 |
| | | Thickest layer | 0.00 | Bottom layer | 0.09 |
| Biscay, ponded | 30 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| | | Bottom layer | 0.08 | Bottom layer | 0.08 |
| 1408B: | | | | | |
| Angus | 45 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Kilkenny | 40 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1438B: | | | | | |
| Braham, moderately wet | 85 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1443: | | | | | |
| Belleville | 85 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1901B: | | | | | |
| Angus | 60 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| Le Sueur | 30 | Poor | | Poor | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.00 |
| 1931: | | | | | |
| Essexville | 75 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.00 |
| | | Thickest layer | 0.00 | Thickest layer | 0.36 |

Table 15a.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of gravel | | Potential source of sand | |
|---|---|---|---|---|---|
| | | Rating class | Value | Rating class | Value |
| 1942: | | | | | |
| Forada, depressional | 85 | Fair | | Fair | |
| | | Thickest layer | 0.00 | Thickest layer | 0.04 |
| | | Bottom layer | 0.01 | Bottom layer | 0.54 |
| 1946: | | | | | |
| Fordum, frequently flooded | 70 | Fair | | Fair | |
| | | Bottom layer | 0.16 | Thickest layer | 0.01 |
| | | Thickest layer | 0.16 | Bottom layer | 0.86 |
| Winterfield, frequently flooded | 20 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.86 |
| | | Thickest layer | 0.00 | Thickest layer | 0.86 |
| 1975: | | | | | |
| Oylen | 90 | Poor | | Fair | |
| | | Bottom layer | 0.00 | Bottom layer | 0.58 |
| | | Thickest layer | 0.00 | Thickest layer | 0.72 |
| W: | | | | | |
| Water | 100 | Not rated | | Not rated | |

Table 15b.--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 | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 7A: | | | | | | | |
| Hubbard | 95 | Poor | | Good | | Fair | |
| | | Wind erosion | 0.00 | | | Too sandy | 0.01 |
| | | Too sandy | 0.01 | | | | |
| | | Low content of organic matter | 0.12 | | | | |
| | | Droughty | 0.81 | | | | |
| | | Too acid | 0.92 | | | | |
| 7B: | | | | | | | |
| Hubbard | 90 | Poor | | Good | | Fair | |
| | | Wind erosion | 0.00 | | | Too sandy | 0.01 |
| | | Too sandy | 0.01 | | | | |
| | | Low content of organic matter | 0.12 | | | | |
| | | Droughty | 0.77 | | | | |
| | | Too acid | 0.92 | | | | |
| 7C: | | | | | | | |
| Hubbard | 80 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Slope | 0.96 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Droughty | 0.60 | | | | |
| | | Too acid | 0.92 | | | | |
| 8B: | | | | | | | |
| Sparta | 95 | Poor | | Good | | Poor | |
| | | Wind erosion | 0.00 | | | Too sandy | 0.00 |
| | | Too sandy | 0.00 | | | | |
| | | Low content of organic matter | 0.12 | | | | |
| | | Droughty | 0.64 | | | | |
| | | Too acid | 0.92 | | | | |
| 35: | | | | | | | |
| Blue Earth, depressional | 80 | Fair | | Poor | | Poor | |
| | | Carbonate content | 0.80 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | | | Carbonate content | 0.80 |
| 74B: | | | | | | | |
| Dickinson | 95 | Fair | | Good | | Good | |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.84 | | | | |
| | | Droughty | 0.85 | | | | |
| 86: | | | | | | | |
| Canisteo | 80 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Carbonate content | 0.97 | | | Carbonate content | 0.97 |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 106C2: | | | | | | | |
| Lester, eroded------ | 70 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.88 | Shrink-swell | 0.97 | Slope | 0.96 |
| | | Too acid | 0.97 | | | | |
| | | Carbonate content | 0.97 | | | | |
| 106D2: | | | | | | | |
| Lester, eroded------ | 80 | Fair | | Fair | | Poor | |
| | | Low content of organic matter | 0.88 | Shrink-swell | 0.97 | Slope | 0.00 |
| | | Too acid | 0.97 | | | | |
| | | Carbonate content | 0.97 | | | | |
| 106E: | | | | | | | |
| Lester---------- | 80 | Fair | | Fair | | Poor | |
| | | Low content of organic matter | 0.88 | Slope | 0.32 | Slope | 0.00 |
| | | | | Shrink-swell | 0.98 | | |
| | | Too acid | 0.97 | | | | |
| | | Carbonate content | 0.97 | | | | |
| 109: | | | | | | | |
| Cordova---------- | 90 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Too clayey | 0.95 | Shrink-swell | 0.97 | Too clayey | 0.94 |
| 114: | | | | | | | |
| Glencoe, depressional------- | 90 | Good | | Poor | | Poor | |
| | | | | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | Low strength | 0.00 | | |
| | | | | Shrink-swell | 0.93 | | |
| 138: | | | | | | | |
| Lerdal---------- | 80 | Poor | | Fair | | Poor | |
| | | Too clayey | 0.00 | Depth to saturated zone | 0.12 | Too clayey | 0.00 |
| | | Low content of organic matter | 0.50 | | | Depth to saturated zone | 0.12 |
| | | | | Shrink-swell | 0.41 | | |
| | | Too acid | 0.92 | | | | |
| | | Carbonate content | 0.97 | | | | |
| | | Water erosion | 0.99 | | | | |
| 158A: | | | | | | | |
| Zimmerman---------- | 90 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | | |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.84 | | | | |
| 158B: | | | | | | | |
| Zimmerman---------- | 90 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | | |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.84 | | | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 158C: | | | | | | | |
| Zimmerman | 90 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Slope | 0.96 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.84 | | | | |
| 158E: | | | | | | | |
| Zimmerman | 85 | Poor | | Fair | | Poor | |
| | | Too sandy | 0.00 | Slope | 0.50 | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Slope | 0.00 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.84 | | | | |
| 169C: | | | | | | | |
| Braham | 90 | Poor | | Fair | | Fair | |
| | | Wind erosion | 0.00 | Shrink-swell | 0.99 | Too sandy | 0.30 |
| | | Low content of organic matter | 0.12 | | | Slope | 0.96 |
| | | Too sandy | 0.30 | | | | |
| | | Too acid | 0.95 | | | | |
| | | Water erosion | 0.99 | | | | |
| 181: | | | | | | | |
| Litchfield | 95 | Poor | | Fair | | Poor | |
| | | Too sandy | 0.00 | Depth to saturated zone | 0.06 | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Depth to saturated zone | 0.06 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.95 | | | | |
| 229: | | | | | | | |
| Waldorf | 90 | Fair | | Poor | | Poor | |
| | | Too clayey | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Carbonate content | 0.80 | | | | |
| | | Low content of organic matter | 0.08 | Shrink-swell | 0.19 | Too clayey | 0.12 |
| 231C: | | | | | | | |
| Lester | 80 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.88 | Shrink-swell | 0.91 | Slope | 0.96 |
| | | Too acid | 0.97 | | | | |
| 231D: | | | | | | | |
| Lester | 80 | Fair | | Fair | | Poor | |
| | | Low content of organic matter | 0.12 | Shrink-swell | 0.98 | Slope | 0.00 |
| | | Too acid | 0.97 | | | | |
| 235: | | | | | | | |
| Nessel | 85 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.89 | Depth to saturated zone | 0.89 |
| | | Too acid | 0.92 | Shrink-swell | 0.97 | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 239: | | | | | | | |
| Le Sueur | 80 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.12 | Depth to saturated zone | 0.12 |
| | | Too acid | 0.97 | Shrink-swell | 0.98 | | |
| | | Carbonate content | 0.97 | | | | |
| 247: | | | | | | | |
| Linder | 90 | Fair | | Fair | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.06 | Rock fragments | 0.00 |
| | | Too sandy | 0.44 | | | Depth to saturated zone | 0.06 |
| | | Carbonate content | 0.97 | | | Too sandy | 0.44 |
| | | Droughty | 0.97 | | | Hard to reclaim | 0.50 |
| | | | | | | Carbonate content | 0.97 |
| 255: | | | | | | | |
| Mayer | 85 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Carbonate content | 0.84 | | | Hard to reclaim | 0.68 |
| | | | | | | Carbonate content | 0.84 |
| 256: | | | | | | | |
| Mazaska | 90 | Poor | | Poor | | Poor | |
| | | Too clayey | 0.00 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Low content of organic matter | 0.12 | Shrink-swell | 0.56 | Too clayey | 0.00 |
| | | Too acid | 0.68 | | | | |
| | | Carbonate content | 0.97 | | | | |
| 258B: | | | | | | | |
| Sandberg | 95 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Rock fragments | 0.00 |
| | | Low content of organic matter | 0.12 | | | Hard to reclaim | 0.92 |
| | | Droughty | 0.38 | | | | |
| | | Too acid | 0.92 | | | | |
| 258C: | | | | | | | |
| Sandberg | 90 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Rock fragments | 0.00 |
| | | Low content of organic matter | 0.12 | | | Hard to reclaim | 0.92 |
| | | Droughty | 0.38 | | | Slope | 0.96 |
| | | Too acid | 0.92 | | | | |
| 258E: | | | | | | | |
| Sandberg | 85 | Poor | | Fair | | Poor | |
| | | Too sandy | 0.00 | Slope | 0.50 | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Slope | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Droughty | 0.38 | | | Hard to reclaim | 0.92 |
| | | Too acid | 0.92 | | | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 260: | | | | | | | |
| Duelm | 90 | Poor | | Fair | | Poor | |
| | | Wind erosion | 0.00 | Depth to saturated zone | 0.89 | Too sandy | 0.00 |
| | | Too sandy | 0.00 | | | Depth to saturated zone | 0.89 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Droughty | 0.93 | | | | |
| | | Too acid | 0.97 | | | | |
| 261: | | | | | | | |
| Isan, depressional | 90 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Too sandy | 0.30 | | | Too sandy | 0.30 |
| | | Droughty | 0.99 | | | | |
| 286B: | | | | | | | |
| Shorewood | 95 | Poor | | Fair | | Poor | |
| | | Too clayey | 0.00 | Depth to saturated zone | 0.14 | Too clayey | 0.00 |
| | | Too acid | 0.97 | Shrink-swell | 0.76 | Depth to saturated zone | 0.14 |
| 294A: | | | | | | | |
| Rasset | 90 | Fair | | Good | | Fair | |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.97 |
| | | Too acid | 0.97 | | | | |
| 323: | | | | | | | |
| Shields | 95 | Poor | | Poor | | Poor | |
| | | Too clayey | 0.00 | Depth to saturated zone | 0.00 | Too clayey | 0.00 |
| | | Low content of organic matter | 0.50 | Shrink-swell | 0.12 | Depth to saturated zone | 0.00 |
| | | Too acid | 0.92 | | | | |
| | | Water erosion | 0.99 | | | | |
| 327A: | | | | | | | |
| Dickman | 85 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.95 | | | | |
| | | Droughty | 0.98 | | | | |
| 327B: | | | | | | | |
| Dickman | 85 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.95 | | | | |
| | | Droughty | 0.98 | | | | |
| 375: | | | | | | | |
| Forada | 85 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 392: | | | | | | | |
| Biscay | 90 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | | | Hard to reclaim | 0.68 |
| 406: | | | | | | | |
| Dorset | 90 | Fair | | Good | | Poor | |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Too sandy | 0.30 | | | Too sandy | 0.30 |
| | | Droughty | 0.91 | | | Hard to reclaim | 0.50 |
| | | Too acid | 0.92 | | | | |
| 414: | | | | | | | |
| Hamel | 90 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | Shrink-swell | 0.99 | | |
| 441: | | | | | | | |
| Almora | 90 | Fair | | Good | | Fair | |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.41 |
| | | Too acid | 0.95 | | | Hard to reclaim | 0.61 |
| | | Carbonate content | 0.97 | | | | |
| 461B: | | | | | | | |
| Koronis | 85 | Fair | | Good | | Fair | |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.97 |
| | | Too acid | 0.95 | | | | |
| 461C2: | | | | | | | |
| Koronis, eroded | 80 | Fair | | Good | | Fair | |
| | | Low content of organic matter | 0.12 | | | Slope | 0.96 |
| | | Too acid | 0.95 | | | Rock fragments | 0.97 |
| 461E: | | | | | | | |
| Koronis | 80 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Slope | 0.00 | Slope | 0.00 |
| | | Too acid | 0.95 | | | Rock fragments | 0.97 |
| 511: | | | | | | | |
| Marcellon, MAP <30 | 85 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.14 | Depth to saturated zone | 0.14 |
| | | Too acid | 0.92 | | | Rock fragments | 0.88 |
| 523: | | | | | | | |
| Houghton, drained | 80 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| 525: | | | | | | | |
| Muskego, surface drained | 75 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 539: | | | | | | | |
| Klossner, drained | 80 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| 540: | | | | | | | |
| Seelyeville, surface drained | 80 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| 543: | | | | | | | |
| Markey, surface drained | 80 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| 548: | | | | | | | |
| Medo, drained | 80 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| 603: | | | | | | | |
| Hanlon, occasionally flooded | 80 | Good | | Fair | | Fair | |
| | | | | Depth to saturated zone | 0.89 | Depth to saturated zone | 0.89 |
| 611D: | | | | | | | |
| Hawick | 85 | Poor | | Fair | | Poor | |
| | | Too sandy | 0.00 | Slope | 0.82 | Too sandy | 0.00 |
| | | Droughty | 0.00 | | | Slope | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | | | | | Hard to reclaim | 0.68 |
| 708: | | | | | | | |
| Rushlake | 85 | Poor | | Fair | | Poor | |
| | | Too sandy | 0.00 | Depth to saturated zone | 0.53 | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Rock fragments | 0.00 |
| | | Low content of organic matter | 0.12 | | | Depth to saturated zone | 0.53 |
| | | Droughty | 0.72 | | | Hard to reclaim | 0.92 |
| 740: | | | | | | | |
| Hamel | 70 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | Shrink-swell | 0.99 | | |
| Glencoe, depressional | 20 | Good | | Poor | | Poor | |
| | | | | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | Low strength | 0.00 | | |
| | | | | Shrink-swell | 0.93 | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 768: | | | | | | | |
| Mosford | 85 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.97 | | | | |
| 771: | | | | | | | |
| Elkriver, rarely flooded | 85 | Fair | | Good | | Good | |
| | | Low content of organic matter | 0.05 | | | | |
| | | Too acid | 0.61 | | | | |
| 783C2: | | | | | | | |
| Lester, eroded | 50 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.88 | Shrink-swell | 0.97 | Slope | 0.96 |
| | | Too acid | 0.97 | | | | |
| | | Carbonate content | 0.97 | | | | |
| Kilkenny, eroded | 30 | Poor | | Fair | | Poor | |
| | | Too clayey | 0.00 | Depth to saturated zone | 0.89 | Too clayey | 0.00 |
| | | Low content of organic matter | 0.50 | Shrink-swell | 0.91 | Depth to saturated zone | 0.89 |
| | | Too acid | 0.68 | | | Slope | 0.96 |
| 792: | | | | | | | |
| Fordum, frequently flooded | 90 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.50 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Too acid | 0.92 | | | Rock fragments | 0.00 |
| | | Water erosion | 0.99 | | | Hard to reclaim | 0.50 |
| 799: | | | | | | | |
| Seelyeville, frequently flooded | 45 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| Bowstring, frequently flooded | 45 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| 804B: | | | | | | | |
| Koronis | 50 | Fair | | Good | | Fair | |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.97 |
| Sunburg | 20 | Fair | | Good | | Fair | |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.97 |
| Hawick | 15 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Droughty | 0.26 | | | Hard to reclaim | 0.68 |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 804C2: | | | | | | | |
| Koronis, eroded | 45 | Fair | | Good | | Fair | |
| | | Low content of organic matter | 0.12 | | | Slope | 0.96 |
| | | | | | | Rock fragments | 0.97 |
| Sunburg | 25 | Fair | | Good | | Fair | |
| | | Low content of organic matter | 0.12 | | | Slope | 0.96 |
| | | | | | | Rock fragments | 0.97 |
| Hawick | 15 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | | | | | Hard to reclaim | 0.68 |
| | | Droughty | 0.26 | | | Slope | 0.96 |
| 804D2: | | | | | | | |
| Koronis, eroded | 40 | Fair | | Good | | Poor | |
| | | Low content of organic matter | 0.12 | | | Slope | 0.00 |
| | | | | | | Rock fragments | 0.97 |
| Sunburg | 30 | Fair | | Good | | Poor | |
| | | Low content of organic matter | 0.12 | | | Slope | 0.00 |
| | | | | | | Rock fragments | 0.97 |
| Hawick | 15 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Slope | 0.00 |
| | | | | | | Rock fragments | 0.00 |
| | | Droughty | 0.26 | | | Hard to reclaim | 0.68 |
| 804E: | | | | | | | |
| Koronis | 50 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Slope | 0.00 | Slope | 0.00 |
| | | | | | | Rock fragments | 0.97 |
| Sunburg | 20 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Slope | 0.00 | Slope | 0.00 |
| | | | | | | Rock fragments | 0.97 |
| Hawick | 15 | Poor | | Poor | | Poor | |
| | | Too sandy | 0.00 | Slope | 0.00 | Slope | 0.00 |
| | | Droughty | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | | | | | Hard to reclaim | 0.68 |
| 807D2: | | | | | | | |
| Koronis, eroded | 65 | Fair | | Good | | Poor | |
| | | Low content of organic matter | 0.12 | | | Slope | 0.00 |
| | | | | | | Rock fragments | 0.97 |
| Sunburg | 20 | Fair | | Good | | Poor | |
| | | Low content of organic matter | 0.12 | | | Slope | 0.00 |
| | | | | | | Rock fragments | 0.97 |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 875B: | | | | | | | |
| Estherville--------- | 60 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Droughty | 0.30 | | | Hard to reclaim | 0.82 |
| Hawick---------- | 30 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Droughty | 0.26 | | | Hard to reclaim | 0.68 |
| 875C: | | | | | | | |
| Hawick---------- | 60 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Droughty | 0.26 | | | Hard to reclaim | 0.68 |
| | | | | | | Slope | 0.96 |
| Estherville--------- | 25 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Droughty | 0.30 | | | Hard to reclaim | 0.82 |
| | | | | | | Slope | 0.96 |
| 896B: | | | | | | | |
| Kingsley---------- | 70 | Fair | | Good | | Fair | |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.88 |
| | | Too acid | 0.92 | | | | |
| Gotham---------- | 25 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Rock fragments | 0.97 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.97 | | | | |
| 896C: | | | | | | | |
| Kingsley---------- | 70 | Fair | | Good | | Fair | |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.88 |
| | | | | | | Slope | 0.96 |
| | | Too acid | 0.92 | | | | |
| Gotham---------- | 25 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Slope | 0.96 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.97 |
| | | Too acid | 0.97 | | | | |
| 945C2: | | | | | | | |
| Lester, eroded------ | 50 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.88 | Shrink-swell | 0.97 | Slope | 0.96 |
| | | Too acid | 0.97 | | | | |
| | | Carbonate content | 0.97 | | | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 945C2: | | | | | | | |
| Storden, eroded----- | 30 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.50 | Shrink-swell | 0.90 | Carbonate content | 0.80 |
| | | Carbonate content | 0.80 | | | Slope | 0.96 |
| | | Water erosion | 0.99 | | | | |
| 945D2: | | | | | | | |
| Lester, eroded------ | 60 | Fair | | Fair | | Poor | |
| | | Low content of organic matter | 0.88 | Shrink-swell | 0.97 | Slope | 0.00 |
| | | Too acid | 0.97 | | | | |
| | | Carbonate content | 0.97 | | | | |
| Storden, eroded----- | 20 | Fair | | Fair | | Poor | |
| | | Low content of organic matter | 0.50 | Shrink-swell | 0.90 | Slope | 0.00 |
| | | Carbonate content | 0.80 | | | Carbonate content | 0.80 |
| | | Water erosion | 0.99 | | | | |
| 956: | | | | | | | |
| Canisteo---------- | 65 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Carbonate content | 0.97 | | | Carbonate content | 0.97 |
| Glencoe, depressional------- | 25 | Good | | Poor | | Poor | |
| | | | | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | Low strength | 0.00 | | |
| | | | | Shrink-swell | 0.93 | | |
| 978: | | | | | | | |
| Cordova---------- | 60 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Too clayey | 0.95 | Shrink-swell | 0.97 | Too clayey | 0.94 |
| Rolfe, depressional | 30 | Poor | | Poor | | Poor | |
| | | Too clayey | 0.00 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Low content of organic matter | 0.50 | Shrink-swell | 0.87 | Too clayey | 0.00 |
| | | Too acid | 0.95 | | | | |
| | | Water erosion | 0.99 | | | | |
| 1000: | | | | | | | |
| Arvilla, MAP >25---- | 90 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Droughty | 0.87 | | | Hard to reclaim | 0.50 |
| 1015: | | | | | | | |
| Udipsamments (cut and fill land)----- | 100 | Not rated | | Not rated | | Not rated | |
| 1016: | | | | | | | |
| Udorthents, loamy--- | 100 | Not rated | | Not rated | | Not rated | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1023C: | | | | | | | |
| Lester, eroded------ | 50 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.88 | Shrink-swell | 0.97 | Slope | 0.96 |
| | | Too acid | 0.97 | | | | |
| | | Carbonate content | 0.97 | | | | |
| Malardi---------- | 35 | Fair | | Good | | Fair | |
| | | Too sandy | 0.03 | | | Too sandy | 0.03 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.28 |
| | | | | | | Hard to reclaim | 0.92 |
| | | Droughty | 0.75 | | | Slope | 0.96 |
| 1023D: | | | | | | | |
| Lester, eroded------ | 45 | Fair | | Fair | | Poor | |
| | | Low content of organic matter | 0.88 | Shrink-swell | 0.97 | Slope | 0.00 |
| | | Too acid | 0.97 | | | | |
| | | Carbonate content | 0.97 | | | | |
| Malardi---------- | 40 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Slope | 0.00 |
| | | | | | | Rock fragments | 0.00 |
| | | Droughty | 0.48 | | | Hard to reclaim | 0.92 |
| 1026B: | | | | | | | |
| Lizzie, moderately wet---------- | 90 | Fair | | Fair | | Good | |
| | | Low content of organic matter | 0.12 | | | | |
| | | Carbonate content | 0.74 | | | | |
| | | Too acid | 0.95 | | | | |
| | | Water erosion | 0.99 | | | | |
| 1027: | | | | | | | |
| Udorthents, wet substratum--------- | 100 | Not rated | | Not rated | | Not rated | |
| 1030: | | | | | | | |
| Pits, gravel-------- | 80 | Not rated | | Not rated | | Not rated | |
| Udipsamments-------- | 20 | Not rated | | Not rated | | Not rated | |
| 1035B: | | | | | | | |
| Crowfork---------- | 90 | Poor | | Good | | Fair | |
| | | Wind erosion | 0.00 | | | Too sandy | 0.10 |
| | | Too sandy | 0.10 | | | Rock fragments | 0.97 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.84 | | | | |
| 1035C: | | | | | | | |
| Crowfork---------- | 90 | Poor | | Good | | Fair | |
| | | Wind erosion | 0.00 | | | Too sandy | 0.10 |
| | | Too sandy | 0.10 | | | Slope | 0.96 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.97 |
| | | Too acid | 0.84 | | | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1035D: | | | | | | | |
| Crowfork | 85 | Poor | | Good | | Poor | |
| | | Wind erosion | 0.00 | | | Slope | 0.00 |
| | | Too sandy | 0.10 | | | Too sandy | 0.10 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.97 |
| | | Too acid | 0.84 | | | | |
| 1036B: | | | | | | | |
| Angus | 85 | Fair | | Fair | | Good | |
| | | Low content of organic matter | 0.88 | Shrink-swell | 0.97 | | |
| | | Too acid | 0.97 | | | | |
| 1037: | | | | | | | |
| Eckvoll, MAP >25 | 90 | Poor | | Fair | | Fair | |
| | | Wind erosion | 0.00 | Depth to saturated zone | 0.14 | Depth to saturated zone | 0.14 |
| | | Low content of organic matter | 0.12 | Shrink-swell | 0.98 | | |
| | | Too acid | 0.97 | | | | |
| | | Water erosion | 0.99 | | | | |
| 1038A: | | | | | | | |
| Verndale, acid substratum | 90 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.97 |
| | | Too acid | 0.68 | | | | |
| | | Droughty | 0.98 | | | | |
| 1038B: | | | | | | | |
| Verndale, acid substratum | 85 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.97 |
| | | Too acid | 0.68 | | | | |
| | | Droughty | 0.98 | | | | |
| 1066B: | | | | | | | |
| Malardi | 65 | Fair | | Good | | Fair | |
| | | Too sandy | 0.03 | | | Too sandy | 0.03 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.28 |
| | | Droughty | 0.75 | | | Hard to reclaim | 0.92 |
| Hawick | 25 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Droughty | 0.26 | | | Hard to reclaim | 0.68 |
| 1066C: | | | | | | | |
| Malardi | 60 | Fair | | Good | | Fair | |
| | | Too sandy | 0.03 | | | Too sandy | 0.03 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.28 |
| | | Droughty | 0.75 | | | Hard to reclaim | 0.92 |
| | | | | | | Slope | 0.96 |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1066C: | | | | | | | |
| Hawick | 25 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | | | | | Hard to reclaim | 0.68 |
| | | Droughty | 0.26 | | | Slope | 0.84 |
| 1066E: | | | | | | | |
| Malardi | 55 | Poor | | Poor | | Poor | |
| | | Too sandy | 0.00 | Slope | 0.00 | Slope | 0.00 |
| | | Low content of organic matter | 0.12 | | | Too sandy | 0.00 |
| | | | | | | Rock fragments | 0.00 |
| | | Droughty | 0.48 | | | Hard to reclaim | 0.92 |
| Hawick | 30 | Poor | | Poor | | Poor | |
| | | Too sandy | 0.00 | Slope | 0.00 | Slope | 0.00 |
| | | Low content of organic matter | 0.12 | | | Too sandy | 0.00 |
| | | | | | | Rock fragments | 0.00 |
| | | Droughty | 0.26 | | | Hard to reclaim | 0.68 |
| 1072: | | | | | | | |
| Udorthents, shallow | 100 | Not rated | | Not rated | | Not rated | |
| 1075: | | | | | | | |
| Klossner, ponded | 40 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| Muskego, ponded | 40 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| 1080: | | | | | | | |
| Klossner, ponded | 30 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| Okoboji, ponded | 30 | Fair | | Poor | | Poor | |
| | | Too clayey | 0.08 | Depth to saturated zone | 0.00 | Depth to saturated zone | |
| | | Water erosion | 0.99 | | | | |
| | | | | Shrink-swell | 0.12 | Too clayey | 0.08 |
| Glencoe, ponded | 30 | Good | | Poor | | Poor | |
| | | | | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | Shrink-swell | 0.93 | | |
| 1087B: | | | | | | | |
| Angus | 55 | Fair | | Fair | | Good | |
| | | Low content of organic matter | 0.12 | Shrink-swell | 0.99 | | |
| | | Too acid | 0.97 | | | | |
| | | Water erosion | 0.99 | | | | |
| Malardi | 30 | Fair | | Good | | Fair | |
| | | Too sandy | 0.03 | | | Too sandy | 0.03 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.28 |
| | | | | | | Hard to reclaim | 0.92 |
| | | Droughty | 0.75 | | | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1094B: | | | | | | | |
| Angus | 60 | Fair | | Fair | | Good | |
| | | Low content of organic matter | 0.12 | Shrink-swell | 0.99 | | |
| | | Too acid | 0.97 | | | | |
| | | Water erosion | 0.99 | | | | |
| Cordova | 30 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Too acid | 0.84 | Shrink-swell | 0.99 | Too clayey | 0.94 |
| | | Too clayey | 0.95 | | | | |
| 1099: | | | | | | | |
| Granby, very wet | 85 | Poor | | Poor | | Poor | |
| | | Wind erosion | 0.00 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Low content of organic matter | 0.00 | | | Too sandy | 0.36 |
| | | Too sandy | 0.36 | | | | |
| | | Droughty | 0.77 | | | | |
| 1110: | | | | | | | |
| Isan | 90 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Droughty | 0.99 | | | | |
| 1156: | | | | | | | |
| Cordova | 85 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Too acid | 0.84 | Shrink-swell | 0.99 | Too clayey | 0.94 |
| | | Too clayey | 0.95 | | | | |
| 1161: | | | | | | | |
| Barry | 85 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | | | Rock fragments | 0.99 |
| 1163: | | | | | | | |
| Suckercreek, frequently flooded | 85 | Good | | Poor | | Poor | |
| | | | | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| 1165: | | | | | | | |
| Lundlake, depressional | 90 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| 1173: | | | | | | | |
| Muskego, frequently flooded | 45 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1173: | | | | | | | |
| Klossner, frequently flooded | 45 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| 1186: | | | | | | | |
| Forestcity | 75 | Good | | Poor | | Poor | |
| | | | | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | Shrink-swell | 0.97 | | |
| Lundlake, depressional | 20 | Good | | Poor | | Poor | |
| | | | | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | Shrink-swell | 0.97 | | |
| 1196B: | | | | | | | |
| Lida | 60 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Droughty | 0.82 | | | Hard to reclaim | 0.82 |
| Two Inlets | 30 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Rock fragments | 0.00 |
| | | Low content of organic matter | 0.12 | | | Hard to reclaim | 0.50 |
| | | | | | | Carbonate content | 0.97 |
| | | Droughty | 0.17 | | | | |
| | | Too acid | 0.95 | | | | |
| | | Carbonate content | 0.97 | | | | |
| 1196C: | | | | | | | |
| Lida | 55 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | | | | | Slope | 0.63 |
| | | Droughty | 0.82 | | | Hard to reclaim | 0.82 |
| Two Inlets | 30 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Rock fragments | 0.00 |
| | | Low content of organic matter | 0.12 | | | Hard to reclaim | 0.50 |
| | | | | | | Slope | 0.63 |
| | | Droughty | 0.17 | | | Carbonate content | 0.97 |
| | | Too acid | 0.95 | | | | |
| | | Carbonate content | 0.97 | | | | |
| 1196E: | | | | | | | |
| Lida | 50 | Poor | | Fair | | Poor | |
| | | Too sandy | 0.00 | Slope | 0.02 | Slope | 0.00 |
| | | Low content of organic matter | 0.12 | | | Too sandy | 0.00 |
| | | | | | | Rock fragments | 0.00 |
| | | Droughty | 0.82 | | | Hard to reclaim | 0.82 |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1196E: | | | | | | | |
| Two Inlets | 40 | Poor | | Fair | | Poor | |
| | | Too sandy | 0.00 | Slope | 0.02 | Slope | 0.00 |
| | | Wind erosion | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | | | | | Hard to reclaim | 0.50 |
| | | Droughty | 0.20 | | | Carbonate content | 0.97 |
| | | Too acid | 0.95 | | | | |
| | | Carbonate content | 0.97 | | | | |
| 1197: | | | | | | | |
| Suckercreek, occasionally flooded | 80 | Good | | Poor | | Poor | |
| | | | | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| 1199: | | | | | | | |
| Klossner, ponded | 45 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| Lundlake, ponded | 45 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| 1203: | | | | | | | |
| Muskego, ponded | 30 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| Blue Earth, ponded | 30 | Fair | | Poor | | Poor | |
| | | Carbonate content | 0.80 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | Shrink-swell | 0.95 | Content of organic matter | 0.94 |
| Houghton, ponded | 30 | Not rated | | Not rated | | Not rated | |
| 1204B: | | | | | | | |
| Reedslake | 85 | Fair | | Fair | | Good | |
| | | Low content of organic matter | 0.12 | No shrink-swell limitation | 0.99 | | |
| | | Carbonate content | 0.97 | | | | |
| 1207B: | | | | | | | |
| Reedslake | 60 | Fair | | Fair | | Good | |
| | | Low content of organic matter | 0.12 | No shrink-swell limitation | 0.99 | | |
| | | Carbonate content | 0.97 | | | | |
| Le Sueur | 25 | Fair | | Fair | | Fair | |
| | | Too acid | 0.92 | Depth to saturated zone | 0.12 | Depth to saturated zone | 0.12 |
| | | Carbonate content | 0.97 | Shrink-swell | 0.99 | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1213C: | | | | | | | |
| Cokato, eroded------ | 65 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.12 | No shrink-swell limitation | 0.99 | Slope | 0.96 |
| | | Carbonate content | 0.97 | | | Carbonate content | 0.97 |
| | | Water erosion | 0.99 | | | | |
| Storden---------- | 20 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.50 | Shrink-swell | 0.90 | Carbonate content | 0.80 |
| | | Carbonate content | 0.80 | | | Slope | 0.96 |
| | | Water erosion | 0.99 | | | | |
| 1213D: | | | | | | | |
| Cokato, eroded------ | 60 | Fair | | Good | | Poor | |
| | | Low content of organic matter | 0.12 | | | Slope | 0.00 |
| | | Carbonate content | 0.97 | | | Carbonate content | 0.97 |
| | | Water erosion | 0.99 | | | | |
| Storden---------- | 25 | Fair | | Fair | | Poor | |
| | | Low content of organic matter | 0.50 | Shrink-swell | 0.90 | Slope | 0.00 |
| | | Carbonate content | 0.80 | | | Carbonate content | 0.80 |
| | | Water erosion | 0.99 | | | | |
| 1220C: | | | | | | | |
| Cokato, eroded------ | 50 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.12 | No shrink-swell limitation | 0.99 | Slope | 0.96 |
| | | Carbonate content | 0.97 | | | Carbonate content | 0.97 |
| | | Water erosion | 0.99 | | | | |
| Storden---------- | 20 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.50 | Shrink-swell | 0.90 | Carbonate content | 0.80 |
| | | Carbonate content | 0.80 | | | Slope | 0.96 |
| | | Water erosion | 0.99 | | | | |
| Hawick---------- | 15 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Droughty | 0.00 | | | Rock fragments | 0.00 |
| | | Low content of organic matter | 0.12 | | | Hard to reclaim | 0.68 |
| | | | | | | Slope | 0.96 |
| 1223: | | | | | | | |
| Sandberg, MAP >25--- | 60 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Rock fragments | 0.03 |
| | | Low content of organic matter | 0.12 | | | Hard to reclaim | 0.92 |
| | | Droughty | 0.66 | | | | |
| | | Too acid | 0.92 | | | | |
| Arvilla, MAP >25---- | 30 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Droughty | 0.75 | | | Hard to reclaim | 0.50 |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1224: | | | | | | | |
| Hubbard | 60 | Poor | | Good | | Fair | |
| | | Wind erosion | 0.00 | | | Too sandy | 0.16 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too sandy | 0.16 | | | | |
| | | Droughty | 0.58 | | | | |
| | | Too acid | 0.92 | | | | |
| Verndale, acid substratum | 30 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.68 | | | | |
| 1231: | | | | | | | |
| Hubbard | 60 | Poor | | Good | | Fair | |
| | | Wind erosion | 0.00 | | | Too sandy | 0.01 |
| | | Too sandy | 0.01 | | | | |
| | | Low content of organic matter | 0.12 | | | | |
| | | Droughty | 0.81 | | | | |
| | | Too acid | 0.92 | | | | |
| Mosford | 30 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.97 | | | | |
| 1255: | | | | | | | |
| Elkriver, occasionally flooded | 80 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.05 | Depth to saturated zone | 0.14 | Depth to saturated zone | 0.14 |
| | | Too acid | 0.61 | | | | |
| 1256: | | | | | | | |
| Cantlin | 90 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | | |
| | | Low content of organic matter | 0.12 | | | | |
| | | Too acid | 0.84 | | | | |
| | | Droughty | 0.92 | | | | |
| 1257: | | | | | | | |
| Elkriver, rarely flooded | 55 | Fair | | Good | | Good | |
| | | Low content of organic matter | 0.05 | | | | |
| | | Too acid | 0.61 | | | | |
| Mosford, rarely flooded | 35 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.12 |
| | | Too acid | 0.97 | | | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1260B: | | | | | | | |
| Stonelake | 55 | Poor | | Good | | Poor | |
| | | Wind erosion | 0.00 | | | Rock fragments | 0.00 |
| | | Low content of organic matter | 0.12 | | | Hard to reclaim | 0.00 |
| | | | | | | Too sandy | 0.36 |
| | | Droughty | 0.35 | | | | |
| | | Too sandy | 0.36 | | | | |
| | | Too acid | 0.92 | | | | |
| Nebish, moderately wet | 30 | Fair | | Fair | | Good | |
| | | Low content of organic matter | 0.88 | Shrink-swell | 0.98 | | |
| | | Too acid | 0.92 | | | | |
| 1260C: | | | | | | | |
| Stonelake | 55 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Rock fragments | 0.00 |
| | | Low content of organic matter | 0.12 | | | Hard to reclaim | 0.00 |
| | | | | | | Slope | 0.96 |
| | | Droughty | 0.32 | | | | |
| | | Too acid | 0.92 | | | | |
| Nebish | 30 | Fair | | Good | | Fair | |
| | | Low content of organic matter | 0.12 | | | Slope | 0.96 |
| | | Too acid | 0.92 | | | | |
| 1260E: | | | | | | | |
| Stonelake | 60 | Poor | | Fair | | Poor | |
| | | Too sandy | 0.00 | Slope | 0.82 | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Slope | 0.00 |
| | | | | | | Rock fragments | 0.00 |
| | | Droughty | 0.14 | | | Hard to reclaim | 0.00 |
| | | Too acid | 0.84 | | | | |
| Nebish | 25 | Fair | | Fair | | Poor | |
| | | Low content of organic matter | 0.12 | Slope | 0.82 | Slope | 0.00 |
| | | Too acid | 0.92 | | | | |
| 1288: | | | | | | | |
| Seelyeville, ponded | 45 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| Markey, ponded | 45 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| 1356: | | | | | | | |
| Water, miscellaneous | 100 | Not rated | | Not rated | | Not rated | |
| 1362B: | | | | | | | |
| Angus | 85 | Fair | | Fair | | Good | |
| | | Low content of organic matter | 0.12 | Shrink-swell | 0.99 | | |
| | | Too acid | 0.97 | | | | |
| | | Water erosion | 0.99 | | | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1368: | | | | | | | |
| Southhaven | 90 | Fair | | Good | | Good | |
| | | Too acid | 0.97 | | | | |
| 1377B: | | | | | | | |
| Dorset | 70 | Fair | | Good | | Poor | |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Too sandy | 0.30 | | | Too sandy | 0.30 |
| | | Droughty | 0.91 | | | Hard to reclaim | 0.50 |
| | | Too acid | 0.92 | | | | |
| Two Inlets | 20 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Rock fragments | 0.00 |
| | | Low content of organic matter | 0.12 | | | Hard to reclaim | 0.50 |
| | | Droughty | 0.17 | | | Carbonate content | 0.97 |
| | | Too acid | 0.95 | | | | |
| | | Carbonate content | 0.97 | | | | |
| 1377C: | | | | | | | |
| Dorset | 50 | Fair | | Good | | Poor | |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Too sandy | 0.30 | | | Too sandy | 0.30 |
| | | Droughty | 0.91 | | | Hard to reclaim | 0.50 |
| | | Too acid | 0.92 | | | Slope | 0.96 |
| Two Inlets | 35 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Rock fragments | 0.00 |
| | | Low content of organic matter | 0.12 | | | Hard to reclaim | 0.50 |
| | | Droughty | 0.17 | | | Slope | 0.96 |
| | | Too acid | 0.95 | | | Carbonate content | 0.97 |
| | | Carbonate content | 0.97 | | | | |
| 1377D: | | | | | | | |
| Dorset | 45 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | Droughty | 0.62 | | | Slope | 0.00 |
| | | Too acid | 0.92 | | | Hard to reclaim | 0.50 |
| Two Inlets | 40 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Wind erosion | 0.00 | | | Rock fragments | 0.00 |
| | | Low content of organic matter | 0.12 | | | Slope | 0.00 |
| | | Droughty | 0.17 | | | Hard to reclaim | 0.50 |
| | | Too acid | 0.95 | | | Carbonate content | 0.97 |
| | | Carbonate content | 0.97 | | | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1377E: | | | | | | | |
| Dorset | 45 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Slope | 0.00 | Slope | 0.00 |
| | | | | | | Rock fragments | 0.00 |
| | | Too sandy | 0.30 | | | Too sandy | 0.30 |
| | | Droughty | 0.67 | | | Hard to reclaim | 0.50 |
| | | Too acid | 0.92 | | | | |
| Two Inlets | 45 | Poor | | Poor | | Poor | |
| | | Too sandy | 0.00 | Slope | 0.00 | Slope | 0.00 |
| | | Wind erosion | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | | | | | Hard to reclaim | 0.50 |
| | | Droughty | 0.20 | | | Carbonate content | 0.97 |
| | | Too acid | 0.95 | | | | |
| | | Carbonate content | 0.97 | | | | |
| 1378: | | | | | | | |
| Fordum, occasionally flooded | 85 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.88 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Too acid | 0.92 | | | Rock fragments | 0.97 |
| | | Water erosion | 0.99 | | | | |
| 1379B: | | | | | | | |
| Dorset | 65 | Poor | | Good | | Poor | |
| | | Too sandy | 0.00 | | | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.00 |
| | | | | | | Hard to reclaim | 0.50 |
| | | Droughty | 0.99 | | | | |
| Almora | 25 | Fair | | Good | | Fair | |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.41 |
| | | | | | | Hard to reclaim | 0.61 |
| | | Too acid | 0.95 | | | | |
| | | Carbonate content | 0.97 | | | | |
| 1380A: | | | | | | | |
| Bygland, MAP >25 | 85 | Poor | | Fair | | Poor | |
| | | Too clayey | 0.00 | Shrink-swell | 0.71 | Too clayey | 0.00 |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.89 | Depth to saturated zone | 0.89 |
| | | Water erosion | 0.90 | | | | |
| | | Too acid | 0.97 | | | | |
| 1380B: | | | | | | | |
| Bygland, MAP >25 | 70 | Poor | | Fair | | Poor | |
| | | Too clayey | 0.00 | Shrink-swell | 0.71 | Too clayey | 0.00 |
| | | Low content of organic matter | 0.12 | | | | |
| | | Water erosion | 0.90 | | | | |
| | | Too acid | 0.97 | | | | |
| 1380C: | | | | | | | |
| Bygland, MAP >25 | 70 | Fair | | Fair | | Fair | |
| | | Low content of organic matter | 0.12 | Shrink-swell | 0.75 | Slope | 0.96 |
| | | Water erosion | 0.90 | | | | |
| | | Too acid | 0.97 | | | | |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1381: | | | | | | | |
| Lindaas, morainic | 80 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.88 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | Shrink-swell | 0.66 | | |
| 1383A: | | | | | | | |
| Shorewood, moderately wet | 95 | Poor | | Poor | | Poor | |
| | | Too clayey | 0.00 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Too acid | 0.97 | Shrink-swell | 0.76 | Too clayey | 0.00 |
| 1388B: | | | | | | | |
| Terril, moderately wet | 85 | Good | | Good | | Good | |
| 1406: | | | | | | | |
| Medo, ponded | 30 | Not rated | | Poor | | Not rated | |
| | | | | Depth to saturated zone | 0.00 | | |
| Dassel, ponded | 30 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| Biscay, ponded | 30 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | | | | | Hard to reclaim | 0.68 |
| 1408B: | | | | | | | |
| Angus | 45 | Fair | | Fair | | Good | |
| | | Low content of organic matter | 0.12 | Shrink-swell | 0.99 | | |
| | | Too acid | 0.97 | | | | |
| | | Water erosion | 0.99 | | | | |
| Kilkenny | 40 | Poor | | Fair | | Poor | |
| | | Too clayey | 0.00 | Depth to saturated zone | 0.24 | Too clayey | 0.00 |
| | | Low content of organic matter | 0.12 | Shrink-swell | 0.98 | Depth to saturated zone | 0.24 |
| | | Too acid | 0.68 | | | | |
| 1438B: | | | | | | | |
| Braham, moderately wet | 85 | Poor | | Fair | | Fair | |
| | | Wind erosion | 0.00 | Depth to saturated zone | 0.89 | Too sandy | 0.36 |
| | | Low content of organic matter | 0.12 | Shrink-swell | 0.98 | Depth to saturated zone | 0.89 |
| | | Too sandy | 0.36 | | | | |
| | | Too acid | 0.97 | | | | |
| | | Water erosion | 0.99 | | | | |
| 1443: | | | | | | | |
| Belleville | 85 | Fair | | Poor | | Poor | |
| | | Too sandy | 0.01 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Low content of organic matter | 0.12 | | | Too sandy | 0.01 |

Table 15b.--Construction Materials--Continued

| Map symbol and soil name | Pct. of map unit | Potential source of reclamation material: Rating class and limiting features | Value | Potential source of roadfill: Rating class and limiting features | Value | Potential source of topsoil: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1901B: | | | | | | | |
| Angus | 60 | Fair | | Fair | | Good | |
| | | Low content of organic matter | 0.12 | Shrink-swell | 0.99 | | |
| | | Too acid | 0.97 | | | | |
| | | Water erosion | 0.99 | | | | |
| Le Sueur | 30 | Fair | | Fair | | Fair | |
| | | Too acid | 0.92 | Depth to saturated zone | 0.12 | Depth to saturated zone | 0.12 |
| | | Carbonate content | 0.97 | Shrink-swell | 0.99 | | |
| 1931: | | | | | | | |
| Essexville | 75 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.12 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Carbonate content | 0.97 | | | Carbonate content | 0.97 |
| 1942: | | | | | | | |
| Forada, depressional | 85 | Poor | | Poor | | Poor | |
| | | Too sandy | 0.00 | Depth to saturated zone | 0.00 | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Depth to saturated zone | 0.00 |
| | | | | | | Rock fragments | 0.12 |
| 1946: | | | | | | | |
| Fordum, frequently flooded | 70 | Fair | | Poor | | Poor | |
| | | Low content of organic matter | 0.50 | Depth to saturated zone | 0.00 | Depth to saturated zone | 0.00 |
| | | Too acid | 0.92 | | | Rock fragments | 0.00 |
| | | Water erosion | 0.99 | | | Hard to reclaim | 0.50 |
| Winterfield, frequently flooded | 20 | Poor | | Fair | | Poor | |
| | | Too sandy | 0.00 | Depth to saturated zone | 0.14 | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Depth to saturated zone | 0.14 |
| | | Too acid | 0.95 | | | Rock fragments | 0.88 |
| 1975: | | | | | | | |
| Oylen | 90 | Poor | | Fair | | Poor | |
| | | Too sandy | 0.00 | Depth to saturated zone | 0.89 | Too sandy | 0.00 |
| | | Low content of organic matter | 0.12 | | | Rock fragments | 0.88 |
| | | | | | | Depth to saturated zone | 0.89 |
| W: | | | | | | | |
| Water | 100 | Not rated | | Not rated | | Not rated | |

Table 16.--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 | Pct. of map unit | Pond reservoir areas | | Embankments, dikes, and levees | | Aquifer-fed excavated ponds | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 7A: | | | | | | | |
| Hubbard | 95 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| 7B: | | | | | | | |
| Hubbard | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| 7C: | | | | | | | |
| Hubbard | 80 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| 8B: | | | | | | | |
| Sparta | 95 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.82 | Depth to water | 1.00 |
| 35: | | | | | | | |
| Blue Earth, depressional | 80 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Content of organic matter | 1.00 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Ponding | 1.00 | | |
| | | | | Depth to saturated zone | 1.00 | | |
| | | | | Piping | 1.00 | | |
| 74B: | | | | | | | |
| Dickinson | 95 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.64 | Depth to water | 1.00 |
| 86: | | | | | | | |
| Canisteo | 80 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Depth to saturated zone | 1.00 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Piping | 0.27 | | |
| 106C2: | | | | | | | |
| Lester, eroded | 70 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.31 | Depth to water | 1.00 |
| 106D2: | | | | | | | |
| Lester, eroded | 80 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.31 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| 106E: | | | | | | | |
| Lester | 80 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.30 | Depth to water | 1.00 |
| | | Slope | 0.15 | | | | |
| 109: | | | | | | | |
| Cordova | 90 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Depth to saturated zone | 1.00 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Piping | 0.02 | | |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 114: | | | | | | | |
| Glencoe, depressional | 90 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Ponding | 1.00 | Slow refill | 0.30 |
| | | | | Depth to saturated zone | 1.00 | Cutbanks cave | 0.10 |
| | | | | Piping | 0.39 | | |
| 138: | | | | | | | |
| Lerdal | 80 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Depth to saturated zone | 1.00 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Hard to pack | 0.07 | Cutbanks cave | |
| 158A: | | | | | | | |
| Zimmerman | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.36 | Depth to water | 1.00 |
| 158B: | | | | | | | |
| Zimmerman | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.36 | Depth to water | 1.00 |
| 158C: | | | | | | | |
| Zimmerman | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.36 | Depth to water | 1.00 |
| 158E: | | | | | | | |
| Zimmerman | 85 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.36 | Depth to water | 1.00 |
| | | Slope | 0.12 | | | | |
| 169C: | | | | | | | |
| Braham | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.08 | Depth to water | 1.00 |
| 181: | | | | | | | |
| Litchfield | 95 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 1.00 |
| | | | | Seepage | 0.07 | | |
| 229: | | | | | | | |
| Waldorf | 90 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.04 | Depth to saturated zone | 1.00 | Slow refill | 0.96 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Hard to pack | 0.07 | | |
| 231C: | | | | | | | |
| Lester | 80 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.39 | Depth to water | 1.00 |
| 231D: | | | | | | | |
| Lester | 80 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.37 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| 235: | | | | | | | |
| Nessel | 85 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Seepage | 0.72 | Depth to saturated zone | 0.86 | Slow refill | 0.28 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Piping | 0.19 | Depth to water | 0.06 |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 239: | | | | | | | |
| Le Sueur | 80 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.72 | Depth to saturated zone | 1.00 | Slow refill | 0.28 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Piping | 0.14 | | |
| 247: | | | | | | | |
| Linder | 90 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 1.00 |
| | | | | Seepage | 0.17 | | |
| 255: | | | | | | | |
| Mayer | 85 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 1.00 |
| | | | | Seepage | 0.58 | | |
| 256: | | | | | | | |
| Mazaska | 90 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Depth to saturated zone | 1.00 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Piping | 0.01 | | |
| 258B: | | | | | | | |
| Sandberg | 95 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| 258C: | | | | | | | |
| Sandberg | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| 258E: | | | | | | | |
| Sandberg | 85 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| | | Slope | 0.12 | | | | |
| 260: | | | | | | | |
| Duelm | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 0.86 | Cutbanks cave | 1.00 |
| | | | | | | Depth to water | 0.06 |
| | | | | Seepage | 0.66 | | |
| 261: | | | | | | | |
| Isan, depressional | 90 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Ponding | 1.00 | Cutbanks cave | 1.00 |
| | | | | Depth to saturated zone | 1.00 | | |
| | | | | Seepage | 0.66 | | |
| 286B: | | | | | | | |
| Shorewood | 95 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Depth to saturated zone | 1.00 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| 294A: | | | | | | | |
| Rasset | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 323: | | | | | | | |
| Shields | 95 | Somewhat limited | | Very limited | | Very limited | |
| | | Seepage | 0.57 | Depth to saturated zone | 1.00 | Depth to water | 1.00 |
| | | | | Hard to pack | 0.03 | | |
| 327A: | | | | | | | |
| Dickman | 85 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.79 | Depth to water | 1.00 |
| 327B: | | | | | | | |
| Dickman | 85 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.79 | Depth to water | 1.00 |
| 375: | | | | | | | |
| Forada | 85 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 1.00 |
| | | | | Seepage | 0.54 | | |
| 392: | | | | | | | |
| Biscay | 90 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 1.00 |
| | | | | Seepage | 0.08 | | |
| 406: | | | | | | | |
| Dorset | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| 414: | | | | | | | |
| Hamel | 90 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.72 | Depth to saturated zone | 1.00 | Slow refill | 0.28 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Piping | 0.01 | | |
| 441: | | | | | | | |
| Almora | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| 461B: | | | | | | | |
| Koronis | 85 | Very limited | | Not limited | | Very limited | |
| | | Seepage | 1.00 | | | Depth to water | 1.00 |
| 461C2: | | | | | | | |
| Koronis, eroded | 80 | Very limited | | Not limited | | Very limited | |
| | | Seepage | 1.00 | | | Depth to water | 1.00 |
| 461E: | | | | | | | |
| Koronis | 80 | Very limited | | Not limited | | Very limited | |
| | | Seepage | 1.00 | | | Depth to water | 1.00 |
| | | Slope | 0.50 | | | | |
| 511: | | | | | | | |
| Marcellon, MAP <30-- | 85 | Very limited | | Very limited | | Somewhat limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 0.10 |
| | | | | Seepage | 0.03 | | |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 523: | | | | | | | |
| Houghton, drained | 80 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |
| 525: | | | | | | | |
| Muskego, surface drained | 75 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |
| 539: | | | | | | | |
| Klossner, drained | 80 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |
| 540: | | | | | | | |
| Seelyeville, surface drained | 80 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |
| 543: | | | | | | | |
| Markey, surface drained | 80 | Very limited | | Not rated | | Very limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 1.00 |
| 548: | | | | | | | |
| Medo, drained | 80 | Very limited | | Not rated | | Very limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 1.00 |
| 603: | | | | | | | |
| Hanlon, occasionally flooded | 80 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 0.86 | Cutbanks cave | 1.00 |
| | | | | | | Depth to water | 0.06 |
| | | | | Seepage | 0.06 | | |
| 611D: | | | | | | | |
| Hawick | 85 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| | | Slope | 0.08 | | | | |
| 708: | | | | | | | |
| Rushlake | 85 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 1.00 |
| | | | | | | Depth to water | 0.01 |
| | | | | Seepage | 0.57 | | |
| 740: | | | | | | | |
| Hamel | 70 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.72 | Depth to saturated zone | 1.00 | Slow refill | 0.28 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Piping | 0.01 | | |
| Glencoe, depressional | 20 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Ponding | 1.00 | Slow refill | 0.30 |
| | | | | Depth to saturated zone | 1.00 | Cutbanks cave | 0.10 |
| | | | | Piping | 0.39 | | |
| 768: | | | | | | | |
| Mosford | 85 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.79 | Depth to water | 1.00 |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 771: | | | | | | | |
| Elkriver, rarely flooded | 85 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.91 | Cutbanks cave | 1.00 |
| | | | | Depth to saturated zone | 0.46 | Depth to water | 0.24 |
| 783C2: | | | | | | | |
| Lester, eroded | 50 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.31 | Depth to water | 1.00 |
| Kilkenny, eroded | 30 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.70 | Depth to saturated zone | 0.86 | Depth to water | 1.00 |
| | | | | Hard to pack | 0.08 | | |
| 792: | | | | | | | |
| Fordum, frequently flooded | 90 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 1.00 |
| | | | | Seepage | 0.86 | | |
| 799: | | | | | | | |
| Seelyeville, frequently flooded | 45 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |
| Bowstring, frequently flooded | 45 | Very limited | | Not rated | | Very limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 1.00 |
| 804B: | | | | | | | |
| Koronis | 50 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.04 | Depth to water | 1.00 |
| Sunburg | 20 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.04 | Depth to water | 1.00 |
| Hawick | 15 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| 804C2: | | | | | | | |
| Koronis, eroded | 45 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.04 | Depth to water | 1.00 |
| Sunburg | 25 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.04 | Depth to water | 1.00 |
| Hawick | 15 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| 804D2: | | | | | | | |
| Koronis, eroded | 40 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.04 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| Sunburg | 30 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.04 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 804D2: | | | | | | | |
| Hawick | 15 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| 804E: | | | | | | | |
| Koronis | 50 | Very limited | | Not limited | | Very limited | |
| | | Seepage | 1.00 | | | Depth to water | 1.00 |
| | | Slope | 0.50 | | | | |
| Sunburg | 20 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.01 | Depth to water | 1.00 |
| | | Slope | 0.50 | | | | |
| Hawick | 15 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| | | Slope | 0.50 | | | | |
| 807D2: | | | | | | | |
| Koronis, eroded | 65 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.04 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| Sunburg | 20 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.04 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| 875B: | | | | | | | |
| Estherville | 60 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.69 | Depth to water | 1.00 |
| Hawick | 30 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| 875C: | | | | | | | |
| Hawick | 60 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| Estherville | 25 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.69 | Depth to water | 1.00 |
| 896B: | | | | | | | |
| Kingsley | 70 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.05 | Seepage | 0.04 | Depth to water | 1.00 |
| Gotham | 25 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| 896C: | | | | | | | |
| Kingsley | 70 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.05 | Seepage | 0.04 | Depth to water | 1.00 |
| Gotham | 25 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| 945C2: | | | | | | | |
| Lester, eroded | 50 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.31 | Depth to water | 1.00 |
| Storden, eroded | 30 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.66 | Depth to water | 1.00 |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 945D2: | | | | | | | |
| Lester, eroded------ | 60 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.31 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| Storden, eroded----- | 20 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.66 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| 956: | | | | | | | |
| Canisteo---------- | 65 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Depth to saturated zone | 1.00 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Piping | 0.27 | | |
| Glencoe, depressional------- | 25 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Ponding | 1.00 | Slow refill | 0.30 |
| | | | | Depth to saturated zone | 1.00 | Cutbanks cave | 0.10 |
| | | | | Piping | 0.39 | | |
| 978: | | | | | | | |
| Cordova---------- | 60 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Depth to saturated zone | 1.00 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Piping | 0.02 | | |
| Rolfe, depressional | 30 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Ponding | 1.00 | Slow refill | 0.28 |
| | | | | Depth to saturated zone | 1.00 | Cutbanks cave | 0.10 |
| | | | | Piping | 0.14 | | |
| 1000: | | | | | | | |
| Arvilla, MAP >25---- | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.53 | Depth to water | 1.00 |
| 1015: | | | | | | | |
| Udipsamments (cut and fill land)----- | 100 | Not limited | | Not rated | | Not rated | |
| 1016: | | | | | | | |
| Udorthents, loamy--- | 100 | Not limited | | Not rated | | Not rated | |
| 1023C: | | | | | | | |
| Lester, eroded------ | 50 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.31 | Depth to water | 1.00 |
| Malardi---------- | 35 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| 1023D: | | | | | | | |
| Lester, eroded------ | 45 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.31 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| Malardi---------- | 40 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1026B: | | | | | | | |
| Lizzie, moderately wet | 90 | Very limited | | Very limited | | Somewhat limited | |
| | | Seepage | 1.00 | Piping | 1.00 | Depth to water | 0.60 |
| | | | | Depth to saturated zone | 0.05 | Cutbanks cave | 0.10 |
| 1027: | | | | | | | |
| Udorthents, wet substratum | 100 | Not limited | | Not rated | | Not rated | |
| 1030: | | | | | | | |
| Pits, gravel | 80 | Not rated | | Not rated | | Not rated | |
| Udipsamments | 20 | Not rated | | Not rated | | Not rated | |
| 1035B: | | | | | | | |
| Crowfork | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.91 | Depth to water | 1.00 |
| 1035C: | | | | | | | |
| Crowfork | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.91 | Depth to water | 1.00 |
| 1035D: | | | | | | | |
| Crowfork | 85 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.91 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| 1036B: | | | | | | | |
| Angus | 85 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Seepage | 0.72 | Piping | 0.43 | Depth to water | 0.60 |
| | | | | Depth to saturated zone | 0.05 | Slow refill | 0.28 |
| | | | | | | Cutbanks cave | 0.10 |
| 1037: | | | | | | | |
| Eckvoll, MAP >25 | 90 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 1.00 |
| | | | | Piping | 0.98 | | |
| 1038A: | | | | | | | |
| Verndale, acid substratum | 90 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| 1038B: | | | | | | | |
| Verndale, acid substratum | 85 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| 1066B: | | | | | | | |
| Malardi | 65 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| Hawick | 25 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1066C: | | | | | | | |
| Malardi | 60 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| Hawick | 25 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| 1066E: | | | | | | | |
| Malardi | 55 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| | | Slope | 0.28 | | | | |
| Hawick | 30 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| | | Slope | 0.28 | | | | |
| 1072: | | | | | | | |
| Udorthents, shallow | 100 | Not limited | | Not rated | | Not rated | |
| 1075: | | | | | | | |
| Klossner, ponded | 40 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |
| Muskego, ponded | 40 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |
| 1080: | | | | | | | |
| Klossner, ponded | 30 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |
| Okoboji, ponded | 30 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.05 | Ponding | 1.00 | Slow refill | 0.30 |
| | | | | Depth to saturated zone | 1.00 | Cutbanks cave | 0.10 |
| | | | | Hard to pack | 0.72 | | |
| Glencoe, ponded | 30 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Ponding | 1.00 | Slow refill | 0.30 |
| | | | | Depth to saturated zone | 1.00 | Cutbanks cave | 0.10 |
| | | | | Piping | 0.15 | | |
| 1087B: | | | | | | | |
| Angus | 55 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Seepage | 0.72 | Piping | 0.29 | Depth to water | 0.60 |
| | | | | Depth to saturated zone | 0.05 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| Malardi | 30 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| 1094B: | | | | | | | |
| Angus | 60 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Seepage | 0.72 | Piping | 0.29 | Depth to water | 0.60 |
| | | | | Depth to saturated zone | 0.05 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| Cordova | 30 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Depth to saturated zone | 1.00 | Slow refill | 0.28 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Piping | 0.09 | | |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1099: | | | | | | | |
| Granby, very wet | 85 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Ponding | 1.00 | Cutbanks cave | 1.00 |
| | | | | Depth to saturated zone | 1.00 | | |
| | | | | Seepage | 0.07 | | |
| 1110: | | | | | | | |
| Isan | 90 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 1.00 |
| | | | | Seepage | 0.66 | | |
| 1156: | | | | | | | |
| Cordova | 85 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Depth to saturated zone | 1.00 | Slow refill | 0.28 |
| | | | | Piping | 0.09 | Cutbanks cave | 0.10 |
| 1161: | | | | | | | |
| Barry | 85 | Very limited | | Very limited | | Somewhat limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 0.10 |
| | | | | Seepage | 0.03 | | |
| 1163: | | | | | | | |
| Suckercreek, frequently flooded | 85 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 1.00 |
| | | | | Piping | 1.00 | | |
| | | | | Seepage | 0.07 | | |
| 1165: | | | | | | | |
| Lundlake, depressional | 90 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.72 | Ponding | 1.00 | Cutbanks cave | 0.10 |
| | | | | Depth to saturated zone | 1.00 | | |
| | | | | Piping | 0.81 | | |
| | | | | Seepage | 0.03 | | |
| 1173: | | | | | | | |
| Muskego, frequently flooded | 45 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |
| Klossner, frequently flooded | 45 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |
| 1186: | | | | | | | |
| Forestcity | 75 | Very limited | | Very limited | | Somewhat limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 0.10 |
| | | | | Seepage | 0.03 | | |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1186: | | | | | | | |
| Lundlake, depressional | 20 | Very limited | | Very limited | | Somewhat limited | |
| | | Seepage | 1.00 | Ponding | 1.00 | Cutbanks cave | 0.10 |
| | | | | Depth to saturated zone | 1.00 | | |
| | | | | Piping | 0.84 | | |
| | | | | Seepage | 0.03 | | |
| 1196B: | | | | | | | |
| Lida | 60 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.51 | Depth to water | 1.00 |
| Two Inlets | 30 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.91 | Depth to water | 1.00 |
| 1196C: | | | | | | | |
| Lida | 55 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.51 | Depth to water | 1.00 |
| | | Slope | 0.01 | | | | |
| Two Inlets | 30 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.91 | Depth to water | 1.00 |
| | | Slope | 0.01 | | | | |
| 1196E: | | | | | | | |
| Lida | 50 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.51 | Depth to water | 1.00 |
| | | Slope | 0.24 | | | | |
| Two Inlets | 40 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.91 | Depth to water | 1.00 |
| | | Slope | 0.24 | | | | |
| 1197: | | | | | | | |
| Suckercreek, occasionally flooded | 80 | Very limited | | Very limited | | Somewhat limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 0.10 |
| | | | | Seepage | 0.01 | | |
| 1199: | | | | | | | |
| Klossner, ponded | 45 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |
| Lundlake, ponded | 45 | Very limited | | Very limited | | Somewhat limited | |
| | | Seepage | 1.00 | Ponding | 1.00 | Cutbanks cave | 0.10 |
| | | | | Depth to saturated zone | 1.00 | | |
| | | | | Piping | 1.00 | | |
| | | | | Seepage | 0.03 | | |
| 1203: | | | | | | | |
| Muskego, ponded | 30 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1203: | | | | | | | |
| Blue Earth, ponded-- | 30 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.72 | Content of organic matter | 1.00 | Slow refill | 0.28 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Ponding | 1.00 | | |
| | | | | Depth to saturated zone | 1.00 | | |
| | | | | Piping | 1.00 | | |
| Houghton, ponded---- | 30 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |
| 1204B: | | | | | | | |
| Reedslake---------- | 85 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Seepage | 0.72 | Piping | 0.39 | Depth to water | 0.60 |
| | | | | Depth to saturated zone | 0.05 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| 1207B: | | | | | | | |
| Reedslake---------- | 60 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Seepage | 0.72 | Piping | 0.39 | Depth to water | 0.60 |
| | | | | Depth to saturated zone | 0.05 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| Le Sueur---------- | 25 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.72 | Depth to saturated zone | 1.00 | Slow refill | 0.28 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Piping | 0.28 | | |
| 1213C: | | | | | | | |
| Cokato, eroded------ | 65 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.31 | Depth to water | 1.00 |
| Storden---------- | 20 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.66 | Depth to water | 1.00 |
| 1213D: | | | | | | | |
| Cokato, eroded------ | 60 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.31 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| Storden---------- | 25 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.66 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| 1220C: | | | | | | | |
| Cokato, eroded------ | 50 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.31 | Depth to water | 1.00 |
| Storden---------- | 20 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.72 | Piping | 0.66 | Depth to water | 1.00 |
| Hawick---------- | 15 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| 1223: | | | | | | | |
| Sandberg, MAP >25--- | 60 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| Arvilla, MAP >25---- | 30 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.53 | Depth to water | 1.00 |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1224: | | | | | | | |
| Hubbard | 60 | Very limited<br>Seepage | 1.00 | Somewhat limited<br>Seepage | 0.86 | Very limited<br>Depth to water | 1.00 |
| Verndale, acid substratum | 30 | Very limited<br>Seepage | 1.00 | Somewhat limited<br>Seepage | 0.86 | Very limited<br>Depth to water | 1.00 |
| 1231: | | | | | | | |
| Hubbard | 60 | Very limited<br>Seepage | 1.00 | Somewhat limited<br>Seepage | 0.86 | Very limited<br>Depth to water | 1.00 |
| Mosford | 30 | Very limited<br>Seepage | 1.00 | Somewhat limited<br>Seepage | 0.79 | Very limited<br>Depth to water | 1.00 |
| 1255: | | | | | | | |
| Elkriver, occasionally flooded | 80 | Very limited<br>Seepage | 1.00 | Very limited<br>Depth to saturated zone<br>Seepage | 1.00<br><br>0.91 | Very limited<br>Cutbanks cave | 1.00 |
| 1256: | | | | | | | |
| Cantlin | 90 | Very limited<br>Seepage | 1.00 | Somewhat limited<br>Seepage<br>Depth to saturated zone | 0.30<br>0.09 | Very limited<br>Cutbanks cave<br>Depth to water | 1.00<br>0.54 |
| 1257: | | | | | | | |
| Elkriver, rarely flooded | 55 | Very limited<br>Seepage | 1.00 | Somewhat limited<br>Seepage<br>Depth to saturated zone | 0.91<br>0.46 | Very limited<br>Cutbanks cave<br>Depth to water | 1.00<br>0.24 |
| Mosford, rarely flooded | 35 | Very limited<br>Seepage | 1.00 | Somewhat limited<br>Seepage<br>Depth to saturated zone | 0.79<br>0.46 | Very limited<br>Cutbanks cave<br>Depth to water | 1.00<br>0.24 |
| 1260B: | | | | | | | |
| Stonelake | 55 | Very limited<br>Seepage | 1.00 | Somewhat limited<br>Seepage | 0.82 | Very limited<br>Depth to water | 1.00 |
| Nebish, moderately wet | 30 | Somewhat limited<br>Seepage | 0.70 | Somewhat limited<br>Piping<br>Depth to saturated zone | 0.87<br>0.05 | Somewhat limited<br>Depth to water<br>Slow refill<br>Cutbanks cave | 0.60<br>0.30<br>0.10 |
| 1260C: | | | | | | | |
| Stonelake | 55 | Very limited<br>Seepage | 1.00 | Somewhat limited<br>Seepage | 0.64 | Very limited<br>Depth to water | 1.00 |
| Nebish | 30 | Somewhat limited<br>Seepage | 0.70 | Somewhat limited<br>Piping | 0.92 | Very limited<br>Depth to water | 1.00 |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1260E: | | | | | | | |
| Stonelake | 60 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.64 | Depth to water | 1.00 |
| | | Slope | 0.08 | | | | |
| Nebish | 25 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.70 | Piping | 0.92 | Depth to water | 1.00 |
| | | Slope | 0.08 | | | | |
| 1288: | | | | | | | |
| Seelyeville, ponded | 45 | Very limited | | Not rated | | Somewhat limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 0.10 |
| Markey, ponded | 45 | Very limited | | Not rated | | Very limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 1.00 |
| 1356: | | | | | | | |
| Water, miscellaneous | 100 | Not rated | | Not rated | | Not rated | |
| 1362B: | | | | | | | |
| Angus | 85 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Seepage | 0.72 | Piping | 0.29 | Depth to water | 0.60 |
| | | | | Depth to saturated zone | 0.05 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| 1368: | | | | | | | |
| Southhaven | 90 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Piping | 1.00 | Cutbanks cave | 1.00 |
| | | | | Seepage | 0.86 | Depth to water | 0.54 |
| | | | | Depth to saturated zone | 0.09 | | |
| 1377B: | | | | | | | |
| Dorset | 70 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| Two Inlets | 20 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.91 | Depth to water | 1.00 |
| 1377C: | | | | | | | |
| Dorset | 50 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| Two Inlets | 35 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.91 | Depth to water | 1.00 |
| 1377D: | | | | | | | |
| Dorset | 45 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| Two Inlets | 40 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.91 | Depth to water | 1.00 |
| | | Slope | 0.03 | | | | |
| 1377E: | | | | | | | |
| Dorset | 45 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| | | Slope | 0.28 | | | | |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1377E: | | | | | | | |
| Two Inlets---------- | 45 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.91 | Depth to water | 1.00 |
| | | Slope | 0.28 | | | | |
| 1378: | | | | | | | |
| Fordum, occasionally flooded---------- | 85 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 1.00 |
| | | | | Seepage | 0.06 | | |
| 1379B: | | | | | | | |
| Dorset---------- | 65 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.86 | Depth to water | 1.00 |
| Almora---------- | 25 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Seepage | 0.58 | Depth to water | 1.00 |
| 1380A: | | | | | | | |
| Bygland, MAP >25---- | 85 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.04 | Depth to saturated zone | 0.86 | Depth to water | 1.00 |
| 1380B: | | | | | | | |
| Bygland, MAP >25---- | 70 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.04 | Depth to saturated zone | 0.46 | Depth to water | 1.00 |
| 1380C: | | | | | | | |
| Bygland, MAP >25---- | 70 | Somewhat limited | | Somewhat limited | | Very limited | |
| | | Seepage | 0.04 | Depth to saturated zone | 0.46 | Depth to water | 1.00 |
| 1381: | | | | | | | |
| Lindaas, morainic--- | 80 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.04 | Depth to saturated zone | 1.00 | Slow refill | 0.28 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Hard to pack | 0.40 | | |
| 1383A: | | | | | | | |
| Shorewood, moderately wet----- | 95 | Somewhat limited | | Very limited | | Very limited | |
| | | Seepage | 0.70 | Depth to saturated zone | 1.00 | Depth to water | 1.00 |
| 1388B: | | | | | | | |
| Terril, moderately wet---------- | 85 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Seepage | 0.72 | Piping | 0.46 | Depth to water | 0.60 |
| | | | | Depth to saturated zone | 0.05 | Slow refill | 0.28 |
| | | | | | | Cutbanks cave | 0.10 |
| 1406: | | | | | | | |
| Medo, ponded-------- | 30 | Very limited | | Not rated | | Very limited | |
| | | Seepage | 1.00 | | | Cutbanks cave | 1.00 |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas: Rating class and limiting features | Value | Embankments, dikes, and levees: Rating class and limiting features | Value | Aquifer-fed excavated ponds: Rating class and limiting features | Value |
|---|---|---|---|---|---|---|---|
| 1406: | | | | | | | |
| Dassel, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Ponding | 1.00 | Cutbanks cave | 1.00 |
| | | | | Depth to saturated zone | 1.00 | | |
| | | | | Seepage | 0.09 | | |
| Biscay, ponded | 30 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Ponding | 1.00 | Cutbanks cave | 1.00 |
| | | | | Depth to saturated zone | 1.00 | | |
| | | | | Seepage | 0.08 | | |
| 1408B: | | | | | | | |
| Angus | 45 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Seepage | 0.72 | Piping | 0.29 | Depth to water | 0.60 |
| | | | | Depth to saturated zone | 0.05 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| Kilkenny | 40 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.70 | Depth to saturated zone | 1.00 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| 1438B: | | | | | | | |
| Braham, moderately wet | 85 | Very limited | | Somewhat limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 0.86 | Cutbanks cave | 1.00 |
| | | | | | | Slow refill | 0.30 |
| | | | | | | Depth to water | 0.06 |
| 1443: | | | | | | | |
| Belleville | 85 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 1.00 |
| | | | | Piping | 0.93 | | |
| 1901B: | | | | | | | |
| Angus | 60 | Somewhat limited | | Somewhat limited | | Somewhat limited | |
| | | Seepage | 0.72 | Piping | 0.29 | Depth to water | 0.60 |
| | | | | Depth to saturated zone | 0.05 | Slow refill | 0.30 |
| | | | | | | Cutbanks cave | 0.10 |
| Le Sueur | 30 | Somewhat limited | | Very limited | | Somewhat limited | |
| | | Seepage | 0.72 | Depth to saturated zone | 1.00 | Slow refill | 0.28 |
| | | | | | | Cutbanks cave | 0.10 |
| | | | | Piping | 0.28 | | |
| 1931: | | | | | | | |
| Essexville | 75 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Depth to saturated zone | 1.00 | Cutbanks cave | 1.00 |
| | | | | Piping | 0.98 | | |
| | | | | Seepage | 0.36 | | |
| 1942: | | | | | | | |
| Forada, depressional | 85 | Very limited | | Very limited | | Very limited | |
| | | Seepage | 1.00 | Ponding | 1.00 | Cutbanks cave | 1.00 |
| | | | | Depth to saturated zone | 1.00 | | |
| | | | | Seepage | 0.54 | | |

Table 16.--Water Management--Continued

| Map symbol and soil name | Pct. of map unit | Pond reservoir areas | | Embankments, dikes, and levees | | Aquifer-fed excavated ponds | |
|---|---|---|---|---|---|---|---|
| | | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 1946: | | | | | | | |
| Fordum, frequently flooded | 70 | Very limited<br>Seepage | 1.00 | Very limited<br>Depth to saturated zone<br>Seepage | 1.00<br><br>0.86 | Very limited<br>Cutbanks cave | 1.00 |
| Winterfield, frequently flooded | 20 | Very limited<br>Seepage | 1.00 | Very limited<br>Depth to saturated zone<br>Seepage | 1.00<br><br>0.86 | Very limited<br>Cutbanks cave | 1.00 |
| 1975: | | | | | | | |
| Oylen | 90 | Very limited<br>Seepage | 1.00 | Somewhat limited<br>Depth to saturated zone<br>Seepage | 0.86<br><br>0.72 | Very limited<br>Cutbanks cave<br>Depth to water | 1.00<br>0.06 |
| W: | | | | | | | |
| Water | 100 | Not rated | | Not rated | | Not rated | |

# Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, and the physical and chemical properties of the major horizons of each soil. Pertinent soil and water features also are given.

## Engineering Index Properties

Table 17 gives estimates of the engineering classification and of the range of index properties for the major horizons of each soil. Most soils have horizons of contrasting properties within the upper 5 or 6 feet.

*Depth* to the upper and lower boundaries of each horizon 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 as much as 15 percent, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*Rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3

inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

*Liquid limit* and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-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 omitted in the table.

## Physical and Chemical Properties

Tables 18 and 19 show estimates of some characteristics and features that affect soil behavior. These estimates are given for the major horizons 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 horizon is indicated.

In table 18, *clay* as a soil separate, or component, consists of mineral soil particles that are less than 0.002 millimeter in diameter. The estimated clay content of each major soil horizon is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence linear extensibility, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earth-moving operations.

*Moist bulk density* is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$-bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In table 18, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

*Permeability* and saturated hydraulic conductivity refer to the ability of a soil to transmit water or air. Permeability estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems, irrigation systems, and septic tank absorption fields. Measured values of saturated hydraulic conductivity are used in models for site-specific use.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil horizon. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Linear extensibility* percent is the linear expression of the volume difference of natural soil fabric at $^1/_3$-bar or $^1/_{10}$-bar water content and oven dryness. The volume change is reported as percent change for the whole soil. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

Linear extensibility of 3 percent or more can cause damage to buildings, roads, and other structures. Special design is often needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In table 18, 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 or increased by returning crop residue to

the soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

*Erosion factors* are shown in table 18 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor Kw* indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor Kf* indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of rock fragments on the surface or because of surface wetness.

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

In table 19, *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.

*Soil reaction* is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

*Calcium carbonate* equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

*Gypsum* is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

## Water Features

*Soil moisture status* is an estimate of the fluctuating water content in a soil. It greatly influences vegetation type and plant growth; physical properties of soils, such as permeability, workability, strength, linear extensibility, and frost action; and chemical interactions and transport. Many other properties, qualities, and interpretations also are affected. Soil moisture status is important in the classification of soils, wetland, and habitat.

Table 20 gives estimates of soil moisture for each component of a map unit at various depths for every month of the year. The depths displayed are representative values that are indicative of conditions that occur most of the time. *Dry* indicates a moisture condition under which most plants (especially crops) cannot extract water for growth. *Moist* indicates a moisture condition under which soil water is most readily available for plant growth. *Wet* indicates a condition under which water will stand in an unlined hole or at least a condition under which the soil is too wet for the growth of most agricultural species. A moisture status of 4.0-6.7 (wet) indicates that most of the time the component is saturated at some depth between 4.0 feet and 6.7 feet during the month designated. In some years the soil may be saturated at a depth of less than 4.0 feet or more than 6.7 feet; however, field observations indicate that the soil will be saturated between these depths in most years. In the summer, the soil may show the effects of drying plus intermittent rains that result in a moist or wet layer over a dry layer that gets moist or wet again.

In table 20, *hydrologic soil groups* are groups of soils that, when saturated, have the same runoff potential under similar storm and ground cover conditions. The soil properties that affect the runoff potential are those that influence the minimum rate of infiltration in a bare soil after prolonged wetting and when the soil is not frozen. These properties include the depth to a zone in which the soil moisture status is wet, the infiltration rate, permeability after prolonged wetting, and the depth to a very slowly permeable horizon or horizons. The influences of ground cover and slope are treated independently and are not taken into account in hydrologic soil groups.

In the definitions of the hydrologic soil groups, the infiltration rate is the rate at which water enters the soil at the surface and is controlled by surface conditions. The transmission rate is the rate at which water moves through the soil and is controlled by properties of the soil horizons.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist chiefly of very 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 a moderately fine 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 horizon or horizons that impede the downward movement of water or soils that have a moderately fine 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 clayey soils that have a high linear extensibility; soils that have a zone, high in the profile, in which the soil moisture status is wet on a permanent basis; soils that have a claypan or clay horizon or horizons 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.

*Flooding,* the temporary covering of the soil surface by flowing water, is caused by overflow from streams or by runoff from adjacent slopes. Shallow water standing or flowing for short periods after rainfall or snowmelt is not considered flooding. Standing water in marshes and swamps or in closed depressions is considered to be ponding.

Table 21 gives estimates of the frequency and duration of flooding for every month of the year. Flooding frequency is the annual probability of a flood event expressed as a class. *None* indicates no reasonable possibility of flooding (the chance of flooding is nearly 0 percent in any year, or flooding is likely less than once in 500 years). *Very rare* indicates that flooding is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year, or flooding is likely less than once in 100 years but more than once in 500 years). *Rare* indicates that flooding is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year, or flooding is likely 1 to 5 times in 100 years). *Occasional* indicates that flooding occurs infrequently under usual weather conditions (the chance of flooding is 5 to 50 percent in any year, or flooding is likely 5 to 50 times in 100 years). *Frequent* indicates that flooding is likely to occur often under usual weather conditions (the chance of flooding is more than 50 percent in any year, or flooding is likely more than 50 times in 100 years; but the chance of flooding is less than 50 percent in all months in any year). *Very frequent* indicates that flooding is likely to occur very often under usual weather conditions (the chance of flooding is more than 50 percent in all months of any year).

Flooding duration is the average duration of

inundation per flood occurrence expressed as a class. *Extremely brief* is 0.1 hour to 4.0 hours; *very brief* is 4 to 48 hours; *brief* is 2 to 7 days; *long* is 7 to 30 days; and *very long* is more than 30 days. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information on flooding 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 level 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.

*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 22 gives estimates of the frequency, duration, and depth of ponding for every month of the year. The depths displayed are representative values that are indicative of conditions that occur most of the time.

Ponding frequency is the number of times ponding occurs over a period of time. *None* indicates no reasonable possibility of ponding (the chance of ponding is nearly 0 percent in any year). *Rare* indicates that ponding is unlikely but possible under unusual weather conditions (the chance of ponding ranges from nearly 0 percent to 5 percent in any year, or ponding is likely 0 to 5 times in 100 years). *Occasional* indicates that ponding is expected infrequently under usual weather conditions (the chance of ponding ranges from 5 to 50 percent in any one year, or ponding is likely 5 to 50 times in 100 years). *Frequent* indicates that ponding is likely to occur under usual weather conditions (the chance of ponding is more than 50 percent in any year, or ponding is likely more than 50 times in 100 years).

Ponding duration is the average length of time of the ponding occurrence. It is expressed as *very brief* (less than 2 days), *brief* (2 to 7 days), *long* (7 to 30 days), and *very long* (more than 30 days).

## Soil Features

Table 23 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

*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 a zone in which the soil moisture status is wet 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 saturated zone high in the profile during the 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.

Table 17.--Engineering Index Properties

(Absence of an entry indicates that the data were not estimated)

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 7A: | | | | | | | | | | | | | |
| Hubbard--------- | 95 | 0-20 | Loamy sand | SM, SP-SM | A-2 | 0 | 0 | 98-100 | 95-100 | 50-80 | 10-25 | 0-20 | NP-4 |
| | | 20-32 | Sand, coarse sand, loamy sand | SP-SM | A-1, A-2-4, A-3 | 0 | 0 | 98-100 | 95-100 | 25-75 | 5-12 | 0-20 | NP-4 |
| | | 32-80 | Sand, coarse sand | SP, SW | A-1, A-2, A-3 | 0 | 0 | 95-100 | 85-100 | 20-70 | 2-5 | 0-15 | NP |
| 7B: | | | | | | | | | | | | | |
| Hubbard--------- | 90 | 0-18 | Loamy sand | SM, SP-SM | A-2 | 0 | 0 | 98-100 | 95-100 | 50-80 | 10-25 | 0-20 | NP-4 |
| | | 18-23 | Sand, coarse sand, loamy sand | SP-SM | A-1, A-2-4, A-3 | 0 | 0 | 98-100 | 95-100 | 25-75 | 5-12 | 0-20 | NP-4 |
| | | 23-80 | Sand, coarse sand | SP, SW | A-1, A-2, A-3 | 0 | 0 | 95-100 | 85-100 | 20-70 | 2-5 | 0-15 | NP |
| 7C: | | | | | | | | | | | | | |
| Hubbard--------- | 80 | 0-12 | Loamy sand | SM, SP-SM | A-2 | 0 | 0 | 98-100 | 95-100 | 50-80 | 10-25 | 0-20 | NP-4 |
| | | 12-33 | Sand, coarse sand, loamy sand | SP-SM | A-1, A-2-4, A-3 | 0 | 0 | 98-100 | 95-100 | 25-75 | 5-12 | 0-20 | NP-4 |
| | | 33-80 | Sand, coarse sand | SP, SW | A-1, A-2, A-3 | 0 | 0 | 95-100 | 85-100 | 20-70 | 2-5 | 0-15 | NP |
| 8B: | | | | | | | | | | | | | |
| Sparta---------- | 95 | 0-16 | Loamy sand | SM | A-2, A-4 | 0 | 0 | 85-100 | 85-100 | 35-95 | 15-50 | 0-14 | NP |
| | | 16-29 | Loamy fine sand, fine sand, loamy sand | SM, SP-SM | A-2, A-3, A-4 | 0 | 0 | 85-100 | 85-100 | 50-95 | 5-50 | 0-14 | NP |
| | | 29-60 | Sand, fine sand | SM, SP-SM, SP | A-2, A-3 | 0 | 0 | 85-100 | 85-100 | 50-95 | 2-30 | 0-14 | NP |
| 35: | | | | | | | | | | | | | |
| Blue Earth, depressional--- | 80 | 0-10 | Mucky silty clay loam | OL, ML | A-5 | 0 | 0 | 95-100 | 95-100 | 85-95 | 80-95 | 41-50 | 2-8 |
| | | 10-68 | Mucky silty clay loam, clay loam, mucky silt loam | ML, OL | A-5 | 0 | 0 | 95-100 | 80-100 | 80-95 | 80-95 | 41-50 | 2-8 |
| | | 68-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 74B: | | | | | | | | | | | | | |
| Dickinson------- | 95 | 0-18 | Fine sandy loam | SC, SC-SM, SM | A-2, A-4 | 0 | 0 | 100 | 100 | 85-95 | 30-50 | 15-30 | NP-10 |
| | | 18-30 | Fine sandy loam, sandy loam | SC, SC-SM, SM | A-4 | 0 | 0 | 100 | 100 | 85-95 | 35-50 | 15-30 | NP-10 |
| | | 30-36 | Sand, loamy fine sand, loamy sand | SM | A-2, A-3 | 0 | 0 | 100 | 100 | 70-90 | 5-20 | --- | NP |
| | | 36-60 | Sand, loamy fine sand, loamy sand | SM | A-2, A-3 | 0 | 0 | 100 | 100 | 70-90 | 4-20 | --- | NP |
| 86: | | | | | | | | | | | | | |
| Canisteo-------- | 80 | 0-18 | Clay loam | OL, CL | A-6 | 0 | 0 | 95-100 | 95-100 | 85-100 | 60-100 | 40-50 | 15-20 |
| | | 18-39 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 80-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 39-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 106C2: | | | | | | | | | | | | | |
| Lester, eroded-- | 70 | 0-7 | Loam | CL-ML, CL | A-4, A-6 | 0 | 0-2 | 95-100 | 90-100 | 80-95 | 50-85 | 25-40 | 5-15 |
| | | 7-38 | Clay loam, loam | CL | A-6 | 0-1 | 0-3 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 38-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 60-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 106D2: | | | | | | | | | | | | | |
| Lester, eroded-- | 80 | 0-7 | Loam | CL-ML, CL | A-4, A-6 | 0 | 0-2 | 95-100 | 90-100 | 80-95 | 50-85 | 25-40 | 5-15 |
| | | 7-38 | Clay loam, loam | CL | A-6 | 0-1 | 0-3 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 38-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 60-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 106E: | | | | | | | | | | | | | |
| Lester---------- | 80 | 0-5 | Loam | CL-ML, CL | A-4, A-6 | 0 | 0-2 | 95-100 | 90-100 | 80-95 | 50-85 | 25-40 | 5-15 |
| | | 5-34 | Clay loam, loam | CL | A-6 | 0-1 | 0-3 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 34-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 60-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 109: | | | | | | | | | | | | | |
| Cordova--------- | 90 | 0-18 | Clay loam | MH, ML, CL, OH | A-6, A-7 | 0 | 0 | 95-100 | 95-100 | 90-100 | 70-85 | 40-60 | 15-25 |
| | | 18-38 | Silty clay loam, clay loam | CL | A-6 | 0 | 0 | 90-100 | 90-100 | 85-95 | 65-90 | 40-50 | 20-30 |
| | | 38-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 114: | | | | | | | | | | | | | |
| Glencoe, depressional--- | 90 | 0-10 | Clay loam | CL, ML, OL | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 75-100 | 60-90 | 40-50 | 15-20 |
| | | 10-35 | Silty clay loam, clay loam, loam | CL, OL, ML | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 75-100 | 60-90 | 30-50 | 10-20 |
| | | 35-48 | Loam, clay loam, silty clay loam | CL, ML | A-6 | 0 | 0 | 95-100 | 90-100 | 75-100 | 60-90 | 30-40 | 5-20 |
| | | 48-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 138: | | | | | | | | | | | | | |
| Lerdal---------- | 80 | 0-7 | Silty clay loam | CL | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 80-95 | 60-90 | 35-50 | 10-22 |
| | | 7-9 | Silty clay loam | CL | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 80-95 | 60-90 | 35-50 | 10-22 |
| | | 9-47 | Silty clay loam, clay loam | CL, ML, CH, MH | A-7 | 0 | 0 | 95-100 | 90-100 | 80-95 | 70-90 | 45-70 | 20-35 |
| | | 47-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 158A: | | | | | | | | | | | | | |
| Zimmerman------- | 90 | 0-7 | Fine sand | SM, SP-SM | A-2 | 0 | 0 | 100 | 95-100 | 95-100 | 10-20 | 0-20 | NP-4 |
| | | 7-80 | Fine sand, loamy fine sand | SM, SP, SP-SM | A-2, A-3 | 0 | 0 | 100 | 95-100 | 70-100 | 4-20 | 0-20 | NP-4 |
| 158B: | | | | | | | | | | | | | |
| Zimmerman------- | 90 | 0-7 | Fine sand | SM, SP-SM | A-2 | 0 | 0 | 100 | 95-100 | 95-100 | 10-20 | 0-20 | NP-4 |
| | | 7-80 | Fine sand, loamy fine sand | SP, SP-SM, SM | A-2, A-3 | 0 | 0 | 100 | 95-100 | 70-100 | 4-20 | 0-20 | NP-4 |
| 158C: | | | | | | | | | | | | | |
| Zimmerman------- | 90 | 0-7 | Fine sand | SM, SP-SM | A-2 | 0 | 0 | 100 | 95-100 | 95-100 | 10-20 | 0-20 | NP-4 |
| | | 7-80 | Fine sand, loamy fine sand | SM, SP, SP-SM | A-2, A-3 | 0 | 0 | 100 | 95-100 | 70-100 | 4-20 | 0-20 | NP-4 |
| 158E: | | | | | | | | | | | | | |
| Zimmerman------- | 85 | 0-3 | Fine sand | SM, SP-SM | A-2 | 0 | 0 | 100 | 95-100 | 95-100 | 10-20 | 0-20 | NP-4 |
| | | 3-80 | Fine sand, loamy fine sand | SM, SP, SP-SM | A-2, A-3 | 0 | 0 | 100 | 95-100 | 70-100 | 4-20 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 169C: | | | | | | | | | | | | | |
| Braham---------- | 90 | 0-8 | Loamy fine sand | SM | A-2 | 0 | 0 | 100 | 90-100 | 55-70 | 20-35 | 0-20 | NP-4 |
| | | 8-28 | Loamy fine sand, loamy sand, fine sand | SM, SP-SM | A-2 | 0 | 0 | 100 | 90-100 | 65-90 | 10-20 | 0-20 | NP-4 |
| | | 28-48 | Sandy clay loam, fine sandy loam, clay loam | CL, ML, SC | A-6, A-7 | 0-1 | 0-3 | 95-100 | 85-95 | 80-95 | 45-70 | 28-43 | 5-21 |
| | | 48-80 | Sandy clay loam, loam, clay loam | SC, CL, ML | A-6, A-7 | 0-1 | 0-3 | 95-100 | 85-95 | 80-95 | 45-70 | 28-43 | 5-21 |
| 181: | | | | | | | | | | | | | |
| Litchfield------ | 95 | 0-20 | Loamy fine sand | SM | A-2 | 0 | 0 | 100 | 100 | 80-95 | 15-35 | 15-20 | NP-4 |
| | | 20-33 | Fine sand | SM | A-2 | 0 | 0 | 100 | 100 | 80-95 | 20-35 | 15-20 | NP-4 |
| | | 33-40 | Very fine sandy loam | ML, CL-ML | A-4 | 0 | 0 | 100 | 95-100 | 90-100 | 80-95 | 0-25 | NP-5 |
| | | 40-80 | Loamy fine sand, loamy sand, sand | SM | A-2, A-3 | 0 | 0 | 100 | 100 | 70-95 | 5-30 | 15-20 | NP-4 |
| 229: | | | | | | | | | | | | | |
| Waldorf--------- | 90 | 0-20 | Silty clay loam | ML, MH | A-7 | 0 | 0 | 100 | 100 | 95-100 | 90-100 | 45-65 | 14-30 |
| | | 20-53 | Silty clay, silty clay loam | MH, ML | A-7 | 0 | 0 | 100 | 100 | 95-100 | 95-100 | 45-70 | 20-35 |
| | | 53-80 | Silty clay loam, silty clay, silt loam | ML, MH, CL | A-6, A-7 | 0 | 0 | 100 | 100 | 95-100 | 90-100 | 35-65 | 11-30 |
| 231C: | | | | | | | | | | | | | |
| Lester---------- | 80 | 0-9 | Fine sandy loam | SM | A-4 | 0 | 0-5 | 95-100 | 95-100 | 75-90 | 35-50 | 15-25 | NP-10 |
| | | 9-53 | Clay loam, loam | CL | A-6 | 0-1 | 0-3 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 53-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 231D: | | | | | | | | | | | | | |
| Lester---------- | 80 | 0-6 | Fine sandy loam | SM | A-4 | 0 | 0-5 | 95-100 | 95-100 | 75-90 | 35-50 | 15-25 | NP-10 |
| | | 6-34 | Clay loam, loam | CL | A-6 | 0-1 | 0-3 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 34-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 235: | | | | | | | | | | | | | |
| Nessel---------- | 85 | 0-6 | Loam | CL | A-4, A-6 | 0 | 0-2 | 95-100 | 95-100 | 85-95 | 50-80 | 20-35 | 2-12 |
| | | 6-38 | Loam, clay loam | CL | A-6, A-7 | 0 | 2-5 | 90-100 | 85-100 | 80-95 | 55-75 | 35-50 | 15-25 |
| | | 38-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 239: | | | | | | | | | | | | | |
| Le Sueur-------- | 80 | 0-17 | Clay loam | CL, ML | A-6, A-7 | 0 | 0 | 95-100 | 95-100 | 90-100 | 75-90 | 35-50 | 10-25 |
| | | 17-37 | Clay loam, loam, silty clay loam | CL | A-6, A-7 | 0 | 0 | 95-100 | 95-100 | 85-100 | 60-80 | 35-50 | 15-25 |
| | | 37-46 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 46-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 247: | | | | | | | | | | | | | |
| Linder---------- | 90 | 0-13 | Loam | SC | A-4, A-6 | 0 | 0 | 100 | 95-100 | 80-95 | 48-80 | 25-40 | 8-15 |
| | | 13-24 | Sandy loam | SC, SC-SM | A-2, A-4 | 0 | 0 | 95-100 | 80-100 | 45-75 | 30-45 | 20-30 | 5-10 |
| | | 24-60 | Stratified gravelly coarse sand to coarse sand to loamy coarse sand, gravelly loamy sand, loamy coarse sand | SP-SM, SW | A-1 | 0 | 0-5 | 75-95 | 30-95 | 25-50 | 2-12 | 0-14 | NP |
| 255: | | | | | | | | | | | | | |
| Mayer---------- | 85 | 0-18 | Loam | CL | A-4, A-6 | 0 | 0-2 | 95-100 | 85-100 | 70-90 | 50-85 | 30-35 | 9-20 |
| | | 18-33 | Sandy clay loam, silt loam, clay loam | CL, SM, SC | A-4, A-6 | 0 | 0-2 | 80-95 | 80-85 | 70-85 | 35-50 | 30-35 | 3-20 |
| | | 33-80 | Gravelly coarse sand, sand, coarse sand | SP-SM, SW, SP | A-1 | 0-1 | 0-10 | 50-95 | 45-85 | 20-45 | 2-10 | 0-20 | NP-4 |
| 256: | | | | | | | | | | | | | |
| Mazaska--------- | 90 | 0-15 | Silty clay loam | CL, CH | A-6, A-7 | 0 | 0 | 95-100 | 95-100 | 85-100 | 70-95 | 35-55 | 12-28 |
| | | 15-42 | Clay, silty clay loam | CH, CL | A-7 | 0 | 0 | 90-100 | 85-100 | 75-95 | 60-90 | 40-65 | 15-35 |
| | | 42-80 | Loam, clay loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 258B: | | | | | | | | | | | | | |
| Sandberg-------- | 95 | 0-12 | Loamy sand | SP-SM, SM | A-1, A-2 | 0 | 0-1 | 85-100 | 80-95 | 40-75 | 10-25 | 0-20 | NP-4 |
| | | 12-19 | Gravelly loamy coarse sand, gravelly coarse sand, loamy sand | SP-SM, SP | A-2, A-3, A-1 | 0-3 | 0-5 | 75-95 | 50-95 | 35-70 | 4-25 | 0-20 | NP-4 |
| | | 19-80 | Gravelly coarse sand, coarse sand, sand | SP, SW, SP-SM | A-1, A-2, A-3 | 0-3 | 0-5 | 60-95 | 50-90 | 30-65 | 2-10 | 0-15 | NP |
| 258C: | | | | | | | | | | | | | |
| Sandberg-------- | 90 | 0-12 | Loamy sand | SP-SM, SM | A-1, A-2 | 0 | 0-1 | 85-100 | 80-95 | 40-75 | 10-25 | 0-20 | NP-4 |
| | | 12-19 | Gravelly loamy coarse sand, gravelly coarse sand, loamy sand | SP-SM, SP | A-2, A-3, A-1 | 0-3 | 0-5 | 75-95 | 50-95 | 35-70 | 4-25 | 0-20 | NP-4 |
| | | 19-80 | Gravelly coarse sand, coarse sand, sand | SP, SW, SP-SM | A-1, A-2, A-3 | 0-3 | 0-5 | 60-95 | 50-90 | 30-65 | 2-10 | 0-15 | NP |
| 258E: | | | | | | | | | | | | | |
| Sandberg-------- | 85 | 0-12 | Loamy sand | SP-SM, SM | A-1, A-2 | 0 | 0-1 | 85-100 | 80-95 | 40-75 | 10-25 | 0-20 | NP-4 |
| | | 12-19 | Gravelly loamy coarse sand, gravelly coarse sand, loamy sand | SP-SM, SP | A-2, A-3, A-1 | 0-3 | 0-5 | 75-95 | 50-95 | 35-70 | 4-25 | 0-20 | NP-4 |
| | | 19-80 | Gravelly coarse sand, coarse sand, sand | SP, SW, SP-SM | A-3, A-1, A-2 | 0-3 | 0-5 | 60-95 | 50-90 | 30-65 | 2-10 | 0-15 | NP |
| 260: | | | | | | | | | | | | | |
| Duelm---------- | 90 | 0-16 | Loamy sand | SM, SP-SM | A-1, A-2 | 0 | 0 | 90-100 | 85-100 | 35-75 | 10-25 | 15-20 | NP-4 |
| | | 16-30 | Loamy sand, coarse sand, sand | SM, SP-SM | A-1, A-2, A-3 | 0 | 0 | 90-100 | 85-100 | 35-75 | 5-25 | 15-20 | NP-4 |
| | | 30-80 | Coarse sand, sand | SM, SP, SP-SM | A-1, A-2, A-3 | 0 | 0 | 85-100 | 75-100 | 35-75 | 3-15 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 261: | | | | | | | | | | | | | |
| Isan, depressional--- | 90 | 0-14 | Sandy loam | SC-SM, SM | A-2 | 0 | 0 | 95-100 | 92-100 | 50-75 | 15-35 | 0-30 | NP-7 |
| | | 14-34 | Sand, loamy sand | SM, SP-SM | A-2 | 0 | 0 | 95-100 | 92-100 | 50-75 | 10-30 | 0-20 | NP-4 |
| | | 34-80 | Sand, coarse sand | SM, SP | A-1, A-2, A-3 | 0 | 0 | 85-100 | 85-100 | 35-70 | 2-15 | 0-20 | NP-4 |
| 286B: | | | | | | | | | | | | | |
| Shorewood------- | 95 | 0-17 | Silty clay loam | CL, ML | A-6, A-7 | 0 | 0 | 100 | 100 | 90-100 | 85-100 | 35-50 | 12-20 |
| | | 17-39 | Silty clay, silty clay loam | CH, MH | A-7 | 0 | 0 | 100 | 100 | 90-100 | 85-100 | 55-75 | 20-45 |
| | | 39-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 294A: | | | | | | | | | | | | | |
| Rasset---------- | 90 | 0-15 | Sandy loam | SC-SM, SC, SM | A-2, A-4 | 0 | 0-5 | 90-100 | 75-100 | 50-70 | 30-50 | 0-30 | NP-10 |
| | | 15-28 | Sandy loam, loam | SC, SC-SM, SM | A-4, A-6 | 0 | 0-5 | 90-100 | 75-100 | 50-80 | 35-50 | 0-35 | NP-15 |
| | | 28-36 | Loamy sand, loamy coarse sand, gravelly sand | SM, SP-SM, SP | A-1, A-2, A-3 | 0-1 | 0-5 | 75-100 | 50-100 | 40-80 | 2-15 | 0-20 | NP-4 |
| | | 36-80 | Sand, coarse sand, gravelly sand | SP-SM, SP, SW | A-1, A-2, A-3 | 0-1 | 0-5 | 60-100 | 50-100 | 25-75 | 2-8 | 0-20 | NP-4 |
| 323: | | | | | | | | | | | | | |
| Shields--------- | 95 | 0-8 | Silty clay loam | CL, ML | A-6, A-7 | 0 | 0 | 95-100 | 95-100 | 90-100 | 85-95 | 35-50 | 12-20 |
| | | 8-41 | Silty clay, silty clay, clay, clay | CL, CH, MH | A-7 | 0 | 0 | 95-100 | 95-100 | 90-100 | 85-95 | 45-70 | 20-35 |
| | | 41-80 | Silty clay loam, silty clay loam, clay loam, clay loam, clay, clay | MH, CL, ML | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 85-100 | 80-95 | 35-65 | 12-30 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 327A: | | | | | | | | | | | | | |
| Dickman--------- | 85 | 0-12 | Sandy loam | SM | A-2, A-4 | 0 | 0 | 95-100 | 95-100 | 55-95 | 25-40 | 20-30 | 2-8 |
| | | 12-19 | Sandy loam, fine sandy loam, loamy sand | SC-SM, SM | A-2, A-4 | 0 | 0 | 95-100 | 85-100 | 55-95 | 25-45 | 15-25 | 2-8 |
| | | 19-33 | Sand, coarse sand, loamy sand | SP-SM | A-1, A-2-4, A-3 | 0 | 0 | 98-100 | 95-100 | 45-75 | 4-12 | 0-20 | NP-4 |
| | | 33-80 | Fine sand, coarse sand, sand | SP-SM | A-2, A-3 | 0 | 0 | 95-100 | 75-100 | 45-80 | 5-10 | 0-14 | NP |
| 327B: | | | | | | | | | | | | | |
| Dickman--------- | 85 | 0-12 | Sandy loam | SM | A-2, A-4 | 0 | 0 | 95-100 | 95-100 | 55-95 | 25-40 | 20-30 | 2-8 |
| | | 12-19 | Sandy loam, fine sandy loam, loamy sand | SC-SM, SM | A-2, A-4 | 0 | 0 | 95-100 | 85-100 | 55-95 | 25-45 | 15-25 | 2-8 |
| | | 19-33 | Sand, coarse sand, loamy sand | SP-SM | A-1, A-2-4, A-3 | 0 | 0 | 98-100 | 95-100 | 45-75 | 4-12 | 0-20 | NP-4 |
| | | 33-80 | Fine sand, coarse sand, sand | SP-SM | A-2, A-3 | 0 | 0 | 95-100 | 75-100 | 45-80 | 5-10 | 0-14 | NP |
| 375: | | | | | | | | | | | | | |
| Forada---------- | 85 | 0-16 | Loam | CL-ML, CL | A-4 | 0 | 0 | 95-100 | 85-100 | 70-90 | 50-70 | 25-35 | 5-20 |
| | | 16-28 | Sandy loam, loam, fine sandy loam | SM, ML, CL-ML | A-2, A-4 | 0 | 0 | 95-100 | 85-100 | 55-85 | 30-60 | 15-30 | NP-10 |
| | | 28-60 | Coarse sand, gravelly coarse sand, loamy sand | SM, SP-SM, SP | A-1, A-2, A-3 | 0 | 0 | 50-100 | 50-100 | 40-70 | 4-30 | --- | NP |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 392: | | | | | | | | | | | | | |
| Biscay---------- | 90 | 0-20 | Loam | ML, CL | A-7, A-6 | 0 | 0 | 95-100 | 95-100 | 70-95 | 50-80 | 35-50 | 10-25 |
| | | 20-28 | Loam, clay loam, sandy clay loam | ML, CL | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 70-90 | 50-75 | 30-50 | 10-20 |
| | | 28-36 | Gravelly loam, sandy loam, gravelly sandy loam | SM, SC-SM, SC | A-4 | 0 | 0-5 | 95-100 | 70-95 | 50-80 | 35-50 | 0-30 | NP-10 |
| | | 36-60 | Stratified gravelly coarse sand to loamy sand | GP, SP, SP-SM, GP-GM | A-1 | 0 | 0-5 | 45-95 | 35-95 | 20-45 | 2-10 | 0-20 | NP-4 |
| 406: | | | | | | | | | | | | | |
| Dorset---------- | 90 | 0-11 | Sandy loam | SC-SM, SM | A-2, A-4 | 0 | 0 | 90-100 | 85-100 | 50-70 | 25-50 | 0-25 | NP-5 |
| | | 11-19 | Loam, sandy loam, coarse sandy loam | CL, CL-ML, SC, SC-SM | A-4, A-6 | 0 | 0 | 90-100 | 85-100 | 50-90 | 35-75 | 15-30 | 4-14 |
| | | 19-32 | Gravelly loamy sand, gravelly coarse sand, coarse sand | GM, SC-SM, SM | A-1, A-2 | 0 | 0-5 | 50-90 | 50-75 | 20-50 | 10-25 | 0-20 | NP-7 |
| | | 32-80 | Gravelly coarse sand, gravelly sand, coarse sand | GP-GM, GP, SP-SM, SP | A-1 | 0 | 0-5 | 50-90 | 50-75 | 15-40 | 0-10 | 0-20 | NP-4 |
| 414: | | | | | | | | | | | | | |
| Hamel---------- | 90 | 0-24 | Loam | CL, ML | A-4, A-6 | 0 | 0 | 100 | 95-100 | 85-100 | 60-85 | 30-40 | 5-20 |
| | | 24-46 | Clay loam, loam, silty clay loam | CH, CL | A-6 | 0 | 0 | 95-100 | 95-100 | 85-95 | 65-80 | 40-55 | 25-35 |
| | | 46-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 441: | | | | | | | | | | | | | |
| Almora---------- | 90 | 0-10 | Loam | CL-ML, SC-SM, SC | A-4 | 0 | 0 | 95-100 | 85-100 | 45-85 | 45-75 | 23-30 | 6-11 |
| | | 10-14 | Sandy loam, fine sandy loam, loam | CL-ML, SC-SM, SC | A-4 | 0 | 0 | 95-100 | 85-100 | 45-85 | 35-65 | 23-30 | 6-11 |
| | | 14-36 | Sandy clay loam, gravelly sandy clay loam, loam | CL, SC | A-4, A-6 | 0 | 0-5 | 95-100 | 60-98 | 40-80 | 40-75 | 34-39 | 9-18 |
| | | 36-41 | Gravelly loamy coarse sand, sand, loamy sand | SM, SC-SM, SP-SM | A-1-a, A-1-b, A-3 | 0 | 0-5 | 50-90 | 30-85 | 20-70 | 5-20 | 0-20 | NP-6 |
| | | 41-80 | Gravelly coarse sand, sand, coarse sand | SP, SP-SM, SW | A-1-a, A-1-b | 0 | 0-5 | 45-90 | 30-80 | 5-30 | 0-10 | 0-20 | NP-4 |
| 461B: | | | | | | | | | | | | | |
| Koronis--------- | 85 | 0-8 | Loam | CL-ML, CL | A-4, A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 75-90 | 50-70 | 25-35 | 5-14 |
| | | 8-31 | Sandy clay loam, loam, fine sandy loam | CL, SC | A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 70-90 | 35-70 | 30-40 | 10-20 |
| | | 31-80 | Sandy loam, fine sandy loam, loam | SC, SC-SM | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |
| 461C2: | | | | | | | | | | | | | |
| Koronis, eroded | 80 | 0-8 | Loam | CL-ML, CL | A-4, A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 75-90 | 50-70 | 25-35 | 5-14 |
| | | 8-31 | Sandy clay loam, loam, fine sandy loam | CL, SC | A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 70-90 | 35-70 | 30-40 | 10-20 |
| | | 31-80 | Sandy loam, fine sandy loam, loam | SC, SC-SM | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |
| 461E: | | | | | | | | | | | | | |
| Koronis--------- | 80 | 0-7 | Loam | CL-ML, CL | A-4, A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 75-90 | 50-70 | 25-35 | 5-14 |
| | | 7-28 | Sandy clay loam, loam, fine sandy loam | CL, SC | A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 70-90 | 35-70 | 30-40 | 10-20 |
| | | 28-80 | Sandy loam, fine sandy loam, loam | SC, SC-SM | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 511: | | | | | | | | | | | | | |
| Marcellon, | | | | | | | | | | | | | |
| MAP <30-------- | 85 | 0-13 | Loam | CL | A-4, A-6 | 0 | 0-5 | 85-100 | 75-100 | 55-95 | 45-80 | 20-30 | 6-11 |
| | | 13-32 | Loam, clay loam, sandy clay loam | SC, CL | A-2, A-6 | 0 | 0-9 | 85-100 | 75-95 | 60-95 | 25-80 | 30-35 | 11-14 |
| | | 32-60 | Sandy loam, fine sandy loam, loam | SC, SC-SM | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |
| 523: | | | | | | | | | | | | | |
| Houghton, | | | | | | | | | | | | | |
| drained-------- | 80 | 0-10 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 10-80 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| 525: | | | | | | | | | | | | | |
| Muskego, surface | | | | | | | | | | | | | |
| drained-------- | 75 | 0-9 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 9-36 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 36-60 | Coprogenous earth | OL | A-5 | 0 | 0 | 95-100 | 95-100 | 85-100 | 75-96 | 40-50 | 2-8 |
| 539: | | | | | | | | | | | | | |
| Klossner, | | | | | | | | | | | | | |
| drained-------- | 80 | 0-26 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 26-36 | Mucky silt loam, mucky silty clay loam, silt loam | MH | A-7 | 0 | 0 | 100 | 95-100 | 90-100 | 85-95 | 60-90 | 10-30 |
| | | 36-48 | Clay loam, loam, silty clay loam | CL | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 80-100 | 60-90 | 35-65 | 20-30 |
| | | 48-80 | Clay loam, loam, silty clay loam | CL | A-6, A-7 | 0 | 0-5 | 90-100 | 85-100 | 60-95 | 55-80 | 30-55 | 10-25 |
| 540: | | | | | | | | | | | | | |
| Seelyeville, | | | | | | | | | | | | | |
| surface drained | 80 | 0-10 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 10-80 | Muck, mucky peat | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 543: | | | | | | | | | | | | | |
| Markey, surface drained-------- | 80 | 0-36 | Muck | PT | A-8 | --- | --- | --- | --- | --- | --- | --- | --- |
| | | 36-42 | Fine sand, loamy sand, coarse sand | SM, SP, SP-SM | A-2, A-3 | 0 | 0 | 100 | 75-100 | 60-75 | 0-20 | 0-20 | NP-4 |
| | | 42-80 | Fine sand, sand, coarse sand | SM, SP, SP-SM | A-2, A-3 | 0 | 0 | 100 | 75-100 | 60-75 | 0-20 | 0-20 | NP-4 |
| 548: | | | | | | | | | | | | | |
| Medo, drained--- | 80 | 0-27 | Muck | PT | A-8 | --- | --- | --- | --- | --- | --- | --- | --- |
| | | 27-35 | Sandy clay loam, mucky loam, silt loam | CL, ML | A-6, A-7 | 0 | 0 | 85-100 | 75-100 | 55-95 | 45-85 | 35-50 | 7-22 |
| | | 35-39 | Sandy clay loam | CL, SC | A-6, A-7 | 0 | 0 | 85-100 | 75-100 | 55-95 | 45-85 | 30-65 | 8-16 |
| | | 39-80 | Sand, gravelly coarse sand, gravelly loamy coarse sand, fine sand | SP, SP-SM, SM | A-1, A-2, A-3, A-4 | 0-2 | 0-5 | 75-95 | 60-95 | 20-75 | 2-40 | 0-20 | NP-4 |
| 603: | | | | | | | | | | | | | |
| Hanlon, occasionally flooded-------- | 80 | 0-40 | Fine sandy loam | SM, SC, SC-SM | A-4 | 0 | 0 | 100 | 100 | 75-80 | 35-50 | 25-35 | 5-10 |
| | | 40-63 | Fine sandy loam, sandy loam | SM, SC, SC-SM | A-4 | 0 | 0 | 100 | 100 | 75-80 | 35-50 | 25-35 | 5-10 |
| | | 63-70 | Sandy loam, fine sandy loam, loamy fine sand | SC, SC-SM | A-2, A-4 | 0 | 0 | 100 | 100 | 75-80 | 25-40 | 15-25 | 5-10 |
| | | 70-80 | Stratified sand to loamy fine sand to fine sandy loam, sandy loam, loamy sand | SP-SM, CL, SC, SC-SM | A-2, A-4 | 0 | 0 | 100 | 100 | 80-90 | 5-60 | 15-35 | 3-10 |
| 611D: | | | | | | | | | | | | | |
| Hawick---------- | 85 | 0-10 | Gravelly sandy loam | SP-SM, SP | A-1, A-2, A-3 | 0-2 | 0-5 | 75-95 | 60-95 | 35-70 | 4-35 | 0-14 | NP-4 |
| | | 10-60 | Gravelly coarse sand, coarse sand, sand | SP, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 50-95 | 50-95 | 30-65 | 2-10 | 0-15 | NP |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 708: | | | | | | | | | | | | | |
| Rushlake-------- | 85 | 0-9 | Coarse sand | SM, SP, SP-SM | A-1-b, A-2-4, A-3 | 0 | 0 | 95-100 | 75-100 | 10-55 | 2-15 | --- | NP |
| | | 9-80 | Gravelly sand, gravelly loamy sand, coarse sand | SP, SP-SM | A-1-b, A-3 | 0 | 0-3 | 55-95 | 50-90 | 15-60 | 2-10 | --- | NP |
| 740: | | | | | | | | | | | | | |
| Hamel---------- | 70 | 0-24 | Loam | CL, ML | A-4, A-6 | 0 | 0 | 100 | 95-100 | 85-100 | 60-85 | 30-40 | 5-20 |
| | | 24-46 | Clay loam, loam, silty clay loam | CH, CL | A-6 | 0 | 0 | 95-100 | 95-100 | 85-95 | 65-80 | 40-55 | 25-35 |
| | | 46-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Glencoe, depressional--- | 20 | 0-10 | Clay loam | CL, ML, OL | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 75-100 | 60-90 | 40-50 | 15-20 |
| | | 10-35 | Silty clay loam, clay loam, loam | CL, OL, ML | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 75-100 | 60-90 | 30-50 | 10-20 |
| | | 35-48 | Loam, clay loam, silty clay loam | CL, ML | A-6 | 0 | 0 | 95-100 | 90-100 | 75-100 | 60-90 | 30-40 | 5-20 |
| | | 48-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 768: | | | | | | | | | | | | | |
| Mosford--------- | 85 | 0-13 | Sandy loam | SM | A-2-4, A-4 | 0 | 0 | 100 | 85-100 | 50-85 | 25-55 | 0-25 | NP-6 |
| | | 13-16 | Sandy loam, coarse sandy loam, fine sandy loam | SM | A-4, A-2-4 | 0 | 0 | 100 | 85-100 | 55-85 | 25-55 | 0-25 | NP-6 |
| | | 16-35 | Coarse sand, sand, loamy sand | SP, SP-SM | A-2-4, A-3 | 0 | 0 | 100 | 85-100 | 45-65 | 4-30 | 0-20 | NP-4 |
| | | 35-80 | Coarse sand, sand, gravelly coarse sand | SP, SP-SM, SW | A-1, A-3 | 0 | 0 | 95-100 | 50-100 | 45-75 | 4-15 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 771: | | | | | | | | | | | | | |
| Elkriver, rarely flooded-------- | 85 | 0-10 | Fine sandy loam | ML, SM | A-4 | 0 | 0 | 100 | 85-100 | 50-95 | 30-65 | 0-25 | NP-4 |
| | | 10-35 | Fine sandy loam, very fine sandy loam, loam | ML, SM | A-4 | 0 | 0 | 100 | 85-100 | 65-95 | 35-75 | 0-30 | NP-6 |
| | | 35-39 | Very fine sandy loam, fine sandy loam, loam | ML, SM | A-4 | 0 | 0 | 100 | 85-100 | 65-95 | 35-75 | 0-30 | NP-6 |
| | | 39-80 | Fine sand, sand, gravelly sand | SM, SP-SM, SP | A-1-b, A-2-4, A-3 | 0 | 0 | 95-100 | 65-100 | 40-75 | 4-15 | 0-20 | NP-4 |
| 783C2: | | | | | | | | | | | | | |
| Lester, eroded-- | 50 | 0-7 | Loam | CL-ML, CL | A-4, A-6 | 0 | 0-2 | 95-100 | 90-100 | 80-95 | 50-85 | 25-40 | 5-15 |
| | | 7-38 | Clay loam, loam | CL | A-6 | 0-1 | 0-3 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 38-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 60-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Kilkenny, eroded | 30 | 0-9 | Clay loam | ML, CL | A-6, A-7 | 0 | 0 | 95-100 | 95-100 | 80-95 | 70-85 | 35-50 | 10-25 |
| | | 9-53 | Clay loam, clay, silty clay loam | CH, MH | A-7 | 0 | 0 | 95-100 | 90-100 | 80-95 | 65-80 | 50-70 | 25-35 |
| | | 53-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 792: | | | | | | | | | | | | | |
| Fordum, frequently flooded-------- | 90 | 0-7 | Fine sandy loam | SC-SM, CL-ML, SM | A-1, A-2, A-4 | 0 | 0-5 | 80-100 | 75-100 | 45-95 | 20-65 | 0-30 | NP-7 |
| | | 7-28 | Silt loam, sandy loam, gravelly loam | CL, ML, SC, SM | A-1, A-2, A-4 | 0 | 0-5 | 30-100 | 25-100 | 20-100 | 10-90 | 15-30 | 3-10 |
| | | 28-80 | Sand, very gravelly loamy fine sand | GP, SM, SP | A-1, A-2, A-3 | 0 | 0-5 | 30-100 | 25-100 | 7-95 | 1-50 | 0-20 | NP-4 |
| 799: | | | | | | | | | | | | | |
| Seelyeville, frequently flooded-------- | 45 | 0-12 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 12-80 | Muck, mucky peat | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 799: | | | | | | | | | | | | | |
| Bowstring, frequently flooded-------- | 45 | 0-38 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 38-47 | Stratified fine sand to fine sandy loam | SC-SM, SM, SP-SM | A-2 | 0 | 0 | 100 | 100 | 50-85 | 10-35 | 15-20 | NP-5 |
| | | 47-80 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| 804B: | | | | | | | | | | | | | |
| Koronis--------- | 50 | 0-8 | Sandy loam | SM | A-4, A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 75-90 | 45-70 | 25-35 | 3-14 |
| | | 8-25 | Sandy clay loam, sandy loam, fine sandy loam | SC, CL | A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 70-90 | 35-70 | 30-40 | 10-20 |
| | | 25-60 | Sandy loam, fine sandy loam, loam | SC-SM, SC | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |
| Sunburg--------- | 20 | 0-7 | Sandy loam | SC-SM, SC, SM | A-2, A-4 | 0-1 | 0-5 | 85-95 | 75-95 | 50-80 | 30-50 | 15-30 | 2-10 |
| | | 7-60 | Sandy loam, fine sandy loam, loam | SC-SM, SC | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |
| Hawick---------- | 15 | 0-7 | Sandy loam | SM | A-2 | 0-2 | 0-5 | 85-100 | 80-95 | 50-65 | 25-35 | 0-20 | NP-4 |
| | | 7-11 | Gravelly loamy coarse sand, gravelly coarse sand, loamy sand | SM, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 75-95 | 60-95 | 35-70 | 5-25 | 0-15 | NP |
| | | 11-80 | Gravelly coarse sand, coarse sand, sand | SP, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 50-95 | 50-95 | 30-65 | 2-10 | 0-15 | NP |
| 804C2: | | | | | | | | | | | | | |
| Koronis, eroded | 45 | 0-8 | Sandy loam | SM | A-4, A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 75-90 | 45-70 | 25-35 | 3-14 |
| | | 8-25 | Sandy clay loam, sandy loam, fine sandy loam | SC, CL | A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 70-90 | 35-70 | 30-40 | 10-20 |
| | | 25-60 | Sandy loam, fine sandy loam, loam | SC-SM, SC | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 804C2: | | | | | | | | | | | | | |
| Sunburg--------- | 25 | 0-7 | Sandy loam | SC-SM, SC, SM | A-2, A-4 | 0-1 | 0-5 | 85-95 | 75-95 | 50-80 | 30-50 | 15-30 | 2-10 |
| | | 7-60 | Sandy loam, fine sandy loam, loam | SC-SM, SC | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |
| Hawick---------- | 15 | 0-7 | Sandy loam | SM | A-2 | 0-2 | 0-5 | 85-100 | 80-95 | 50-65 | 25-35 | 0-20 | NP-4 |
| | | 7-11 | Gravelly loamy coarse sand, gravelly coarse sand, loamy sand | SM, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 75-95 | 60-95 | 35-70 | 5-25 | 0-15 | NP |
| | | 11-80 | Gravelly coarse sand, coarse sand, sand | SP, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 50-95 | 50-95 | 30-65 | 2-10 | 0-15 | NP |
| 804D2: | | | | | | | | | | | | | |
| Koronis, eroded | 40 | 0-8 | Sandy loam | SM | A-4, A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 75-90 | 45-70 | 25-35 | 3-14 |
| | | 8-25 | Sandy clay loam, sandy loam, fine sandy loam | SC, CL | A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 70-90 | 35-70 | 30-40 | 10-20 |
| | | 25-60 | Sandy loam, fine sandy loam, loam | SC-SM, SC | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |
| Sunburg--------- | 30 | 0-7 | Sandy loam | SC-SM, SC, SM | A-2, A-4 | 0-1 | 0-5 | 85-95 | 75-95 | 50-80 | 30-50 | 15-30 | 2-10 |
| | | 7-60 | Sandy loam, fine sandy loam, loam | SC-SM, SC | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |
| Hawick---------- | 15 | 0-7 | Sandy loam | SM | A-2 | 0-2 | 0-5 | 85-100 | 80-95 | 50-65 | 25-35 | 0-20 | NP-4 |
| | | 7-11 | Gravelly loamy coarse sand, gravelly coarse sand, loamy sand | SM, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 75-95 | 60-95 | 35-70 | 5-25 | 0-15 | NP |
| | | 11-80 | Gravelly coarse sand, coarse sand, sand | SP, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 50-95 | 50-95 | 30-65 | 2-10 | 0-15 | NP |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 804E: | | | | | | | | | | | | | |
| Koronis--------- | 50 | 0-5 | Fine sandy loam | SM | A-4, A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 75-90 | 45-70 | 25-35 | 3-14 |
| | | 5-21 | Sandy clay loam, sandy loam, fine sandy loam | SC, CL | A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 70-90 | 35-70 | 30-40 | 10-20 |
| | | 21-60 | Sandy loam, fine sandy loam, loam | SC-SM, SC | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |
| Sunburg--------- | 20 | 0-4 | Fine sandy loam | SC-SM, SC, SM | A-2, A-4 | 0-1 | 0-5 | 85-95 | 75-95 | 50-80 | 30-50 | 15-30 | 2-10 |
| | | 4-60 | Sandy loam, fine sandy loam, loam | SC-SM, SC | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |
| Hawick---------- | 15 | 0-11 | Gravelly loamy coarse sand | SP, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 75-95 | 60-95 | 35-70 | 4-35 | 0-14 | NP-4 |
| | | 11-16 | Gravelly loamy coarse sand, gravelly coarse sand, loamy sand | SM, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 75-95 | 60-95 | 35-70 | 5-25 | 0-15 | NP |
| | | 16-60 | Gravelly coarse sand, coarse sand, sand | SP, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 50-95 | 50-95 | 30-65 | 2-10 | 0-15 | NP |
| 807D2: | | | | | | | | | | | | | |
| Koronis, eroded | 65 | 0-8 | Sandy loam | SM | A-4, A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 75-90 | 45-70 | 25-35 | 3-14 |
| | | 8-25 | Sandy clay loam, sandy loam, fine sandy loam | SC, CL | A-6 | 0-1 | 0-5 | 85-100 | 80-95 | 70-90 | 35-70 | 30-40 | 10-20 |
| | | 25-60 | Sandy loam, fine sandy loam, loam | SC-SM, SC | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |
| Sunburg--------- | 20 | 0-7 | Sandy loam | SC-SM, SC, SM | A-2, A-4 | 0-1 | 0-5 | 85-95 | 75-95 | 50-80 | 30-50 | 15-30 | 2-10 |
| | | 7-60 | Sandy loam, fine sandy loam, loam | SC-SM, SC | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 875B: | | | | | | | | | | | | | |
| Estherville----- | 60 | 0-13 | Sandy loam | SM, SC-SM, SC | A-2, A-4 | 0 | 0-5 | 90-100 | 80-100 | 50-75 | 25-50 | 20-30 | 2-10 |
| | | 13-18 | Sandy loam, loam, coarse sandy loam | SC-SM, SM, SC | A-1, A-2, A-4 | 0 | 0-5 | 85-100 | 80-95 | 40-75 | 15-45 | 20-30 | 2-8 |
| | | 18-23 | Coarse sand, gravelly coarse sand, loamy coarse sand | SP-SM, SP, SM | A-2 | 0 | 0-10 | 55-90 | 50-85 | 10-40 | 2-25 | 0-14 | NP |
| | | 23-60 | Coarse sand, gravelly coarse sand, loamy coarse sand | GP, SP-SM, SM, SP | A-1 | 0 | 0-10 | 55-90 | 50-85 | 10-40 | 2-25 | 0-14 | NP |
| Hawick---------- | 30 | 0-7 | Sandy loam | SM | A-2 | 0-2 | 0-5 | 85-100 | 80-95 | 50-65 | 25-35 | 0-20 | NP-4 |
| | | 7-11 | Gravelly loamy coarse sand, gravelly coarse sand, loamy sand | SM, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 75-95 | 60-95 | 35-70 | 5-25 | 0-15 | NP |
| | | 11-80 | Gravelly coarse sand, coarse sand, sand | SP, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 50-95 | 50-95 | 30-65 | 2-10 | 0-15 | NP |
| 875C: | | | | | | | | | | | | | |
| Hawick---------- | 60 | 0-7 | Sandy loam | SM | A-2 | 0-2 | 0-5 | 85-100 | 80-95 | 50-65 | 25-35 | 0-20 | NP-4 |
| | | 7-11 | Gravelly loamy coarse sand, gravelly coarse sand, loamy sand | SM, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 75-95 | 60-95 | 35-70 | 5-25 | 0-15 | NP |
| | | 11-80 | Gravelly coarse sand, coarse sand, sand | SP, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 50-95 | 50-95 | 30-65 | 2-10 | 0-15 | NP |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 875C: | | | | | | | | | | | | | |
| Estherville----- | 25 | 0-13 | Sandy loam | SC, SC-SM, SM | A-2, A-4 | 0 | 0-5 | 90-100 | 80-100 | 50-75 | 25-50 | 20-30 | 2-10 |
| | | 13-18 | Sandy loam, loam, coarse sandy loam | SC-SM, SM, SC | A-1, A-2, A-4 | 0 | 0-5 | 85-100 | 80-95 | 40-75 | 15-45 | 20-30 | 2-8 |
| | | 18-23 | Coarse sand, gravelly coarse sand, loamy coarse sand | SP-SM, SP, SM | A-2 | 0 | 0-10 | 55-90 | 50-85 | 10-40 | 2-25 | 0-14 | NP |
| | | 23-60 | Coarse sand, gravelly coarse sand, loamy coarse sand | GP, SM, SP, SP-SM | A-1 | 0 | 0-10 | 55-90 | 50-85 | 10-40 | 2-25 | 0-14 | NP |
| 896B: | | | | | | | | | | | | | |
| Kingsley-------- | 70 | 0-6 | Sandy loam | SC-SM, SM | A-2, A-4 | 0 | 0-5 | 90-100 | 75-100 | 50-85 | 30-45 | 15-20 | NP-5 |
| | | 6-18 | Sandy loam, fine sandy loam, loamy sand | SM, SC-SM | A-2, A-4 | 0 | 0-5 | 90-100 | 75-100 | 40-75 | 20-45 | 10-20 | NP-5 |
| | | 18-45 | Sandy loam, coarse sandy loam | SC-SM, SM, SC | A-2, A-4 | 0 | 0-5 | 90-100 | 75-95 | 50-75 | 25-45 | 15-25 | 3-9 |
| | | 45-80 | Sandy loam, coarse sandy loam | SM, SC-SM | A-2, A-4 | 0 | 0-5 | 90-100 | 75-95 | 50-75 | 25-40 | 15-20 | NP-5 |
| Gotham---------- | 25 | 0-9 | Loamy sand | SM | A-1, A-2, A-4 | 0 | 0 | 100 | 95-100 | 45-95 | 15-50 | 0-14 | NP |
| | | 9-18 | Loamy fine sand, loamy sand | SP-SM, SM | A-1, A-2, A-4 | 0 | 0 | 95-100 | 75-100 | 40-95 | 12-50 | 0-14 | NP |
| | | 18-40 | Sand, loamy fine sand, loamy sand | SP-SM, SM, SP | A-1, A-2, A-4 | 0 | 0 | 95-100 | 75-100 | 40-95 | 4-50 | 0-14 | NP |
| | | 40-80 | Fine sand, loamy sand, sand | SP-SM, SP | A-1, A-2, A-3 | 0 | 0 | 95-100 | 75-100 | 40-80 | 1-35 | 0-14 | NP |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 896C: | | | | | | | | | | | | | |
| Kingsley-------- | 70 | 0-6 | Sandy loam | SC-SM, SM | A-2, A-4 | 0 | 0-5 | 90-100 | 75-100 | 50-85 | 30-45 | 15-20 | NP-5 |
| | | 6-18 | Sandy loam, fine sandy loam, loamy sand | SM, SC-SM | A-2, A-4 | 0 | 0-5 | 90-100 | 75-100 | 40-75 | 20-45 | 10-20 | NP-5 |
| | | 18-45 | Sandy loam, coarse sandy loam | SC-SM, SM, SC | A-2, A-4 | 0 | 0-5 | 90-100 | 75-95 | 50-75 | 25-45 | 15-25 | 3-9 |
| | | 45-80 | Sandy loam, coarse sandy loam | SM, SC-SM | A-2, A-4 | 0 | 0-5 | 90-100 | 75-95 | 50-75 | 25-40 | 15-20 | NP-5 |
| Gotham---------- | 25 | 0-9 | Loamy sand | SM | A-1, A-2, A-4 | 0 | 0 | 100 | 95-100 | 45-95 | 15-50 | 0-14 | NP |
| | | 9-18 | Loamy fine sand, loamy sand | SP-SM, SM | A-1, A-2, A-4 | 0 | 0 | 95-100 | 75-100 | 40-95 | 12-50 | 0-14 | NP |
| | | 18-40 | Sand, loamy fine sand, loamy sand | SP-SM, SM, SP | A-1, A-2, A-4 | 0 | 0 | 95-100 | 75-100 | 40-95 | 4-50 | 0-14 | NP |
| | | 40-80 | Fine sand, loamy sand, sand | SP-SM, SP | A-1, A-2, A-3 | 0 | 0 | 95-100 | 75-100 | 40-80 | 1-35 | 0-14 | NP |
| 945C2: | | | | | | | | | | | | | |
| Lester, eroded-- | 50 | 0-7 | Loam | CL-ML, CL | A-4, A-6 | 0 | 0-2 | 95-100 | 90-100 | 80-95 | 50-85 | 25-40 | 5-15 |
| | | 7-38 | Clay loam, loam | CL | A-6 | 0-1 | 0-3 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 38-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 60-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Storden, eroded | 30 | 0-7 | Loam | CL | A-6 | 0 | 0-5 | 95-100 | 95-98 | 75-95 | 60-75 | 28-36 | 9-15 |
| | | 7-55 | Loam, clay loam | CL | A-6 | 0 | 0-5 | 95-100 | 90-98 | 70-95 | 55-70 | 28-39 | 9-18 |
| | | 55-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 945D2: | | | | | | | | | | | | | |
| Lester, eroded-- | 60 | 0-7 | Loam | CL-ML, CL | A-4, A-6 | 0 | 0-2 | 95-100 | 90-100 | 80-95 | 50-85 | 25-40 | 5-15 |
| | | 7-38 | Clay loam, loam | CL | A-6 | 0-1 | 0-3 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 38-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 60-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Storden, eroded | 20 | 0-7 | Loam | CL | A-6 | 0 | 0-5 | 95-100 | 95-98 | 75-95 | 60-75 | 28-36 | 9-15 |
| | | 7-55 | Loam, clay loam | CL | A-6 | 0 | 0-5 | 95-100 | 90-98 | 70-95 | 55-70 | 28-39 | 9-18 |
| | | 55-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 956: | | | | | | | | | | | | | |
| Canisteo-------- | 65 | 0-18 | Clay loam | OL, CL | A-6 | 0 | 0 | 95-100 | 95-100 | 85-100 | 60-100 | 40-50 | 15-20 |
| | | 18-39 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 80-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 39-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Glencoe, depressional--- | 25 | 0-10 | Clay loam | OL, CL, ML | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 75-100 | 60-90 | 40-50 | 15-20 |
| | | 10-35 | Silty clay loam, clay loam, loam | CL, OL, ML | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 75-100 | 60-90 | 30-50 | 10-20 |
| | | 35-48 | Loam, clay loam, silty clay loam | CL, ML | A-6 | 0 | 0 | 95-100 | 90-100 | 75-100 | 60-90 | 30-40 | 5-20 |
| | | 48-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 978: | | | | | | | | | | | | | |
| Cordova--------- | 60 | 0-18 | Clay loam | MH, ML, CL, OH | A-6, A-7 | 0 | 0 | 95-100 | 95-100 | 90-100 | 70-85 | 40-60 | 15-25 |
| | | 18-38 | Silty clay loam, clay loam | CL | A-6 | 0 | 0 | 90-100 | 90-100 | 85-95 | 65-90 | 40-50 | 20-30 |
| | | 38-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Rolfe, depressional--- | 30 | 0-12 | Silt loam | CL, ML, OL | A-4, A-6 | 0 | 0 | 100 | 95-100 | 90-100 | 80-95 | 30-40 | 5-15 |
| | | 12-20 | Silt loam, clay loam | ML, CL | A-6, A-4 | 0 | 0 | 100 | 95-100 | 90-100 | 75-95 | 30-40 | 5-35 |
| | | 20-35 | Silty clay | CH | A-7 | 0 | 0 | 100 | 95-100 | 90-100 | 90-100 | 50-65 | 25-35 |
| | | 35-51 | Clay loam, loam | CL | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 80-90 | 55-75 | 30-45 | 10-20 |
| | | 51-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 1000: | | | | | | | | | | | | | |
| Arvilla, MAP >25 | 90 | 0-14 | Sandy loam | SC, SC-SM, SM | A-2, A-4, A-6 | 0 | 0 | 95-100 | 90-100 | 50-80 | 20-45 | 15-30 | NP-15 |
| | | 14-20 | Sandy loam, loam, coarse sandy loam | SC, SC-SM, SM | A-2, A-4, A-6 | 0 | 0 | 90-100 | 85-100 | 50-80 | 20-45 | 15-40 | NP-15 |
| | | 20-80 | Gravelly coarse sand, coarse sand, very gravelly coarse sand | GP, GP-GM, SM, SP-SM | A-1, A-2, A-3 | 0 | 0 | 35-100 | 25-100 | 10-60 | 0-15 | --- | NP |
| 1015. Udipsamments (cut and fill land) | | | | | | | | | | | | | |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1016. Udorthents, loamy | | | | | | | | | | | | | |
| 1023C: | | | | | | | | | | | | | |
| Lester, eroded-- | 50 | 0-7 | Loam | CL-ML, CL | A-4, A-6 | 0 | 0-2 | 95-100 | 90-100 | 80-95 | 50-85 | 25-40 | 5-15 |
| | | 7-38 | Clay loam, loam | CL | A-6 | 0-1 | 0-3 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 38-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 60-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Malardi--------- | 35 | 0-10 | Sandy loam | SC-SM, SM | A-2, A-4 | 0 | 0 | 90-100 | 80-100 | 50-75 | 25-50 | 0-25 | NP-5 |
| | | 10-15 | Loam, sandy loam, coarse sandy loam | CL, CL-ML, SC, SC-SM | A-4, A-6 | 0 | 0 | 90-100 | 85-100 | 50-90 | 35-75 | 15-30 | 4-14 |
| | | 15-29 | Coarse sand, loamy coarse sand, gravelly coarse sand | SC-SM, SM, SP-SM | A-1, A-2, A-3 | 0 | 0-5 | 75-90 | 70-85 | 20-65 | 5-25 | 0-20 | NP-7 |
| | | 29-80 | Sand, coarse sand, gravelly sand | SP-SM, SP | A-1, A-1-b | 0 | 0-10 | 55-90 | 55-85 | 20-60 | 2-10 | 0-20 | NP-4 |
| 1023D: | | | | | | | | | | | | | |
| Lester, eroded-- | 45 | 0-7 | Loam | CL-ML, CL | A-4, A-6 | 0 | 0-2 | 95-100 | 90-100 | 80-95 | 50-85 | 25-40 | 5-15 |
| | | 7-38 | Clay loam, loam | CL | A-6 | 0-1 | 0-3 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 38-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 60-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Malardi--------- | 40 | 0-9 | Sandy loam | SC-SM, SM | A-2, A-4 | 0 | 0 | 90-100 | 80-100 | 50-75 | 25-50 | 0-25 | NP-5 |
| | | 9-14 | Loam, sandy loam, coarse sandy loam | CL, CL-ML, SC, SC-SM | A-6, A-4 | 0 | 0 | 90-100 | 85-100 | 50-90 | 35-75 | 15-30 | 4-14 |
| | | 14-21 | Coarse sand, loamy coarse sand, gravelly coarse sand, gravelly loamy coarse sand | SC-SM, SM, SP-SM | A-1, A-2, A-3 | 0 | 0-5 | 75-90 | 70-85 | 20-65 | 5-25 | 0-20 | NP-7 |
| | | 21-80 | Sand, coarse sand, gravelly sand | SP, GP, SP-SM | A-1, A-1-b | 0 | 0-10 | 55-90 | 55-85 | 20-60 | 2-10 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1026B: | | | | | | | | | | | | | |
| Lizzie, moderately wet | 90 | 0-12 | Silt loam | CL, CL-ML | A-4, A-6 | 0 | 0 | 100 | 97-100 | 85-100 | 60-90 | 28-32 | 6-13 |
| | | 12-36 | Silt loam, silty clay loam, loam | CL | A-4, A-6 | 0 | 0 | 100 | 97-100 | 80-100 | 75-95 | 28-43 | 9-21 |
| | | 36-40 | Silt loam, loam, very fine sandy loam | CL, CL-ML | A-4, A-6 | 0 | 0 | 100 | 97-100 | 85-100 | 60-90 | 15-30 | NP-11 |
| | | 40-80 | Very fine sandy loam, silt loam, loamy very fine sand | CL-ML, SC-SM, SM | A-2-4, A-4 | 0 | 0 | 100 | 97-100 | 65-95 | 15-90 | 15-26 | NP-8 |
| 1027. Udorthents, wet substratum | | | | | | | | | | | | | |
| 1030: | | | | | | | | | | | | | |
| Pits, gravel. | | | | | | | | | | | | | |
| Udipsamments. | | | | | | | | | | | | | |
| 1035B: | | | | | | | | | | | | | |
| Crowfork-------- | 90 | 0-11 | Loamy sand | SM | A-1, A-2 | 0 | 0 | 95-100 | 85-100 | 40-100 | 15-30 | 0-20 | NP-4 |
| | | 11-20 | Fine sand, loamy fine sand, loamy sand | SP-SM, SM | A-2, A-3 | 0 | 0 | 95-100 | 85-100 | 40-100 | 5-20 | 0-20 | NP-4 |
| | | 20-76 | Fine sand, loamy sand, sand | SM, SP-SM, SP | A-1, A-2, A-3 | 0 | 0 | 95-100 | 75-100 | 40-75 | 0-15 | 0-20 | NP-4 |
| | | 76-80 | Sand, coarse sand | SP | A-1, A-2 | 0 | 0 | 95-100 | 75-100 | 40-75 | 0-15 | 0-20 | NP |
| 1035C: | | | | | | | | | | | | | |
| Crowfork-------- | 90 | 0-11 | Loamy sand | SM | A-1, A-2 | 0 | 0 | 95-100 | 85-100 | 40-100 | 15-30 | 0-20 | NP-4 |
| | | 11-20 | Fine sand, loamy fine sand, loamy sand | SP-SM, SM | A-2, A-3 | 0 | 0 | 95-100 | 85-100 | 40-100 | 5-20 | 0-20 | NP-4 |
| | | 20-76 | Fine sand, loamy sand, sand | SM, SP-SM, SP | A-1, A-2, A-3 | 0 | 0 | 95-100 | 75-100 | 40-75 | 0-15 | 0-20 | NP-4 |
| | | 76-80 | Sand, coarse sand | SP | A-1, A-2 | 0 | 0 | 95-100 | 75-100 | 40-75 | 0-15 | 0-15 | NP |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1035D: | | | | | | | | | | | | | |
| Crowfork-------- | 85 | 0-11 | Loamy sand | SM | A-1, A-2 | 0 | 0 | 95-100 | 85-100 | 40-100 | 15-30 | 0-20 | NP-4 |
| | | 11-20 | Fine sand, loamy fine sand, loamy sand | SM, SP-SM | A-2, A-3 | 0 | 0 | 95-100 | 85-100 | 40-100 | 5-20 | 0-20 | NP-4 |
| | | 20-76 | Fine sand, loamy sand, sand | SM, SP-SM, SP | A-1, A-2, A-3 | 0 | 0 | 95-100 | 75-100 | 40-75 | 0-15 | 0-20 | NP-4 |
| | | 76-80 | Sand, coarse sand | SP | A-1, A-2 | 0 | 0 | 95-100 | 75-100 | 40-75 | 0-15 | 0-15 | NP |
| 1036B: | | | | | | | | | | | | | |
| Angus---------- | 85 | 0-9 | Fine sandy loam | SM | A-4 | 0 | 0-5 | 95-100 | 95-100 | 75-90 | 35-50 | 15-25 | NP-10 |
| | | 9-46 | Clay loam, loam | CL | A-6 | 0-1 | 0-5 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 46-58 | Loam, clay loam | CL | A-6 | 0-1 | 0-5 | 95-100 | 90-100 | 75-90 | 50-75 | 32-39 | 13-18 |
| | | 58-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 1037: | | | | | | | | | | | | | |
| Eckvoll, MAP >25 | 90 | 0-9 | Loamy fine sand | SC-SM, SM | A-2, A-4 | 0 | 0-2 | 90-100 | 85-100 | 45-80 | 25-40 | 15-20 | NP-7 |
| | | 9-24 | Fine sand, sand, loamy fine sand | SM, SP-SM | A-1, A-2, A-3 | 0 | 0-2 | 90-100 | 85-100 | 45-75 | 5-30 | 15-20 | NP-4 |
| | | 24-45 | Clay loam, sandy clay loam, loam | CL, SC | A-7, A-4, A-6 | 0 | 0-5 | 90-100 | 85-98 | 65-95 | 45-75 | 25-50 | 7-25 |
| | | 45-80 | Loam, clay loam, fine sandy loam | CL | A-4, A-6, A-7 | 0 | 0-5 | 90-100 | 85-98 | 70-95 | 50-80 | 25-45 | 7-20 |
| 1038A: | | | | | | | | | | | | | |
| Verndale, acid substratum----- | 90 | 0-10 | Sandy loam | SM | A-2, A-4 | 0 | 0 | 100 | 85-100 | 60-85 | 25-45 | 0-20 | NP-6 |
| | | 10-19 | Sandy loam, fine sandy loam, loam | SC-SM, SM | A-2-4, A-4 | 0 | 0 | 98-100 | 85-100 | 60-85 | 25-45 | 15-30 | 4-7 |
| | | 19-28 | Sand, coarse sand, loamy coarse sand | SM, SW | A-2-4, A-3 | 0 | 0 | 98-100 | 85-100 | 50-65 | 4-20 | 0-20 | NP-4 |
| | | 28-80 | Sand, coarse sand | SP-SM, SW, SP | A-1-b, A-2-4, A-3 | 0 | 0 | 96-100 | 75-100 | 45-60 | 3-10 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1038B: | | | | | | | | | | | | | |
| Verndale, acid substratum----- | 85 | 0-10 | Sandy loam | SM | A-2, A-4 | 0 | 0 | 100 | 85-100 | 60-85 | 25-45 | 0-20 | NP-6 |
| | | 10-19 | Sandy loam, fine sandy loam, loam | SC-SM, SM | A-2-4, A-4 | 0 | 0 | 98-100 | 85-100 | 60-85 | 25-45 | 15-30 | 4-7 |
| | | 19-28 | Sand, coarse sand, loamy coarse sand | SM, SW | A-2-4, A-3 | 0 | 0 | 98-100 | 85-100 | 50-65 | 4-20 | 0-20 | NP-4 |
| | | 28-80 | Sand, coarse sand | SP-SM, SP, SW | A-1-b, A-2-4, A-3 | 0 | 0 | 96-100 | 75-100 | 45-60 | 3-10 | 0-20 | NP-4 |
| 1066B: | | | | | | | | | | | | | |
| Malardi--------- | 65 | 0-10 | Sandy loam | SC-SM, SM | A-2, A-4 | 0 | 0 | 90-100 | 80-100 | 50-75 | 25-50 | 0-25 | NP-5 |
| | | 10-15 | Loam, sandy loam, coarse sandy loam | CL, CL-ML, SC, SC-SM | A-4, A-6 | 0 | 0 | 90-100 | 85-100 | 50-90 | 35-75 | 15-30 | 4-14 |
| | | 15-29 | Coarse sand, loamy coarse sand, gravelly coarse sand | SC-SM, SM, SP-SM | A-1, A-2, A-3 | 0 | 0-5 | 75-90 | 70-85 | 20-65 | 5-25 | 0-20 | NP-7 |
| | | 29-80 | Sand, coarse sand, gravelly sand | SP-SM, SP | A-1, A-1-b | 0 | 0-10 | 55-90 | 55-85 | 20-60 | 2-10 | 0-20 | NP-4 |
| Hawick---------- | 25 | 0-7 | Sandy loam | SM | A-2 | 0-2 | 0-5 | 85-100 | 80-95 | 50-65 | 25-35 | 0-20 | NP-4 |
| | | 7-11 | Gravelly loamy coarse sand, gravelly coarse sand, loamy sand | SM, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 75-95 | 60-95 | 35-70 | 5-25 | 0-15 | NP |
| | | 11-80 | Gravelly coarse sand, coarse sand, sand | SP, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 50-95 | 50-95 | 30-65 | 2-10 | 0-15 | NP |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1066C: | | | | | | | | | | | | | |
| Malardi--------- | 60 | 0-10 | Sandy loam | SC-SM, SM | A-2, A-4 | 0 | 0 | 90-100 | 80-100 | 50-75 | 25-50 | 0-25 | NP-5 |
| | | 10-15 | Loam, sandy loam, coarse sandy loam | CL, CL-ML, SC, SC-SM | A-4, A-6 | 0 | 0 | 90-100 | 85-100 | 50-90 | 35-75 | 15-30 | 4-14 |
| | | 15-29 | Coarse sand, loamy coarse sand, gravelly coarse sand | SC-SM, SM, SP-SM | A-1, A-2, A-3 | 0 | 0-5 | 75-90 | 70-85 | 20-65 | 5-25 | 0-20 | NP-7 |
| | | 29-80 | Sand, coarse sand, gravelly sand | SP-SM, SP | A-1, A-1-b | 0 | 0-10 | 55-90 | 55-85 | 20-60 | 2-10 | 0-20 | NP-4 |
| Hawick---------- | 25 | 0-7 | Sandy loam | SM | A-2 | 0-2 | 0-5 | 85-100 | 80-95 | 50-65 | 25-35 | 0-20 | NP-4 |
| | | 7-11 | Gravelly loamy coarse sand, gravelly coarse sand, loamy sand | SM, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 75-95 | 60-95 | 35-70 | 5-25 | 0-15 | NP |
| | | 11-80 | Gravelly coarse sand, coarse sand, sand | SP, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 50-95 | 50-95 | 30-65 | 2-10 | 0-15 | NP |
| 1066E: | | | | | | | | | | | | | |
| Malardi--------- | 55 | 0-9 | Sandy loam | SC-SM, SM | A-2, A-4 | 0 | 0 | 90-100 | 80-100 | 50-75 | 25-50 | 0-25 | NP-5 |
| | | 9-14 | Loam, sandy loam, coarse sandy loam | CL, CL-ML, SC, SC-SM | A-6, A-4 | 0 | 0 | 90-100 | 85-100 | 50-90 | 35-75 | 15-30 | 4-14 |
| | | 14-21 | Coarse sand, loamy coarse sand, gravelly coarse sand, gravelly loamy coarse sand | SC-SM, SM, SP-SM | A-3, A-1, A-2 | 0 | 0-5 | 75-90 | 70-85 | 20-65 | 5-25 | 0-20 | NP-7 |
| | | 21-80 | Sand, coarse sand, gravelly sand | SP, GP, SP-SM | A-1, A-1-b | 0 | 0-10 | 55-90 | 55-85 | 20-60 | 2-10 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1066E: | | | | | | | | | | | | | |
| Hawick---------- | 30 | 0-7 | Sandy loam | SM | A-2 | 0-2 | 0-5 | 85-100 | 80-95 | 50-65 | 25-35 | 0-20 | NP-4 |
| | | 7-11 | Gravelly loamy coarse sand, gravelly coarse sand, loamy sand | SM, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 75-95 | 60-95 | 35-70 | 5-25 | 0-15 | NP |
| | | 11-80 | Gravelly coarse sand, coarse sand, sand | SP, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 50-95 | 50-95 | 30-65 | 2-10 | 0-15 | NP |
| 1072. Udorthents, shallow | | | | | | | | | | | | | |
| 1075: | | | | | | | | | | | | | |
| Klossner, ponded | 40 | 0-26 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 26-33 | Silt loam, silty clay loam | MH | A-7 | 0 | 0 | 100 | 95-100 | 90-100 | 85-95 | 60-90 | 10-30 |
| | | 33-40 | Clay loam, loam, silty clay loam | CL | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 80-100 | 60-90 | 35-65 | 20-30 |
| | | 40-80 | Clay loam, loam, silty clay loam | CL | A-6, A-7 | 0 | 0-5 | 90-100 | 85-100 | 60-95 | 55-80 | 30-55 | 10-25 |
| Muskego, ponded | 40 | 0-9 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 9-36 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 36-60 | Coprogenous earth | OL | A-5 | 0 | 0 | 95-100 | 95-100 | 85-100 | 75-96 | 40-50 | 2-8 |
| 1080: | | | | | | | | | | | | | |
| Klossner, ponded | 30 | 0-26 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 26-33 | Silt loam, silty clay loam | MH | A-7 | 0 | 0 | 100 | 95-100 | 90-100 | 85-95 | 60-90 | 10-30 |
| | | 33-40 | Clay loam, loam, silty clay loam | CL | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 80-100 | 60-90 | 35-65 | 20-30 |
| | | 40-80 | Clay loam, loam, silty clay loam | CL | A-6, A-7 | 0 | 0-5 | 90-100 | 85-100 | 60-95 | 55-80 | 30-55 | 10-25 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1080: | | | | | | | | | | | | | |
| Okoboji, ponded | 30 | 0-10 | Mucky silty clay loam | MH | A-7 | 0 | 0 | 100 | 100 | 95-100 | 90-95 | 60-90 | 10-30 |
| | | 10-52 | Silty clay loam, silty clay | CH | A-7 | 0 | 0 | 100 | 100 | 90-100 | 80-95 | 55-65 | 30-40 |
| | | 52-60 | Silty clay loam, silty clay | CH | A-7 | 0 | 0 | 95-100 | 95-100 | 90-100 | 80-95 | 55-65 | 30-40 |
| Glencoe, ponded | 30 | 0-42 | Silty clay loam | CL | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 75-100 | 60-90 | 30-55 | 10-25 |
| | | 42-50 | Loam, clay loam, silty clay loam | CL | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 75-100 | 60-90 | 30-50 | 10-25 |
| | | 50-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 1087B: | | | | | | | | | | | | | |
| Angus---------- | 55 | 0-8 | Loam | CL | A-6 | 0 | 0-5 | 95-100 | 90-100 | 80-95 | 50-85 | 30-40 | 11-15 |
| | | 8-35 | Clay loam, loam | CL | A-6 | 0-1 | 0-5 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 35-40 | Loam, clay loam | CL | A-6 | 0-1 | 0-5 | 95-100 | 90-100 | 75-90 | 50-75 | 32-39 | 13-18 |
| | | 40-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Malardi--------- | 30 | 0-10 | Sandy loam | SC-SM, SM | A-2, A-4 | 0 | 0 | 90-100 | 80-100 | 50-75 | 25-50 | 0-25 | NP-5 |
| | | 10-15 | Loam, sandy loam, coarse sandy loam | CL, CL-ML, SC, SC-SM | A-4, A-6 | 0 | 0 | 90-100 | 85-100 | 50-90 | 35-75 | 15-30 | 4-14 |
| | | 15-29 | Coarse sand, loamy coarse sand, gravelly coarse sand | SM, SP-SM, SC-SM | A-2, A-3, A-1 | 0 | 0-5 | 75-90 | 70-85 | 20-65 | 5-25 | 0-20 | NP-7 |
| | | 29-80 | Sand, coarse sand, gravelly sand | SP-SM, SP | A-1, A-1-b | 0 | 0-10 | 55-90 | 55-85 | 20-60 | 2-10 | 0-20 | NP-4 |
| 1094B: | | | | | | | | | | | | | |
| Angus---------- | 60 | 0-8 | Loam | CL | A-6 | 0 | 0-5 | 95-100 | 90-100 | 80-95 | 50-85 | 30-40 | 11-15 |
| | | 8-35 | Clay loam, loam | CL | A-6 | 0-1 | 0-5 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 35-40 | Loam, clay loam | CL | A-6 | 0-1 | 0-5 | 95-100 | 90-100 | 75-90 | 50-75 | 32-39 | 13-18 |
| | | 40-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Cordova--------- | 30 | 0-13 | Loam | CL | A-4, A-6 | 0 | 0 | 95-100 | 95-100 | 90-100 | 70-85 | 25-40 | 8-20 |
| | | 13-33 | Silty clay loam, clay loam | CL | A-7 | 0 | 0 | 90-100 | 90-100 | 85-95 | 65-90 | 40-50 | 20-30 |
| | | 33-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1099: | | | | | | | | | | | | | |
| Granby, very wet | 85 | 0-12 | Loamy fine sand | SM | A-2 | 0 | 0 | 100 | 100 | 50-80 | 15-35 | 0-14 | NP |
| | | 12-24 | Sand, loamy fine sand, loamy sand | SM, SP-SM | A-3, A-1, A-2 | 0 | 0 | 100 | 95-100 | 45-80 | 5-35 | 0-14 | NP |
| | | 24-60 | Coarse sand, fine sand, loamy fine sand | SP-SM, SM | A-1, A-2, A-3 | 0 | 0 | 100 | 95-100 | 45-80 | 5-35 | 0-14 | NP |
| 1110: | | | | | | | | | | | | | |
| Isan---------- | 90 | 0-18 | Sandy loam | SC-SM, SM | A-2 | 0 | 0 | 95-100 | 92-100 | 50-75 | 15-35 | 0-30 | NP-7 |
| | | 18-29 | Sand, loamy sand | SM, SP-SM | A-2 | 0 | 0 | 95-100 | 92-100 | 50-75 | 10-30 | 0-20 | NP-4 |
| | | 29-80 | Sand, coarse sand | SM, SP | A-1, A-2, A-3 | 0 | 0 | 85-100 | 85-100 | 35-70 | 2-15 | 0-20 | NP-4 |
| 1156: | | | | | | | | | | | | | |
| Cordova--------- | 85 | 0-13 | Loam | CL | A-4, A-6 | 0 | 0 | 95-100 | 95-100 | 90-100 | 70-85 | 25-40 | 8-20 |
| | | 13-33 | Silty clay loam, clay loam | CL | A-7 | 0 | 0 | 90-100 | 90-100 | 85-95 | 65-90 | 40-50 | 20-30 |
| | | 33-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 1161: | | | | | | | | | | | | | |
| Barry---------- | 85 | 0-11 | Loam | CL, SC | A-4, A-6 | 0 | 2-5 | 95-98 | 90-95 | 60-80 | 40-70 | 25-35 | 8-15 |
| | | 11-33 | Loam, sandy clay loam | CL | A-6 | 0 | 5-7 | 90-95 | 85-95 | 60-80 | 50-75 | 28-35 | 10-15 |
| | | 33-60 | Sandy loam, fine sandy loam, loam | SC, SC-SM | A-2, A-4 | 0-2 | 0-5 | 85-100 | 80-95 | 50-85 | 25-50 | 20-30 | 5-10 |
| 1163: | | | | | | | | | | | | | |
| Suckercreek, frequently flooded-------- | 85 | 0-22 | Loam | CL-ML, CL | A-4 | 0 | 0 | 100 | 100 | 85-95 | 50-85 | 15-30 | 5-10 |
| | | 22-80 | Loam, sandy loam, loamy fine sand | SM, SC | A-2, A-4 | 0 | 0 | 95-100 | 85-100 | 65-90 | 20-70 | 0-30 | NP-10 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1165: | | | | | | | | | | | | | |
| Lundlake, depressional--- | 90 | 0-12 | Silty clay loam | CL | A-6, A-7 | 0-1 | 0-3 | 95-99 | 90-95 | 65-90 | 50-80 | 37-43 | 16-21 |
| | | 12-36 | Loam, clay loam, silty clay loam | SC, CL | A-6 | 0-1 | 1-3 | 95-99 | 90-95 | 65-90 | 45-80 | 30-39 | 11-18 |
| | | 36-72 | Loam, sandy clay loam, sandy loam | SC, CL | A-4, A-6 | 0-1 | 3-5 | 90-95 | 85-95 | 60-85 | 45-60 | 28-36 | 9-15 |
| | | 72-80 | Sandy loam, fine sandy loam, loam | SC, SC-SM | A-4 | 0-4 | 3-6 | 90-95 | 85-95 | 60-75 | 35-55 | 21-26 | 4-8 |
| 1173: | | | | | | | | | | | | | |
| Muskego, frequently flooded-------- | 45 | 0-9 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 9-36 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 36-60 | Coprogenous earth | OL | A-5 | 0 | 0 | 95-100 | 95-100 | 85-100 | 75-96 | 40-50 | 2-8 |
| Klossner, frequently flooded-------- | 45 | 0-26 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 26-33 | Silt loam, silty clay loam | MH | A-7 | 0 | 0 | 100 | 95-100 | 90-100 | 85-95 | 60-90 | 10-30 |
| | | 33-40 | Clay loam, loam, silty clay loam | CL | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 80-100 | 60-90 | 35-65 | 20-30 |
| | | 40-80 | Clay loam, loam, silty clay loam | CL | A-6, A-7 | 0 | 0-5 | 90-100 | 85-100 | 60-95 | 55-80 | 30-55 | 10-25 |
| 1186: | | | | | | | | | | | | | |
| Forestcity------ | 75 | 0-22 | Fine sandy loam | SM, SC-SM | A-2, A-4 | 0-1 | 0-2 | 98-100 | 90-98 | 55-75 | 25-50 | 20-30 | 3-9 |
| | | 22-43 | Loam, sandy clay loam, clay loam | CL | A-6 | 0-4 | 2-5 | 95-98 | 90-95 | 75-90 | 50-75 | 30-40 | 10-15 |
| | | 43-60 | Loam, sandy clay loam, clay loam | SC, CL | A-4, A-6 | 0-4 | 3-6 | 95-98 | 85-95 | 60-90 | 35-70 | 20-40 | 5-15 |
| | | 60-80 | Fine sandy loam, sandy loam | SC, SC-SM | A-4 | 0-4 | 3-6 | 90-95 | 85-95 | 60-75 | 35-55 | 20-30 | 4-8 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1186: | | | | | | | | | | | | | |
| Lundlake, depressional--- | 20 | 0-20 | Loam | CL | A-6 | 0-1 | 1-3 | 95-99 | 90-95 | 65-90 | 50-80 | 30-36 | 11-15 |
| | | 20-46 | Loam, clay loam, silty clay loam | SC, CL | A-6 | 0-1 | 1-3 | 95-99 | 90-95 | 65-90 | 45-80 | 30-39 | 11-18 |
| | | 46-54 | Loam, sandy clay loam, sandy loam | SC, CL | A-4, A-6 | 0-1 | 3-5 | 90-95 | 85-95 | 60-85 | 45-60 | 28-36 | 9-15 |
| | | 54-60 | Sandy loam, fine sandy loam, loam | SC, SC-SM | A-4 | 0-4 | 3-6 | 90-95 | 85-95 | 60-75 | 35-55 | 21-26 | 4-8 |
| 1196B: | | | | | | | | | | | | | |
| Lida---------- | 60 | 0-6 | Sandy loam | SC-SM, SM | A-2-4, A-4 | 0 | 0-10 | 85-100 | 85-100 | 30-85 | 15-55 | 0-28 | NP-9 |
| | | 6-8 | Loamy sand, loamy coarse sand, sandy loam | SP-SM, SM | A-2-4, A-4 | 0 | 0-10 | 85-100 | 85-100 | 30-85 | 10-55 | 0-25 | NP-7 |
| | | 8-17 | Coarse sandy loam, gravelly sandy loam, gravelly coarse sandy loam | SC-SM, SC, SM | A-2-4, A-4 | 0 | 0-5 | 85-100 | 50-85 | 30-75 | 15-55 | 20-28 | NP-9 |
| | | 17-25 | Loamy sand, gravelly loamy coarse sand, gravelly loamy sand | GP-GM, SP-SM, SP | A-1, A-2-4 | 0 | 0-5 | 50-85 | 50-85 | 20-65 | 4-25 | --- | NP |
| | | 25-80 | Gravelly coarse sand, sand, gravelly sand | GP-GM, GP, GW, SP | A-1, A-2-4, A-3 | 0 | 0-5 | 50-85 | 50-85 | 20-60 | 2-10 | --- | NP |
| Two Inlets------ | 30 | 0-9 | Loamy sand | SM | A-2-4 | 0 | 0-1 | 90-100 | 80-100 | 35-75 | 15-30 | 0-20 | NP-4 |
| | | 9-19 | Gravelly loamy sand, loamy coarse sand, loamy sand | SM, SP-SM | A-2, A-2-4, A-3 | 0 | 0-5 | 80-100 | 50-90 | 30-65 | 5-30 | 0-25 | NP-7 |
| | | 19-80 | Gravelly coarse sand, gravelly sand, sand | SP-SM, SP, SW | A-3, A-1 | 0 | 0-5 | 50-95 | 50-75 | 30-55 | 2-10 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1196C: | | | | | | | | | | | | | |
| Lida---------- | 55 | 0-6 | Sandy loam | SC-SM, SM | A-2-4, A-4 | 0 | 0-10 | 85-100 | 85-100 | 30-85 | 15-55 | 0-28 | NP-9 |
| | | 6-8 | Loamy sand, loamy coarse sand, sandy loam | SP-SM, SM | A-2-4, A-4 | 0 | 0-10 | 85-100 | 85-100 | 30-85 | 10-55 | 0-25 | NP-7 |
| | | 8-17 | Coarse sandy loam, gravelly sandy loam, gravelly coarse sandy loam | SC-SM, SC, SM | A-2-4, A-4 | 0 | 0-5 | 85-100 | 50-85 | 30-75 | 15-55 | 20-28 | NP-9 |
| | | 17-25 | Loamy sand, gravelly loamy coarse sand, gravelly loamy sand | GP-GM, SP-SM, SP | A-1, A-2-4 | 0 | 0-5 | 50-85 | 50-85 | 20-65 | 4-25 | --- | NP |
| | | 25-80 | Gravelly coarse sand, sand, gravelly sand | GP-GM, GP, GW, SP | A-1, A-2-4, A-3 | 0 | 0-5 | 50-85 | 50-85 | 20-60 | 2-10 | --- | NP |
| Two Inlets------ | 30 | 0-9 | Loamy sand | SM | A-2-4 | 0 | 0-1 | 90-100 | 80-100 | 35-75 | 15-30 | 0-20 | NP-4 |
| | | 9-19 | Gravelly loamy sand, loamy coarse sand, loamy sand | SM, SP-SM | A-2, A-2-4, A-3 | 0 | 0-5 | 80-100 | 50-90 | 30-65 | 5-30 | 0-25 | NP-7 |
| | | 19-80 | Gravelly coarse sand, gravelly sand, sand | SP-SM, SP, SW | A-3, A-1 | 0 | 0-5 | 50-95 | 50-75 | 30-55 | 2-10 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1196E: | | | | | | | | | | | | | |
| Lida---------- | 50 | 0-6 | Sandy loam | SC-SM, SM | A-2-4, A-4 | 0 | 0-10 | 85-100 | 85-100 | 30-85 | 15-55 | 0-28 | NP-9 |
| | | 6-8 | Loamy sand, loamy coarse sand, sandy loam | SP-SM, SM | A-2-4, A-4 | 0 | 0-10 | 85-100 | 85-100 | 30-85 | 10-55 | 0-25 | NP-7 |
| | | 8-17 | Coarse sandy loam, gravelly sandy loam, gravelly coarse sandy loam | SC-SM, SC, SM | A-2-4, A-4 | 0 | 0-5 | 85-100 | 50-85 | 30-75 | 15-55 | 20-28 | NP-9 |
| | | 17-25 | Loamy sand, gravelly loamy coarse sand, gravelly loamy sand | GP-GM, SP-SM, SP | A-1, A-2-4 | 0 | 0-5 | 50-85 | 50-85 | 20-65 | 4-25 | --- | NP |
| | | 25-80 | Gravelly coarse sand, sand, gravelly sand | GP-GM, GP, GW, SP | A-1, A-2-4, A-3 | 0 | 0-5 | 50-85 | 50-85 | 20-60 | 2-10 | --- | NP |
| Two Inlets------ | 40 | 0-8 | Loamy sand | SM | A-2-4 | 0 | 0-1 | 90-100 | 80-100 | 35-75 | 15-30 | 0-20 | NP-4 |
| | | 8-20 | Gravelly loamy sand, loamy coarse sand, loamy sand | SM, SP-SM | A-2-4, A-3, A-2 | 0 | 0-5 | 80-100 | 50-90 | 30-65 | 5-30 | 0-25 | NP-7 |
| | | 20-80 | Gravelly coarse sand, gravelly sand, sand | SP-SM, SP, SW | A-3, A-1 | 0 | 0-5 | 50-95 | 50-75 | 30-55 | 2-10 | 0-20 | NP-4 |
| 1197: | | | | | | | | | | | | | |
| Suckercreek, occasionally flooded-------- | 80 | 0-12 | Fine sandy loam | CL-ML, SM | A-4 | 0 | 0 | 100 | 100 | 85-95 | 45-85 | 15-25 | NP-7 |
| | | 12-80 | Loam, fine sandy loam, loamy fine sand | SC, SM | A-2, A-4 | 0 | 0 | 95-100 | 85-100 | 65-90 | 20-70 | 0-30 | NP-10 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments >10 inches | Fragments 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1199: | | | | | | | | | | | | | |
| Klossner, ponded | 45 | 0-26 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 26-33 | Silt loam, silty clay loam | MH | A-7 | 0 | 0 | 100 | 95-100 | 90-100 | 85-95 | 60-90 | 10-30 |
| | | 33-40 | Clay loam, loam, silty clay loam | CL | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 80-100 | 60-90 | 35-65 | 20-30 |
| | | 40-80 | Clay loam, loam, silty clay loam | CL | A-6, A-7 | 0 | 0-5 | 90-100 | 85-100 | 60-95 | 55-80 | 30-55 | 10-25 |
| Lundlake, ponded | 45 | 0-8 | Mucky loam | CL | A-6 | 0-1 | 1-3 | 95-99 | 90-95 | 65-90 | 50-80 | 30-36 | 11-15 |
| | | 8-26 | Loam, clay loam, silty clay loam | CL | A-6 | 0-1 | 1-3 | 95-100 | 90-100 | 65-95 | 50-90 | 30-36 | 11-15 |
| | | 26-80 | Sandy loam, fine sandy loam, loam | SC, SC-SM | A-4 | 0-4 | 3-6 | 90-95 | 85-95 | 60-75 | 35-55 | 21-26 | 4-8 |
| 1203: | | | | | | | | | | | | | |
| Muskego, ponded | 30 | 0-9 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 9-36 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 36-60 | Coprogenous earth | OL | A-5 | 0 | 0 | 95-100 | 95-100 | 85-100 | 75-96 | 40-50 | 2-8 |
| Blue Earth, ponded--------- | 30 | 0-50 | Silt loam | OL | A-5 | 0 | 0 | 95-100 | 95-100 | 85-95 | 80-95 | 41-50 | 2-8 |
| | | 50-60 | Silty clay loam, clay loam, silt loam | OL | A-5 | 0 | 0 | 95-100 | 80-100 | 80-95 | 80-95 | 41-50 | 2-8 |
| Houghton, ponded | 30 | 0-80 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| 1204B: | | | | | | | | | | | | | |
| Reedslake------- | 85 | 0-12 | Loam | CL, CL-ML | A-6 | 0 | 0-2 | 95-100 | 90-98 | 80-95 | 60-75 | 25-40 | 5-15 |
| | | 12-26 | Clay loam, loam | CL | A-6, A-7 | 0 | 0-2 | 95-100 | 90-98 | 80-95 | 60-80 | 32-45 | 12-25 |
| | | 26-48 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 48-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1207B: | | | | | | | | | | | | | |
| Reedslake------- | 60 | 0-12 | Loam | CL, CL-ML | A-6 | 0 | 0-2 | 95-100 | 90-98 | 80-95 | 60-75 | 25-40 | 5-15 |
| | | 12-26 | Clay loam, loam | CL | A-6, A-7 | 0 | 0-2 | 95-100 | 90-98 | 80-95 | 60-80 | 32-45 | 12-25 |
| | | 26-48 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 48-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Le Sueur-------- | 25 | 0-14 | Loam | CL, CL-ML | A-4, A-6 | 0 | 0 | 95-100 | 95-100 | 90-100 | 70-85 | 20-40 | 5-15 |
| | | 14-40 | Clay loam, loam, silty clay loam | CL | A-6, A-7 | 0 | 0 | 95-100 | 95-100 | 85-100 | 60-80 | 35-50 | 15-25 |
| | | 40-55 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 55-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 1213C: | | | | | | | | | | | | | |
| Cokato, eroded-- | 65 | 0-8 | Loam | CL | A-6 | 0 | 0-2 | 95-100 | 90-98 | 80-95 | 60-70 | 32-36 | 13-15 |
| | | 8-23 | Clay loam, loam, sandy clay loam | CL | A-6, A-7 | 0 | 0-5 | 95-100 | 90-98 | 80-95 | 65-80 | 34-43 | 14-21 |
| | | 23-48 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 48-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Storden--------- | 20 | 0-7 | Loam | CL | A-6 | 0 | 0-5 | 95-100 | 95-98 | 75-95 | 60-75 | 28-36 | 9-15 |
| | | 7-55 | Loam, clay loam | CL | A-6 | 0 | 0-5 | 95-100 | 90-98 | 70-95 | 55-70 | 28-39 | 9-18 |
| | | 55-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 1213D: | | | | | | | | | | | | | |
| Cokato, eroded-- | 60 | 0-8 | Loam | CL | A-6 | 0 | 0-2 | 95-100 | 90-98 | 80-95 | 60-70 | 32-36 | 13-15 |
| | | 8-20 | Clay loam, loam, sandy clay loam | CL | A-6, A-7 | 0 | 0-5 | 95-100 | 90-98 | 80-95 | 65-80 | 34-43 | 14-21 |
| | | 20-40 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 40-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Storden--------- | 25 | 0-7 | Loam | CL | A-6 | 0 | 0-5 | 95-100 | 95-98 | 75-95 | 60-75 | 28-36 | 9-15 |
| | | 7-55 | Loam, clay loam | CL | A-6 | 0 | 0-5 | 95-100 | 90-98 | 70-95 | 55-70 | 28-39 | 9-18 |
| | | 55-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 1220C: | | | | | | | | | | | | | |
| Cokato, eroded-- | 50 | 0-8 | Loam | CL | A-6 | 0 | 0-2 | 95-100 | 90-98 | 80-95 | 60-70 | 32-36 | 13-15 |
| | | 8-23 | Clay loam, loam, sandy clay loam | CL | A-6, A-7 | 0 | 0-5 | 95-100 | 90-98 | 80-95 | 65-80 | 34-43 | 14-21 |
| | | 23-48 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 48-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1220C: | | | | | | | | | | | | | |
| Storden--------- | 20 | 0-7 | Loam | CL | A-6 | 0 | 0-5 | 95-100 | 95-98 | 75-95 | 60-75 | 28-36 | 9-15 |
| | | 7-55 | Loam, clay loam | CL | A-6 | 0 | 0-5 | 95-100 | 90-98 | 70-95 | 55-70 | 28-39 | 9-18 |
| | | 55-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Hawick---------- | 15 | 0-10 | Gravelly sandy loam | SP-SM, SP | A-1, A-2, A-3 | 0-2 | 0-5 | 75-95 | 60-95 | 35-70 | 4-35 | 0-14 | NP-4 |
| | | 10-60 | Gravelly coarse sand, coarse sand, sand | SP, SP-SM | A-1, A-2, A-3 | 0-2 | 0-5 | 50-95 | 50-95 | 30-65 | 2-10 | 0-15 | NP |
| 1223: | | | | | | | | | | | | | |
| Sandberg, MAP >25-------- | 60 | 0-11 | Loamy coarse sand | SP-SM, SM | A-1, A-2 | 0 | 0-1 | 85-100 | 80-95 | 40-75 | 10-25 | 0-20 | NP-4 |
| | | 11-35 | Gravelly loamy coarse sand, gravelly coarse sand, loamy sand | SP-SM, SP | A-2, A-3, A-1 | 0-3 | 0-5 | 75-95 | 50-95 | 35-70 | 4-25 | 0-20 | NP-4 |
| | | 35-80 | Gravelly coarse sand, coarse sand, sand | SP, SW, SP-SM | A-1, A-2, A-3 | 0-3 | 0-5 | 60-95 | 50-90 | 30-65 | 2-10 | 0-15 | NP |
| Arvilla, MAP >25 | 30 | 0-14 | Coarse sandy loam | SC, SC-SM, SM | A-2, A-4, A-6 | 0 | 0 | 95-100 | 90-100 | 50-80 | 20-45 | 15-30 | NP-15 |
| | | 14-17 | Sandy loam, loam, coarse sandy loam | SC, SC-SM, SM | A-2, A-4, A-6 | 0 | 0 | 90-100 | 85-100 | 50-80 | 20-45 | 15-40 | NP-15 |
| | | 17-80 | Gravelly coarse sand, coarse sand, very gravelly coarse sand | GP, GP-GM, SM, SP-SM | A-1, A-2, A-3 | 0 | 0 | 35-100 | 25-100 | 10-60 | 0-15 | --- | NP |
| 1224: | | | | | | | | | | | | | |
| Hubbard--------- | 60 | 0-11 | Loamy coarse sand | SM, SP-SM | A-2 | 0 | 0 | 98-100 | 95-100 | 50-80 | 10-25 | 0-20 | NP-4 |
| | | 11-27 | Sand, coarse sand, loamy sand | SP-SM | A-1, A-2-4, A-3 | 0 | 0 | 98-100 | 95-100 | 25-75 | 5-12 | 0-20 | NP-4 |
| | | 27-80 | Sand, coarse sand | SP, SW | A-1, A-2, A-3 | 0 | 0 | 95-100 | 85-100 | 20-70 | 2-5 | 0-15 | NP |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1224: | | | | | | | | | | | | | |
| Verndale, acid substratum----- | 30 | 0-10 | Coarse sandy loam | SM | A-2, A-4 | 0 | 0 | 100 | 85-100 | 60-85 | 25-45 | 0-20 | NP-6 |
| | | 10-16 | Coarse sandy loam, fine sandy loam, loam | SC-SM, SM | A-2-4, A-4 | 0 | 0 | 98-100 | 85-100 | 60-85 | 25-45 | 15-30 | 4-7 |
| | | 16-45 | Sand, coarse sand, loamy coarse sand | SM, SW | A-2-4, A-3 | 0 | 0 | 98-100 | 85-100 | 50-65 | 4-20 | 0-20 | NP-4 |
| | | 45-80 | Sand, coarse sand | SP-SM, SW, SP | A-1-b, A-2-4, A-3 | 0 | 0 | 96-100 | 75-100 | 45-60 | 3-10 | 0-20 | NP-4 |
| 1231: | | | | | | | | | | | | | |
| Hubbard--------- | 60 | 0-20 | Loamy sand | SM, SP-SM | A-2 | 0 | 0 | 98-100 | 95-100 | 50-80 | 10-25 | 0-20 | NP-4 |
| | | 20-32 | Sand, coarse sand, loamy sand | SP-SM | A-1, A-2-4, A-3 | 0 | 0 | 98-100 | 95-100 | 25-75 | 5-12 | 0-20 | NP-4 |
| | | 32-80 | Sand, coarse sand | SP, SW | A-1, A-2, A-3 | 0 | 0 | 95-100 | 85-100 | 20-70 | 2-5 | 0-15 | NP |
| Mosford--------- | 30 | 0-13 | Sandy loam | SM | A-2-4, A-4 | 0 | 0 | 100 | 85-100 | 50-85 | 25-55 | 0-25 | NP-6 |
| | | 13-16 | Sandy loam, coarse sandy loam, fine sandy loam | SM | A-4, A-2-4 | 0 | 0 | 100 | 85-100 | 55-85 | 25-55 | 0-25 | NP-6 |
| | | 16-35 | Coarse sand, sand, loamy sand | SP, SP-SM | A-2-4, A-3 | 0 | 0 | 100 | 85-100 | 45-65 | 4-30 | 0-20 | NP-4 |
| | | 35-80 | Coarse sand, sand, gravelly coarse sand | SP, SP-SM, SW | A-1, A-3 | 0 | 0 | 95-100 | 50-100 | 45-75 | 4-15 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1255: | | | | | | | | | | | | | |
| Elkriver, occasionally flooded-------- | 80 | 0-10 | Fine sandy loam | ML, SM | A-4 | 0 | 0 | 100 | 85-100 | 50-95 | 30-65 | 0-25 | NP-4 |
| | | 10-26 | Fine sandy loam, very fine sandy loam, loam | ML, SM | A-4 | 0 | 0 | 100 | 85-100 | 65-95 | 35-75 | 0-30 | NP-6 |
| | | 26-32 | Very fine sandy loam, fine sandy loam, loam | ML, SM | A-4 | 0 | 0 | 100 | 85-100 | 65-95 | 35-75 | 0-30 | NP-6 |
| | | 32-80 | Loamy fine sand, sand, gravelly sand | SP, SM, SP-SM | A-1-b, A-2-4, A-3 | 0 | 0 | 95-100 | 65-100 | 35-70 | 4-15 | 0-20 | NP-4 |
| 1256: | | | | | | | | | | | | | |
| Cantlin--------- | 90 | 0-8 | Loamy fine sand | SM | A-2 | 0 | 0 | 100 | 100 | 95-100 | 15-30 | 15-20 | NP |
| | | 8-22 | Fine sand, loamy fine sand | SM, SP-SM | A-2 | 0 | 0 | 100 | 100 | 95-100 | 12-25 | 15-20 | NP |
| | | 22-80 | Fine sand, sand | SM, SP, SP-SM | A-2, A-3 | 0 | 0 | 100 | 100 | 90-100 | 2-20 | 15-20 | NP |
| 1257: | | | | | | | | | | | | | |
| Elkriver, rarely flooded-------- | 55 | 0-10 | Fine sandy loam | ML, SM | A-4 | 0 | 0 | 100 | 85-100 | 50-95 | 30-65 | 0-25 | NP-4 |
| | | 10-35 | Fine sandy loam, very fine sandy loam, loam | ML, SM | A-4 | 0 | 0 | 100 | 85-100 | 65-95 | 35-75 | 0-30 | NP-6 |
| | | 35-39 | Very fine sandy loam, fine sandy loam, loam | ML, SM | A-4 | 0 | 0 | 100 | 85-100 | 65-95 | 35-75 | 0-30 | NP-6 |
| | | 39-80 | Fine sand, sand, gravelly sand | SM, SP-SM, SP | A-1-b, A-2-4, A-3 | 0 | 0 | 95-100 | 65-100 | 40-75 | 4-15 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1257: | | | | | | | | | | | | | |
| Mosford, rarely flooded-------- | 35 | 0-11 | Fine sandy loam | SM | A-2-4, A-4 | 0 | 0 | 100 | 85-100 | 50-85 | 25-55 | 0-25 | NP-6 |
| | | 11-16 | Sandy loam, coarse sandy loam, fine sandy loam | SM | A-4, A-2-4 | 0 | 0 | 100 | 85-100 | 55-85 | 25-55 | 0-25 | NP-6 |
| | | 16-25 | Coarse sand, fine sand, loamy sand | SP, SP-SM | A-2-4, A-3 | 0 | 0 | 100 | 85-100 | 45-65 | 4-30 | 0-20 | NP-4 |
| | | 25-80 | Coarse sand, sand, gravelly coarse sand | SP, SP-SM, SW | A-1, A-3 | 0 | 0 | 95-100 | 50-100 | 45-75 | 4-15 | 0-20 | NP-4 |
| 1260B: | | | | | | | | | | | | | |
| Stonelake------- | 55 | 0-8 | Loamy coarse sand | SP-SM | A-1, A-2 | 0 | 0-5 | 85-100 | 80-95 | 40-70 | 10-25 | 0-20 | NP-4 |
| | | 8-30 | Very gravelly coarse sand, very gravelly loamy coarse sand | GP, GW, SP, SW | A-1 | 0 | 0-10 | 20-60 | 15-45 | 5-25 | 0-5 | 0-25 | NP-7 |
| | | 30-80 | Very gravelly coarse sand, gravelly sand, coarse sand | GP, GW, SP, SW | A-1 | 0 | 0-10 | 20-85 | 15-85 | 5-25 | 0-10 | --- | NP |
| Nebish, moderately wet | 30 | 0-6 | Fine sandy loam | SC-SM, SM | A-2-4, A-4 | 0 | 0-3 | 95-100 | 85-100 | 55-85 | 30-50 | 20-35 | NP-7 |
| | | 6-9 | Loamy fine sand, fine sandy loam, sandy loam | SC-SM, SM | A-2-4, A-4 | 0 | 0-3 | 95-100 | 85-100 | 50-85 | 30-50 | 15-25 | NP-6 |
| | | 9-43 | Loam, clay loam | CL, ML | A-6, A-7 | 0 | 0-3 | 95-100 | 85-100 | 70-95 | 55-80 | 30-50 | 10-20 |
| | | 43-80 | Loam, clay loam, sandy clay loam | CL, CL-ML | A-4, A-6 | 0 | 0-3 | 95-100 | 85-100 | 70-95 | 50-80 | 20-40 | 5-20 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1260C: | | | | | | | | | | | | | |
| Stonelake------- | 55 | 0-7 | Loamy sand | SP-SM | A-1, A-2 | 0 | 0-5 | 85-100 | 80-95 | 40-70 | 10-25 | 0-20 | NP-4 |
| | | 7-20 | Very gravelly coarse sand, gravelly coarse sand, loamy coarse sand | GW, SP-SM, SW | A-1 | 0 | 0-10 | 35-75 | 15-45 | 15-30 | 0-10 | --- | NP-4 |
| | | 20-42 | Very gravelly coarse sand, very gravelly loamy coarse sand | GP, GW, SP, SW | A-1 | 0 | 0-10 | 20-60 | 15-45 | 5-25 | 0-5 | 0-25 | NP-7 |
| | | 42-80 | Very gravelly coarse sand, gravelly sand, coarse sand | GP, GW, SP, SP-SM | A-1 | 0 | 0-10 | 20-85 | 15-85 | 5-25 | 0-10 | --- | NP |
| Nebish---------- | 30 | 0-3 | Fine sandy loam | SM, SC-SM | A-4, A-2-4 | 0 | 0-3 | 95-100 | 85-100 | 55-85 | 30-50 | 20-35 | NP-7 |
| | | 3-10 | Loamy fine sand, fine sandy loam, sandy loam | SC-SM, SM | A-2-4, A-4 | 0 | 0-3 | 95-100 | 85-100 | 50-85 | 30-50 | 15-25 | NP-6 |
| | | 10-29 | Loam, clay loam | CL, ML | A-6, A-7 | 0 | 0-3 | 95-100 | 85-100 | 70-95 | 55-80 | 30-50 | 10-20 |
| | | 29-80 | Loam, clay loam, sandy clay loam | CL, CL-ML | A-4, A-6 | 0 | 0-3 | 95-100 | 85-100 | 70-95 | 50-80 | 20-40 | 5-20 |
| 1260E: | | | | | | | | | | | | | |
| Stonelake------- | 60 | 0-5 | Gravelly coarse sandy loam | SM, SP | A-1, A-2-4 | 0 | 0-10 | 55-90 | 55-70 | 10-60 | 0-35 | 15-20 | NP-4 |
| | | 5-11 | Very gravelly coarse sand, gravelly coarse sand, gravelly loamy coarse sand | SP, SW, GW | A-1 | 0 | 0-10 | 35-75 | 15-45 | 15-30 | 0-10 | --- | NP-4 |
| | | 11-20 | Very gravelly coarse sand, very gravelly loamy coarse sand | GP, GW, SP, SW | A-1 | 0 | 0-10 | 20-60 | 15-45 | 5-25 | 0-5 | 0-25 | NP-7 |
| | | 20-80 | Very gravelly coarse sand, gravelly sand, coarse sand | GP, GW, SP, SP-SM | A-1 | 0 | 0-10 | 20-85 | 15-85 | 5-25 | 0-10 | --- | NP |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1260E: | | | | | | | | | | | | | |
| Nebish---------- | 25 | 0-5 | Fine sandy loam | SC-SM, SM | A-2-4, A-4 | 0 | 0-3 | 95-100 | 85-100 | 55-85 | 30-50 | 20-35 | NP-7 |
| | | 5-9 | Loamy fine sand, fine sandy loam, sandy loam | SC-SM, SM | A-2-4, A-4 | 0 | 0-3 | 95-100 | 85-100 | 50-85 | 30-50 | 15-25 | NP-6 |
| | | 9-27 | Loam, clay loam | CL, ML | A-6, A-7 | 0 | 0-3 | 95-100 | 85-100 | 70-95 | 55-80 | 30-50 | 10-20 |
| | | 27-80 | Loam, clay loam, sandy clay loam | CL, CL-ML | A-4, A-6 | 0 | 0-3 | 95-100 | 85-100 | 70-95 | 50-80 | 20-40 | 5-20 |
| 1288: | | | | | | | | | | | | | |
| Seelyeville, ponded--------- | 45 | 0-15 | Muck | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| | | 15-80 | Muck, mucky peat | PT | A-8 | 0 | 0 | --- | --- | --- | --- | --- | --- |
| Markey, ponded-- | 45 | 0-27 | Muck | PT | A-8 | --- | --- | --- | --- | --- | --- | --- | --- |
| | | 27-32 | Fine sand, loamy sand, coarse sand | SM, SP, SP-SM | A-2, A-3 | 0 | 0 | 100 | 75-100 | 60-75 | 0-20 | 0-20 | NP-4 |
| | | 32-80 | Fine sand, sand, coarse sand | SM, SP, SP-SM | A-2, A-3 | 0 | 0 | 100 | 75-100 | 60-75 | 0-20 | 0-20 | NP-4 |
| 1356. | | | | | | | | | | | | | |
| Water, miscellaneous | | | | | | | | | | | | | |
| 1362B: | | | | | | | | | | | | | |
| Angus---------- | 85 | 0-8 | Loam | CL | A-6 | 0 | 0-5 | 95-100 | 90-100 | 80-95 | 50-85 | 30-40 | 11-15 |
| | | 8-35 | Clay loam, loam | CL | A-6 | 0-1 | 0-5 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 35-40 | Loam, clay loam | CL | A-6 | 0-1 | 0-5 | 95-100 | 90-100 | 75-90 | 50-75 | 32-39 | 13-18 |
| | | 40-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 1368: | | | | | | | | | | | | | |
| Southhaven------ | 90 | 0-48 | Loam | CL-ML | A-4, A-6 | 0 | 0 | 95-100 | 95-100 | 85-100 | 60-90 | 25-35 | 5-15 |
| | | 48-62 | Sandy clay loam, loam, sandy loam | CL-ML | A-4, A-6 | 0 | 0 | 90-100 | 85-100 | 45-85 | 35-65 | 25-40 | 5-20 |
| | | 62-66 | Loamy coarse sand, loamy sand | SM | A-1, A-2, A-3 | 0 | 0 | 90-100 | 85-100 | 35-75 | 5-25 | 0-20 | NP-4 |
| | | 66-80 | Sand, coarse sand | SW, SP | A-1-a, A-1-b | 0 | 0 | 85-100 | 45-100 | 5-30 | 2-12 | 0-15 | NP |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1377B: | | | | | | | | | | | | | |
| Dorset---------- | 70 | 0-11 | Sandy loam | SC-SM, SM | A-2, A-4 | 0 | 0 | 90-100 | 85-100 | 50-70 | 25-50 | 0-25 | NP-5 |
| | | 11-19 | Loam, sandy loam, coarse sandy loam | CL, CL-ML, SC, SC-SM | A-4, A-6 | 0 | 0 | 90-100 | 85-100 | 50-90 | 35-75 | 15-30 | 4-14 |
| | | 19-32 | Gravelly loamy sand, gravelly coarse sand, coarse sand | GM, SC-SM, SM | A-1, A-2 | 0 | 0-5 | 50-90 | 50-75 | 20-50 | 10-25 | 0-20 | NP-7 |
| | | 32-80 | Gravelly coarse sand, gravelly sand, coarse sand | GP-GM, GP, SP-SM, SP | A-1 | 0 | 0-5 | 50-90 | 50-75 | 15-40 | 0-10 | 0-20 | NP-4 |
| Two Inlets------ | 20 | 0-9 | Loamy sand | SM | A-2-4 | 0 | 0-1 | 90-100 | 80-100 | 35-75 | 15-30 | 0-20 | NP-4 |
| | | 9-19 | Gravelly loamy sand, loamy coarse sand, loamy sand | SM, SP-SM | A-2, A-2-4, A-3 | 0 | 0-5 | 80-100 | 50-90 | 30-65 | 5-30 | 0-25 | NP-7 |
| | | 19-80 | Gravelly coarse sand, gravelly sand, sand | SP-SM, SP, SW | A-3, A-1 | 0 | 0-5 | 50-95 | 50-75 | 30-55 | 2-10 | 0-20 | NP-4 |
| 1377C: | | | | | | | | | | | | | |
| Dorset---------- | 50 | 0-11 | Sandy loam | SC-SM, SM | A-2, A-4 | 0 | 0 | 90-100 | 85-100 | 50-70 | 25-50 | 0-25 | NP-5 |
| | | 11-19 | Loam, sandy loam, coarse sandy loam | CL, CL-ML, SC, SC-SM | A-4, A-6 | 0 | 0 | 90-100 | 85-100 | 50-90 | 35-75 | 15-30 | 4-14 |
| | | 19-32 | Gravelly loamy sand, gravelly coarse sand, coarse sand | GM, SC-SM, SM | A-1, A-2 | 0 | 0-5 | 50-90 | 50-75 | 20-50 | 10-25 | 0-20 | NP-7 |
| | | 32-80 | Gravelly coarse sand, gravelly sand, coarse sand | GP-GM, GP, SP-SM, SP | A-1 | 0 | 0-5 | 50-90 | 50-75 | 15-40 | 0-10 | 0-20 | NP-4 |
| Two Inlets------ | 35 | 0-9 | Loamy sand | SM | A-2-4 | 0 | 0-1 | 90-100 | 80-100 | 35-75 | 15-30 | 0-20 | NP-4 |
| | | 9-19 | Gravelly loamy sand, loamy coarse sand, loamy sand | SM, SP-SM | A-2, A-2-4, A-3 | 0 | 0-5 | 80-100 | 50-90 | 30-65 | 5-30 | 0-25 | NP-7 |
| | | 19-80 | Gravelly coarse sand, gravelly sand, sand | SP-SM, SP, SW | A-3, A-1 | 0 | 0-5 | 50-95 | 50-75 | 30-55 | 2-10 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1377D: | | | | | | | | | | | | | |
| Dorset---------- | 45 | 0-9 | Sandy loam | SC-SM, SM | A-2, A-4 | 0 | 0 | 90-100 | 85-100 | 50-70 | 25-50 | 0-25 | NP-5 |
| | | 9-14 | Loam, sandy loam, coarse sandy loam | CL, CL-ML, SC, SC-SM | A-4, A-6 | 0 | 0 | 90-100 | 85-100 | 50-90 | 35-75 | 15-30 | 4-14 |
| | | 14-25 | Gravelly loamy sand, gravelly coarse sand, coarse sand | GM, SC-SM, SM | A-1, A-2 | 0 | 0-5 | 50-90 | 50-75 | 20-50 | 10-25 | 0-20 | NP-7 |
| | | 25-80 | Gravelly coarse sand, gravelly sand, coarse sand | GP-GM, GP, SP-SM, SP | A-1 | 0 | 0-5 | 50-90 | 50-75 | 15-40 | 0-10 | 0-20 | NP-4 |
| Two Inlets------ | 40 | 0-9 | Loamy sand | SM | A-2-4 | 0 | 0-1 | 90-100 | 80-100 | 35-75 | 15-30 | 0-20 | NP-4 |
| | | 9-19 | Gravelly loamy sand, loamy coarse sand, loamy sand | SM, SP-SM | A-2, A-2-4, A-3 | 0 | 0-5 | 80-100 | 50-90 | 30-65 | 5-30 | 0-25 | NP-7 |
| | | 19-80 | Gravelly coarse sand, gravelly sand, sand | SP-SM, SP, SW | A-3, A-1 | 0 | 0-5 | 50-95 | 50-75 | 30-55 | 2-10 | 0-20 | NP-4 |
| 1377E: | | | | | | | | | | | | | |
| Dorset---------- | 45 | 0-9 | Sandy loam | SC-SM, SM | A-2, A-4 | 0 | 0 | 90-100 | 85-100 | 50-70 | 25-50 | 0-25 | NP-5 |
| | | 9-14 | Loam, sandy loam, coarse sandy loam | CL, CL-ML, SC, SC-SM | A-4, A-6 | 0 | 0 | 90-100 | 85-100 | 50-90 | 35-75 | 15-30 | 4-14 |
| | | 14-27 | Gravelly loamy sand, gravelly coarse sand, loamy sand | GM, SC-SM, SM | A-1, A-2 | 0 | 0-5 | 50-90 | 50-75 | 20-50 | 10-25 | 0-20 | NP-7 |
| | | 27-80 | Gravelly coarse sand, gravelly sand, coarse sand | GP-GM, GP, SP-SM, SP | A-1 | 0 | 0-5 | 50-90 | 50-75 | 15-40 | 0-10 | 0-20 | NP-4 |
| Two Inlets------ | 45 | 0-8 | Loamy sand | SM | A-2-4 | 0 | 0-1 | 90-100 | 80-100 | 35-75 | 15-30 | 0-20 | NP-4 |
| | | 8-20 | Gravelly loamy sand, loamy coarse sand, loamy sand | SM, SP-SM | A-2, A-2-4, A-3 | 0 | 0-5 | 80-100 | 50-90 | 30-65 | 5-30 | 0-25 | NP-7 |
| | | 20-80 | Gravelly coarse sand, gravelly sand, sand | SP-SM, SP, SW | A-3, A-1 | 0 | 0-5 | 50-95 | 50-75 | 30-55 | 2-10 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1378: | | | | | | | | | | | | | |
| Fordum, occasionally flooded-------- | 85 | 0-9 | Loam | CL, SC, SC-SM | A-4, A-6 | 0 | 0-5 | 80-100 | 75-100 | 55-100 | 45-85 | 20-35 | 5-15 |
| | | 9-38 | Silt loam, sandy loam, loam | ML, SM, SC, CL | A-1, A-2, A-4 | 0 | 0-5 | 80-100 | 75-100 | 45-100 | 20-90 | 15-30 | 3-10 |
| | | 38-80 | Stratified sand to silt loam | SP-SM, SP, SM, ML | A-1, A-2, A-4 | 0 | 0-5 | 80-100 | 75-100 | 35-100 | 4-50 | 0-30 | NP-6 |
| 1379B: | | | | | | | | | | | | | |
| Dorset---------- | 65 | 0-9 | Loam | SC-SM, SM | A-4 | 0 | 0 | 90-100 | 85-100 | 75-90 | 45-90 | 15-30 | 3-14 |
| | | 9-21 | Loam, sandy loam, coarse sandy loam | CL, CL-ML, SC, SC-SM | A-4, A-6 | 0 | 0 | 90-100 | 85-100 | 50-90 | 35-75 | 15-30 | 4-14 |
| | | 21-26 | Gravelly loamy sand, gravelly coarse sand, coarse sand | GM, SC-SM, SM | A-1, A-2 | 0 | 0-5 | 50-90 | 50-75 | 20-50 | 10-25 | 0-20 | NP-7 |
| | | 26-80 | Gravelly coarse sand, gravelly sand, coarse sand | GP-GM, GP, SP-SM, SP | A-1 | 0 | 0-5 | 50-90 | 50-75 | 15-40 | 0-10 | 0-20 | NP-4 |
| Almora---------- | 25 | 0-10 | Loam | CL-ML, SC-SM, SC | A-4 | 0 | 0 | 95-100 | 85-100 | 45-85 | 45-75 | 23-30 | 6-11 |
| | | 10-14 | Sandy loam, fine sandy loam, loam | CL-ML, SC-SM, SC | A-4 | 0 | 0 | 95-100 | 85-100 | 45-85 | 35-65 | 23-30 | 6-11 |
| | | 14-36 | Sandy clay loam, gravelly sandy clay loam, loam | CL, SC | A-4, A-6 | 0 | 0-5 | 95-100 | 60-98 | 40-80 | 40-75 | 34-39 | 9-18 |
| | | 36-41 | Gravelly loamy coarse sand, sand, loamy sand | SM, SC-SM, SP-SM | A-1-a, A-1-b, A-3 | 0 | 0-5 | 50-90 | 30-85 | 20-70 | 5-20 | 0-20 | NP-6 |
| | | 41-80 | Gravelly coarse sand, sand, coarse sand | SP, SP-SM, SW | A-1-a, A-1-b | 0 | 0-5 | 45-90 | 30-80 | 5-30 | 0-10 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1380A: | | | | | | | | | | | | | |
| Bygland, MAP >25 | 85 | 0-9 | Silt loam | ML, CL | A-4, A-6 | 0 | 0 | 100 | 100 | 95-100 | 80-95 | 30-35 | 7-15 |
| | | 9-23 | Silty clay, clay, silty clay loam | CH, CL | A-7 | 0 | 0 | 100 | 100 | 95-100 | 85-100 | 45-70 | 20-45 |
| | | 23-27 | Silty clay loam, silt loam, silty clay | CL, CH | A-6, A-7 | 0 | 0 | 100 | 100 | 90-100 | 80-95 | 25-55 | 10-30 |
| | | 27-80 | Stratified silt loam to silty clay loam | CL, CH | A-6, A-7 | 0 | 0 | 100 | 100 | 90-100 | 80-95 | 25-55 | 10-30 |
| 1380B: | | | | | | | | | | | | | |
| Bygland, MAP >25 | 70 | 0-9 | Silt loam | ML, CL | A-4, A-6 | 0 | 0 | 100 | 100 | 95-100 | 80-95 | 30-35 | 7-15 |
| | | 9-23 | Silty clay, clay, silty clay loam | CH, CL | A-7 | 0 | 0 | 100 | 100 | 95-100 | 85-100 | 45-70 | 20-45 |
| | | 23-27 | Silty clay loam, silt loam, silty clay | CL, CH | A-6, A-7 | 0 | 0 | 100 | 100 | 90-100 | 80-95 | 25-55 | 10-30 |
| | | 27-80 | Stratified silt loam to silty clay loam | CL, CH | A-6, A-7 | 0 | 0 | 100 | 100 | 90-100 | 80-95 | 25-55 | 10-30 |
| 1380C: | | | | | | | | | | | | | |
| Bygland, MAP >25 | 70 | 0-7 | Silt loam | ML, CL | A-4, A-6 | 0 | 0 | 100 | 100 | 95-100 | 80-95 | 30-35 | 7-15 |
| | | 7-20 | Silty clay, clay, silty clay loam | CH, CL | A-7 | 0 | 0 | 100 | 100 | 95-100 | 85-100 | 45-70 | 20-45 |
| | | 20-26 | Silty clay loam, silt loam, silty clay | CL, CH | A-6, A-7 | 0 | 0 | 100 | 100 | 90-100 | 80-95 | 25-55 | 10-30 |
| | | 26-80 | Stratified silt loam to silty clay loam | CL, CH | A-6, A-7 | 0 | 0 | 100 | 100 | 90-100 | 80-95 | 25-55 | 10-30 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1381: | | | | | | | | | | | | | |
| Lindaas, morainic------- | 80 | 0-16 | Silt loam | CL | A-6 | 0 | 0 | 100 | 100 | 95-100 | 85-95 | 40-45 | 20-25 |
| | | 16-32 | Clay, silty clay | CH, CL | A-7 | 0 | 0 | 100 | 100 | 95-100 | 85-95 | 45-75 | 30-50 |
| | | 32-80 | Silt loam, silty clay loam | CL | A-6 | 0 | 0 | 100 | 100 | 95-100 | 85-95 | 40-55 | 20-35 |
| 1383A: | | | | | | | | | | | | | |
| Shorewood, moderately wet | 95 | 0-17 | Silty clay loam | CL, ML | A-6, A-7 | 0 | 0 | 100 | 100 | 90-100 | 85-100 | 35-50 | 12-20 |
| | | 17-39 | Silty clay, silty clay loam | CH, MH | A-7 | 0 | 0 | 100 | 100 | 90-100 | 85-100 | 55-75 | 20-45 |
| | | 39-60 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 1388B: | | | | | | | | | | | | | |
| Terril, moderately wet | 85 | 0-27 | Loam | CL | A-6 | 0 | 0-2 | 95-100 | 95-100 | 70-90 | 60-80 | 30-40 | 10-20 |
| | | 27-40 | Loam, clay loam | CL | A-6 | 0 | 0-3 | 95-100 | 90-100 | 70-90 | 60-80 | 30-40 | 5-20 |
| | | 40-63 | Clay loam, loam | CL, CL-ML | A-6 | 0 | 0-2 | 95-100 | 90-100 | 65-95 | 50-85 | 20-40 | 5-20 |
| | | 63-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 1406: | | | | | | | | | | | | | |
| Medo, ponded---- | 30 | 0-20 | Muck | PT | A-8 | --- | --- | --- | --- | --- | --- | --- | --- |
| | | 20-34 | Loam, sandy clay loam, mucky loam, silt loam | CL, ML | A-6, A-7 | 0 | 0 | 85-100 | 75-100 | 55-95 | 45-85 | 35-50 | 7-22 |
| | | 34-60 | Sand, gravelly coarse sand, gravelly loamy coarse sand, fine sand | SP, SP-SM, SM | A-1, A-2, A-3, A-4 | 0-2 | 0-5 | 75-95 | 60-95 | 20-75 | 2-40 | 0-20 | NP-4 |
| Dassel, ponded-- | 30 | 0-23 | Fine sandy loam | SM | A-4 | 0 | 0 | 100 | 95-100 | 70-85 | 40-50 | 0-30 | NP-4 |
| | | 23-31 | Stratified loamy fine sand to fine sandy loam | SM | A-2, A-4 | 0 | 0 | 100 | 95-100 | 55-80 | 25-50 | 0-30 | NP-4 |
| | | 31-60 | Stratified coarse sand to loamy sand | SM, SP-SM, SP | A-2 | 0 | 0 | 100 | 80-100 | 45-90 | 4-55 | 0-15 | NP |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1406: | | | | | | | | | | | | | |
| Biscay, ponded-- | 30 | 0-24 | Loam | CL, ML | A-6, A-7 | 0 | 0 | 95-100 | 95-100 | 70-90 | 50-75 | 35-50 | 10-25 |
| | | 24-29 | Loam, clay loam, sandy clay loam | CL, ML | A-6, A-7 | 0 | 0 | 95-100 | 90-100 | 70-90 | 50-75 | 30-50 | 10-20 |
| | | 29-60 | Stratified gravelly coarse sand to loamy sand | GP, GP-GM, SP, SP-SM | A-1 | 0 | 0-5 | 45-95 | 35-95 | 20-45 | 2-10 | 0-20 | NP-4 |
| 1408B: | | | | | | | | | | | | | |
| Angus---------- | 45 | 0-8 | Loam | CL | A-6 | 0 | 0-5 | 95-100 | 90-100 | 80-95 | 50-85 | 30-40 | 11-15 |
| | | 8-35 | Clay loam, loam | CL | A-6 | 0-1 | 0-5 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 35-40 | Loam, clay loam | CL | A-6 | 0-1 | 0-5 | 95-100 | 90-100 | 75-90 | 50-75 | 32-39 | 13-18 |
| | | 40-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Kilkenny-------- | 40 | 0-11 | Clay loam | ML, CL | A-6, A-7 | 0 | 0 | 95-100 | 95-100 | 80-95 | 70-85 | 35-50 | 10-25 |
| | | 11-35 | Clay loam, clay, silty clay loam | CH, MH | A-7 | 0 | 0 | 95-100 | 90-100 | 80-95 | 65-80 | 50-70 | 25-35 |
| | | 35-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 1438B: | | | | | | | | | | | | | |
| Braham, moderately wet | 85 | 0-8 | Loamy fine sand | SM | A-2 | 0 | 0 | 100 | 90-100 | 55-70 | 20-35 | 0-20 | NP-4 |
| | | 8-24 | Loamy fine sand, loamy sand, fine sand | SM, SP-SM | A-2 | 0 | 0 | 100 | 90-100 | 65-90 | 10-20 | 0-20 | NP-4 |
| | | 24-42 | Sandy clay loam, fine sandy loam, clay loam | CL, ML, SC | A-6, A-7 | 0-1 | 0-3 | 95-100 | 85-95 | 80-95 | 45-70 | 28-43 | 5-21 |
| | | 42-60 | Sandy clay loam, loam, clay loam | SC, CL, ML | A-6, A-7 | 0-1 | 0-3 | 95-100 | 85-95 | 80-95 | 45-70 | 28-43 | 5-21 |
| 1443: | | | | | | | | | | | | | |
| Belleville------ | 85 | 0-11 | Sandy loam | SM | A-4 | 0 | 0 | 100 | 95-100 | 60-90 | 35-50 | 0-25 | NP-5 |
| | | 11-27 | Loamy sand, fine sand, sand | SC-SM, SM, SP-SM | A-1-b, A-2-4, A-3, A-4 | 0 | 0 | 90-100 | 80-100 | 40-85 | 5-45 | 0-25 | NP-5 |
| | | 27-48 | Loam, clay loam, silty clay loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 80-95 | 55-90 | 20-40 | 10-25 |
| | | 48-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plasticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1901B: | | | | | | | | | | | | | |
| Angus---------- | 60 | 0-8 | Loam | CL | A-6 | 0 | 0-5 | 95-100 | 90-100 | 80-95 | 50-85 | 30-40 | 11-15 |
| | | 8-35 | Clay loam, loam | CL | A-6 | 0-1 | 0-5 | 95-100 | 90-100 | 80-95 | 55-75 | 35-40 | 15-20 |
| | | 35-40 | Loam, clay loam | CL | A-6 | 0-1 | 0-5 | 95-100 | 90-100 | 75-90 | 50-75 | 32-39 | 13-18 |
| | | 40-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| Le Sueur-------- | 30 | 0-14 | Loam | CL, CL-ML | A-4, A-6 | 0 | 0 | 95-100 | 95-100 | 90-100 | 70-85 | 20-40 | 5-15 |
| | | 14-40 | Clay loam, loam, silty clay loam | CL | A-6, A-7 | 0 | 0 | 95-100 | 95-100 | 85-100 | 60-80 | 35-50 | 15-25 |
| | | 40-55 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| | | 55-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 1931: | | | | | | | | | | | | | |
| Essexville------ | 75 | 0-15 | Sandy loam | SC-SM, SM | A-4 | 0 | 0 | 100 | 95-100 | 60-90 | 35-50 | 0-25 | NP-5 |
| | | 15-30 | Loamy fine sand, fine sand, sand | SP-SM, SM | A-1-b, A-2-4, A-3, A-4 | 0 | 0 | 90-100 | 80-100 | 40-85 | 5-45 | 0-25 | NP-5 |
| | | 30-80 | Clay loam, loam | CL | A-6 | 0-1 | 0-2 | 95-100 | 90-98 | 75-90 | 50-75 | 30-40 | 12-20 |
| 1942: | | | | | | | | | | | | | |
| Forada, depressional--- | 85 | 0-10 | Mucky loam | ML | A-4 | 0 | 0 | 95-100 | 85-100 | 70-90 | 50-70 | 25-35 | NP-10 |
| | | 10-21 | Sandy loam, loam, fine sandy loam | SM, ML, CL-ML | A-2, A-4 | 0 | 0 | 95-100 | 85-100 | 55-85 | 30-60 | 15-30 | NP-10 |
| | | 21-60 | Coarse sand, gravelly coarse sand, loamy sand | SM, SP-SM, SP | A-1, A-2, A-3 | 0 | 0 | 50-100 | 50-100 | 40-70 | 4-30 | --- | NP |
| 1946: | | | | | | | | | | | | | |
| Fordum, frequently flooded-------- | 70 | 0-7 | Fine sandy loam | SC-SM, CL-ML, SM | A-1, A-2, A-4 | 0 | 0-5 | 80-100 | 75-100 | 45-95 | 20-65 | 0-30 | NP-7 |
| | | 7-28 | Silt loam, sandy loam, gravelly loam | CL, ML, SC, SM | A-1, A-2, A-4 | 0 | 0-5 | 30-100 | 25-100 | 20-100 | 10-90 | 15-30 | 3-10 |
| | | 28-80 | Sand, very gravelly loamy fine sand | GP, SM, SP | A-1, A-2, A-3 | 0 | 0-5 | 30-100 | 25-100 | 7-95 | 1-50 | 0-20 | NP-4 |

Table 17.--Engineering Index Properties--Continued

| Map symbol and component name | Pct. of map unit | Depth | USDA texture | Classification: Unified | Classification: AASHTO | Fragments: >10 inches | Fragments: 3-10 inches | Percentage passing sieve number--: 4 | 10 | 40 | 200 | Liquid limit | Plas-ticity index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | | | | Pct | Pct | | | | | Pct | |
| 1946: | | | | | | | | | | | | | |
| Winterfield, frequently flooded-------- | 20 | 0-8 | Loamy fine sand | SC-SM, SM | A-2-4, A-4 | 0 | 0 | 100 | 95-100 | 50-90 | 15-45 | 0-25 | NP-7 |
| | | 8-20 | Sand, coarse sand, loamy sand, loamy fine sand | SC-SM, SM, SP, SP-SM | A-2-4, A-3, A-4 | 0 | 0 | 100 | 95-100 | 50-90 | 2-45 | 0-25 | NP-7 |
| | | 20-80 | Sand, gravelly sand, loamy fine sand | SM, SP, SP-SM | A-1-b, A-2-4, A-3 | 0 | 0 | 85-100 | 70-100 | 35-80 | 0-35 | 0-20 | NP-4 |
| 1975: | | | | | | | | | | | | | |
| Oylen---------- | 90 | 0-10 | Sandy loam | SC-SM, SM | A-2-4, A-4 | 0 | 0 | 100 | 85-100 | 60-85 | 25-45 | 15-20 | 3-6 |
| | | 10-18 | Loam, sandy loam | SC-SM, SC, CL-ML, CL | A-4 | 0 | 0 | 100 | 85-100 | 60-85 | 35-60 | 20-30 | 5-10 |
| | | 18-38 | Loamy sand, sand, coarse sand | SM, SP-SM | A-2-4, A-3 | 0 | 0 | 90-100 | 70-100 | 35-65 | 5-20 | --- | NP |
| | | 38-80 | Sand, coarse sand, gravelly coarse sand | SP-SM, SP | A-1-b, A-2-4, A-3 | 0 | 0 | 90-100 | 60-100 | 35-55 | 3-10 | --- | NP |
| W. Water | | | | | | | | | | | | | |

Table 18.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated)

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 7A: | | | | | | | | | | | | | |
| Hubbard---------- | 95 | 0-20 | 4-10 | 1.45-1.60 | 6.00-20 | 0.08-0.12 | 0.0-2.9 | 2.0-4.0 | .15 | .15 | 5 | 2 | 134 |
| | | 20-32 | 1-5 | 1.55-1.65 | 6.00-20 | 0.03-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| | | 32-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.03-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 7B: | | | | | | | | | | | | | |
| Hubbard---------- | 90 | 0-18 | 4-10 | 1.45-1.60 | 6.00-20 | 0.08-0.12 | 0.0-2.9 | 2.0-4.0 | .15 | .15 | 5 | 2 | 134 |
| | | 18-23 | 1-5 | 1.55-1.65 | 6.00-20 | 0.03-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| | | 23-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.03-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 7C: | | | | | | | | | | | | | |
| Hubbard---------- | 80 | 0-12 | 4-10 | 1.45-1.60 | 6.00-20 | 0.08-0.12 | 0.0-2.9 | 2.0-4.0 | .15 | .15 | 5 | 2 | 134 |
| | | 12-33 | 1-5 | 1.55-1.65 | 6.00-20 | 0.03-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| | | 33-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.03-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 8B: | | | | | | | | | | | | | |
| Sparta---------- | 95 | 0-16 | 3-10 | 1.20-1.40 | 2.00-6.00 | 0.09-0.12 | 0.0-2.9 | 1.0-2.0 | .17 | .17 | 5 | 2 | 134 |
| | | 16-29 | 1-8 | 1.40-1.60 | 6.00-20 | 0.05-0.11 | 0.0-2.9 | 0.1-1.0 | .15 | .15 | | | |
| | | 29-60 | 0-5 | 1.50-1.70 | 6.00-20 | 0.04-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 35: | | | | | | | | | | | | | |
| Blue Earth, depressional--------- | 80 | 0-10 | 18-32 | 0.20-0.80 | 0.57-1.98 | 0.18-0.24 | 3.0-5.9 | 10-25 | .28 | .28 | 5 | 6 | 48 |
| | | 10-68 | 18-32 | 0.20-0.80 | 0.57-1.98 | 0.18-0.24 | 0.0-2.9 | 10-20 | .28 | .28 | | | |
| | | 68-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 74B: | | | | | | | | | | | | | |
| Dickinson---------- | 95 | 0-18 | 10-18 | 1.50-1.55 | 2.00-6.00 | 0.12-0.15 | 0.0-2.9 | 1.0-2.0 | .20 | .20 | 4 | 3 | 86 |
| | | 18-30 | 10-15 | 1.45-1.55 | 2.00-6.00 | 0.12-0.15 | 0.0-2.9 | 0.5-1.0 | .20 | .20 | | | |
| | | 30-36 | 4-10 | 1.60-1.70 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| | | 36-60 | 4-10 | 1.60-1.70 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 86: | | | | | | | | | | | | | |
| Canisteo---------- | 80 | 0-18 | 27-35 | 1.25-1.35 | 0.57-1.98 | 0.18-0.22 | 3.0-5.9 | 4.0-7.0 | .24 | .24 | 5 | 4L | 86 |
| | | 18-39 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.5-1.0 | .32 | .32 | | | |
| | | 39-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 106C2: | | | | | | | | | | | | | |
| Lester, eroded-------- | 70 | 0-7 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 1.0-3.0 | .28 | .28 | 5 | 6 | 48 |
| | | 7-38 | 24-32 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 38-60 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 60-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 106D2: | | | | | | | | | | | | | |
| Lester, eroded-------- | 80 | 0-7 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 1.0-3.0 | .28 | .28 | 5 | 6 | 48 |
| | | 7-38 | 24-32 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 38-60 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 60-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 106E: | | | | | | | | | | | | | |
| Lester---------- | 80 | 0-5 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 4.0-8.0 | .28 | .28 | 5 | 6 | 48 |
| | | 5-34 | 24-32 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 34-60 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 60-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 109: | | | | | | | | | | | | | |
| Cordova---------- | 90 | 0-18 | 27-30 | 1.25-1.45 | 0.20-0.60 | 0.18-0.22 | 3.0-5.9 | 4.0-7.0 | .28 | .28 | 5 | 6 | 48 |
| | | 18-38 | 28-35 | 1.35-1.50 | 0.20-0.60 | 0.15-0.19 | 3.0-5.9 | 1.0-4.0 | .28 | .28 | | | |
| | | 38-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 114: | | | | | | | | | | | | | |
| Glencoe, depressional | 90 | 0-10 | 27-35 | 1.35-1.45 | 0.14-1.98 | 0.18-0.22 | 3.0-5.9 | 5.0-10 | .28 | .28 | 5 | 6 | 48 |
| | | 10-35 | 25-35 | 1.35-1.45 | 0.14-1.98 | 0.18-0.22 | 3.0-5.9 | 2.0-5.0 | .28 | .28 | | | |
| | | 35-48 | 25-35 | 1.35-1.50 | 0.14-1.98 | 0.15-0.19 | 3.0-5.9 | 0.5-2.0 | .28 | .28 | | | |
| | | 48-60 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 138: | | | | | | | | | | | | | |
| Lerdal---------- | 80 | 0-7 | 27-32 | 1.15-1.25 | 0.14-1.98 | 0.18-0.22 | 3.0-5.9 | 2.0-4.0 | .37 | .37 | 5 | 7 | 38 |
| | | 7-9 | 27-32 | 1.15-1.25 | 0.14-1.98 | 0.18-0.22 | 3.0-5.9 | 0.2-1.5 | .37 | .37 | | | |
| | | 9-47 | 35-55 | 1.25-1.35 | 0.0000-0.14 | 0.13-0.19 | 6.0-8.9 | 0.2-0.8 | .32 | .32 | | | |
| | | 47-60 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 158A: | | | | | | | | | | | | | |
| Zimmerman---------- | 90 | 0-7 | 2-6 | 1.45-1.65 | 6.00-20 | 0.07-0.09 | 0.0-2.9 | 0.5-2.0 | .17 | .17 | 5 | 1 | 220 |
| | | 7-80 | 1-10 | 1.50-1.70 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 158B: | | | | | | | | | | | | | |
| Zimmerman---------- | 90 | 0-7 | 2-6 | 1.45-1.65 | 6.00-20 | 0.07-0.09 | 0.0-2.9 | 0.5-2.0 | .17 | .17 | 5 | 1 | 220 |
| | | 7-80 | 1-10 | 1.50-1.70 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 158C: | | | | | | | | | | | | | |
| Zimmerman---------- | 90 | 0-7 | 2-6 | 1.45-1.65 | 6.00-20 | 0.07-0.09 | 0.0-2.9 | 0.5-2.0 | .17 | .17 | 5 | 1 | 220 |
| | | 7-80 | 1-10 | 1.50-1.70 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 158E: | | | | | | | | | | | | | |
| Zimmerman---------- | 85 | 0-3 | 2-6 | 1.45-1.65 | 6.00-20 | 0.07-0.09 | 0.0-2.9 | 0.5-2.0 | .17 | .17 | 5 | 1 | 220 |
| | | 3-80 | 1-10 | 1.50-1.70 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea- bility | Available water capacity | Linear extensi- bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi- bility group | Wind erodi- bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 169C: | | | | | | | | | | | | | |
| Braham---------- | 90 | 0-8 | 2-8 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 1.0-3.0 | .17 | .17 | 5 | 2 | 134 |
| | | 8-28 | 2-8 | 1.45-1.60 | 6.00-20 | 0.08-0.10 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 28-48 | 18-30 | 1.50-1.70 | 0.20-2.00 | 0.15-0.18 | 3.0-5.9 | 0.0-0.5 | .37 | .37 | | | |
| | | 48-80 | 16-30 | 1.55-1.75 | 0.60-2.00 | 0.15-0.18 | 3.0-5.9 | 0.0-0.5 | .37 | .37 | | | |
| 181: | | | | | | | | | | | | | |
| Litchfield---------- | 95 | 0-20 | 5-10 | 1.30-1.50 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 1.5-3.0 | .17 | .17 | 4 | 2 | 134 |
| | | 20-33 | 5-10 | 1.40-1.65 | 2.00-6.00 | 0.07-0.16 | 0.0-2.9 | 0.5-1.0 | .17 | .17 | | | |
| | | 33-40 | 10-20 | 1.15-1.30 | 0.60-2.00 | 0.22-0.24 | 0.0-2.9 | 0.2-0.8 | .32 | .32 | | | |
| | | 40-80 | 1-8 | 1.45-1.65 | 6.00-20 | 0.08-0.10 | 0.0-2.9 | 0.1-0.5 | .17 | .17 | | | |
| 229: | | | | | | | | | | | | | |
| Waldorf---------- | 90 | 0-20 | 35-40 | 1.20-1.30 | 0.20-0.60 | 0.18-0.25 | 6.0-8.9 | 6.0-8.0 | .28 | .28 | 5 | 4 | 86 |
| | | 20-53 | 35-55 | 1.25-1.35 | 0.06-0.60 | 0.13-0.16 | 6.0-8.9 | 0.5-1.0 | .32 | .32 | | | |
| | | 53-80 | 24-45 | 1.25-1.45 | 0.06-0.60 | 0.20-0.22 | 3.0-5.9 | 0.0-0.5 | .32 | .32 | | | |
| 231C: | | | | | | | | | | | | | |
| Lester---------- | 80 | 0-9 | 8-15 | 1.35-1.45 | 2.00-6.00 | 0.12-0.15 | 0.0-2.9 | 1.0-3.0 | .24 | .24 | 5 | 3 | 86 |
| | | 9-53 | 24-32 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 53-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 231D: | | | | | | | | | | | | | |
| Lester---------- | 80 | 0-6 | 8-15 | 1.35-1.45 | 2.00-6.00 | 0.12-0.15 | 0.0-2.9 | 1.0-3.0 | .24 | .24 | 5 | 3 | 86 |
| | | 6-34 | 24-32 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 34-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 235: | | | | | | | | | | | | | |
| Nessel---------- | 85 | 0-6 | 10-25 | 1.35-1.55 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 1.0-3.0 | .28 | .28 | 5 | 6 | 48 |
| | | 6-38 | 18-30 | 1.50-1.65 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.0-0.5 | .32 | .32 | | | |
| | | 38-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 239: | | | | | | | | | | | | | |
| Le Sueur---------- | 80 | 0-17 | 28-30 | 1.50-1.70 | 0.60-2.00 | 0.17-0.20 | 3.0-5.9 | 3.0-7.0 | .24 | .24 | 5 | 6 | 48 |
| | | 17-37 | 24-35 | 1.30-1.45 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-2.0 | .32 | .32 | | | |
| | | 37-46 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 46-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 247: | | | | | | | | | | | | | |
| Linder---------- | 90 | 0-13 | 14-20 | 1.40-1.45 | 0.57-1.98 | 0.20-0.22 | 0.0-2.9 | 3.0-4.0 | .24 | .24 | 4 | 5 | 56 |
| | | 13-24 | 10-18 | 1.45-1.55 | 1.98-5.95 | 0.15-0.17 | 0.0-2.9 | 0.0-0.5 | .24 | .24 | | | |
| | | 24-60 | 2-8 | 1.55-1.75 | 20-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .10 | .20 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 255: | | | | | | | | | | | | | |
| Mayer---------- | 85 | 0-18 | 18-30 | 1.25-1.35 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 4.0-8.0 | .24 | .24 | 4 | 4L | 86 |
| | | 18-33 | 18-30 | 1.25-1.35 | 0.60-2.00 | 0.16-0.19 | 0.0-2.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 33-80 | 1-5 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 256: | | | | | | | | | | | | | |
| Mazaska---------- | 90 | 0-15 | 27-40 | 1.15-1.30 | 0.20-0.60 | 0.17-0.22 | 6.0-8.9 | 4.0-7.0 | .28 | .28 | 5 | 7 | 38 |
| | | 15-42 | 35-50 | 1.25-1.40 | 0.06-0.20 | 0.10-0.16 | 6.0-8.9 | 0.5-2.0 | .28 | .28 | | | |
| | | 42-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 258B: | | | | | | | | | | | | | |
| Sandberg---------- | 95 | 0-12 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 1.0-3.0 | .15 | .15 | 5 | 2 | 134 |
| | | 12-19 | 0-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.5-1.0 | .05 | .10 | | | |
| | | 19-80 | 0-5 | 1.50-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 258C: | | | | | | | | | | | | | |
| Sandberg---------- | 90 | 0-12 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 1.0-3.0 | .15 | .15 | 5 | 2 | 134 |
| | | 12-19 | 0-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.5-1.0 | .05 | .10 | | | |
| | | 19-80 | 0-5 | 1.50-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 258E: | | | | | | | | | | | | | |
| Sandberg---------- | 85 | 0-12 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 1.0-3.0 | .15 | .15 | 5 | 2 | 134 |
| | | 12-19 | 0-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.5-1.0 | .05 | .10 | | | |
| | | 19-80 | 0-5 | 1.50-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 260: | | | | | | | | | | | | | |
| Duelm---------- | 90 | 0-16 | 2-10 | 1.40-1.60 | 6.00-20 | 0.08-0.12 | 0.0-2.9 | 2.0-6.0 | .17 | .17 | 5 | 2 | 134 |
| | | 16-30 | 1-8 | 1.55-1.65 | 6.00-20 | 0.06-0.11 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| | | 30-80 | 0-6 | 1.55-1.65 | 6.00-20 | 0.02-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 261: | | | | | | | | | | | | | |
| Isan, depressional---- | 90 | 0-14 | 5-14 | 1.30-1.55 | 2.00-6.00 | 0.10-0.15 | 0.0-2.9 | 3.0-10 | .20 | .20 | 3 | 3 | 86 |
| | | 14-34 | 2-8 | 1.50-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.5-3.0 | .17 | .17 | | | |
| | | 34-80 | 1-5 | 1.55-1.70 | 6.00-20 | 0.04-0.06 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 286B: | | | | | | | | | | | | | |
| Shorewood---------- | 95 | 0-17 | 30-40 | 1.20-1.40 | 0.14-0.57 | 0.18-0.22 | 3.0-5.9 | 4.0-8.0 | .28 | .28 | 5 | 4 | 86 |
| | | 17-39 | 36-55 | 1.20-1.35 | 0.0000-0.57 | 0.13-0.16 | 6.0-8.9 | 1.0-4.0 | .32 | .32 | | | |
| | | 39-60 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 294A: | | | | | | | | | | | | | |
| Rasset---------- | 90 | 0-15 | 6-15 | 1.35-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 4 | 3 | 86 |
| | | 15-28 | 10-18 | 1.40-1.60 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 1.0-2.0 | .20 | .20 | | | |
| | | 28-36 | 2-10 | 1.45-1.65 | 6.00-20 | 0.06-0.11 | 0.0-2.9 | 0.5-1.0 | .17 | .17 | | | |
| | | 36-80 | 1-5 | 1.50-1.70 | 6.00-40 | 0.02-0.07 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea- bility | Available water capacity | Linear extensi- bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi- bility group | Wind erodi- bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 323: | | | | | | | | | | | | | |
| Shields---------- | 95 | 0-8 | 27-40 | 1.15-1.25 | 0.60-2.00 | 0.18-0.22 | 3.0-5.9 | 2.0-4.0 | .37 | .37 | 5 | 7 | 38 |
| | | 8-41 | 40-60 | 1.25-1.35 | 0.06-0.20 | 0.10-0.16 | 6.0-8.9 | 0.5-2.0 | .37 | .37 | | | |
| | | 41-80 | 27-50 | 1.35-1.45 | 0.20-2.00 | 0.11-0.19 | 6.0-8.9 | 0.0-0.5 | .37 | .37 | | | |
| 327A: | | | | | | | | | | | | | |
| Dickman---------- | 85 | 0-12 | 6-18 | 1.30-1.40 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 12-19 | 6-18 | 1.35-1.50 | 2.00-6.00 | 0.12-0.14 | 0.0-2.9 | 0.0-1.0 | .20 | .20 | | | |
| | | 19-33 | 1-8 | 1.55-1.65 | 6.00-20 | 0.03-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| | | 33-80 | 1-6 | 1.50-1.60 | 6.00-20 | 0.02-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 327B: | | | | | | | | | | | | | |
| Dickman---------- | 85 | 0-12 | 6-18 | 1.30-1.40 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 12-19 | 6-18 | 1.35-1.50 | 2.00-6.00 | 0.12-0.14 | 0.0-2.9 | 0.0-1.0 | .20 | .20 | | | |
| | | 19-33 | 1-8 | 1.55-1.65 | 6.00-20 | 0.03-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| | | 33-80 | 1-6 | 1.50-1.60 | 6.00-20 | 0.02-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 375: | | | | | | | | | | | | | |
| Forada---------- | 85 | 0-16 | 10-22 | 1.20-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 5.0-9.0 | .24 | .24 | 4 | 5 | 56 |
| | | 16-28 | 8-18 | 1.30-1.50 | 0.60-6.00 | 0.12-0.19 | 0.0-2.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 28-60 | 0-5 | 1.50-1.70 | 6.00-20 | 0.02-0.10 | 0.0-2.9 | 0.0-0.5 | .15 | .17 | | | |
| 392: | | | | | | | | | | | | | |
| Biscay---------- | 90 | 0-20 | 18-30 | 1.20-1.30 | 0.60-2.00 | 0.20-0.22 | 3.0-5.9 | 4.0-8.0 | .28 | .28 | 4 | 6 | 48 |
| | | 20-28 | 18-30 | 1.25-1.35 | 0.60-2.00 | 0.17-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 28-36 | 10-28 | 1.35-1.55 | 2.00-6.00 | 0.11-0.17 | 0.0-2.9 | 0.5-1.0 | .28 | .32 | | | |
| | | 36-60 | 1-6 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 406: | | | | | | | | | | | | | |
| Dorset---------- | 90 | 0-11 | 4-18 | 1.40-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 3.0-5.0 | .20 | .20 | 3 | 3 | 86 |
| | | 11-19 | 10-18 | 1.45-1.65 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 0.5-2.0 | .28 | .28 | | | |
| | | 19-32 | 5-10 | 1.55-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .10 | .17 | | | |
| | | 32-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| 414: | | | | | | | | | | | | | |
| Hamel---------- | 90 | 0-24 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.24 | 0.0-2.9 | 5.0-7.0 | .28 | .28 | 5 | 6 | 48 |
| | | 24-46 | 24-35 | 1.45-1.60 | 0.20-0.60 | 0.16-0.19 | 3.0-5.9 | 1.0-4.0 | .28 | .28 | | | |
| | | 46-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 441: | | | | | | | | | | | | | |
| Almora---------- | 90 | 0-10 | 12-20 | 1.30-1.55 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 3.0-5.0 | .24 | .24 | 4 | 5 | 56 |
| | | 10-14 | 12-20 | 1.30-1.55 | 0.60-2.00 | 0.12-0.19 | 0.0-2.9 | 1.0-2.0 | .28 | .28 | | | |
| | | 14-36 | 16-22 | 1.30-1.55 | 0.60-2.00 | 0.14-0.19 | 2.0-5.9 | 0.5-1.0 | .32 | .32 | | | |
| | | 36-41 | 3-12 | 1.55-1.65 | 6.00-20 | 0.02-0.11 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| | | 41-80 | 1-4 | 1.55-1.65 | 6.00-20 | 0.02-0.07 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 461B: | | | | | | | | | | | | | |
| Koronis---------- | 85 | 0-8 | 10-20 | 1.20-1.40 | 2.00-6.00 | 0.20-0.22 | 0.0-2.9 | 1.0-4.0 | .28 | .28 | 5 | 5 | 56 |
| | | 8-31 | 18-24 | 1.30-1.50 | 0.60-6.00 | 0.15-0.19 | 0.0-2.9 | 0.2-1.0 | .28 | .28 | | | |
| | | 31-80 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.1-0.5 | .28 | .28 | | | |
| 461C2: | | | | | | | | | | | | | |
| Koronis, eroded------- | 80 | 0-8 | 10-20 | 1.20-1.40 | 2.00-6.00 | 0.20-0.22 | 0.0-2.9 | 1.0-2.0 | .28 | .28 | 5 | 5 | 56 |
| | | 8-31 | 18-24 | 1.30-1.50 | 0.60-6.00 | 0.15-0.19 | 0.0-2.9 | 0.2-1.0 | .28 | .28 | | | |
| | | 31-80 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.1-0.5 | .28 | .28 | | | |
| 461E: | | | | | | | | | | | | | |
| Koronis---------- | 80 | 0-7 | 10-20 | 1.20-1.40 | 2.00-6.00 | 0.20-0.22 | 0.0-2.9 | 1.0-4.0 | .28 | .28 | 5 | 5 | 56 |
| | | 7-28 | 18-24 | 1.30-1.50 | 0.60-6.00 | 0.15-0.19 | 0.0-2.9 | 0.2-1.0 | .28 | .28 | | | |
| | | 28-80 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.1-0.5 | .28 | .28 | | | |
| 511: | | | | | | | | | | | | | |
| Marcellon, MAP <30---- | 85 | 0-13 | 13-20 | 1.25-1.35 | 0.60-2.00 | 0.17-0.24 | 0.0-2.9 | 3.0-7.0 | .24 | .24 | 5 | 5 | 56 |
| | | 13-32 | 20-27 | 1.45-1.55 | 0.60-2.00 | 0.12-0.18 | 3.0-5.9 | 0.0-1.0 | .32 | .32 | | | |
| | | 32-60 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.1-0.5 | .28 | .28 | | | |
| 523: | | | | | | | | | | | | | |
| Houghton, drained----- | 80 | 0-10 | --- | 0.15-0.25 | 0.20-6.00 | 0.35-0.45 | --- | 70-99 | --- | --- | 3 | 2 | 134 |
| | | 10-80 | --- | 0.15-0.25 | 0.20-6.00 | 0.35-0.45 | --- | 70-99 | --- | --- | | | |
| 525: | | | | | | | | | | | | | |
| Muskego, surface drained---------- | 75 | 0-9 | --- | 0.10-0.21 | 0.60-6.00 | 0.35-0.45 | --- | 60-90 | --- | --- | 1 | 2 | 134 |
| | | 9-36 | --- | 0.10-0.21 | 0.60-6.00 | 0.35-0.45 | --- | 60-90 | --- | --- | | | |
| | | 36-60 | 18-35 | 0.30-1.10 | 0.06-0.20 | 0.18-0.24 | 3.0-5.9 | 6.0-20 | .28 | .28 | | | |
| 539: | | | | | | | | | | | | | |
| Klossner, drained----- | 80 | 0-26 | --- | 0.25-0.55 | 0.20-6.00 | 0.35-0.48 | --- | 25-60 | --- | --- | 2 | 2 | 134 |
| | | 26-36 | 22-35 | 1.10-1.25 | 0.60-2.00 | 0.22-0.26 | 3.0-5.9 | 10-20 | .37 | .37 | | | |
| | | 36-48 | 22-35 | 1.30-1.40 | 0.20-2.00 | 0.18-0.22 | 3.0-5.9 | 5.0-10 | .28 | .28 | | | |
| | | 48-80 | 15-32 | 1.35-1.50 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.0-5.0 | .28 | .28 | | | |
| 540: | | | | | | | | | | | | | |
| Seelyeville, surface drained---------- | 80 | 0-10 | --- | 0.10-0.25 | 0.20-6.00 | 0.35-0.45 | --- | 25-99 | --- | --- | 3 | 2 | 134 |
| | | 10-80 | --- | 0.10-0.25 | 0.20-6.00 | 0.35-0.45 | --- | 25-99 | --- | --- | | | |
| 543: | | | | | | | | | | | | | |
| Markey, surface drained---------- | 80 | 0-36 | --- | 0.15-0.45 | 0.20-6.00 | 0.35-0.45 | --- | 55-85 | --- | --- | 2 | 2 | 134 |
| | | 36-42 | 0-10 | 1.40-1.65 | 6.00-20 | 0.03-0.08 | 0.0-2.9 | 1.0-4.0 | .15 | .15 | | | |
| | | 42-80 | 0-10 | 1.40-1.65 | 6.00-20 | 0.03-0.08 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 548: | | | | | | | | | | | | | |
| Medo, drained--------- | 80 | 0-27 | --- | 0.25-0.45 | 0.20-6.00 | 0.35-0.45 | --- | 55-85 | --- | --- | 2 | 2 | 134 |
| | | 27-35 | 15-30 | 1.15-1.65 | 0.60-6.00 | 0.13-0.20 | 3.0-5.9 | 5.0-20 | .24 | .24 | | | |
| | | 35-39 | 15-30 | 1.15-1.65 | 0.60-6.00 | 0.13-0.20 | 3.0-5.9 | 0.5-2.0 | .24 | .24 | | | |
| | | 39-80 | 0-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |
| 603: | | | | | | | | | | | | | |
| Hanlon, occasionally flooded---------- | 80 | 0-40 | 12-18 | 1.45-1.55 | 2.00-6.00 | 0.16-0.18 | 0.0-2.9 | 2.0-3.0 | .20 | .20 | 5 | 3 | 86 |
| | | 40-63 | 12-18 | 1.45-1.55 | 2.00-6.00 | 0.16-0.18 | 0.0-2.9 | 1.0-2.0 | .20 | .20 | | | |
| | | 63-70 | 5-10 | 1.55-1.70 | 2.00-6.00 | 0.11-0.13 | 0.0-2.9 | 1.0-2.0 | .20 | .20 | | | |
| | | 70-80 | 2-18 | 1.55-1.70 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 0.0-1.0 | .24 | .24 | | | |
| 611D: | | | | | | | | | | | | | |
| Hawick---------- | 85 | 0-10 | 2-12 | 1.50-1.65 | 2.00-20 | 0.03-0.13 | 0.0-2.9 | 1.0-3.0 | .10 | .15 | 3 | 8 | 0 |
| | | 10-60 | 1-5 | 1.55-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| 708: | | | | | | | | | | | | | |
| Rushlake---------- | 85 | 0-9 | 1-5 | 1.50-1.70 | 5.95-20 | 0.04-0.07 | 0.0-2.9 | 0.5-4.0 | .15 | .15 | 5 | 1 | 160 |
| | | 9-80 | 1-10 | 1.50-1.70 | 5.95-20 | 0.02-0.10 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 740: | | | | | | | | | | | | | |
| Hamel---------- | 70 | 0-24 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.24 | 0.0-2.9 | 5.0-7.0 | .28 | .28 | 5 | 6 | 48 |
| | | 24-46 | 24-35 | 1.45-1.60 | 0.20-0.60 | 0.16-0.19 | 3.0-5.9 | 1.0-4.0 | .28 | .28 | | | |
| | | 46-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Glencoe, depressional | 20 | 0-10 | 27-35 | 1.35-1.45 | 0.14-1.98 | 0.18-0.22 | 3.0-5.9 | 5.0-10 | .28 | .28 | 5 | 6 | 48 |
| | | 10-35 | 25-35 | 1.35-1.45 | 0.14-1.98 | 0.18-0.22 | 3.0-5.9 | 2.0-5.0 | .28 | .28 | | | |
| | | 35-48 | 25-35 | 1.35-1.50 | 0.14-1.98 | 0.15-0.19 | 3.0-5.9 | 0.5-2.0 | .28 | .28 | | | |
| | | 48-60 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 768: | | | | | | | | | | | | | |
| Mosford---------- | 85 | 0-13 | 7-18 | 1.50-1.70 | 2.00-6.00 | 0.13-0.18 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 13-16 | 7-18 | 1.50-1.70 | 2.00-6.00 | 0.12-0.17 | 0.0-2.9 | 0.5-2.0 | .24 | .24 | | | |
| | | 16-35 | 2-6 | 1.45-1.60 | 6.00-20 | 0.03-0.11 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| | | 35-80 | 2-4 | 1.45-1.60 | 6.00-20 | 0.02-0.07 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 771: | | | | | | | | | | | | | |
| Elkriver, rarely flooded---------- | 85 | 0-10 | 5-18 | 1.45-1.55 | 0.60-6.00 | 0.16-0.20 | 0.0-2.9 | 1.5-3.0 | .20 | .20 | 4 | 3 | 86 |
| | | 10-35 | 5-18 | 1.45-1.55 | 0.60-6.00 | 0.15-0.20 | 0.0-2.9 | 1.5-3.0 | .20 | .20 | | | |
| | | 35-39 | 5-18 | 1.45-1.55 | 0.60-6.00 | 0.15-0.19 | 0.0-2.9 | 0.5-2.0 | .15 | .15 | | | |
| | | 39-80 | 1-10 | 1.60-1.70 | 6.00-20 | 0.02-0.10 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 783C2: | | | | | | | | | | | | | |
| Lester, eroded-------- | 50 | 0-7 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 1.0-3.0 | .28 | .28 | 5 | 6 | 48 |
| | | 7-38 | 24-32 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 38-60 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 60-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Kilkenny, eroded------ | 30 | 0-9 | 27-30 | 1.15-1.25 | 0.20-0.60 | 0.17-0.19 | 3.0-5.9 | 1.0-3.0 | .28 | .28 | 5 | 6 | 48 |
| | | 9-53 | 35-45 | 1.25-1.35 | 0.20-0.60 | 0.15-0.19 | 3.0-5.9 | 0.2-1.0 | .28 | .28 | | | |
| | | 53-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 792: | | | | | | | | | | | | | |
| Fordum, frequently flooded---------- | 90 | 0-7 | 5-12 | 1.35-1.50 | 0.60-6.00 | 0.11-0.18 | 0.0-2.9 | 6.0-15 | .20 | .20 | 4 | 3 | 86 |
| | | 7-28 | 1-6 | 1.40-1.50 | 0.60-6.00 | 0.10-0.22 | 0.0-2.9 | 1.0-10 | .37 | .37 | | | |
| | | 28-80 | 1-5 | 1.55-1.70 | 6.00-20 | 0.04-0.10 | 0.0-2.9 | 0.5-2.0 | .15 | .15 | | | |
| 799: | | | | | | | | | | | | | |
| Seelyeville, frequently flooded--- | 45 | 0-12 | --- | 0.10-0.25 | 0.20-6.00 | 0.35-0.45 | --- | 25-99 | --- | --- | 3 | 2 | 134 |
| | | 12-80 | --- | 0.10-0.25 | 0.20-6.00 | 0.35-0.45 | --- | 25-99 | --- | --- | | | |
| Bowstring, frequently flooded---------- | 45 | 0-38 | 0-5 | 0.15-0.30 | 0.14-5.95 | 0.35-0.45 | --- | 40-90 | --- | --- | 3 | 2 | 134 |
| | | 38-47 | 1-12 | 1.40-1.60 | 0.57-20 | 0.08-0.14 | 0.0-2.9 | 2.0-10 | --- | --- | | | |
| | | 47-80 | 0-5 | 0.15-0.30 | 0.14-5.95 | 0.35-0.45 | --- | 40-90 | --- | --- | | | |
| 804B: | | | | | | | | | | | | | |
| Koronis---------- | 50 | 0-8 | 10-20 | 1.20-1.40 | 2.00-6.00 | 0.20-0.22 | 0.0-2.9 | 1.0-4.0 | .24 | .24 | 5 | 3 | 86 |
| | | 8-25 | 18-24 | 1.30-1.50 | 0.60-6.00 | 0.15-0.19 | 0.0-2.9 | 0.0-2.0 | .28 | .28 | | | |
| | | 25-60 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.0-1.0 | .28 | .28 | | | |
| Sunburg---------- | 20 | 0-7 | 12-20 | 1.35-1.55 | 2.00-6.00 | 0.16-0.18 | 0.0-2.9 | 1.0-4.0 | .24 | .24 | 5 | 3 | 86 |
| | | 7-60 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.0-1.0 | .28 | .28 | | | |
| Hawick---------- | 15 | 0-7 | 5-15 | 1.35-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 1.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 7-11 | 1-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.0-1.0 | .10 | .15 | | | |
| | | 11-80 | 1-5 | 1.55-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| 804C2: | | | | | | | | | | | | | |
| Koronis, eroded------- | 45 | 0-8 | 10-20 | 1.20-1.40 | 2.00-6.00 | 0.20-0.22 | 0.0-2.9 | 1.0-3.0 | .24 | .24 | 5 | 3 | 86 |
| | | 8-25 | 18-24 | 1.30-1.50 | 0.60-6.00 | 0.15-0.19 | 0.0-2.9 | 0.0-2.0 | .28 | .28 | | | |
| | | 25-60 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.0-1.0 | .28 | .28 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 804C2: | | | | | | | | | | | | | |
| Sunburg---------- | 25 | 0-7 | 12-20 | 1.35-1.55 | 2.00-6.00 | 0.16-0.18 | 0.0-2.9 | 1.0-4.0 | .24 | .24 | 5 | 3 | 86 |
| | | 7-60 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.0-1.0 | .28 | .28 | | | |
| Hawick---------- | 15 | 0-7 | 5-15 | 1.35-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 1.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 7-11 | 1-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.0-1.0 | .10 | .15 | | | |
| | | 11-80 | 1-5 | 1.55-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| 804D2: | | | | | | | | | | | | | |
| Koronis, eroded------- | 40 | 0-8 | 10-20 | 1.20-1.40 | 2.00-6.00 | 0.20-0.22 | 0.0-2.9 | 1.0-3.0 | .24 | .24 | 5 | 3 | 86 |
| | | 8-25 | 18-24 | 1.30-1.50 | 0.60-6.00 | 0.15-0.19 | 0.0-2.9 | 0.0-2.0 | .28 | .28 | | | |
| | | 25-60 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.0-1.0 | .28 | .28 | | | |
| Sunburg---------- | 30 | 0-7 | 12-20 | 1.35-1.55 | 2.00-6.00 | 0.16-0.18 | 0.0-2.9 | 1.0-4.0 | .24 | .24 | 5 | 3 | 86 |
| | | 7-60 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.0-1.0 | .28 | .28 | | | |
| Hawick---------- | 15 | 0-7 | 5-15 | 1.35-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 1.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 7-11 | 1-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.0-1.0 | .10 | .15 | | | |
| | | 11-80 | 1-5 | 1.55-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| 804E: | | | | | | | | | | | | | |
| Koronis---------- | 50 | 0-5 | 10-20 | 1.20-1.40 | 2.00-6.00 | 0.20-0.22 | 0.0-2.9 | 1.0-5.0 | .24 | .24 | 5 | 3 | 86 |
| | | 5-21 | 18-24 | 1.30-1.50 | 0.60-6.00 | 0.15-0.19 | 0.0-2.9 | 0.0-2.0 | .28 | .28 | | | |
| | | 21-60 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.0-1.0 | .28 | .28 | | | |
| Sunburg---------- | 20 | 0-4 | 12-20 | 1.35-1.55 | 2.00-6.00 | 0.16-0.18 | 0.0-2.9 | 1.0-4.0 | .24 | .24 | 5 | 3 | 86 |
| | | 4-60 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.0-1.0 | .28 | .28 | | | |
| Hawick---------- | 15 | 0-11 | 2-10 | 1.50-1.65 | 2.00-20 | 0.03-0.13 | 0.0-2.9 | 1.0-3.0 | .10 | .15 | 5 | 8 | 0 |
| | | 11-16 | 1-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.0-1.0 | .10 | .15 | | | |
| | | 16-60 | 1-5 | 1.55-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| 807D2: | | | | | | | | | | | | | |
| Koronis, eroded------- | 65 | 0-8 | 10-20 | 1.20-1.40 | 2.00-6.00 | 0.20-0.22 | 0.0-2.9 | 1.0-3.0 | .24 | .24 | 5 | 3 | 86 |
| | | 8-25 | 18-24 | 1.30-1.50 | 0.60-6.00 | 0.15-0.19 | 0.0-2.9 | 0.0-2.0 | .28 | .28 | | | |
| | | 25-60 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.0-1.0 | .28 | .28 | | | |
| Sunburg---------- | 20 | 0-7 | 12-20 | 1.35-1.55 | 2.00-6.00 | 0.16-0.18 | 0.0-2.9 | 1.0-4.0 | .24 | .24 | 5 | 3 | 86 |
| | | 7-60 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.0-1.0 | .28 | .28 | | | |
| 875B: | | | | | | | | | | | | | |
| Estherville---------- | 60 | 0-13 | 5-15 | 1.25-1.35 | 1.98-5.95 | 0.13-0.18 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 13-18 | 10-18 | 1.35-1.60 | 1.98-5.95 | 0.13-0.18 | 0.0-2.9 | 0.0-0.5 | .20 | .20 | | | |
| | | 18-23 | 0-8 | 1.50-1.65 | 5.95-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |
| | | 23-60 | 0-8 | 1.50-1.65 | 5.95-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea- bility | Available water capacity | Linear extensi- bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi- bility group | Wind erodi- bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 875B: | | | | | | | | | | | | | |
| Hawick---------- | 30 | 0-7 | 5-15 | 1.35-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 1.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 7-11 | 1-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.0-1.0 | .10 | .15 | | | |
| | | 11-80 | 1-5 | 1.55-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| 875C: | | | | | | | | | | | | | |
| Hawick---------- | 60 | 0-7 | 5-15 | 1.35-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 1.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 7-11 | 1-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.0-1.0 | .10 | .15 | | | |
| | | 11-80 | 1-5 | 1.55-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| Estherville---------- | 25 | 0-13 | 5-15 | 1.25-1.35 | 1.98-5.95 | 0.13-0.18 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 13-18 | 10-18 | 1.35-1.60 | 1.98-5.95 | 0.13-0.18 | 0.0-2.9 | 0.0-0.5 | .20 | .20 | | | |
| | | 18-23 | 0-8 | 1.50-1.65 | 5.95-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |
| | | 23-60 | 0-8 | 1.50-1.65 | 5.95-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |
| 896B: | | | | | | | | | | | | | |
| Kingsley---------- | 70 | 0-6 | 3-10 | 1.40-1.60 | 0.60-2.00 | 0.10-0.18 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 5 | 3 | 86 |
| | | 6-18 | 3-10 | 1.45-1.65 | 0.60-2.00 | 0.10-0.15 | 0.0-2.9 | 0.0-0.5 | .20 | .20 | | | |
| | | 18-45 | 6-18 | 1.60-1.70 | 0.20-0.60 | 0.13-0.16 | 0.0-2.9 | 0.0-0.5 | .20 | .20 | | | |
| | | 45-80 | 5-10 | 1.60-1.70 | 0.20-0.60 | 0.11-0.14 | 0.0-2.9 | 0.0-0.5 | .28 | .28 | | | |
| Gotham---------- | 25 | 0-9 | 2-4 | 1.35-1.55 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 0.5-2.0 | .17 | .17 | 5 | 2 | 134 |
| | | 9-18 | 2-8 | 1.40-1.60 | 6.00-20 | 0.06-0.11 | 0.0-2.9 | 0.5-1.0 | .17 | .17 | | | |
| | | 18-40 | 2-8 | 1.40-1.60 | 6.00-20 | 0.09-0.11 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 40-80 | 1-3 | 1.50-1.70 | 6.00-20 | 0.05-0.10 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| 896C: | | | | | | | | | | | | | |
| Kingsley---------- | 70 | 0-6 | 3-10 | 1.40-1.60 | 0.60-2.00 | 0.10-0.18 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 5 | 3 | 86 |
| | | 6-18 | 3-10 | 1.45-1.65 | 0.60-2.00 | 0.10-0.15 | 0.0-2.9 | 0.0-0.5 | .20 | .20 | | | |
| | | 18-45 | 6-18 | 1.60-1.70 | 0.20-0.60 | 0.13-0.16 | 0.0-2.9 | 0.0-0.5 | .20 | .20 | | | |
| | | 45-80 | 5-10 | 1.60-1.70 | 0.20-0.60 | 0.11-0.14 | 0.0-2.9 | 0.0-0.5 | .28 | .28 | | | |
| Gotham---------- | 25 | 0-9 | 2-4 | 1.35-1.55 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 0.5-2.0 | .17 | .17 | 5 | 2 | 134 |
| | | 9-18 | 2-8 | 1.40-1.60 | 6.00-20 | 0.06-0.11 | 0.0-2.9 | 0.5-1.0 | .17 | .17 | | | |
| | | 18-40 | 2-8 | 1.40-1.60 | 6.00-20 | 0.09-0.11 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 40-80 | 1-3 | 1.50-1.70 | 6.00-20 | 0.05-0.10 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| 945C2: | | | | | | | | | | | | | |
| Lester, eroded-------- | 50 | 0-7 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 1.0-3.0 | .28 | .28 | 5 | 6 | 48 |
| | | 7-38 | 24-32 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 38-60 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 60-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Storden, eroded------- | 30 | 0-7 | 18-27 | 1.35-1.45 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 1.0-2.0 | .28 | .28 | 5 | 4L | 86 |
| | | 7-55 | 18-30 | 1.35-1.65 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.0-1.0 | .37 | .37 | | | |
| | | 55-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 945D2: | | | | | | | | | | | | | |
| Lester, eroded-------- | 60 | 0-7 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 1.0-3.0 | .28 | .28 | 5 | 6 | 48 |
| | | 7-38 | 24-32 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 38-60 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 60-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Storden, eroded------- | 20 | 0-7 | 18-27 | 1.35-1.45 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 1.0-2.0 | .28 | .28 | 5 | 4L | 86 |
| | | 7-55 | 18-30 | 1.35-1.65 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.0-1.0 | .37 | .37 | | | |
| | | 55-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 956: | | | | | | | | | | | | | |
| Canisteo---------- | 65 | 0-18 | 27-35 | 1.25-1.35 | 0.57-1.98 | 0.18-0.22 | 3.0-5.9 | 4.0-7.0 | .24 | .24 | 5 | 4L | 86 |
| | | 18-39 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.5-1.0 | .32 | .32 | | | |
| | | 39-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Glencoe, depressional | 25 | 0-10 | 27-35 | 1.35-1.45 | 0.14-1.98 | 0.18-0.22 | 3.0-5.9 | 5.0-10 | .28 | .28 | 5 | 6 | 48 |
| | | 10-35 | 25-35 | 1.35-1.45 | 0.14-1.98 | 0.18-0.22 | 3.0-5.9 | 2.0-5.0 | .28 | .28 | | | |
| | | 35-48 | 25-35 | 1.35-1.50 | 0.14-1.98 | 0.15-0.19 | 3.0-5.9 | 0.5-2.0 | .28 | .28 | | | |
| | | 48-60 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 978: | | | | | | | | | | | | | |
| Cordova---------- | 60 | 0-18 | 27-30 | 1.25-1.45 | 0.20-0.60 | 0.18-0.22 | 3.0-5.9 | 4.0-7.0 | .28 | .28 | 5 | 6 | 48 |
| | | 18-38 | 28-35 | 1.35-1.50 | 0.20-0.60 | 0.15-0.19 | 3.0-5.9 | 1.0-4.0 | .28 | .28 | | | |
| | | 38-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Rolfe, depressional--- | 30 | 0-12 | 22-27 | 1.35-1.40 | 0.60-2.00 | 0.22-0.24 | 0.0-2.9 | 3.0-5.0 | .37 | .37 | 5 | 6 | 48 |
| | | 12-20 | 22-27 | 1.40-1.50 | 0.60-2.00 | 0.22-0.24 | 0.0-2.9 | 1.0-2.0 | .28 | .28 | | | |
| | | 20-35 | 39-45 | 1.50-1.60 | 0.06-0.20 | 0.11-0.13 | 6.0-8.9 | 1.0-2.0 | .28 | .28 | | | |
| | | 35-51 | 25-35 | 1.50-1.60 | 0.20-2.00 | 0.14-0.16 | 3.0-5.9 | 0.0-1.0 | .28 | .28 | | | |
| | | 51-60 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 1000: | | | | | | | | | | | | | |
| Arvilla, MAP >25------ | 90 | 0-14 | 6-18 | 1.40-1.60 | 1.98-5.95 | 0.13-0.15 | 0.0-2.9 | 1.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 14-20 | 6-18 | 1.40-1.60 | 1.98-5.95 | 0.11-0.14 | 0.0-2.9 | 1.0-2.0 | .20 | .20 | | | |
| | | 20-80 | 2-10 | 1.40-1.60 | 5.95-20 | 0.02-0.05 | 0.0-2.9 | 0.0-0.5 | .10 | .20 | | | |
| 1015. | | | | | | | | | | | | | |
| Udipsamments (cut and fill land) | | | | | | | | | | | | | |
| 1016. | | | | | | | | | | | | | |
| Udorthents, loamy | | | | | | | | | | | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1023C: | | | | | | | | | | | | | |
| Lester, eroded-------- | 50 | 0-7 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 1.0-3.0 | .28 | .28 | 5 | 6 | 48 |
| | | 7-38 | 24-32 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 38-60 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 60-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Malardi---------- | 35 | 0-10 | 5-18 | 1.40-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 10-15 | 10-18 | 1.45-1.65 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 0.0-1.0 | .20 | .20 | | | |
| | | 15-29 | 1-8 | 1.55-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| | | 29-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 1023D: | | | | | | | | | | | | | |
| Lester, eroded-------- | 45 | 0-7 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 1.0-3.0 | .28 | .28 | 5 | 6 | 48 |
| | | 7-38 | 24-32 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 38-60 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 60-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Malardi---------- | 40 | 0-9 | 5-18 | 1.40-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 9-14 | 10-18 | 1.45-1.65 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 0.0-1.0 | .20 | .20 | | | |
| | | 14-21 | 1-8 | 1.55-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| | | 21-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 1026B: | | | | | | | | | | | | | |
| Lizzie, moderately wet | 90 | 0-12 | 18-22 | 1.20-1.40 | 0.60-2.00 | 0.20-0.24 | 3.0-5.9 | 2.0-5.0 | .28 | .28 | 5 | 5 | 56 |
| | | 12-36 | 18-35 | 1.20-1.40 | 0.60-2.00 | 0.15-0.22 | 3.0-5.9 | 0.0-0.5 | .37 | .37 | | | |
| | | 36-40 | 8-20 | 1.20-1.40 | 0.60-2.00 | 0.15-0.22 | 0.0-2.9 | 0.0-0.5 | .32 | .32 | | | |
| | | 40-80 | 3-16 | 1.30-1.65 | 0.60-6.00 | 0.08-0.22 | 0.0-2.9 | 0.0-0.5 | .32 | .32 | | | |
| 1027. | | | | | | | | | | | | | |
| Udorthents, wet substratum | | | | | | | | | | | | | |
| 1030: | | | | | | | | | | | | | |
| Pits, gravel. | | | | | | | | | | | | | |
| Udipsamments. | | | | | | | | | | | | | |
| 1035B: | | | | | | | | | | | | | |
| Crowfork---------- | 90 | 0-11 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 1.0-3.0 | .17 | .17 | 5 | 2 | 134 |
| | | 11-20 | 2-10 | 1.50-1.70 | 6.00-20 | 0.06-0.11 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 20-76 | 2-10 | 1.50-1.70 | 6.00-20 | 0.06-0.11 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 76-80 | 0-5 | 1.50-1.70 | 6.00-20 | 0.02-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1035C: | | | | | | | | | | | | | |
| Crowfork---------- | 90 | 0-11 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 1.0-3.0 | .17 | .17 | 5 | 2 | 134 |
| | | 11-20 | 2-10 | 1.50-1.70 | 6.00-20 | 0.06-0.11 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 20-76 | 2-10 | 1.50-1.70 | 6.00-20 | 0.06-0.11 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 76-80 | 0-5 | 1.50-1.70 | 6.00-20 | 0.02-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 1035D: | | | | | | | | | | | | | |
| Crowfork---------- | 85 | 0-11 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 1.0-3.0 | .17 | .17 | 5 | 2 | 134 |
| | | 11-20 | 2-10 | 1.50-1.70 | 6.00-20 | 0.06-0.11 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 20-76 | 2-10 | 1.50-1.70 | 6.00-20 | 0.06-0.11 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 76-80 | 0-5 | 1.50-1.70 | 6.00-20 | 0.02-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 1036B: | | | | | | | | | | | | | |
| Angus---------- | 85 | 0-9 | 8-15 | 1.35-1.45 | 2.00-6.00 | 0.12-0.15 | 0.0-2.9 | 1.0-3.0 | .24 | .24 | 5 | 3 | 86 |
| | | 9-46 | 24-35 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 46-58 | 24-35 | 1.55-1.75 | 0.60-2.00 | 0.14-0.19 | 0.0-2.9 | 0.0-0.5 | .37 | .37 | | | |
| | | 58-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 1037: | | | | | | | | | | | | | |
| Eckvoll, MAP >25------ | 90 | 0-9 | 5-9 | 1.30-1.70 | 5.95-20 | 0.10-0.12 | 0.0-2.9 | 1.0-3.0 | .17 | .17 | 5 | 2 | 134 |
| | | 9-24 | 2-9 | 1.30-1.70 | 5.95-20 | 0.06-0.08 | 0.0-2.9 | 0.5-1.0 | .15 | .15 | | | |
| | | 24-45 | 18-35 | 1.40-1.70 | 0.14-1.98 | 0.16-0.18 | 3.0-5.9 | 0.0-0.5 | .37 | .37 | | | |
| | | 45-80 | 16-32 | 1.30-1.70 | 0.14-1.98 | 0.17-0.19 | 3.0-5.9 | 0.0-0.5 | .37 | .37 | | | |
| 1038A: | | | | | | | | | | | | | |
| Verndale, acid substratum---------- | 90 | 0-10 | 7-12 | 1.50-1.70 | 2.00-6.00 | 0.13-0.17 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 10-19 | 7-18 | 1.60-1.70 | 0.60-2.00 | 0.14-0.18 | 0.0-2.9 | 0.5-1.0 | .24 | .24 | | | |
| | | 19-28 | 2-6 | 1.45-1.60 | 6.00-20 | 0.06-0.08 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |
| | | 28-80 | 0-4 | 1.45-1.60 | 6.00-20 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |
| 1038B: | | | | | | | | | | | | | |
| Verndale, acid substratum---------- | 85 | 0-10 | 7-12 | 1.50-1.70 | 2.00-6.00 | 0.13-0.17 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 10-19 | 7-18 | 1.60-1.70 | 0.60-2.00 | 0.14-0.18 | 0.0-2.9 | 0.5-1.0 | .24 | .24 | | | |
| | | 19-28 | 2-6 | 1.45-1.60 | 6.00-20 | 0.06-0.08 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |
| | | 28-80 | 0-4 | 1.45-1.60 | 6.00-20 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |
| 1066B: | | | | | | | | | | | | | |
| Malardi---------- | 65 | 0-10 | 5-18 | 1.40-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 10-15 | 10-18 | 1.45-1.65 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 0.0-1.0 | .20 | .20 | | | |
| | | 15-29 | 1-8 | 1.55-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| | | 29-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1066B: | | | | | | | | | | | | | |
| Hawick---------- | 25 | 0-7 | 5-15 | 1.35-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 1.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 7-11 | 1-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.0-1.0 | .10 | .15 | | | |
| | | 11-80 | 1-5 | 1.55-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| 1066C: | | | | | | | | | | | | | |
| Malardi---------- | 60 | 0-10 | 5-18 | 1.40-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 10-15 | 10-18 | 1.45-1.65 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 0.0-1.0 | .20 | .20 | | | |
| | | 15-29 | 1-8 | 1.55-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| | | 29-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| Hawick---------- | 25 | 0-7 | 5-15 | 1.35-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 1.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 7-11 | 1-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.0-1.0 | .10 | .15 | | | |
| | | 11-80 | 1-5 | 1.55-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| 1066E: | | | | | | | | | | | | | |
| Malardi---------- | 55 | 0-9 | 5-18 | 1.40-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 4.0-8.0 | .20 | .20 | 3 | 3 | 86 |
| | | 9-14 | 10-18 | 1.45-1.65 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 0.0-1.0 | .20 | .20 | | | |
| | | 14-21 | 1-8 | 1.55-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| | | 21-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| Hawick---------- | 30 | 0-7 | 5-15 | 1.35-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 1.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 7-11 | 1-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.0-1.0 | .10 | .15 | | | |
| | | 11-80 | 1-5 | 1.55-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| 1072. | | | | | | | | | | | | | |
| Udorthents, shallow | | | | | | | | | | | | | |
| 1075: | | | | | | | | | | | | | |
| Klossner, ponded------ | 40 | 0-26 | --- | 0.25-0.55 | 0.20-6.00 | 0.35-0.48 | --- | 25-60 | --- | --- | 2 | 8 | 0 |
| | | 26-33 | 22-35 | 1.10-1.25 | 0.60-2.00 | 0.22-0.26 | 3.0-5.9 | 10-20 | .37 | .37 | | | |
| | | 33-40 | 22-35 | 1.30-1.40 | 0.20-2.00 | 0.18-0.22 | 3.0-5.9 | 5.0-10 | .28 | .28 | | | |
| | | 40-80 | 15-32 | 1.35-1.50 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.0-5.0 | .28 | .28 | | | |
| Muskego, ponded------- | 40 | 0-9 | --- | 0.10-0.21 | 0.60-6.00 | 0.35-0.45 | --- | 60-90 | --- | --- | 1 | 8 | 0 |
| | | 9-36 | --- | 0.10-0.21 | 0.60-6.00 | 0.35-0.45 | --- | 60-90 | --- | --- | | | |
| | | 36-60 | 18-35 | 0.30-1.10 | 0.06-0.20 | 0.18-0.24 | 3.0-5.9 | 6.0-20 | .28 | .28 | | | |
| 1080: | | | | | | | | | | | | | |
| Klossner, ponded------ | 30 | 0-26 | --- | 0.25-0.55 | 0.20-6.00 | 0.35-0.48 | --- | 25-60 | --- | --- | 2 | 8 | 0 |
| | | 26-33 | 22-35 | 1.10-1.25 | 0.60-2.00 | 0.22-0.26 | 3.0-5.9 | 10-20 | .37 | .37 | | | |
| | | 33-40 | 22-35 | 1.30-1.40 | 0.20-2.00 | 0.18-0.22 | 3.0-5.9 | 5.0-10 | .28 | .28 | | | |
| | | 40-80 | 15-32 | 1.35-1.50 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.0-5.0 | .28 | .28 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1080: | | | | | | | | | | | | | |
| Okoboji, ponded------- | 30 | 0-10 | 30-40 | 1.20-1.25 | 0.60-2.00 | 0.22-0.25 | 3.0-5.9 | 10-18 | .32 | .32 | 5 | 8 | 0 |
| | | 10-52 | 35-45 | 1.35-1.40 | 0.20-0.60 | 0.18-0.20 | 6.0-8.9 | 4.0-8.0 | .37 | .37 | | | |
| | | 52-60 | 35-45 | 1.35-1.40 | 0.20-0.60 | 0.18-0.20 | 6.0-8.9 | 0.2-1.0 | .37 | .37 | | | |
| Glencoe, ponded------- | 30 | 0-42 | 27-35 | 1.35-1.45 | 0.20-2.00 | 0.18-0.22 | 3.0-5.9 | 5.0-10 | .28 | .28 | 5 | 8 | 0 |
| | | 42-50 | 25-35 | 1.35-1.50 | 0.20-2.00 | 0.15-0.19 | 3.0-5.9 | 2.0-6.0 | .28 | .28 | | | |
| | | 50-60 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 1087B: | | | | | | | | | | | | | |
| Angus---------- | 55 | 0-8 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 2.0-4.0 | .28 | .28 | 5 | 6 | 48 |
| | | 8-35 | 24-35 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 35-40 | 24-35 | 1.55-1.75 | 0.60-2.00 | 0.14-0.19 | 0.0-2.9 | 0.0-0.5 | .37 | .37 | | | |
| | | 40-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Malardi---------- | 30 | 0-10 | 5-18 | 1.40-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 10-15 | 10-18 | 1.45-1.65 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 0.0-1.0 | .20 | .20 | | | |
| | | 15-29 | 1-8 | 1.55-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| | | 29-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 1094B: | | | | | | | | | | | | | |
| Angus---------- | 60 | 0-8 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 2.0-4.0 | .28 | .28 | 5 | 6 | 48 |
| | | 8-35 | 24-35 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 35-40 | 24-35 | 1.55-1.75 | 0.60-2.00 | 0.14-0.19 | 0.0-2.9 | 0.0-0.5 | .37 | .37 | | | |
| | | 40-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Cordova---------- | 30 | 0-13 | 15-27 | 1.25-1.45 | 0.60-2.00 | 0.18-0.22 | 3.0-5.9 | 4.0-7.0 | .28 | .28 | 5 | 6 | 48 |
| | | 13-33 | 28-35 | 1.35-1.50 | 0.20-0.60 | 0.15-0.19 | 3.0-5.9 | 1.0-4.0 | .28 | .28 | | | |
| | | 33-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 1099: | | | | | | | | | | | | | |
| Granby, very wet------ | 85 | 0-12 | 2-14 | 1.20-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 4.0-10 | .17 | .17 | 5 | 2 | 134 |
| | | 12-24 | 0-14 | 1.45-1.60 | 6.00-20 | 0.05-0.12 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 24-60 | 0-10 | 1.45-1.60 | 6.00-20 | 0.05-0.09 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| 1110: | | | | | | | | | | | | | |
| Isan---------- | 90 | 0-18 | 5-14 | 1.30-1.55 | 2.00-6.00 | 0.10-0.15 | 0.0-2.9 | 3.0-10 | .20 | .20 | 3 | 3 | 86 |
| | | 18-29 | 2-8 | 1.50-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.5-3.0 | .17 | .17 | | | |
| | | 29-80 | 1-5 | 1.55-1.70 | 6.00-20 | 0.04-0.06 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 1156: | | | | | | | | | | | | | |
| Cordova---------- | 85 | 0-13 | 15-27 | 1.25-1.45 | 0.60-2.00 | 0.18-0.22 | 3.0-5.9 | 4.0-7.0 | .28 | .28 | 5 | 6 | 48 |
| | | 13-33 | 28-35 | 1.35-1.50 | 0.20-0.60 | 0.15-0.19 | 3.0-5.9 | 1.0-4.0 | .28 | .28 | | | |
| | | 33-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1161: | | | | | | | | | | | | | |
| Barry---------- | 85 | 0-11 | 16-23 | 1.55-1.70 | 2.00-6.00 | 0.17-0.19 | 0.0-2.9 | 4.0-6.0 | .24 | .24 | 5 | 6 | 48 |
| | | 11-33 | 18-25 | 1.60-1.80 | 0.60-2.00 | 0.15-0.18 | 3.0-5.9 | 0.5-1.0 | .28 | .32 | | | |
| | | 33-60 | 12-20 | 1.35-1.60 | 2.00-6.00 | 0.11-0.16 | 0.0-2.9 | 0.1-0.5 | .28 | .28 | | | |
| 1163: | | | | | | | | | | | | | |
| Suckercreek, frequently flooded--- | 85 | 0-22 | 7-20 | 1.20-1.60 | 2.00-6.00 | 0.18-0.24 | 0.0-2.9 | 3.0-6.0 | .28 | .28 | 5 | 5 | 56 |
| | | 22-80 | 2-18 | 1.45-1.65 | 2.00-6.00 | 0.08-0.20 | 0.0-2.9 | 0.2-3.0 | .28 | .28 | | | |
| 1165: | | | | | | | | | | | | | |
| Lundlake, depressional | 90 | 0-12 | 28-35 | 1.20-1.45 | 0.20-2.00 | 0.17-0.22 | 3.0-5.9 | 5.0-12 | .28 | .28 | 5 | 7 | 38 |
| | | 12-36 | 20-30 | 1.20-1.45 | 0.20-2.00 | 0.17-0.22 | 3.0-5.9 | 2.0-5.0 | .28 | .28 | | | |
| | | 36-72 | 16-27 | 1.30-1.50 | 0.60-2.00 | 0.15-0.19 | 0.0-2.9 | 0.0-1.0 | .28 | .28 | | | |
| | | 72-80 | 10-18 | 1.40-1.60 | 2.00-6.00 | 0.10-0.15 | 0.0-2.9 | 0.0-0.5 | .24 | .24 | | | |
| 1173: | | | | | | | | | | | | | |
| Muskego, frequently flooded---------- | 45 | 0-9 | --- | 0.10-0.21 | 0.60-6.00 | 0.35-0.45 | --- | 60-90 | --- | --- | 1 | 8 | 0 |
| | | 9-36 | --- | 0.10-0.21 | 0.60-6.00 | 0.35-0.45 | --- | 60-90 | --- | --- | | | |
| | | 36-60 | 18-35 | 0.30-1.10 | 0.06-0.20 | 0.18-0.24 | 3.0-5.9 | 6.0-20 | .28 | .28 | | | |
| Klossner, frequently flooded---------- | 45 | 0-26 | --- | 0.25-0.55 | 0.20-6.00 | 0.35-0.48 | --- | 25-60 | --- | --- | 2 | 8 | 0 |
| | | 26-33 | 22-35 | 1.10-1.25 | 0.60-2.00 | 0.22-0.26 | 3.0-5.9 | 10-20 | .37 | .37 | | | |
| | | 33-40 | 22-35 | 1.30-1.40 | 0.20-2.00 | 0.18-0.22 | 3.0-5.9 | 5.0-10 | .28 | .28 | | | |
| | | 40-80 | 15-32 | 1.35-1.50 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.0-5.0 | .28 | .28 | | | |
| 1186: | | | | | | | | | | | | | |
| Forestcity---------- | 75 | 0-22 | 10-18 | 1.20-1.40 | 2.00-6.00 | 0.14-0.16 | 0.0-2.9 | 2.0-5.0 | .20 | .20 | 5 | 3 | 86 |
| | | 22-43 | 18-28 | 1.30-1.50 | 0.60-2.00 | 0.14-0.17 | 3.0-5.9 | 2.0-8.0 | .32 | .32 | | | |
| | | 43-60 | 12-28 | 1.30-1.50 | 0.60-6.00 | 0.11-0.17 | 3.0-5.9 | 0.0-1.0 | .32 | .32 | | | |
| | | 60-80 | 10-18 | 1.40-1.60 | 2.00-6.00 | 0.10-0.15 | 0.0-2.9 | 0.0-0.5 | .24 | .24 | | | |
| Lundlake, depressional | 20 | 0-20 | 20-27 | 1.20-1.45 | 0.20-2.00 | 0.17-0.22 | 3.0-5.9 | 5.0-12 | .28 | .28 | 5 | 6 | 48 |
| | | 20-46 | 20-30 | 1.20-1.45 | 0.20-2.00 | 0.17-0.22 | 3.0-5.9 | 2.0-5.0 | .28 | .28 | | | |
| | | 46-54 | 16-27 | 1.30-1.50 | 0.60-2.00 | 0.15-0.19 | 0.0-2.9 | 0.0-1.0 | .28 | .28 | | | |
| | | 54-60 | 10-18 | 1.40-1.60 | 2.00-6.00 | 0.10-0.15 | 0.0-2.9 | 0.0-0.5 | .24 | .24 | | | |
| 1196B: | | | | | | | | | | | | | |
| Lida---------- | 60 | 0-6 | 5-18 | 1.40-1.60 | 2.00-6.00 | 0.13-0.18 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 6-8 | 3-15 | 1.40-1.60 | 2.00-20 | 0.08-0.13 | 0.0-2.9 | 0.0-0.5 | .10 | .17 | | | |
| | | 8-17 | 8-18 | 1.45-1.65 | 2.00-6.00 | 0.08-0.17 | 0.0-2.9 | 0.5-1.0 | .15 | .24 | | | |
| | | 17-25 | 1-5 | 1.55-1.70 | 6.00-20 | 0.02-0.10 | 0.0-2.9 | 0.0-0.5 | .05 | .15 | | | |
| | | 25-80 | 1-5 | 1.60-1.70 | 6.00-40 | 0.01-0.07 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1196B: | | | | | | | | | | | | | |
| Two Inlets---------- | 30 | 0-9 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 0.5-2.0 | .15 | .15 | 5 | 2 | 134 |
| | | 9-19 | 5-15 | 1.40-1.60 | 6.00-20 | 0.09-0.11 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| | | 19-80 | 0-3 | 1.60-1.80 | 20-40 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 1196C: | | | | | | | | | | | | | |
| Lida---------- | 55 | 0-6 | 5-18 | 1.40-1.60 | 2.00-6.00 | 0.13-0.18 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 6-8 | 3-15 | 1.40-1.60 | 2.00-20 | 0.08-0.13 | 0.0-2.9 | 0.0-0.5 | .10 | .17 | | | |
| | | 8-17 | 8-18 | 1.45-1.65 | 2.00-6.00 | 0.08-0.17 | 0.0-2.9 | 0.5-1.0 | .15 | .24 | | | |
| | | 17-25 | 1-5 | 1.55-1.70 | 6.00-20 | 0.02-0.10 | 0.0-2.9 | 0.0-0.5 | .05 | .15 | | | |
| | | 25-80 | 1-5 | 1.60-1.70 | 6.00-40 | 0.01-0.07 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| Two Inlets---------- | 30 | 0-9 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 0.5-2.0 | .15 | .15 | 5 | 2 | 134 |
| | | 9-19 | 5-15 | 1.40-1.60 | 6.00-20 | 0.09-0.11 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| | | 19-80 | 0-3 | 1.60-1.80 | 20-40 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 1196E: | | | | | | | | | | | | | |
| Lida---------- | 50 | 0-6 | 5-18 | 1.40-1.60 | 2.00-6.00 | 0.13-0.18 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 6-8 | 3-15 | 1.40-1.60 | 2.00-20 | 0.08-0.13 | 0.0-2.9 | 0.0-0.5 | .10 | .17 | | | |
| | | 8-17 | 8-18 | 1.45-1.65 | 2.00-6.00 | 0.08-0.17 | 0.0-2.9 | 0.5-1.0 | .15 | .24 | | | |
| | | 17-25 | 1-5 | 1.55-1.70 | 6.00-20 | 0.02-0.10 | 0.0-2.9 | 0.0-0.5 | .05 | .15 | | | |
| | | 25-80 | 1-5 | 1.60-1.70 | 6.00-40 | 0.01-0.07 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| Two Inlets---------- | 40 | 0-8 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 0.5-2.0 | .15 | .15 | 5 | 2 | 134 |
| | | 8-20 | 5-15 | 1.40-1.60 | 6.00-20 | 0.09-0.11 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| | | 20-80 | 0-3 | 1.60-1.80 | 20-40 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 1197: | | | | | | | | | | | | | |
| Suckercreek, occasionally flooded | 80 | 0-12 | 7-20 | 1.20-1.60 | 2.00-6.00 | 0.18-0.24 | 0.0-2.9 | 3.0-6.0 | .24 | .24 | 5 | 3 | 86 |
| | | 12-80 | 2-18 | 1.45-1.65 | 2.00-6.00 | 0.08-0.20 | 0.0-2.9 | 0.2-3.0 | .28 | .28 | | | |
| 1199: | | | | | | | | | | | | | |
| Klossner, ponded------ | 45 | 0-26 | --- | 0.25-0.55 | 0.20-6.00 | 0.35-0.48 | --- | 25-60 | --- | --- | 2 | 8 | 0 |
| | | 26-33 | 22-35 | 1.10-1.25 | 0.60-2.00 | 0.22-0.26 | 3.0-5.9 | 10-20 | .37 | .37 | | | |
| | | 33-40 | 22-35 | 1.30-1.40 | 0.20-2.00 | 0.18-0.22 | 3.0-5.9 | 5.0-10 | .28 | .28 | | | |
| | | 40-80 | 15-32 | 1.35-1.50 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.0-5.0 | .28 | .28 | | | |
| Lundlake, ponded------ | 45 | 0-8 | 20-27 | 1.20-1.40 | 0.20-2.00 | 0.17-0.22 | 3.0-5.9 | 10-20 | .24 | .24 | 5 | 8 | 0 |
| | | 8-26 | 20-27 | 1.20-1.40 | 0.20-2.00 | 0.17-0.22 | 3.0-5.9 | 5.0-10 | .28 | .28 | | | |
| | | 26-80 | 10-18 | 1.40-1.60 | 2.00-6.00 | 0.10-0.15 | 0.0-2.9 | 0.0-0.5 | .24 | .24 | | | |
| 1203: | | | | | | | | | | | | | |
| Muskego, ponded------- | 30 | 0-9 | --- | 0.10-0.21 | 0.60-6.00 | 0.35-0.45 | --- | 60-90 | --- | --- | 1 | 8 | 0 |
| | | 9-36 | --- | 0.10-0.21 | 0.60-6.00 | 0.35-0.45 | --- | 60-90 | --- | --- | | | |
| | | 36-60 | 18-35 | 0.30-1.10 | 0.06-0.20 | 0.18-0.24 | 3.0-5.9 | 6.0-20 | .28 | .28 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1203: | | | | | | | | | | | | | |
| Blue Earth, ponded---- | 30 | 0-50 | 18-32 | 0.20-0.80 | 0.60-2.00 | 0.18-0.24 | 3.0-5.9 | 10-25 | .28 | .28 | 5 | 8 | 0 |
| | | 50-60 | 18-32 | 0.20-0.80 | 0.60-2.00 | 0.18-0.24 | 0.0-2.9 | 10-25 | .28 | .28 | | | |
| Houghton, ponded------ | 30 | 0-80 | --- | 0.15-0.25 | 0.20-6.00 | 0.35-0.45 | --- | 70-99 | --- | --- | 3 | 8 | 0 |
| 1204B: | | | | | | | | | | | | | |
| Reedslake---------- | 85 | 0-12 | 20-26 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 3.0-5.0 | .24 | .24 | 5 | 6 | 48 |
| | | 12-26 | 22-32 | 1.40-1.50 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-2.0 | .32 | .32 | | | |
| | | 26-48 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 48-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 1207B: | | | | | | | | | | | | | |
| Reedslake---------- | 60 | 0-12 | 20-26 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 3.0-5.0 | .24 | .24 | 5 | 6 | 48 |
| | | 12-26 | 22-32 | 1.40-1.50 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-2.0 | .32 | .32 | | | |
| | | 26-48 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 48-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Le Sueur---------- | 25 | 0-14 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.24 | 0.0-2.9 | 3.0-7.0 | .28 | .28 | 5 | 6 | 48 |
| | | 14-40 | 24-35 | 1.30-1.45 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-2.0 | .32 | .32 | | | |
| | | 40-55 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 55-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 1213C: | | | | | | | | | | | | | |
| Cokato, eroded-------- | 65 | 0-8 | 22-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 3.0-5.0 | .28 | .28 | 5 | 6 | 48 |
| | | 8-23 | 25-35 | 1.40-1.50 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 1.0-2.0 | .37 | .37 | | | |
| | | 23-48 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 48-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Storden---------- | 20 | 0-7 | 18-27 | 1.35-1.45 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 1.0-2.0 | .28 | .28 | 5 | 4L | 86 |
| | | 7-55 | 18-30 | 1.35-1.65 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.0-1.0 | .37 | .37 | | | |
| | | 55-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 1213D: | | | | | | | | | | | | | |
| Cokato, eroded-------- | 60 | 0-8 | 22-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 3.0-5.0 | .28 | .28 | 5 | 6 | 48 |
| | | 8-20 | 25-35 | 1.40-1.50 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 1.0-2.0 | .37 | .37 | | | |
| | | 20-40 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 40-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Storden---------- | 25 | 0-7 | 18-27 | 1.35-1.45 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 1.0-2.0 | .28 | .28 | 5 | 4L | 86 |
| | | 7-55 | 18-30 | 1.35-1.65 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.0-1.0 | .37 | .37 | | | |
| | | 55-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1220C: | | | | | | | | | | | | | |
| Cokato, eroded-------- | 50 | 0-8 | 22-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 3.0-5.0 | .28 | .28 | 5 | 6 | 48 |
| | | 8-23 | 25-35 | 1.40-1.50 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 1.0-2.0 | .37 | .37 | | | |
| | | 23-48 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 48-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Storden---------- | 20 | 0-7 | 18-27 | 1.35-1.45 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 1.0-2.0 | .28 | .28 | 5 | 4L | 86 |
| | | 7-55 | 18-30 | 1.35-1.65 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.0-1.0 | .37 | .37 | | | |
| | | 55-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Hawick---------- | 15 | 0-10 | 2-12 | 1.50-1.65 | 2.00-20 | 0.03-0.13 | 0.0-2.9 | 1.0-3.0 | .10 | .15 | 3 | 8 | 0 |
| | | 10-60 | 1-5 | 1.55-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| 1223: | | | | | | | | | | | | | |
| Sandberg, MAP >25----- | 60 | 0-11 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 1.0-3.0 | .15 | .15 | 5 | 2 | 134 |
| | | 11-35 | 0-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.5-1.0 | .05 | .10 | | | |
| | | 35-80 | 0-5 | 1.50-1.65 | 20-40 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| Arvilla, MAP >25------ | 30 | 0-14 | 6-18 | 1.40-1.60 | 1.98-5.95 | 0.13-0.15 | 0.0-2.9 | 1.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 14-17 | 6-18 | 1.40-1.60 | 1.98-5.95 | 0.11-0.14 | 0.0-2.9 | 1.0-2.0 | .20 | .20 | | | |
| | | 17-80 | 2-10 | 1.40-1.60 | 5.95-20 | 0.02-0.05 | 0.0-2.9 | 0.0-0.5 | .10 | .20 | | | |
| 1224: | | | | | | | | | | | | | |
| Hubbard---------- | 60 | 0-11 | 4-10 | 1.45-1.60 | 6.00-20 | 0.08-0.12 | 0.0-2.9 | 2.0-4.0 | .15 | .15 | 5 | 2 | 134 |
| | | 11-27 | 1-5 | 1.55-1.65 | 6.00-20 | 0.03-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| | | 27-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.03-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| Verndale, acid substratum---------- | 30 | 0-10 | 7-12 | 1.50-1.70 | 2.00-6.00 | 0.13-0.17 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 10-16 | 7-18 | 1.60-1.70 | 0.60-2.00 | 0.14-0.18 | 0.0-2.9 | 0.5-1.0 | .24 | .24 | | | |
| | | 16-45 | 2-6 | 1.45-1.60 | 6.00-20 | 0.06-0.08 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |
| | | 45-80 | 0-4 | 1.45-1.60 | 6.00-20 | 0.02-0.06 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |
| 1231: | | | | | | | | | | | | | |
| Hubbard---------- | 60 | 0-20 | 4-10 | 1.45-1.60 | 6.00-20 | 0.08-0.12 | 0.0-2.9 | 2.0-4.0 | .15 | .15 | 5 | 2 | 134 |
| | | 20-32 | 1-5 | 1.55-1.65 | 6.00-20 | 0.03-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| | | 32-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.03-0.07 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| Mosford---------- | 30 | 0-13 | 7-18 | 1.50-1.70 | 2.00-6.00 | 0.13-0.18 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 13-16 | 7-18 | 1.50-1.70 | 2.00-6.00 | 0.12-0.17 | 0.0-2.9 | 0.5-2.0 | .24 | .24 | | | |
| | | 16-35 | 2-6 | 1.45-1.60 | 6.00-20 | 0.03-0.11 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| | | 35-80 | 2-4 | 1.45-1.60 | 6.00-20 | 0.02-0.07 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1255: | | | | | | | | | | | | | |
| Elkriver, occasionally flooded---------- | 80 | 0-10 | 5-18 | 1.45-1.55 | 0.60-6.00 | 0.16-0.20 | 0.0-2.9 | 1.5-3.0 | .20 | .20 | 4 | 3 | 86 |
| | | 10-26 | 5-18 | 1.45-1.55 | 0.60-6.00 | 0.15-0.20 | 0.0-2.9 | 1.5-3.0 | .20 | .20 | | | |
| | | 26-32 | 5-18 | 1.45-1.55 | 0.60-6.00 | 0.15-0.19 | 0.0-2.9 | 0.5-2.0 | .15 | .15 | | | |
| | | 32-80 | 1-10 | 1.60-1.70 | 6.00-20 | 0.02-0.10 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| 1256: | | | | | | | | | | | | | |
| Cantlin---------- | 90 | 0-8 | 2-10 | 1.40-1.60 | 5.95-20 | 0.10-0.12 | 0.0-2.9 | 0.5-2.0 | .17 | .17 | 5 | 2 | 134 |
| | | 8-22 | 2-10 | 1.50-1.70 | 5.95-20 | 0.06-0.08 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 22-80 | 2-5 | 1.55-1.70 | 5.95-20 | 0.05-0.07 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| 1257: | | | | | | | | | | | | | |
| Elkriver, rarely flooded---------- | 55 | 0-10 | 5-18 | 1.45-1.55 | 0.60-6.00 | 0.16-0.20 | 0.0-2.9 | 1.5-3.0 | .20 | .20 | 4 | 3 | 86 |
| | | 10-35 | 5-18 | 1.45-1.55 | 0.60-6.00 | 0.15-0.20 | 0.0-2.9 | 1.5-3.0 | .20 | .20 | | | |
| | | 35-39 | 5-18 | 1.45-1.55 | 0.60-6.00 | 0.15-0.19 | 0.0-2.9 | 0.5-2.0 | .15 | .15 | | | |
| | | 39-80 | 1-10 | 1.60-1.70 | 6.00-20 | 0.02-0.10 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| Mosford, rarely flooded---------- | 35 | 0-11 | 7-18 | 1.50-1.70 | 2.00-6.00 | 0.13-0.18 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 11-16 | 7-18 | 1.50-1.70 | 2.00-6.00 | 0.12-0.17 | 0.0-2.9 | 0.5-2.0 | .24 | .24 | | | |
| | | 16-25 | 2-6 | 1.45-1.60 | 6.00-20 | 0.03-0.11 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| | | 25-80 | 2-4 | 1.45-1.60 | 6.00-20 | 0.02-0.07 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 1260B: | | | | | | | | | | | | | |
| Stonelake---------- | 55 | 0-8 | 1-5 | 1.45-1.60 | 20-60 | 0.10-0.12 | 0.0-2.9 | 0.5-2.0 | .17 | .17 | 5 | 2 | 134 |
| | | 8-30 | 1-8 | 1.45-1.60 | 20-60 | 0.03-0.08 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| | | 30-80 | 1-4 | 1.45-1.65 | 20-60 | 0.02-0.05 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| Nebish, moderately wet | 30 | 0-6 | 5-18 | 1.35-1.50 | 1.98-5.95 | 0.13-0.18 | 0.0-2.9 | 1.0-2.0 | .24 | .24 | 5 | 3 | 86 |
| | | 6-9 | 5-12 | 1.40-1.65 | 1.98-5.95 | 0.11-0.19 | 0.0-2.9 | 0.5-1.0 | .24 | .24 | | | |
| | | 9-43 | 22-35 | 1.50-1.65 | 0.57-1.98 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .32 | .32 | | | |
| | | 43-80 | 18-30 | 1.50-1.70 | 0.57-1.98 | 0.11-0.19 | 0.0-2.9 | 0.0-0.5 | .32 | .32 | | | |
| 1260C: | | | | | | | | | | | | | |
| Stonelake---------- | 55 | 0-7 | 1-5 | 1.45-1.60 | 20-60 | 0.10-0.12 | 0.0-2.9 | 0.5-2.0 | .17 | .17 | 5 | 2 | 134 |
| | | 7-20 | 1-4 | 1.45-1.60 | 20-60 | 0.03-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| | | 20-42 | 1-8 | 1.45-1.60 | 20-60 | 0.03-0.08 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| | | 42-80 | 1-4 | 1.45-1.65 | 20-60 | 0.02-0.05 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| Nebish---------- | 30 | 0-3 | 5-18 | 1.35-1.50 | 1.98-5.95 | 0.13-0.18 | 0.0-2.9 | 1.0-2.0 | .24 | .24 | 5 | 3 | 86 |
| | | 3-10 | 5-12 | 1.40-1.65 | 1.98-5.95 | 0.11-0.19 | 0.0-2.9 | 0.5-1.0 | .24 | .24 | | | |
| | | 10-29 | 22-35 | 1.50-1.65 | 0.57-1.98 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .32 | .32 | | | |
| | | 29-80 | 18-30 | 1.50-1.70 | 0.57-1.98 | 0.11-0.19 | 0.0-2.9 | 0.0-0.5 | .32 | .32 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1260E: | | | | | | | | | | | | | |
| Stonelake---------- | 60 | 0-5 | 1-10 | 1.45-1.60 | 5.95-20 | 0.06-0.15 | 0.0-2.9 | 1.0-4.0 | .05 | .10 | 5 | 8 | 0 |
| | | 5-11 | 1-4 | 1.45-1.60 | 20-60 | 0.03-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| | | 11-20 | 1-8 | 1.45-1.60 | 20-60 | 0.03-0.08 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| | | 20-80 | 1-4 | 1.45-1.65 | 20-60 | 0.02-0.05 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| Nebish---------- | 25 | 0-5 | 5-18 | 1.35-1.50 | 1.98-5.95 | 0.13-0.18 | 0.0-2.9 | 1.0-3.0 | .24 | .24 | 5 | 3 | 86 |
| | | 5-9 | 5-12 | 1.40-1.65 | 1.98-5.95 | 0.11-0.19 | 0.0-2.9 | 0.5-1.0 | .24 | .24 | | | |
| | | 9-27 | 22-35 | 1.50-1.65 | 0.57-1.98 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .32 | .32 | | | |
| | | 27-80 | 18-30 | 1.50-1.70 | 0.57-1.98 | 0.11-0.19 | 0.0-2.9 | 0.0-0.5 | .32 | .32 | | | |
| 1288: | | | | | | | | | | | | | |
| Seelyeville, ponded--- | 45 | 0-15 | --- | 0.10-0.25 | 0.20-6.00 | 0.35-0.45 | --- | 25-99 | --- | --- | 3 | 8 | 0 |
| | | 15-80 | --- | 0.10-0.25 | 0.20-6.00 | 0.35-0.45 | --- | 25-99 | --- | --- | | | |
| Markey, ponded-------- | 45 | 0-27 | --- | 0.15-0.45 | 0.20-6.00 | 0.35-0.45 | --- | 55-85 | --- | --- | 2 | 8 | 0 |
| | | 27-32 | 0-10 | 1.40-1.65 | 6.00-20 | 0.03-0.08 | 0.0-2.9 | 1.0-4.0 | .15 | .15 | | | |
| | | 32-80 | 0-10 | 1.40-1.65 | 6.00-20 | 0.03-0.08 | 0.0-2.9 | 0.0-0.5 | .15 | .15 | | | |
| 1356. | | | | | | | | | | | | | |
| Water, miscellaneous | | | | | | | | | | | | | |
| 1362B: | | | | | | | | | | | | | |
| Angus---------- | 85 | 0-8 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 2.0-4.0 | .28 | .28 | 5 | 6 | 48 |
| | | 8-35 | 24-35 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 35-40 | 24-35 | 1.55-1.75 | 0.60-2.00 | 0.14-0.19 | 0.0-2.9 | 0.0-0.5 | .37 | .37 | | | |
| | | 40-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 1368: | | | | | | | | | | | | | |
| Southhaven---------- | 90 | 0-48 | 16-27 | 1.30-1.40 | 0.60-2.00 | 0.15-0.22 | 0.0-2.9 | 4.0-9.0 | .24 | .24 | 5 | 6 | 48 |
| | | 48-62 | 16-30 | 1.40-1.60 | 0.60-2.00 | 0.12-0.19 | 3.0-5.9 | 0.0-0.5 | .24 | .24 | | | |
| | | 62-66 | 4-8 | 1.45-1.70 | 6.00-20 | 0.01-0.11 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 66-80 | 1-5 | 1.55-1.70 | 6.00-20 | 0.02-0.07 | 0.0-2.9 | 0.0-0.5 | .10 | .05 | | | |
| 1377B: | | | | | | | | | | | | | |
| Dorset---------- | 70 | 0-11 | 4-18 | 1.40-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 3.0-5.0 | .20 | .20 | 3 | 3 | 86 |
| | | 11-19 | 10-18 | 1.45-1.65 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 0.5-2.0 | .28 | .28 | | | |
| | | 19-32 | 5-10 | 1.55-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .10 | .17 | | | |
| | | 32-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| Two Inlets---------- | 20 | 0-9 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 0.5-2.0 | .15 | .15 | 5 | 2 | 134 |
| | | 9-19 | 5-15 | 1.40-1.60 | 6.00-20 | 0.09-0.11 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| | | 19-80 | 0-3 | 1.60-1.80 | 20-40 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1377C: | | | | | | | | | | | | | |
| Dorset---------- | 50 | 0-11 | 4-18 | 1.40-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 2.0-5.0 | .20 | .20 | 3 | 3 | 86 |
| | | 11-19 | 10-18 | 1.45-1.65 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 0.5-2.0 | .28 | .28 | | | |
| | | 19-32 | 5-10 | 1.55-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .10 | .17 | | | |
| | | 32-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| Two Inlets---------- | 35 | 0-9 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 0.5-2.0 | .15 | .15 | 5 | 2 | 134 |
| | | 9-19 | 5-15 | 1.40-1.60 | 6.00-20 | 0.09-0.11 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| | | 19-80 | 0-3 | 1.60-1.80 | 20-40 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 1377D: | | | | | | | | | | | | | |
| Dorset---------- | 45 | 0-9 | 4-18 | 1.40-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 9-14 | 10-18 | 1.45-1.65 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 0.5-2.0 | .28 | .28 | | | |
| | | 14-25 | 5-10 | 1.55-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .10 | .17 | | | |
| | | 25-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| Two Inlets---------- | 40 | 0-9 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 0.5-2.0 | .15 | .15 | 5 | 2 | 134 |
| | | 9-19 | 5-15 | 1.40-1.60 | 6.00-20 | 0.09-0.11 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| | | 19-80 | 0-3 | 1.60-1.80 | 20-40 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 1377E: | | | | | | | | | | | | | |
| Dorset---------- | 45 | 0-9 | 4-18 | 1.40-1.55 | 2.00-6.00 | 0.13-0.15 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 9-14 | 10-18 | 1.45-1.65 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 0.5-2.0 | .28 | .28 | | | |
| | | 14-27 | 5-10 | 1.55-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .10 | .17 | | | |
| | | 27-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| Two Inlets---------- | 45 | 0-8 | 2-10 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 0.5-2.0 | .15 | .15 | 5 | 2 | 134 |
| | | 8-20 | 5-15 | 1.40-1.60 | 6.00-20 | 0.09-0.11 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| | | 20-80 | 0-3 | 1.60-1.80 | 20-40 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 1378: | | | | | | | | | | | | | |
| Fordum, occasionally flooded---------- | 85 | 0-9 | 10-23 | 1.35-1.45 | 0.60-2.00 | 0.17-0.24 | 0.0-2.9 | 4.0-12 | .28 | .28 | 4 | 6 | 48 |
| | | 9-38 | 8-17 | 1.40-1.50 | 0.60-2.00 | 0.10-0.22 | 0.0-2.9 | 0.5-3.0 | .37 | .37 | | | |
| | | 38-80 | 2-5 | 1.55-1.70 | 6.00-20 | 0.04-0.16 | 0.0-2.9 | 0.5-1.0 | .15 | .15 | | | |
| 1379B: | | | | | | | | | | | | | |
| Dorset---------- | 65 | 0-9 | 8-18 | 1.45-1.65 | 2.00-6.00 | 0.18-0.22 | 0.0-2.9 | 3.0-5.0 | .28 | .28 | 3 | 5 | 56 |
| | | 9-21 | 10-18 | 1.45-1.65 | 2.00-6.00 | 0.12-0.19 | 0.0-2.9 | 0.5-2.0 | .28 | .28 | | | |
| | | 21-26 | 5-10 | 1.55-1.65 | 6.00-20 | 0.06-0.10 | 0.0-2.9 | 0.0-0.5 | .10 | .17 | | | |
| | | 26-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1379B: | | | | | | | | | | | | | |
| Almora---------- | 25 | 0-10 | 12-20 | 1.30-1.55 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 3.0-5.0 | .24 | .24 | 4 | 5 | 56 |
| | | 10-14 | 12-20 | 1.30-1.55 | 0.60-2.00 | 0.12-0.19 | 0.0-2.9 | 1.0-2.0 | .28 | .28 | | | |
| | | 14-36 | 16-22 | 1.30-1.55 | 0.60-2.00 | 0.14-0.19 | 2.0-5.9 | 0.5-1.0 | .32 | .32 | | | |
| | | 36-41 | 3-12 | 1.55-1.65 | 6.00-20 | 0.02-0.11 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| | | 41-80 | 1-4 | 1.55-1.65 | 6.00-20 | 0.02-0.07 | 0.0-2.9 | 0.0-0.5 | .10 | .15 | | | |
| 1380A: | | | | | | | | | | | | | |
| Bygland, MAP >25------ | 85 | 0-9 | 18-26 | 1.20-1.40 | 0.20-2.00 | 0.22-0.24 | 3.0-5.9 | 3.0-7.0 | .28 | .28 | 5 | 6 | 48 |
| | | 9-23 | 35-60 | 1.20-1.40 | 0.06-0.60 | 0.10-0.19 | 6.0-8.9 | 0.5-3.0 | .32 | .32 | | | |
| | | 23-27 | 18-40 | 1.30-1.50 | 0.20-0.60 | 0.16-0.22 | 3.0-5.9 | 0.5-1.0 | .43 | .43 | | | |
| | | 27-80 | 18-40 | 1.30-1.50 | 0.20-0.60 | 0.16-0.22 | 3.0-5.9 | 0.0-0.5 | .43 | .43 | | | |
| 1380B: | | | | | | | | | | | | | |
| Bygland, MAP >25------ | 70 | 0-9 | 18-26 | 1.20-1.40 | 0.20-2.00 | 0.22-0.24 | 3.0-5.9 | 3.0-7.0 | .28 | .28 | 5 | 6 | 48 |
| | | 9-23 | 35-60 | 1.20-1.40 | 0.06-0.60 | 0.10-0.19 | 6.0-8.9 | 0.5-3.0 | .32 | .32 | | | |
| | | 23-27 | 18-40 | 1.30-1.50 | 0.20-0.60 | 0.16-0.22 | 3.0-5.9 | 0.5-1.0 | .43 | .43 | | | |
| | | 27-80 | 18-40 | 1.30-1.50 | 0.20-0.60 | 0.16-0.22 | 3.0-5.9 | 0.0-0.5 | .43 | .43 | | | |
| 1380C: | | | | | | | | | | | | | |
| Bygland, MAP >25------ | 70 | 0-7 | 18-26 | 1.20-1.40 | 0.20-2.00 | 0.22-0.24 | 3.0-5.9 | 1.0-2.0 | .28 | .28 | 5 | 6 | 48 |
| | | 7-20 | 35-60 | 1.20-1.40 | 0.06-0.60 | 0.10-0.19 | 6.0-8.9 | 0.5-3.0 | .32 | .32 | | | |
| | | 20-26 | 18-40 | 1.30-1.50 | 0.20-0.60 | 0.16-0.22 | 3.0-5.9 | 0.5-1.0 | .43 | .43 | | | |
| | | 26-80 | 18-40 | 1.30-1.50 | 0.20-0.60 | 0.16-0.22 | 3.0-5.9 | 0.0-0.5 | .43 | .43 | | | |
| 1381: | | | | | | | | | | | | | |
| Lindaas, morainic----- | 80 | 0-16 | 20-27 | 1.10-1.30 | 0.60-2.00 | 0.18-0.23 | 3.0-5.9 | 3.0-7.0 | .32 | .32 | 5 | 6 | 48 |
| | | 16-32 | 35-60 | 1.20-1.40 | 0.06-0.20 | 0.10-0.14 | 6.0-8.9 | 1.0-4.0 | .32 | .32 | | | |
| | | 32-80 | 25-40 | 1.20-1.50 | 0.20-0.60 | 0.11-0.15 | 3.0-5.9 | 0.5-1.0 | .32 | .32 | | | |
| 1383A: | | | | | | | | | | | | | |
| Shorewood, moderately wet---------- | 95 | 0-17 | 30-40 | 1.20-1.40 | 0.14-0.57 | 0.18-0.22 | 3.0-5.9 | 4.0-8.0 | .28 | .28 | 5 | 4 | 86 |
| | | 17-39 | 36-55 | 1.20-1.35 | 0.0000-0.57 | 0.13-0.16 | 6.0-8.9 | 1.0-4.0 | .32 | .32 | | | |
| | | 39-60 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 1388B: | | | | | | | | | | | | | |
| Terril, moderately wet | 85 | 0-27 | 18-26 | 1.35-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 3.0-5.0 | .24 | .24 | 5 | 6 | 48 |
| | | 27-40 | 24-30 | 1.40-1.45 | 0.60-2.00 | 0.17-0.19 | 0.0-2.9 | 2.0-4.0 | .28 | .28 | | | |
| | | 40-63 | 22-30 | 1.45-1.70 | 0.60-2.00 | 0.16-0.18 | 0.0-2.9 | 0.0-1.0 | .32 | .32 | | | |
| | | 63-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1406: | | | | | | | | | | | | | |
| Medo, ponded---------- | 30 | 0-20 | --- | 0.25-0.45 | 0.20-6.00 | 0.35-0.45 | --- | 55-85 | --- | --- | 2 | 8 | 0 |
| | | 20-34 | 15-30 | 1.15-1.65 | 0.60-6.00 | 0.13-0.20 | 3.0-5.9 | 5.0-20 | .24 | .24 | | | |
| | | 34-60 | 0-10 | 1.50-1.65 | 6.00-20 | 0.03-0.10 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |
| Dassel, ponded-------- | 30 | 0-23 | 6-18 | 1.30-1.45 | 2.00-6.00 | 0.16-0.20 | 0.0-2.9 | 3.0-15 | .20 | .20 | 4 | 8 | 0 |
| | | 23-31 | 2-6 | 1.40-1.60 | 2.00-6.00 | 0.12-0.17 | 0.0-2.9 | 0.5-1.0 | .20 | .20 | | | |
| | | 31-60 | 2-6 | 1.45-1.65 | 6.00-20 | 0.02-0.08 | 0.0-2.9 | 0.0-0.5 | .05 | .15 | | | |
| Biscay, ponded-------- | 30 | 0-24 | 18-27 | 1.20-1.30 | 0.60-2.00 | 0.20-0.22 | 3.0-5.9 | 4.0-8.0 | .28 | .28 | 4 | 8 | 0 |
| | | 24-29 | 18-30 | 1.25-1.35 | 0.60-2.00 | 0.17-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 29-60 | 1-6 | 1.55-1.65 | 6.00-40 | 0.02-0.04 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| 1408B: | | | | | | | | | | | | | |
| Angus---------- | 45 | 0-8 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 2.0-4.0 | .28 | .28 | 5 | 6 | 48 |
| | | 8-35 | 24-35 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 35-40 | 24-35 | 1.55-1.75 | 0.60-2.00 | 0.14-0.19 | 0.0-2.9 | 0.0-0.5 | .37 | .37 | | | |
| | | 40-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Kilkenny---------- | 40 | 0-11 | 27-30 | 1.15-1.25 | 0.20-0.60 | 0.17-0.19 | 3.0-5.9 | 2.0-4.0 | .28 | .28 | 5 | 6 | 48 |
| | | 11-35 | 35-45 | 1.25-1.35 | 0.20-0.60 | 0.15-0.19 | 3.0-5.9 | 0.2-1.0 | .28 | .28 | | | |
| | | 35-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 1438B: | | | | | | | | | | | | | |
| Braham, moderately wet | 85 | 0-8 | 2-8 | 1.40-1.60 | 6.00-20 | 0.10-0.12 | 0.0-2.9 | 1.0-3.0 | .17 | .17 | 5 | 2 | 134 |
| | | 8-24 | 2-8 | 1.45-1.60 | 6.00-20 | 0.08-0.10 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 24-42 | 18-30 | 1.50-1.70 | 0.20-2.00 | 0.15-0.18 | 3.0-5.9 | 0.0-0.5 | .37 | .37 | | | |
| | | 42-60 | 16-30 | 1.55-1.75 | 0.60-2.00 | 0.15-0.18 | 3.0-5.9 | 0.0-0.5 | .37 | .37 | | | |
| 1443: | | | | | | | | | | | | | |
| Belleville---------- | 85 | 0-11 | 12-18 | 1.30-1.50 | 2.00-6.00 | 0.13-0.18 | 0.0-2.9 | 3.0-6.0 | .20 | .20 | 3 | 3 | 86 |
| | | 11-27 | 2-12 | 1.40-1.55 | 6.00-20 | 0.04-0.12 | 0.0-2.9 | 0.1-0.5 | .17 | .17 | | | |
| | | 27-48 | 20-30 | 1.45-1.70 | 0.20-0.60 | 0.12-0.20 | 3.0-5.9 | 0.1-0.5 | .32 | .32 | | | |
| | | 48-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 1901B: | | | | | | | | | | | | | |
| Angus---------- | 60 | 0-8 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 2.0-4.0 | .28 | .28 | 5 | 6 | 48 |
| | | 8-35 | 24-35 | 1.45-1.55 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 35-40 | 24-35 | 1.55-1.75 | 0.60-2.00 | 0.14-0.19 | 0.0-2.9 | 0.0-0.5 | .37 | .37 | | | |
| | | 40-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| Le Sueur---------- | 30 | 0-14 | 20-27 | 1.30-1.40 | 0.60-2.00 | 0.20-0.24 | 0.0-2.9 | 3.0-7.0 | .28 | .28 | 5 | 6 | 48 |
| | | 14-40 | 24-35 | 1.30-1.45 | 0.60-2.00 | 0.15-0.19 | 3.0-5.9 | 0.5-2.0 | .32 | .32 | | | |
| | | 40-55 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| | | 55-80 | 20-30 | 1.35-1.55 | 0.60-2.00 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |

Table 18.--Physical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Clay | Moist bulk density | Permea-bility | Available water capacity | Linear extensi-bility | Organic matter | Erosion factors Kw | Kf | T | Wind erodi-bility group | Wind erodi-bility index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | In | Pct | g/cc | In/hr | In/in | Pct | Pct | | | | | |
| 1931: | | | | | | | | | | | | | |
| Essexville---------- | 75 | 0-15 | 12-18 | 1.30-1.50 | 2.00-6.00 | 0.13-0.18 | 0.0-2.9 | 4.0-8.0 | .20 | .20 | 3 | 3 | 86 |
| | | 15-30 | 2-12 | 1.40-1.55 | 6.00-20 | 0.04-0.12 | 0.0-2.9 | 0.0-0.5 | .17 | .17 | | | |
| | | 30-80 | 20-30 | 1.35-1.55 | 0.57-1.98 | 0.15-0.19 | 1.0-4.2 | 0.1-0.5 | .32 | .37 | | | |
| 1942: | | | | | | | | | | | | | |
| Forada, depressional-- | 85 | 0-10 | 10-22 | 1.00-1.40 | 0.60-2.00 | 0.20-0.22 | 0.0-2.9 | 5.0-15 | .28 | .28 | 4 | 5 | 56 |
| | | 10-21 | 8-18 | 1.30-1.50 | 0.60-6.00 | 0.12-0.19 | 0.0-2.9 | 0.5-1.0 | .28 | .28 | | | |
| | | 21-60 | 0-5 | 1.50-1.70 | 6.00-20 | 0.02-0.10 | 0.0-2.9 | 0.0-0.5 | .15 | .17 | | | |
| 1946: | | | | | | | | | | | | | |
| Fordum, frequently flooded---------- | 70 | 0-7 | 5-12 | 1.35-1.50 | 0.60-6.00 | 0.11-0.18 | 0.0-2.9 | 6.0-15 | .20 | .20 | 4 | 8 | 0 |
| | | 7-28 | 1-6 | 1.40-1.50 | 0.60-6.00 | 0.10-0.22 | 0.0-2.9 | 1.0-10 | .37 | .37 | | | |
| | | 28-80 | 1-5 | 1.55-1.70 | 6.00-20 | 0.04-0.10 | 0.0-2.9 | 0.5-2.0 | .15 | .15 | | | |
| Winterfield, frequently flooded--- | 20 | 0-8 | 0-10 | 1.40-1.50 | 2.00-20 | 0.10-0.12 | 0.0-2.9 | 1.0-4.0 | .17 | .17 | 5 | 8 | 0 |
| | | 8-20 | 0-5 | 1.45-1.60 | 6.00-20 | 0.06-0.11 | 0.0-2.9 | 0.0-1.0 | .17 | .17 | | | |
| | | 20-80 | 0-5 | 1.55-1.65 | 6.00-20 | 0.04-0.10 | 0.0-2.9 | 0.0-0.5 | .10 | .17 | | | |
| 1975: | | | | | | | | | | | | | |
| Oylen---------- | 90 | 0-10 | 7-12 | 1.50-1.70 | 1.98-5.95 | 0.12-0.16 | 0.0-2.9 | 2.0-4.0 | .20 | .20 | 3 | 3 | 86 |
| | | 10-18 | 7-18 | 1.60-1.70 | 0.57-1.98 | 0.12-0.18 | 0.0-2.9 | 0.5-2.0 | .24 | .24 | | | |
| | | 18-38 | 2-6 | 1.45-1.60 | 5.95-20 | 0.03-0.08 | 0.0-2.9 | 0.0-0.5 | .10 | .10 | | | |
| | | 38-80 | 0-4 | 1.45-1.60 | 5.95-20 | 0.03-0.07 | 0.0-2.9 | 0.0-0.5 | .05 | .10 | | | |
| W. Water | | | | | | | | | | | | | |

Table 19.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 7A: | | | | | | |
| Hubbard | 95 | 0-20 | 6.0-16 | 5.1-7.3 | --- | --- |
| | | 20-32 | 1.0-4.0 | 5.1-7.3 | --- | --- |
| | | 32-80 | 0.0-4.0 | 5.6-7.8 | 0-15 | --- |
| 7B: | | | | | | |
| Hubbard | 90 | 0-18 | 6.0-16 | 5.1-7.3 | --- | --- |
| | | 18-23 | 1.0-4.0 | 5.1-7.3 | --- | --- |
| | | 23-80 | 0.0-4.0 | 5.6-7.8 | 0-15 | --- |
| 7C: | | | | | | |
| Hubbard | 80 | 0-12 | 6.0-16 | 5.1-7.3 | --- | --- |
| | | 12-33 | 1.0-4.0 | 5.1-7.3 | --- | --- |
| | | 33-80 | 0.0-4.0 | 5.6-7.8 | 0-15 | --- |
| 8B: | | | | | | |
| Sparta | 95 | 0-16 | 2.0-12 | 5.1-7.3 | --- | --- |
| | | 16-29 | 1.0-6.0 | 5.1-7.3 | --- | --- |
| | | 29-60 | 1.0-4.0 | 5.1-7.3 | --- | --- |
| 35: | | | | | | |
| Blue Earth, depressional | 80 | 0-10 | 30-70 | 7.4-8.4 | 5-20 | --- |
| | | 10-68 | 30-70 | 7.4-8.4 | 5-40 | --- |
| | | 68-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 74B: | | | | | | |
| Dickinson | 95 | 0-18 | 15-20 | 5.6-7.3 | --- | --- |
| | | 18-30 | 15-20 | 5.1-6.5 | --- | --- |
| | | 30-36 | 5.0-10 | 5.6-7.3 | --- | --- |
| | | 36-60 | 5.0-10 | 5.6-7.3 | --- | --- |
| 86: | | | | | | |
| Canisteo | 80 | 0-18 | 19-37 | 7.4-8.4 | 5-15 | --- |
| | | 18-39 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 39-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 106C2: | | | | | | |
| Lester, eroded | 70 | 0-7 | 10-24 | 5.6-7.3 | --- | --- |
| | | 7-38 | 10-23 | 5.1-7.3 | --- | --- |
| | | 38-60 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 60-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 106D2: | | | | | | |
| Lester, eroded | 80 | 0-7 | 10-24 | 5.6-7.3 | --- | --- |
| | | 7-38 | 10-23 | 5.1-7.3 | --- | --- |
| | | 38-60 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 60-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 106E: | | | | | | |
| Lester | 80 | 0-5 | 10-24 | 5.6-7.3 | --- | --- |
| | | 5-34 | 10-23 | 5.1-7.3 | --- | --- |
| | | 34-60 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 60-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 109: | | | | | | |
| Cordova | 90 | 0-18 | 20-30 | 6.1-7.3 | --- | --- |
| | | 18-38 | 15-25 | 5.1-7.3 | --- | --- |
| | | 38-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 114: | | | | | | |
| Glencoe, depressional | 90 | 0-10 | 23-37 | 6.1-7.8 | 0-5 | --- |
| | | 10-35 | 16-27 | 6.1-7.8 | 0-5 | --- |
| | | 35-48 | 14-25 | 6.6-7.8 | 0-5 | --- |
| | | 48-60 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 138: | | | | | | |
| Lerdal | 80 | 0-7 | 18-24 | 5.6-6.5 | --- | --- |
| | | 7-9 | 18-24 | 5.6-6.5 | --- | --- |
| | | 9-47 | 19-30 | 4.5-6.0 | --- | --- |
| | | 47-60 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| 158A: | | | | | | |
| Zimmerman | 90 | 0-7 | 2.0-5.0 | 5.1-6.5 | --- | --- |
| | | 7-80 | 1.0-6.0 | 5.1-7.3 | --- | --- |
| 158B: | | | | | | |
| Zimmerman | 90 | 0-7 | 2.0-5.0 | 5.1-6.5 | --- | --- |
| | | 7-80 | 1.0-6.0 | 5.1-7.3 | --- | --- |
| 158C: | | | | | | |
| Zimmerman | 90 | 0-7 | 2.0-5.0 | 5.1-6.5 | --- | --- |
| | | 7-80 | 1.0-6.0 | 5.1-7.3 | --- | --- |
| 158E: | | | | | | |
| Zimmerman | 85 | 0-3 | 2.0-5.0 | 5.1-6.5 | --- | --- |
| | | 3-80 | 1.0-6.0 | 5.1-7.3 | --- | --- |
| 169C: | | | | | | |
| Braham | 90 | 0-8 | 2.0-9.0 | 5.6-7.3 | --- | --- |
| | | 8-28 | 1.0-5.0 | 5.6-7.3 | --- | --- |
| | | 28-48 | 7.0-21 | 5.1-7.3 | --- | --- |
| | | 48-80 | 7.0-21 | 7.4-8.4 | 5-25 | 0-1 |
| 181: | | | | | | |
| Litchfield | 95 | 0-20 | 6.0-14 | 5.1-7.3 | --- | --- |
| | | 20-33 | 3.0-8.0 | 5.1-7.3 | --- | --- |
| | | 33-40 | 15-24 | 5.1-7.3 | --- | --- |
| | | 40-80 | 1.0-6.0 | 6.1-7.8 | 0-5 | --- |
| 229: | | | | | | |
| Waldorf | 90 | 0-20 | 33-48 | 6.1-7.3 | --- | --- |
| | | 20-53 | 25-46 | 6.6-7.8 | 0-15 | --- |
| | | 53-80 | 14-37 | 7.4-8.4 | 15-30 | --- |
| 231C: | | | | | | |
| Lester | 80 | 0-9 | 5.0-15 | 5.6-7.3 | --- | --- |
| | | 9-53 | 10-23 | 5.1-7.3 | --- | --- |
| | | 53-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 231D: | | | | | | |
| Lester | 80 | 0-6 | 5.0-15 | 5.6-7.3 | --- | --- |
| | | 6-34 | 10-23 | 5.1-7.3 | --- | --- |
| | | 34-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 235: | | | | | | |
| Nessel | 85 | 0-6 | 5.0-14 | 5.6-7.3 | --- | --- |
| | | 6-38 | 2.0-12 | 5.1-7.3 | --- | --- |
| | | 38-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 239: | | | | | | |
| Le Sueur---------- | 80 | 0-17 | 15-26 | 5.6-7.3 | --- | --- |
| | | 17-37 | 11-25 | 5.1-7.3 | --- | --- |
| | | 37-46 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 46-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 247: | | | | | | |
| Linder---------- | 90 | 0-13 | 15-20 | 6.1-7.3 | --- | --- |
| | | 13-24 | 10-15 | 6.1-7.3 | --- | --- |
| | | 24-60 | 5.0-10 | 7.4-8.4 | 5-30 | --- |
| 255: | | | | | | |
| Mayer---------- | 85 | 0-18 | 15-31 | 7.4-8.4 | 5-30 | --- |
| | | 18-33 | 13-27 | 7.4-8.4 | 5-30 | --- |
| | | 33-80 | 1.0-10 | 7.4-8.4 | 5-30 | --- |
| 256: | | | | | | |
| Mazaska---------- | 90 | 0-15 | 22-34 | 6.1-7.3 | --- | --- |
| | | 15-42 | 19-29 | 4.5-6.5 | --- | --- |
| | | 42-80 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| 258B: | | | | | | |
| Sandberg---------- | 95 | 0-12 | 2.0-12 | 5.6-7.8 | 0-5 | --- |
| | | 12-19 | 1.0-6.0 | 6.1-7.8 | 0-5 | --- |
| | | 19-80 | 1.0-4.0 | 7.4-8.4 | 5-10 | --- |
| 258C: | | | | | | |
| Sandberg---------- | 90 | 0-12 | 2.0-12 | 5.6-7.8 | 0-5 | --- |
| | | 12-19 | 1.0-6.0 | 6.1-7.8 | 0-5 | --- |
| | | 19-80 | 1.0-4.0 | 7.4-8.4 | 5-10 | --- |
| 258E: | | | | | | |
| Sandberg---------- | 85 | 0-12 | 2.0-12 | 5.6-7.8 | 0-5 | --- |
| | | 12-19 | 1.0-6.0 | 6.1-7.8 | 0-5 | --- |
| | | 19-80 | 1.0-4.0 | 7.4-8.4 | 5-10 | --- |
| 260: | | | | | | |
| Duelm---------- | 90 | 0-16 | 5.0-18 | 5.6-7.3 | --- | --- |
| | | 16-30 | 0.0-4.0 | 5.1-7.3 | --- | --- |
| | | 30-80 | 0.0-5.0 | 5.6-7.8 | 0-15 | --- |
| 261: | | | | | | |
| Isan, depressional--- | 90 | 0-14 | 10-25 | 5.6-7.3 | --- | --- |
| | | 14-34 | 2.0-10 | 5.1-6.5 | --- | --- |
| | | 34-80 | 1.0-5.0 | 5.6-7.3 | --- | --- |
| 286B: | | | | | | |
| Shorewood---------- | 95 | 0-17 | 30-45 | 5.6-7.3 | --- | --- |
| | | 17-39 | 25-45 | 5.1-7.3 | --- | --- |
| | | 39-60 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 294A: | | | | | | |
| Rasset---------- | 90 | 0-15 | 5.0-15 | 5.1-7.3 | --- | --- |
| | | 15-28 | 7.0-13 | 5.1-7.3 | --- | --- |
| | | 28-36 | 2.0-7.0 | 5.1-7.3 | --- | --- |
| | | 36-80 | 1.0-3.0 | 5.1-7.8 | 0-20 | --- |
| 323: | | | | | | |
| Shields---------- | 95 | 0-8 | 18-28 | 5.6-6.5 | --- | --- |
| | | 8-41 | 21-34 | 5.6-6.5 | --- | --- |
| | | 41-80 | 14-26 | 7.4-8.4 | 5-20 | --- |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 327A: | | | | | | |
| Dickman | 85 | 0-12 | 5.0-15 | 5.6-6.5 | --- | --- |
| | | 12-19 | 3.0-10 | 5.6-7.3 | --- | --- |
| | | 19-33 | 1.0-4.0 | 5.6-7.3 | --- | --- |
| | | 33-80 | 0.0-5.0 | 6.1-7.8 | 0-5 | --- |
| 327B: | | | | | | |
| Dickman | 85 | 0-12 | 5.0-15 | 5.6-6.5 | --- | --- |
| | | 12-19 | 3.0-10 | 5.6-7.3 | --- | --- |
| | | 19-33 | 1.0-4.0 | 5.6-7.3 | --- | --- |
| | | 33-80 | 0.0-5.0 | 6.1-7.8 | 0-5 | --- |
| 375: | | | | | | |
| Forada | 85 | 0-16 | 14-30 | 6.1-7.3 | --- | --- |
| | | 16-28 | 4.0-12 | 6.1-7.8 | 0-15 | --- |
| | | 28-60 | 0.0-5.0 | 6.6-8.4 | 0-15 | --- |
| 392: | | | | | | |
| Biscay | 90 | 0-20 | 20-35 | 6.1-7.8 | 0-15 | --- |
| | | 20-28 | 12-25 | 6.6-7.8 | 0-15 | --- |
| | | 28-36 | 5.0-20 | 6.6-7.8 | 0-15 | --- |
| | | 36-60 | 1.0-5.0 | 7.4-8.4 | 5-30 | --- |
| 406: | | | | | | |
| Dorset | 90 | 0-11 | 10-23 | 5.6-7.3 | --- | --- |
| | | 11-19 | 7.0-17 | 5.6-7.3 | --- | --- |
| | | 19-32 | 3.0-8.0 | 6.6-8.4 | 0-30 | --- |
| | | 32-80 | 0.0-5.0 | 7.4-8.4 | 5-15 | --- |
| 414: | | | | | | |
| Hamel | 90 | 0-24 | 15-30 | 5.6-7.3 | --- | --- |
| | | 24-46 | 15-30 | 5.6-7.3 | --- | --- |
| | | 46-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 441: | | | | | | |
| Almora | 90 | 0-10 | 12-20 | 5.6-7.3 | --- | --- |
| | | 10-14 | 8.0-14 | 5.6-7.3 | --- | --- |
| | | 14-36 | 10-17 | 5.6-7.3 | --- | --- |
| | | 36-41 | 2.0-7.0 | 5.6-7.8 | 0-5 | --- |
| | | 41-80 | 1.0-3.0 | 7.4-8.4 | 5-30 | --- |
| 461B: | | | | | | |
| Koronis | 85 | 0-8 | 5.0-20 | 5.6-7.3 | --- | --- |
| | | 8-31 | 10-20 | 5.6-7.3 | --- | --- |
| | | 31-80 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| 461C2: | | | | | | |
| Koronis, eroded | 80 | 0-8 | 5.0-20 | 5.6-7.3 | --- | --- |
| | | 8-31 | 10-20 | 5.6-7.3 | --- | --- |
| | | 31-80 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| 461E: | | | | | | |
| Koronis | 80 | 0-7 | 5.0-20 | 5.6-7.3 | --- | --- |
| | | 7-28 | 10-20 | 5.6-7.3 | --- | --- |
| | | 28-80 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| 511: | | | | | | |
| Marcellon, MAP <30 | 85 | 0-13 | 8.0-30 | 5.6-7.3 | --- | --- |
| | | 13-32 | 4.0-20 | 5.6-7.3 | --- | --- |
| | | 32-60 | 5.0-15 | 7.4-8.4 | 5-20 | --- |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 523: | | | | | | |
| Houghton, drained---- | 80 | 0-10 | 100-200 | 4.5-7.3 | --- | --- |
| | | 10-80 | 100-200 | 4.5-7.3 | --- | --- |
| 525: | | | | | | |
| Muskego, surface drained---------- | 75 | 0-9 | 140-180 | 5.6-7.3 | --- | --- |
| | | 9-36 | 150-190 | 5.6-7.3 | --- | --- |
| | | 36-60 | 10-45 | 6.6-8.4 | 60-80 | --- |
| 539: | | | | | | |
| Klossner, drained---- | 80 | 0-26 | 50-150 | 5.6-7.4 | 0-5 | --- |
| | | 26-36 | 35-65 | 6.1-7.4 | 0-5 | --- |
| | | 36-48 | 20-40 | 6.1-7.4 | 0-5 | --- |
| | | 48-80 | 5.0-25 | 6.1-8.4 | 0-20 | 0-1 |
| 540: | | | | | | |
| Seelyeville, surface drained---------- | 80 | 0-10 | 140-200 | 5.1-7.3 | --- | --- |
| | | 10-80 | 140-200 | 5.1-7.3 | --- | --- |
| 543: | | | | | | |
| Markey, surface drained---------- | 80 | 0-36 | 110-170 | 4.5-7.3 | --- | --- |
| | | 36-42 | 1.0-3.0 | 5.6-7.3 | --- | --- |
| | | 42-80 | 1.0-3.0 | 5.6-7.3 | --- | --- |
| 548: | | | | | | |
| Medo, drained-------- | 80 | 0-27 | 40-100 | 6.1-7.8 | 0-5 | --- |
| | | 27-35 | 20-55 | 6.1-7.8 | 0-5 | --- |
| | | 35-39 | 20-55 | 6.1-7.8 | 0-5 | --- |
| | | 39-80 | 1.0-9.0 | 6.1-8.4 | 0-15 | --- |
| 603: | | | | | | |
| Hanlon, occasionally flooded---------- | 80 | 0-40 | 15-20 | 6.1-7.3 | --- | --- |
| | | 40-63 | 10-15 | 6.1-7.3 | --- | --- |
| | | 63-70 | 5.0-10 | 5.6-7.3 | --- | --- |
| | | 70-80 | 5.0-10 | 5.6-7.8 | 0-15 | --- |
| 611D: | | | | | | |
| Hawick---------- | 85 | 0-10 | 1.0-10 | 6.1-7.8 | 0-10 | --- |
| | | 10-60 | 1.0-5.0 | 7.4-8.4 | 5-15 | --- |
| 708: | | | | | | |
| Rushlake---------- | 85 | 0-9 | 2.0-9.0 | 6.1-7.8 | 0-15 | --- |
| | | 9-80 | 1.0-6.0 | 6.5-8.4 | 0-30 | --- |
| 740: | | | | | | |
| Hamel---------- | 70 | 0-24 | 15-30 | 5.6-7.3 | --- | --- |
| | | 24-46 | 15-30 | 5.6-7.3 | --- | --- |
| | | 46-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Glencoe, depressional | 20 | 0-10 | 23-37 | 6.1-7.8 | 0-5 | --- |
| | | 10-35 | 16-27 | 6.1-7.8 | 0-5 | --- |
| | | 35-48 | 14-25 | 6.6-7.8 | 0-5 | --- |
| | | 48-60 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 768: | | | | | | |
| Mosford | 85 | 0-13 | 7.0-9.0 | 5.1-7.3 | --- | --- |
| | | 13-16 | 4.0-22 | 5.1-7.3 | --- | --- |
| | | 16-35 | 1.0-3.0 | 5.1-7.3 | --- | --- |
| | | 35-80 | 0.0-2.0 | 5.1-7.8 | 0-15 | --- |
| 771: | | | | | | |
| Elkriver, rarely flooded | 85 | 0-10 | 6.0-19 | 5.1-7.3 | --- | --- |
| | | 10-35 | 6.0-19 | 5.1-7.3 | --- | --- |
| | | 35-39 | 4.0-15 | 5.6-7.8 | 0-8 | --- |
| | | 39-80 | 0.0-6.0 | 5.6-7.8 | 0-8 | --- |
| 783C2: | | | | | | |
| Lester, eroded | 50 | 0-7 | 10-24 | 5.6-7.3 | --- | --- |
| | | 7-38 | 10-23 | 5.1-7.3 | --- | --- |
| | | 38-60 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 60-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Kilkenny, eroded | 30 | 0-9 | 20-30 | 5.6-7.3 | --- | --- |
| | | 9-53 | 25-35 | 5.1-7.3 | --- | --- |
| | | 53-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 792: | | | | | | |
| Fordum, frequently flooded | 90 | 0-7 | 10-35 | 5.1-7.3 | --- | --- |
| | | 7-28 | 3.0-20 | 5.1-7.3 | --- | --- |
| | | 28-80 | 2.0-6.0 | 5.6-7.3 | --- | --- |
| 799: | | | | | | |
| Seelyeville, frequently flooded | 45 | 0-12 | 140-200 | 5.1-7.3 | --- | --- |
| | | 12-80 | 140-200 | 5.1-7.3 | --- | --- |
| Bowstring, frequently flooded | 45 | 0-38 | 80-190 | 5.6-7.3 | --- | --- |
| | | 38-47 | 10-40 | 5.6-7.3 | --- | --- |
| | | 47-80 | 80-190 | 5.6-7.3 | --- | --- |
| 804B: | | | | | | |
| Koronis | 50 | 0-8 | 5.0-20 | 5.6-7.3 | --- | --- |
| | | 8-25 | 10-20 | 5.6-7.3 | --- | --- |
| | | 25-60 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| Sunburg | 20 | 0-7 | 5.0-15 | 6.6-8.4 | 0-15 | --- |
| | | 7-60 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| Hawick | 15 | 0-7 | 1.0-10 | 6.1-7.8 | 0-10 | --- |
| | | 7-11 | 1.0-5.0 | 6.1-7.8 | 0-10 | --- |
| | | 11-80 | 1.0-5.0 | 7.4-8.4 | 5-15 | --- |
| 804C2: | | | | | | |
| Koronis, eroded | 45 | 0-8 | 5.0-20 | 5.6-7.3 | --- | --- |
| | | 8-25 | 10-20 | 5.6-7.3 | --- | --- |
| | | 25-60 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| Sunburg | 25 | 0-7 | 5.0-15 | 6.6-8.4 | 0-15 | --- |
| | | 7-60 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| Hawick | 15 | 0-7 | 1.0-10 | 6.1-7.8 | 0-10 | --- |
| | | 7-11 | 1.0-5.0 | 6.1-7.8 | 0-10 | --- |
| | | 11-80 | 1.0-5.0 | 7.4-8.4 | 5-15 | --- |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 804D2: | | | | | | |
| Koronis, eroded------ | 40 | 0-8 | 5.0-20 | 5.6-7.3 | --- | --- |
| | | 8-25 | 10-20 | 5.6-7.3 | --- | --- |
| | | 25-60 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| Sunburg---------- | 30 | 0-7 | 5.0-15 | 6.6-8.4 | 0-15 | --- |
| | | 7-60 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| Hawick---------- | 15 | 0-7 | 1.0-10 | 6.1-7.8 | 0-10 | --- |
| | | 7-11 | 1.0-5.0 | 6.1-7.8 | 0-10 | --- |
| | | 11-80 | 1.0-5.0 | 7.4-8.4 | 5-15 | --- |
| 804E: | | | | | | |
| Koronis---------- | 50 | 0-5 | 5.0-20 | 5.6-7.3 | --- | --- |
| | | 5-21 | 10-20 | 5.6-7.3 | --- | --- |
| | | 21-60 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| Sunburg---------- | 20 | 0-4 | 5.0-15 | 6.6-8.4 | 0-15 | --- |
| | | 4-60 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| Hawick---------- | 15 | 0-11 | 1.0-10 | 6.1-7.8 | 0-10 | --- |
| | | 11-16 | 1.0-5.0 | 6.1-7.8 | 0-10 | --- |
| | | 16-60 | 1.0-5.0 | 7.4-8.4 | 5-15 | --- |
| 807D2: | | | | | | |
| Koronis, eroded------ | 65 | 0-8 | 5.0-20 | 5.6-7.3 | --- | --- |
| | | 8-25 | 10-20 | 5.6-7.3 | --- | --- |
| | | 25-60 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| Sunburg---------- | 20 | 0-7 | 5.0-15 | 6.6-8.4 | 0-15 | --- |
| | | 7-60 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| 875B: | | | | | | |
| Estherville---------- | 60 | 0-13 | 2.0-20 | 5.6-7.3 | --- | --- |
| | | 13-18 | 4.0-20 | 5.6-7.3 | --- | --- |
| | | 18-23 | 0.0-5.0 | 5.6-7.3 | --- | --- |
| | | 23-60 | 0.0-5.0 | 6.6-8.4 | 0-15 | --- |
| Hawick---------- | 30 | 0-7 | 1.0-10 | 6.1-7.8 | 0-10 | --- |
| | | 7-11 | 1.0-5.0 | 6.1-7.8 | 0-10 | --- |
| | | 11-80 | 1.0-5.0 | 7.4-8.4 | 5-15 | --- |
| 875C: | | | | | | |
| Hawick---------- | 60 | 0-7 | 1.0-10 | 6.1-7.8 | 0-10 | --- |
| | | 7-11 | 1.0-5.0 | 6.1-7.8 | 0-10 | --- |
| | | 11-80 | 1.0-5.0 | 7.4-8.4 | 5-15 | --- |
| Estherville---------- | 25 | 0-13 | 2.0-20 | 5.6-7.3 | --- | --- |
| | | 13-18 | 4.0-20 | 5.6-7.3 | --- | --- |
| | | 18-23 | 0.0-5.0 | 5.6-7.3 | --- | --- |
| | | 23-60 | 0.0-5.0 | 6.6-8.4 | 0-15 | --- |
| 896B: | | | | | | |
| Kingsley---------- | 70 | 0-6 | 5.0-14 | 5.6-6.5 | --- | --- |
| | | 6-18 | 1.0-7.0 | 5.6-6.5 | --- | --- |
| | | 18-45 | 2.0-12 | 5.1-7.3 | --- | --- |
| | | 45-80 | 2.0-7.0 | 5.6-7.8 | 0-5 | --- |
| Gotham---------- | 25 | 0-9 | 2.0-6.0 | 5.6-7.3 | --- | --- |
| | | 9-18 | 2.0-4.0 | 5.1-7.3 | --- | --- |
| | | 18-40 | 2.0-6.0 | 5.1-7.3 | --- | --- |
| | | 40-80 | 1.0-3.0 | 5.1-7.3 | --- | --- |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 896C: | | | | | | |
| Kingsley---------- | 70 | 0-6 | 5.0-14 | 5.6-6.5 | --- | --- |
| | | 6-18 | 1.0-7.0 | 5.6-6.5 | --- | --- |
| | | 18-45 | 2.0-12 | 5.1-7.3 | --- | --- |
| | | 45-80 | 2.0-7.0 | 5.6-7.8 | 0-5 | --- |
| Gotham---------- | 25 | 0-9 | 2.0-6.0 | 5.6-7.3 | --- | --- |
| | | 9-18 | 2.0-4.0 | 5.1-7.3 | --- | --- |
| | | 18-40 | 2.0-6.0 | 5.1-7.3 | --- | --- |
| | | 40-80 | 1.0-3.0 | 5.1-7.3 | --- | --- |
| 945C2: | | | | | | |
| Lester, eroded------- | 50 | 0-7 | 10-24 | 5.6-7.3 | --- | --- |
| | | 7-38 | 10-23 | 5.1-7.3 | --- | --- |
| | | 38-60 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 60-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Storden, eroded------ | 30 | 0-7 | 11-18 | 7.4-8.4 | 5-30 | --- |
| | | 7-55 | 9.0-18 | 7.4-8.4 | 15-30 | --- |
| | | 55-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 945D2: | | | | | | |
| Lester, eroded------- | 60 | 0-7 | 10-24 | 5.6-7.3 | --- | --- |
| | | 7-38 | 10-23 | 5.1-7.3 | --- | --- |
| | | 38-60 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 60-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Storden, eroded------ | 20 | 0-7 | 11-18 | 7.4-8.4 | 5-30 | --- |
| | | 7-55 | 9.0-18 | 7.4-8.4 | 15-30 | --- |
| | | 55-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 956: | | | | | | |
| Canisteo---------- | 65 | 0-18 | 19-37 | 7.4-8.4 | 5-15 | --- |
| | | 18-39 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 39-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Glencoe, depressional | 25 | 0-10 | 23-37 | 6.1-7.8 | 0-5 | --- |
| | | 10-35 | 16-27 | 6.1-7.8 | 0-5 | --- |
| | | 35-48 | 14-25 | 6.6-7.8 | 0-5 | --- |
| | | 48-60 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 978: | | | | | | |
| Cordova---------- | 60 | 0-18 | 20-30 | 6.1-7.3 | --- | --- |
| | | 18-38 | 15-25 | 5.1-7.3 | --- | --- |
| | | 38-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Rolfe, depressional-- | 30 | 0-12 | 20-25 | 5.1-7.3 | --- | --- |
| | | 12-20 | 20-25 | 5.1-6.5 | --- | --- |
| | | 20-35 | 20-30 | 5.6-7.3 | --- | --- |
| | | 35-51 | 20-25 | 6.1-7.3 | 0-25 | --- |
| | | 51-60 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1000: | | | | | | |
| Arvilla, MAP >25----- | 90 | 0-14 | 5.0-20 | 6.1-7.3 | --- | --- |
| | | 14-20 | 5.0-15 | 6.1-7.3 | --- | --- |
| | | 20-80 | 1.0-5.0 | 7.4-8.4 | 1-5 | --- |
| 1015. | | | | | | |
| Udipsamments (cut and fill land) | | | | | | |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 1016. | | | | | | |
| Udorthents, loamy | | | | | | |
| 1023C: | | | | | | |
| Lester, eroded------- | 50 | 0-7 | 10-24 | 5.6-7.3 | --- | --- |
| | | 7-38 | 10-23 | 5.1-7.3 | --- | --- |
| | | 38-60 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 60-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Malardi---------- | 35 | 0-10 | 6.0-19 | 5.6-7.3 | --- | --- |
| | | 10-15 | 1.0-12 | 5.6-7.3 | --- | --- |
| | | 15-29 | 0.0-6.0 | 5.6-7.3 | --- | --- |
| | | 29-80 | 0.0-3.0 | 7.0-8.4 | 0-30 | --- |
| 1023D: | | | | | | |
| Lester, eroded------- | 45 | 0-7 | 10-24 | 5.6-7.3 | --- | --- |
| | | 7-38 | 10-23 | 5.1-7.3 | --- | --- |
| | | 38-60 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 60-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Malardi---------- | 40 | 0-9 | 6.0-19 | 5.6-7.3 | --- | --- |
| | | 9-14 | 1.0-12 | 5.6-7.3 | --- | --- |
| | | 14-21 | 0.0-6.0 | 5.6-7.3 | --- | --- |
| | | 21-80 | 0.0-3.0 | 7.0-8.4 | 0-30 | --- |
| 1026B: | | | | | | |
| Lizzie, moderately wet---------- | 90 | 0-12 | 9.0-23 | 6.1-7.3 | --- | --- |
| | | 12-36 | 8.0-22 | 6.1-7.3 | --- | --- |
| | | 36-40 | 6.0-13 | 6.6-7.4 | 0-35 | --- |
| | | 40-80 | 2.0-10 | 7.4-8.4 | 12-35 | --- |
| 1027. | | | | | | |
| Udorthents, wet substratum | | | | | | |
| 1030: | | | | | | |
| Pits, gravel. | | | | | | |
| Udipsamments. | | | | | | |
| 1035B: | | | | | | |
| Crowfork---------- | 90 | 0-11 | 3.0-10 | 5.6-7.3 | --- | --- |
| | | 11-20 | 1.0-7.0 | 5.1-6.5 | --- | --- |
| | | 20-76 | 1.0-7.0 | 5.6-7.3 | --- | --- |
| | | 76-80 | 1.0-4.0 | 6.1-7.8 | 0-15 | --- |
| 1035C: | | | | | | |
| Crowfork---------- | 90 | 0-11 | 3.0-10 | 5.6-7.3 | --- | --- |
| | | 11-20 | 1.0-7.0 | 5.1-6.5 | --- | --- |
| | | 20-76 | 1.0-7.0 | 5.6-7.3 | --- | --- |
| | | 76-80 | 1.0-4.0 | 6.1-7.8 | 0-15 | --- |
| 1035D: | | | | | | |
| Crowfork---------- | 85 | 0-11 | 3.0-10 | 5.6-7.3 | --- | --- |
| | | 11-20 | 1.0-7.0 | 5.1-6.5 | --- | --- |
| | | 20-76 | 1.0-7.0 | 5.6-7.3 | --- | --- |
| | | 76-80 | 1.0-4.0 | 6.1-7.8 | 0-15 | --- |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 1036B: | | | | | | |
| Angus---------- | 85 | 0-9 | 5.0-15 | 5.6-7.3 | --- | --- |
| | | 9-46 | 10-23 | 5.1-7.3 | --- | --- |
| | | 46-58 | 8.0-18 | 6.1-7.8 | 5-20 | --- |
| | | 58-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1037: | | | | | | |
| Eckvoll, MAP >25----- | 90 | 0-9 | 3.0-14 | 6.1-7.3 | --- | --- |
| | | 9-24 | 1.0-7.0 | 6.1-7.3 | --- | --- |
| | | 24-45 | 8.0-18 | 6.1-7.3 | --- | --- |
| | | 45-80 | 6.0-16 | 7.4-8.4 | 5-30 | --- |
| 1038A: | | | | | | |
| Verndale, acid substratum---------- | 90 | 0-10 | 7.0-15 | 5.1-7.3 | --- | --- |
| | | 10-19 | 3.0-12 | 5.1-7.3 | --- | --- |
| | | 19-28 | 2.0-4.0 | 5.1-7.3 | --- | --- |
| | | 28-80 | 0.0-3.0 | 5.1-7.3 | --- | --- |
| 1038B: | | | | | | |
| Verndale, acid substratum---------- | 85 | 0-10 | 7.0-15 | 5.1-7.3 | --- | --- |
| | | 10-19 | 3.0-12 | 5.1-7.3 | --- | --- |
| | | 19-28 | 2.0-4.0 | 5.1-7.3 | --- | --- |
| | | 28-80 | 0.0-3.0 | 5.1-7.3 | --- | --- |
| 1066B: | | | | | | |
| Malardi---------- | 65 | 0-10 | 6.0-19 | 5.6-7.3 | --- | --- |
| | | 10-15 | 1.0-12 | 5.6-7.3 | --- | --- |
| | | 15-29 | 0.0-6.0 | 5.6-7.3 | --- | --- |
| | | 29-80 | 0.0-3.0 | 7.0-8.4 | 0-30 | --- |
| Hawick---------- | 25 | 0-7 | 1.0-10 | 6.1-7.8 | 0-10 | --- |
| | | 7-11 | 1.0-5.0 | 6.1-7.8 | 0-10 | --- |
| | | 11-80 | 1.0-5.0 | 7.4-8.4 | 5-15 | --- |
| 1066C: | | | | | | |
| Malardi---------- | 60 | 0-10 | 6.0-19 | 5.6-7.3 | --- | --- |
| | | 10-15 | 1.0-12 | 5.6-7.3 | --- | --- |
| | | 15-29 | 0.0-6.0 | 5.6-7.3 | --- | --- |
| | | 29-80 | 0.0-3.0 | 7.0-8.4 | 0-30 | --- |
| Hawick---------- | 25 | 0-7 | 1.0-10 | 6.1-7.8 | 0-10 | --- |
| | | 7-11 | 1.0-5.0 | 6.1-7.8 | 0-10 | --- |
| | | 11-80 | 1.0-5.0 | 7.4-8.4 | 5-15 | --- |
| 1066E: | | | | | | |
| Malardi---------- | 55 | 0-9 | 6.0-19 | 5.6-7.3 | --- | --- |
| | | 9-14 | 1.0-12 | 5.6-7.3 | --- | --- |
| | | 14-21 | 0.0-6.0 | 5.6-7.3 | --- | --- |
| | | 21-80 | 0.0-3.0 | 7.0-8.4 | 0-30 | --- |
| Hawick---------- | 30 | 0-7 | 1.0-10 | 6.1-7.8 | 0-10 | --- |
| | | 7-11 | 1.0-5.0 | 6.1-7.8 | 0-10 | --- |
| | | 11-80 | 1.0-5.0 | 7.4-8.4 | 5-15 | --- |
| 1072. | | | | | | |
| Udorthents, shallow | | | | | | |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 1075: | | | | | | |
| Klossner, ponded----- | 40 | 0-26 | 50-150 | 5.6-7.4 | 0-5 | --- |
| | | 26-33 | 35-65 | 6.1-7.4 | 0-5 | --- |
| | | 33-40 | 20-40 | 6.1-7.4 | 0-5 | --- |
| | | 40-80 | 5.0-25 | 6.1-8.4 | 0-20 | 0-1 |
| Muskego, ponded------ | 40 | 0-9 | 140-180 | 5.6-7.3 | --- | --- |
| | | 9-36 | 150-190 | 5.6-7.3 | --- | --- |
| | | 36-60 | 10-45 | 6.6-8.4 | 60-80 | --- |
| 1080: | | | | | | |
| Klossner, ponded----- | 30 | 0-26 | 50-150 | 5.6-7.4 | 0-5 | --- |
| | | 26-33 | 35-65 | 6.1-7.4 | 0-5 | --- |
| | | 33-40 | 20-40 | 6.1-7.4 | 0-5 | --- |
| | | 40-80 | 5.0-25 | 6.1-8.4 | 0-20 | 0-1 |
| Okoboji, ponded------ | 30 | 0-10 | 41-50 | 6.1-7.8 | 0-15 | --- |
| | | 10-52 | 41-45 | 6.6-7.8 | 0-15 | --- |
| | | 52-60 | 36-41 | 6.6-7.8 | 0-30 | --- |
| Glencoe, ponded------ | 30 | 0-42 | 20-40 | 6.1-7.8 | 0-5 | --- |
| | | 42-50 | 15-30 | 6.6-7.8 | 0-5 | --- |
| | | 50-60 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1087B: | | | | | | |
| Angus---------- | 55 | 0-8 | 10-24 | 5.6-7.3 | --- | --- |
| | | 8-35 | 10-23 | 5.1-7.3 | --- | --- |
| | | 35-40 | 8.0-18 | 6.1-7.8 | 5-20 | --- |
| | | 40-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Malardi---------- | 30 | 0-10 | 6.0-19 | 5.6-7.3 | --- | --- |
| | | 10-15 | 1.0-12 | 5.6-7.3 | --- | --- |
| | | 15-29 | 0.0-6.0 | 5.6-7.3 | --- | --- |
| | | 29-80 | 0.0-3.0 | 7.0-8.4 | 0-30 | --- |
| 1094B: | | | | | | |
| Angus---------- | 60 | 0-8 | 10-24 | 5.6-7.3 | --- | --- |
| | | 8-35 | 10-23 | 5.1-7.3 | --- | --- |
| | | 35-40 | 8.0-18 | 6.1-7.8 | 5-20 | --- |
| | | 40-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Cordova---------- | 30 | 0-13 | 15-28 | 6.1-7.3 | --- | --- |
| | | 13-33 | 15-25 | 5.1-6.5 | --- | --- |
| | | 33-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1099: | | | | | | |
| Granby, very wet----- | 85 | 0-12 | 5.0-20 | 5.6-7.3 | --- | --- |
| | | 12-24 | 1.0-10 | 5.6-7.8 | --- | --- |
| | | 24-60 | 1.0-3.0 | 6.6-8.4 | 0-20 | --- |
| 1110: | | | | | | |
| Isan---------- | 90 | 0-18 | 10-25 | 5.6-7.3 | --- | --- |
| | | 18-29 | 2.0-10 | 5.1-6.5 | --- | --- |
| | | 29-80 | 1.0-5.0 | 5.6-7.3 | --- | --- |
| 1156: | | | | | | |
| Cordova---------- | 85 | 0-13 | 15-28 | 6.1-7.3 | --- | --- |
| | | 13-33 | 15-25 | 5.1-6.5 | --- | --- |
| | | 33-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 1161: | | | | | | |
| Barry---------- | 85 | 0-11 | 15-26 | 6.1-7.3 | --- | --- |
| | | 11-33 | 8.0-17 | 6.1-7.3 | --- | --- |
| | | 33-60 | 5.0-15 | 7.4-8.4 | 5-20 | --- |
| 1163: | | | | | | |
| Suckercreek, frequently flooded-- | 85 | 0-22 | 10-20 | 7.4-8.4 | 5-20 | --- |
| | | 22-80 | 1.0-10 | 7.4-8.4 | 5-25 | --- |
| 1165: | | | | | | |
| Lundlake, depressional-------- | 90 | 0-12 | 25-42 | 6.6-7.3 | --- | --- |
| | | 12-36 | 14-25 | 6.6-7.3 | --- | --- |
| | | 36-72 | 10-18 | 6.6-7.8 | 0-10 | --- |
| | | 72-80 | 5.0-10 | 7.4-7.8 | 10-20 | 0-1 |
| 1173: | | | | | | |
| Muskego, frequently flooded---------- | 45 | 0-9 | 140-180 | 5.6-7.3 | --- | --- |
| | | 9-36 | 150-190 | 5.6-7.3 | --- | --- |
| | | 36-60 | 10-45 | 6.6-8.4 | 60-80 | --- |
| Klossner, frequently flooded---------- | 45 | 0-26 | 50-150 | 5.6-7.4 | 0-5 | --- |
| | | 26-33 | 35-65 | 6.1-7.4 | 0-5 | --- |
| | | 33-40 | 20-40 | 6.1-7.4 | 0-5 | --- |
| | | 40-80 | 5.0-25 | 6.1-8.4 | 0-20 | 0-1 |
| 1186: | | | | | | |
| Forestcity---------- | 75 | 0-22 | 10-25 | 6.1-7.3 | --- | --- |
| | | 22-43 | 15-25 | 6.1-7.3 | --- | --- |
| | | 43-60 | 8.0-20 | 5.6-7.3 | --- | --- |
| | | 60-80 | 5.0-12 | 7.4-7.8 | 10-20 | 0-1 |
| Lundlake, depressional-------- | 20 | 0-20 | 20-38 | 6.6-7.3 | --- | --- |
| | | 20-46 | 14-25 | 6.6-7.3 | --- | --- |
| | | 46-54 | 10-18 | 6.6-7.8 | 0-10 | --- |
| | | 54-60 | 5.0-10 | 7.4-7.8 | 10-20 | 0-1 |
| 1196B: | | | | | | |
| Lida---------- | 60 | 0-6 | 6.0-19 | 5.6-7.3 | --- | --- |
| | | 6-8 | 1.0-10 | 5.6-7.3 | --- | --- |
| | | 8-17 | 4.0-13 | 5.6-7.3 | --- | --- |
| | | 17-25 | 1.0-4.0 | 5.6-7.3 | --- | --- |
| | | 25-80 | 1.0-4.0 | 7.4-8.4 | 3-15 | --- |
| Two Inlets---------- | 30 | 0-9 | 2.0-8.0 | 5.6-7.3 | --- | --- |
| | | 9-19 | 2.0-9.0 | 6.1-7.3 | --- | --- |
| | | 19-80 | 0.0-2.0 | 7.4-8.4 | 5-30 | --- |
| 1196C: | | | | | | |
| Lida---------- | 55 | 0-6 | 6.0-19 | 5.6-7.3 | --- | --- |
| | | 6-8 | 1.0-10 | 5.6-7.3 | --- | --- |
| | | 8-17 | 4.0-13 | 5.6-7.3 | --- | --- |
| | | 17-25 | 1.0-4.0 | 5.6-7.3 | --- | --- |
| | | 25-80 | 1.0-4.0 | 7.4-8.4 | 3-15 | --- |
| Two Inlets---------- | 30 | 0-9 | 2.0-8.0 | 5.6-7.3 | --- | --- |
| | | 9-19 | 2.0-9.0 | 6.1-7.3 | --- | --- |
| | | 19-80 | 0.0-2.0 | 7.4-8.4 | 5-30 | --- |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 1196E: | | | | | | |
| Lida | 50 | 0-6 | 6.0-19 | 5.6-7.3 | --- | --- |
| | | 6-8 | 1.0-10 | 5.6-7.3 | --- | --- |
| | | 8-17 | 4.0-13 | 5.6-7.3 | --- | --- |
| | | 17-25 | 1.0-4.0 | 5.6-7.3 | --- | --- |
| | | 25-80 | 1.0-4.0 | 7.4-8.4 | 3-15 | --- |
| Two Inlets | 40 | 0-8 | 2.0-8.0 | 5.6-7.3 | --- | --- |
| | | 8-20 | 2.0-9.0 | 6.1-7.3 | --- | --- |
| | | 20-80 | 0.0-2.0 | 7.4-8.4 | 5-30 | --- |
| 1197: | | | | | | |
| Suckercreek, occasionally flooded | 80 | 0-12 | 10-20 | 7.4-8.4 | 5-20 | --- |
| | | 12-80 | 1.0-10 | 7.4-8.4 | 5-25 | --- |
| 1199: | | | | | | |
| Klossner, ponded | 45 | 0-26 | 50-150 | 5.6-7.4 | 0-5 | --- |
| | | 26-33 | 35-65 | 6.1-7.4 | 0-5 | --- |
| | | 33-40 | 20-40 | 6.1-7.4 | 0-5 | --- |
| | | 40-80 | 5.0-25 | 6.1-8.4 | 0-20 | 0-1 |
| Lundlake, ponded | 45 | 0-8 | 30-55 | 6.6-7.3 | --- | --- |
| | | 8-26 | 20-34 | 6.6-7.3 | --- | --- |
| | | 26-80 | 5.0-10 | 7.4-7.8 | 10-20 | 0-1 |
| 1203: | | | | | | |
| Muskego, ponded | 30 | 0-9 | 140-180 | 5.6-7.3 | --- | --- |
| | | 9-36 | 150-190 | 5.6-7.3 | --- | --- |
| | | 36-60 | 10-45 | 6.6-8.4 | 60-80 | --- |
| Blue Earth, ponded | 30 | 0-50 | 30-70 | 7.4-8.4 | 5-20 | --- |
| | | 50-60 | 30-70 | 7.4-8.4 | 5-40 | --- |
| Houghton, ponded | 30 | 0-80 | 100-200 | 4.5-7.3 | --- | --- |
| 1204B: | | | | | | |
| Reedslake | 85 | 0-12 | 16-23 | 5.6-7.3 | --- | --- |
| | | 12-26 | 13-21 | 5.6-7.3 | --- | --- |
| | | 26-48 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 48-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1207B: | | | | | | |
| Reedslake | 60 | 0-12 | 16-23 | 5.6-7.3 | --- | --- |
| | | 12-26 | 13-21 | 5.6-7.3 | --- | --- |
| | | 26-48 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 48-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Le Sueur | 25 | 0-14 | 12-24 | 5.6-7.3 | --- | --- |
| | | 14-40 | 11-25 | 5.1-7.3 | --- | --- |
| | | 40-55 | 10-20 | 7.4-8.4 | 15-25 | --- |
| | | 55-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1213C: | | | | | | |
| Cokato, eroded | 65 | 0-8 | 15-25 | 5.6-7.3 | --- | --- |
| | | 8-23 | 15-20 | 5.6-7.3 | --- | --- |
| | | 23-48 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 48-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Storden | 20 | 0-7 | 11-18 | 7.4-8.4 | 5-30 | --- |
| | | 7-55 | 9.0-18 | 7.4-8.4 | 15-30 | --- |
| | | 55-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 1213D: | | | | | | |
| Cokato, eroded------- | 60 | 0-8 | 15-25 | 5.6-7.3 | --- | --- |
| | | 8-20 | 15-20 | 5.6-7.3 | --- | --- |
| | | 20-40 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 40-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Storden---------- | 25 | 0-7 | 11-18 | 7.4-8.4 | 5-30 | --- |
| | | 7-55 | 9.0-18 | 7.4-8.4 | 15-30 | --- |
| | | 55-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1220C: | | | | | | |
| Cokato, eroded------- | 50 | 0-8 | 15-25 | 5.6-7.3 | --- | --- |
| | | 8-23 | 15-20 | 5.6-7.3 | --- | --- |
| | | 23-48 | 10-20 | 7.4-8.4 | 15-25 | 0-1 |
| | | 48-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Storden---------- | 20 | 0-7 | 11-18 | 7.4-8.4 | 5-30 | --- |
| | | 7-55 | 9.0-18 | 7.4-8.4 | 15-30 | --- |
| | | 55-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Hawick---------- | 15 | 0-10 | 1.0-10 | 6.1-7.8 | 0-10 | --- |
| | | 10-60 | 1.0-5.0 | 7.4-8.4 | 5-15 | --- |
| 1223: | | | | | | |
| Sandberg, MAP >25---- | 60 | 0-11 | 2.0-12 | 5.6-7.8 | 0-5 | --- |
| | | 11-35 | 1.0-6.0 | 6.1-7.8 | 0-5 | --- |
| | | 35-80 | 1.0-4.0 | 7.4-8.4 | 5-10 | --- |
| Arvilla, MAP >25----- | 30 | 0-14 | 5.0-20 | 6.1-7.3 | --- | --- |
| | | 14-17 | 5.0-15 | 6.1-7.3 | --- | --- |
| | | 17-80 | 1.0-5.0 | 7.4-8.4 | 1-5 | --- |
| 1224: | | | | | | |
| Hubbard---------- | 60 | 0-11 | 6.0-16 | 5.1-7.3 | --- | --- |
| | | 11-27 | 1.0-4.0 | 5.1-7.3 | --- | --- |
| | | 27-80 | 0.0-4.0 | 5.6-7.8 | 0-15 | --- |
| Verndale, acid substratum---------- | 30 | 0-10 | 7.0-15 | 5.1-7.3 | --- | --- |
| | | 10-16 | 3.0-12 | 5.1-7.3 | --- | --- |
| | | 16-45 | 2.0-4.0 | 5.1-7.3 | --- | --- |
| | | 45-80 | 0.0-3.0 | 5.1-7.3 | --- | --- |
| 1231: | | | | | | |
| Hubbard---------- | 60 | 0-20 | 6.0-16 | 5.1-7.3 | --- | --- |
| | | 20-32 | 1.0-4.0 | 5.1-7.3 | --- | --- |
| | | 32-80 | 0.0-4.0 | 5.6-7.8 | 0-15 | --- |
| Mosford---------- | 30 | 0-13 | 7.0-9.0 | 5.1-7.3 | --- | --- |
| | | 13-16 | 4.0-22 | 5.1-7.3 | --- | --- |
| | | 16-35 | 1.0-3.0 | 5.1-7.3 | --- | --- |
| | | 35-80 | 0.0-2.0 | 5.1-7.8 | 0-15 | --- |
| 1255: | | | | | | |
| Elkriver, occasionally flooded | 80 | 0-10 | 6.0-19 | 5.1-7.3 | --- | --- |
| | | 10-26 | 6.0-19 | 5.1-7.3 | --- | --- |
| | | 26-32 | 4.0-15 | 5.6-7.8 | 0-8 | --- |
| | | 32-80 | 0.0-6.0 | 5.6-7.8 | 0-8 | --- |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 1256: | | | | | | |
| Cantlin---------- | 90 | 0-8 | 1.0-10 | 5.1-6.0 | --- | --- |
| | | 8-22 | 2.0-6.0 | 5.1-6.0 | --- | --- |
| | | 22-80 | 1.0-3.0 | 5.1-6.5 | --- | --- |
| 1257: | | | | | | |
| Elkriver, rarely flooded---------- | 55 | 0-10 | 6.0-19 | 5.1-7.3 | --- | --- |
| | | 10-35 | 6.0-19 | 5.1-7.3 | --- | --- |
| | | 35-39 | 4.0-15 | 5.6-7.8 | 0-8 | --- |
| | | 39-80 | 0.0-6.0 | 5.6-7.8 | 0-8 | --- |
| Mosford, rarely flooded---------- | 35 | 0-11 | 7.0-9.0 | 5.1-7.3 | --- | --- |
| | | 11-16 | 4.0-22 | 5.1-7.3 | --- | --- |
| | | 16-25 | 1.0-3.0 | 5.1-7.3 | --- | --- |
| | | 25-80 | 0.0-2.0 | 5.1-7.8 | 0-15 | --- |
| 1260B: | | | | | | |
| Stonelake---------- | 55 | 0-8 | 1.0-7.0 | 5.1-6.5 | --- | --- |
| | | 8-30 | 0.0-2.0 | 5.1-6.5 | --- | --- |
| | | 30-80 | 0.0-2.0 | 5.1-7.4 | 0-10 | --- |
| Nebish, moderately wet---------- | 30 | 0-6 | 4.0-14 | 5.6-7.3 | --- | --- |
| | | 6-9 | 3.0-8.0 | 5.6-7.3 | --- | --- |
| | | 9-43 | 10-18 | 5.6-7.3 | --- | --- |
| | | 43-80 | 9.0-16 | 7.4-7.8 | 5-25 | --- |
| 1260C: | | | | | | |
| Stonelake---------- | 55 | 0-7 | 1.0-7.0 | 5.1-6.5 | --- | --- |
| | | 7-20 | 0.0-2.0 | 5.1-6.5 | --- | --- |
| | | 20-42 | 0.0-2.0 | 5.1-6.5 | --- | --- |
| | | 42-80 | 0.0-2.0 | 5.1-7.8 | 0-10 | --- |
| Nebish---------- | 30 | 0-3 | 4.0-14 | 5.6-7.3 | --- | --- |
| | | 3-10 | 3.0-8.0 | 5.6-7.3 | --- | --- |
| | | 10-29 | 10-18 | 5.6-7.3 | --- | --- |
| | | 29-80 | 9.0-16 | 7.4-7.8 | 5-25 | --- |
| 1260E: | | | | | | |
| Stonelake---------- | 60 | 0-5 | 2.0-14 | 5.1-6.5 | --- | --- |
| | | 5-11 | 0.0-2.0 | 5.1-6.5 | --- | --- |
| | | 11-20 | 0.0-2.0 | 5.1-6.5 | --- | --- |
| | | 20-80 | 0.0-2.0 | 5.1-7.8 | 0-10 | --- |
| Nebish---------- | 25 | 0-5 | 4.0-14 | 5.6-7.3 | --- | --- |
| | | 5-9 | 3.0-8.0 | 5.6-7.3 | --- | --- |
| | | 9-27 | 10-18 | 5.6-7.3 | --- | --- |
| | | 27-80 | 9.0-16 | 7.4-7.8 | 5-25 | --- |
| 1288: | | | | | | |
| Seelyeville, ponded-- | 45 | 0-15 | 140-200 | 5.1-7.3 | --- | --- |
| | | 15-80 | 140-200 | 5.1-7.3 | --- | --- |
| Markey, ponded------- | 45 | 0-27 | 110-170 | 4.5-7.3 | --- | --- |
| | | 27-32 | 1.0-3.0 | 5.6-7.3 | --- | --- |
| | | 32-80 | 1.0-3.0 | 5.6-7.3 | --- | --- |
| 1356. | | | | | | |
| Water, miscellaneous | | | | | | |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 1362B: | | | | | | |
| Angus | 85 | 0-8 | 10-24 | 5.6-7.3 | --- | --- |
| | | 8-35 | 10-23 | 5.1-7.3 | --- | --- |
| | | 35-40 | 8.0-18 | 6.1-7.8 | 5-20 | --- |
| | | 40-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1368: | | | | | | |
| Southhaven | 90 | 0-48 | 15-34 | 5.1-7.3 | --- | --- |
| | | 48-62 | 7.0-22 | 5.1-7.3 | --- | --- |
| | | 62-66 | 2.0-4.0 | 5.1-7.3 | --- | --- |
| | | 66-80 | 1.0-3.0 | 5.6-7.8 | 0-10 | --- |
| 1377B: | | | | | | |
| Dorset | 70 | 0-11 | 10-23 | 5.6-7.3 | --- | --- |
| | | 11-19 | 7.0-17 | 5.6-7.3 | --- | --- |
| | | 19-32 | 3.0-8.0 | 6.6-8.4 | 0-30 | --- |
| | | 32-80 | 0.0-5.0 | 7.4-8.4 | 5-15 | --- |
| Two Inlets | 20 | 0-9 | 2.0-8.0 | 5.6-7.3 | --- | --- |
| | | 9-19 | 2.0-9.0 | 6.1-7.3 | --- | --- |
| | | 19-80 | 0.0-2.0 | 7.4-8.4 | 5-30 | --- |
| 1377C: | | | | | | |
| Dorset | 50 | 0-11 | 10-23 | 5.6-7.3 | --- | --- |
| | | 11-19 | 7.0-17 | 5.6-7.3 | --- | --- |
| | | 19-32 | 3.0-8.0 | 6.6-8.4 | 0-30 | --- |
| | | 32-80 | 0.0-5.0 | 7.4-8.4 | 5-15 | --- |
| Two Inlets | 35 | 0-9 | 2.0-8.0 | 5.6-7.3 | --- | --- |
| | | 9-19 | 2.0-9.0 | 6.1-7.3 | --- | --- |
| | | 19-80 | 0.0-2.0 | 7.4-8.4 | 5-30 | --- |
| 1377D: | | | | | | |
| Dorset | 45 | 0-9 | 10-23 | 5.6-7.3 | --- | --- |
| | | 9-14 | 7.0-17 | 5.6-7.3 | --- | --- |
| | | 14-25 | 3.0-8.0 | 6.6-8.4 | 0-30 | --- |
| | | 25-80 | 0.0-5.0 | 7.4-8.4 | 5-15 | --- |
| Two Inlets | 40 | 0-9 | 2.0-8.0 | 5.6-7.3 | --- | --- |
| | | 9-19 | 2.0-9.0 | 6.1-7.3 | --- | --- |
| | | 19-80 | 0.0-2.0 | 7.4-8.4 | 5-30 | --- |
| 1377E: | | | | | | |
| Dorset | 45 | 0-9 | 10-23 | 5.6-7.3 | --- | --- |
| | | 9-14 | 7.0-17 | 5.6-7.3 | --- | --- |
| | | 14-27 | 3.0-8.0 | 6.6-8.4 | 0-30 | --- |
| | | 27-80 | 0.0-5.0 | 7.4-8.4 | 5-15 | --- |
| Two Inlets | 45 | 0-8 | 2.0-8.0 | 5.6-7.3 | --- | --- |
| | | 8-20 | 2.0-9.0 | 6.1-7.3 | --- | --- |
| | | 20-80 | 0.0-2.0 | 7.4-8.4 | 5-30 | --- |
| 1378: | | | | | | |
| Fordum, occasionally flooded | 85 | 0-9 | 10-45 | 5.1-7.3 | --- | --- |
| | | 9-38 | 3.0-20 | 5.1-7.3 | --- | --- |
| | | 38-80 | 2.0-6.0 | 5.6-7.3 | --- | --- |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 1379B: | | | | | | |
| Dorset---------- | 65 | 0-9 | 9.0-23 | 5.6-7.3 | --- | --- |
| | | 9-21 | 7.0-17 | 5.6-7.3 | --- | --- |
| | | 21-26 | 3.0-8.0 | 6.6-8.4 | 0-30 | --- |
| | | 26-80 | 0.0-5.0 | 7.4-8.4 | 5-15 | --- |
| Almora---------- | 25 | 0-10 | 12-20 | 5.6-7.3 | --- | --- |
| | | 10-14 | 8.0-14 | 5.6-7.3 | --- | --- |
| | | 14-36 | 10-17 | 5.6-7.3 | --- | --- |
| | | 36-41 | 2.0-7.0 | 5.6-7.8 | 0-5 | --- |
| | | 41-80 | 1.0-3.0 | 7.4-8.4 | 5-30 | --- |
| 1380A: | | | | | | |
| Bygland, MAP >25----- | 85 | 0-9 | 15-35 | 6.1-7.3 | --- | --- |
| | | 9-23 | 15-30 | 6.1-7.8 | 0-5 | --- |
| | | 23-27 | 10-25 | 7.4-8.4 | 5-20 | --- |
| | | 27-80 | 10-20 | 7.4-8.4 | 5-15 | --- |
| 1380B: | | | | | | |
| Bygland, MAP >25----- | 70 | 0-9 | 15-35 | 6.1-7.3 | --- | --- |
| | | 9-23 | 15-30 | 6.1-7.8 | 0-5 | --- |
| | | 23-27 | 10-25 | 7.4-8.4 | 5-20 | --- |
| | | 27-80 | 10-20 | 7.4-8.4 | 5-15 | --- |
| 1380C: | | | | | | |
| Bygland, MAP >25----- | 70 | 0-7 | 15-35 | 6.1-7.3 | --- | --- |
| | | 7-20 | 15-30 | 6.1-7.8 | 0-5 | --- |
| | | 20-26 | 10-25 | 7.4-8.4 | 5-20 | --- |
| | | 26-80 | 10-20 | 7.4-8.4 | 5-15 | --- |
| 1381: | | | | | | |
| Lindaas, morainic---- | 80 | 0-16 | 23-38 | 6.6-7.3 | --- | --- |
| | | 16-32 | 25-54 | 6.6-7.3 | --- | --- |
| | | 32-80 | 16-34 | 7.4-8.4 | 10-30 | --- |
| 1383A: | | | | | | |
| Shorewood, moderately wet---------- | 95 | 0-17 | 30-45 | 5.6-7.3 | --- | --- |
| | | 17-39 | 25-45 | 5.1-7.3 | --- | --- |
| | | 39-60 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1388B: | | | | | | |
| Terril, moderately wet---------- | 85 | 0-27 | 20-25 | 6.1-7.3 | --- | --- |
| | | 27-40 | 20-25 | 6.1-7.3 | --- | --- |
| | | 40-63 | 15-25 | 6.1-7.3 | --- | --- |
| | | 63-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1406: | | | | | | |
| Medo, ponded--------- | 30 | 0-20 | 40-100 | 6.1-7.8 | 0-5 | --- |
| | | 20-34 | 20-55 | 6.1-7.8 | 0-5 | --- |
| | | 34-60 | 1.0-9.0 | 6.1-8.4 | 0-15 | --- |
| Dassel, ponded------- | 30 | 0-23 | 10-40 | 5.6-7.3 | --- | --- |
| | | 23-31 | 3.0-10 | 5.6-7.3 | --- | --- |
| | | 31-60 | 1.0-5.0 | 6.1-7.8 | 0-5 | --- |
| Biscay, ponded------- | 30 | 0-24 | 20-35 | 6.1-7.8 | 0-10 | --- |
| | | 24-29 | 12-25 | 6.6-7.8 | 0-15 | --- |
| | | 29-60 | 1.0-5.0 | 7.4-8.4 | 5-30 | --- |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| 1408B: | | | | | | |
| Angus---------- | 45 | 0-8 | 10-24 | 5.6-7.3 | --- | --- |
| | | 8-35 | 10-23 | 5.1-7.3 | --- | --- |
| | | 35-40 | 8.0-18 | 6.1-7.8 | 5-20 | --- |
| | | 40-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Kilkenny---------- | 40 | 0-11 | 20-30 | 5.6-7.3 | --- | --- |
| | | 11-35 | 25-35 | 5.1-7.3 | --- | --- |
| | | 35-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1438B: | | | | | | |
| Braham, moderately wet---------- | 85 | 0-8 | 2.0-9.0 | 5.6-7.3 | --- | --- |
| | | 8-24 | 1.0-5.0 | 5.6-7.3 | --- | --- |
| | | 24-42 | 7.0-21 | 5.1-7.3 | --- | --- |
| | | 42-60 | 7.0-21 | 7.4-8.4 | 10-20 | 0-1 |
| 1443: | | | | | | |
| Belleville---------- | 85 | 0-11 | 8.0-29 | 6.1-7.3 | --- | --- |
| | | 11-27 | 3.0-8.0 | 6.1-7.3 | --- | --- |
| | | 27-48 | 10-20 | 6.1-7.3 | --- | --- |
| | | 48-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1901B: | | | | | | |
| Angus---------- | 60 | 0-8 | 10-24 | 5.6-7.3 | --- | --- |
| | | 8-35 | 10-23 | 5.1-7.3 | --- | --- |
| | | 35-40 | 8.0-18 | 6.1-7.8 | 5-20 | --- |
| | | 40-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| Le Sueur---------- | 30 | 0-14 | 12-24 | 5.6-7.3 | --- | --- |
| | | 14-40 | 11-25 | 5.1-7.3 | --- | --- |
| | | 40-55 | 10-20 | 7.4-8.4 | 15-25 | --- |
| | | 55-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1931: | | | | | | |
| Essexville---------- | 75 | 0-15 | 13-27 | 7.4-8.4 | 5-30 | --- |
| | | 15-30 | 1.0-8.0 | 7.4-8.4 | 5-30 | --- |
| | | 30-80 | 10-20 | 7.4-8.4 | 10-20 | 0-1 |
| 1942: | | | | | | |
| Forada, depressional | 85 | 0-10 | 14-45 | 6.1-7.3 | --- | --- |
| | | 10-21 | 4.0-12 | 6.1-7.8 | 0-15 | --- |
| | | 21-60 | 0.0-5.0 | 6.6-8.4 | 0-15 | --- |
| 1946: | | | | | | |
| Fordum, frequently flooded---------- | 70 | 0-7 | 10-35 | 5.1-7.3 | --- | --- |
| | | 7-28 | 3.0-20 | 5.1-7.3 | --- | --- |
| | | 28-80 | 2.0-6.0 | 5.6-7.3 | --- | --- |
| Winterfield, frequently flooded-- | 20 | 0-8 | 2.0-15 | 5.6-7.3 | --- | --- |
| | | 8-20 | 1.0-10 | 5.6-7.3 | --- | --- |
| | | 20-80 | 1.0-5.0 | 5.6-7.3 | --- | --- |
| 1975: | | | | | | |
| Oylen---------- | 90 | 0-10 | 8.0-14 | 6.1-7.3 | --- | --- |
| | | 10-18 | 5.0-13 | 6.1-7.3 | --- | --- |
| | | 18-38 | 1.0-3.0 | 6.1-7.3 | --- | --- |
| | | 38-80 | 0.0-2.0 | 6.6-8.4 | 0-15 | --- |

Table 19.--Chemical Properties of the Soils--Continued

| Map symbol and soil name | Pct. of map unit | Depth | Cation-exchange capacity | Soil reaction | Calcium carbon-ate | Gypsum |
|---|---|---|---|---|---|---|
| | | In | meq/100 g | pH | Pct | Pct |
| W. Water | | | | | | |

Table 20.--Soil Moisture Status by Depth

(See text for definitions of terms used in this table. Depths of layers are in feet)

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7A: | | | | | | | | | | | | | |
| Hubbard------- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 7B: | | | | | | | | | | | | | |
| Hubbard------- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 7C: | | | | | | | | | | | | | |
| Hubbard------- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 8B: | | | | | | | | | | | | | |
| Sparta-------- | A | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-0.7: Dry 0.7-5.0: Moist | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- |
| 35: | | | | | | | | | | | | | |
| Blue Earth, depressional | B/D | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-6.7: Wet --- | 0.0-6.7: Wet --- | 0.0-0.5: Moist 0.5-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet |
| 74B: | | | | | | | | | | | | | |
| Dickinson----- | B | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-0.7: Dry 0.7-5.0: Moist | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- |
| 86: | | | | | | | | | | | | | |
| Canisteo------ | B/D | 0.0-2.6: Moist 2.6-6.7: Wet | 0.0-3.3: Moist 3.3-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-0.5: Moist 0.5-6.7: Wet | 0.0-0.7: Moist 0.7-6.7: Wet | 0.0-1.0: Moist 2.0-6.7: Wet | 0.0-2.6: Moist 2.6-6.7: Wet | 0.0-3.3: Moist 3.3-6.7: Wet | 0.0-2.6: Moist 2.6-6.7: Wet | 0.0-1.6: Moist 1.6-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-1.3: Moist 1.3-6.7: Wet |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 106C2: | | | | | | | | | | | | | |
| Lester, eroded | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 106D2: | | | | | | | | | | | | | |
| Lester, eroded | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 106E: | | | | | | | | | | | | | |
| Lester-------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 109: | | | | | | | | | | | | | |
| Cordova------- | B/D | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-0.8: Moist<br>0.8-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.8: Moist<br>0.8-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-0.7: Moist<br>0.7-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet |
| 114: | | | | | | | | | | | | | |
| Glencoe, depressional | B/D | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-5.0: Wet<br>--- | 0.0-5.0: Wet<br>--- | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet |
| 138: | | | | | | | | | | | | | |
| Lerdal-------- | C | 0.0-3.0: Moist<br>3.0-5.0: Wet | 0.0-4.9: Moist<br>4.9-5.0: Wet | 0.0-1.8: Moist<br>1.8-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-1.8: Moist<br>1.8-5.0: Wet | 0.0-3.0: Moist<br>3.0-5.0: Wet | 0.0-4.9: Moist<br>4.9-5.0: Wet | 0.0-3.9: Moist<br>3.9-5.0: Wet | 0.0-2.3: Moist<br>2.3-5.0: Wet | 0.0-1.6: Moist<br>1.6-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet |
| 158A: | | | | | | | | | | | | | |
| Zimmerman----- | A | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-0.7: Dry<br>0.7-6.7: Moist | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- |
| 158B: | | | | | | | | | | | | | |
| Zimmerman----- | A | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-0.7: Dry<br>0.7-6.7: Moist | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 158C: | | | | | | | | | | | | | |
| Zimmerman----- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 158E: | | | | | | | | | | | | | |
| Zimmerman----- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 169C: | | | | | | | | | | | | | |
| Braham-------- | B | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 181: | | | | | | | | | | | | | |
| Litchfield---- | B | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-2.6: Moist 2.6-6.7: Wet | 0.0-1.6: Moist 1.6-6.7: Wet | 0.0-1.3: Moist 1.3-6.7: Wet | 0.0-1.6: Moist 1.6-6.7: Wet | 0.0-2.3: Moist 2.0-6.7: Wet | 0.0-2.6: Moist 2.6-6.7: Wet | 0.0-3.0: Moist 3.0-6.7: Wet | 0.0-2.6: Moist 2.6-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-1.6: Moist 1.6-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet |
| 229: | | | | | | | | | | | | | |
| Waldorf------- | C/D | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-2.5: Moist 2.5-6.7: Wet | 0.0-0.8: Moist 0.8-6.7: Wet | 0.0-0.5: Moist 0.5-6.7: Wet | 0.0-0.5: Moist 0.5-6.7: Wet | 0.0-0.8: Moist 0.8-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-2.5: Moist 2.5-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-0.7: Moist 0.7-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet |
| 231C: | | | | | | | | | | | | | |
| Lester-------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 231D: | | | | | | | | | | | | | |
| Lester-------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 235: | | | | | | | | | | | | | |
| Nessel-------- | B | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-4.0: Moist 4.0-6.7: Wet | 0.0-2.5: Moist 2.5-6.7: Wet | 0.0-3.0: Moist 3.0-6.7: Wet | 0.0-4.0: Moist 4.0-6.7: Wet | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-5.0: Moist 5.0-6.7: Wet | 0.0-4.0: Moist 4.0-6.7: Wet | 0.0-4.5: Moist 4.5-6.7: Wet |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 239: | | | | | | | | | | | | | |
| Le Sueur------ | B | 0.0-3.9: Moist<br>3.9-6.7: Wet | 0.0-5.9: Moist<br>5.9-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.6: Moist<br>1.6-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-3.9: Moist<br>3.9-6.7: Wet | 0.0-5.9: Moist<br>5.9-6.7: Wet | 0.0-3.9: Moist<br>3.9-6.7: Wet | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-2.3: Moist<br>2.3-6.7: Wet |
| 247: | | | | | | | | | | | | | |
| Linder-------- | B | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-2.6: Moist<br>2.6-5.0: Wet | 0.0-1.6: Moist<br>1.6-5.0: Wet | 0.0-1.3: Moist<br>1.3-5.0: Wet | 0.0-1.6: Moist<br>1.6-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-2.6: Moist<br>2.6-5.0: Wet | 0.0-3.0: Moist<br>3.0-5.0: Wet | 0.0-2.6: Moist<br>2.6-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-1.6: Moist<br>1.6-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet |
| 255: | | | | | | | | | | | | | |
| Mayer--------- | B/D | 0.0-2.5: Moist<br>2.5-5.0: Wet | 0.0-3.3: Moist<br>3.3-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-0.7: Moist<br>0.7-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-2.5: Moist<br>2.5-5.0: Wet | 0.0-3.3: Moist<br>3.3-5.0: Wet | 0.0-2.5: Moist<br>2.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet |
| 256: | | | | | | | | | | | | | |
| Mazaska------- | C/D | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-0.8: Moist<br>0.8-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.8: Moist<br>0.8-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-1.3: Moist<br>1.3-6.7: Wet | 0.0-0.7: Moist<br>0.7-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet |
| 258B: | | | | | | | | | | | | | |
| Sandberg------ | A | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-0.7: Dry<br>0.7-6.7: Moist | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- |
| 258C: | | | | | | | | | | | | | |
| Sandberg------ | A | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-0.7: Dry<br>0.7-6.7: Moist | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- |
| 258E: | | | | | | | | | | | | | |
| Sandberg------ | A | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-0.7: Dry<br>0.7-6.7: Moist | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 260: | | | | | | | | | | | | | |
| Duelm--------- | A | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-3.3: Moist<br>3.3-6.7: Wet |
| 261: | | | | | | | | | | | | | |
| Isan, depressional | B/D | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet |
| 286B: | | | | | | | | | | | | | |
| Shorewood----- | C | 0.0-5.0: Moist<br>---<br>---<br>--- | 0.0-5.0: Moist<br>---<br>---<br>--- | 0.0-3.0: Moist<br>3.0-4.0: Wet<br>4.0-4.4: Moist<br>4.4-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet<br>---<br>--- | 0.0-2.5: Moist<br>2.5-5.0: Wet<br>---<br>--- | 0.0-3.5: Moist<br>3.5-5.0: Wet<br>---<br>--- | 0.0-5.0: Moist<br>---<br>---<br>--- | 0.0-5.0: Moist<br>---<br>---<br>--- | 0.0-5.0: Moist<br>---<br>---<br>--- | 0.0-5.0: Moist<br>---<br>---<br>--- | 0.0-4.6: Moist<br>4.6-5.0: Wet<br>---<br>--- | 0.0-4.6: Moist<br>4.6-5.0: Wet<br>---<br>--- |
| 294A: | | | | | | | | | | | | | |
| Rasset-------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 323: | | | | | | | | | | | | | |
| Shields------- | C | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-3.0: Moist<br>3.0-3.4: Wet<br>3.4-6.7: Moist | 0.0-1.0: Moist<br>1.0-3.4: Wet<br>3.4-6.7: Moist | 0.0-1.5: Moist<br>1.5-3.4: Wet<br>3.4-6.7: Moist | 0.0-2.5: Moist<br>2.5-3.4: Wet<br>3.4-6.7: Moist | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-3.0: Moist<br>3.0-3.4: Wet<br>3.4-6.7: Moist | 0.0-2.7: Moist<br>2.7-3.4: Wet<br>3.4-6.7: Moist | 0.0-3.0: Moist<br>3.0-3.4: Wet<br>3.4-6.7: Moist |
| 327A: | | | | | | | | | | | | | |
| Dickman------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 327B: | | | | | | | | | | | | | |
| Dickman------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 375: | | | | | | | | | | | | | |
| Forada-------- | B/D | 0.0-2.5: Moist<br>2.5-5.0: Wet | 0.0-3.3: Moist<br>3.3-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-0.7: Moist<br>0.7-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-2.5: Moist<br>2.5-5.0: Wet | 0.0-3.3: Moist<br>3.3-5.0: Wet | 0.0-2.5: Moist<br>2.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet |
| 392: | | | | | | | | | | | | | |
| Biscay-------- | B/D | 0.0-2.5: Moist<br>2.5-5.0: Wet | 0.0-3.3: Moist<br>3.3-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-0.7: Moist<br>0.7-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-2.5: Moist<br>2.5-5.0: Wet | 0.0-3.3: Moist<br>3.3-5.0: Wet | 0.0-2.5: Moist<br>2.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet |
| 406: | | | | | | | | | | | | | |
| Dorset-------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| 414: | | | | | | | | | | | | | |
| Hamel--------- | B/D | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-3.3: Moist<br>3.3-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.7: Moist<br>0.7-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-3.3: Moist<br>3.3-6.7: Wet | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-1.6: Moist<br>1.6-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.3: Moist<br>1.3-6.7: Wet |
| 441: | | | | | | | | | | | | | |
| Almora-------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 461B: | | | | | | | | | | | | | |
| Koronis------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 461C2: | | | | | | | | | | | | | |
| Koronis, eroded------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 461E: | | | | | | | | | | | | | |
| Koronis------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 511: | | | | | | | | | | | | | |
| Marcellon, MAP <30------ | B | 0.0-4.0: Moist<br>4.0-5.0: Wet | 0.0-4.5: Moist<br>4.5-5.0: Wet | 0.0-3.0: Moist<br>3.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-3.0: Moist<br>3.0-5.0: Wet | 0.0-4.9: Moist<br>4.9-5.0: Wet | 0.0-5.0: Moist<br>--- | 0.0-4.9: Moist<br>4.9-5.0: Wet | 0.0-4.0: Moist<br>4.0-5.0: Wet | 0.0-3.0: Moist<br>3.0-5.0: Wet | 0.0-3.3: Moist<br>3.3-5.0: Wet |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 523: | | | | | | | | | | | | | |
| Houghton, drained------ | A/D | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet |
| 525: | | | | | | | | | | | | | |
| Muskego, surface drained------ | A/D | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-5.0: Wet<br>--- | 0.0-5.0: Wet<br>--- | 0.0-5.0: Wet<br>--- | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-0.5: Moist<br>0.5-5.0: Wet |
| 539: | | | | | | | | | | | | | |
| Klossner, drained------ | A/D | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet |
| 540: | | | | | | | | | | | | | |
| Seelyeville, surface drained------ | A/D | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet |
| 543: | | | | | | | | | | | | | |
| Markey, surface drained------ | A/D | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet |
| 548: | | | | | | | | | | | | | |
| Medo, drained | A/D | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 603: | | | | | | | | | | | | | |
| Hanlon, occasionally flooded------ | B | 0.0-3.6: Moist<br>3.6-6.7: Wet | 0.0-3.9: Moist<br>3.9-6.7: Wet | 0.0-2.8: Moist<br>2.8-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-3.6: Moist<br>3.6-6.7: Wet | 0.0-3.9: Moist<br>3.9-6.7: Wet | 0.0-3.6: Moist<br>3.6-6.7: Wet | 0.0-3.3: Moist<br>3.3-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-3.3: Moist<br>3.3-6.7: Wet |
| 611D: | | | | | | | | | | | | | |
| Hawick-------- | A | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| 708: | | | | | | | | | | | | | |
| Rushlake------ | A | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-3.3: Moist<br>3.3-6.7: Wet |
| 740: | | | | | | | | | | | | | |
| Hamel--------- | B/D | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-3.3: Moist<br>3.3-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.7: Moist<br>0.7-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-3.3: Moist<br>3.3-6.7: Wet | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-1.6: Moist<br>1.6-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.3: Moist<br>1.3-6.7: Wet |
| Glencoe, depressional | B/D | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-5.0: Wet<br>--- | 0.0-5.0: Wet<br>--- | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet |
| 768: | | | | | | | | | | | | | |
| Mosford------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 771: | | | | | | | | | | | | | |
| Elkriver, rarely flooded------ | B | 0.0-5.0: Moist<br>5.0-6.7: Wet | 0.0-5.5: Moist<br>5.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-5.0: Moist<br>5.0-6.7: Wet | 0.0-6.0: Moist<br>6.0-6.7: Wet | 0.0-6.7: Moist<br>--- | 0.0-5.0: Moist<br>5.0-6.7: Wet | 0.0-4.5: Moist<br>4.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 783C2: | | | | | | | | | | | | | |
| Lester, eroded | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Kilkenny, eroded------- | C | 0.0-6.7: Moist<br>---<br>---<br>--- | 0.0-6.7: Moist<br>---<br>---<br>--- | 0.0-6.7: Moist<br>---<br>---<br>--- | 0.0-2.5: Moist<br>2.5-3.5: Wet<br>3.5-6.7: Moist | 0.0-2.8: Moist<br>2.8-4.0: Wet<br>4.0-6.7: Moist | 0.0-6.7: Moist<br>---<br>---<br>--- | 0.0-6.7: Moist<br>---<br>---<br>--- | 0.0-6.7: Moist<br>---<br>---<br>--- | 0.0-6.7: Moist<br>---<br>---<br>--- | 0.0-6.7: Moist<br>---<br>---<br>--- | 0.0-6.7: Moist<br>---<br>---<br>--- | 0.0-6.7: Moist<br>---<br>---<br>--- |
| 792: | | | | | | | | | | | | | |
| Fordum, frequently flooded------ | D | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.8: Moist<br>1.8-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-0.8: Moist<br>0.8-6.7: Wet | 0.0-1.2: Moist<br>1.2-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.7: Moist<br>0.7-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet |
| 799: | | | | | | | | | | | | | |
| Seelyeville, frequently flooded------ | A/D | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.8: Moist<br>1.8-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-0.8: Moist<br>0.8-6.7: Wet | 0.0-1.2: Moist<br>1.2-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.7: Moist<br>0.7-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet |
| Bowstring, frequently flooded------ | A/D | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.8: Moist<br>1.8-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-0.8: Moist<br>0.8-6.7: Wet | 0.0-1.2: Moist<br>1.2-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.7: Moist<br>0.7-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet |
| 804B: | | | | | | | | | | | | | |
| Koronis------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Sunburg------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Hawick-------- | A | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 804C2: | | | | | | | | | | | | | |
| Koronis, eroded------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Sunburg------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Hawick-------- | A | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 804D2: | | | | | | | | | | | | | |
| Koronis, eroded------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Sunburg------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Hawick-------- | A | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 804E: | | | | | | | | | | | | | |
| Koronis------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Sunburg------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Hawick-------- | A | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| 807D2: | | | | | | | | | | | | | |
| Koronis, eroded------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Sunburg------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 875B: | | | | | | | | | | | | | |
| Estherville--- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Hawick-------- | A | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 875C: | | | | | | | | | | | | | |
| Hawick-------- | A | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Estherville--- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| 896B: | | | | | | | | | | | | | |
| Kingsley------ | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Gotham-------- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 896C: | | | | | | | | | | | | | |
| Kingsley------ | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Gotham-------- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 945C2: | | | | | | | | | | | | | |
| Lester, eroded | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Storden, eroded------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 945D2: | | | | | | | | | | | | | |
| Lester, eroded | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Storden, eroded------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 956: | | | | | | | | | | | | | |
| Canisteo------ | B/D | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-3.3: Moist<br>3.3-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.7: Moist<br>0.7-6.7: Wet | 0.0-1.0: Moist<br>2.0-6.7: Wet | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-3.3: Moist<br>3.3-6.7: Wet | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-1.6: Moist<br>1.6-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.3: Moist<br>1.3-6.7: Wet |
| Glencoe, depressional | B/D | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-5.0: Wet<br>--- | 0.0-5.0: Wet<br>--- | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet |
| 978: | | | | | | | | | | | | | |
| Cordova------- | B/D | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-0.8: Moist<br>0.8-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.8: Moist<br>0.8-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-0.7: Moist<br>0.7-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet |
| Rolfe, depressional | C/D | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-5.0: Wet<br>--- | 0.0-5.0: Wet<br>--- | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-0.7: Moist<br>0.7-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-0.8: Moist<br>0.8-5.0: Wet |
| 1000: | | | | | | | | | | | | | |
| Arvilla, MAP >25------ | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 1015. Udipsamments (cut and fill land) | | | | | | | | | | | | | |
| 1016. Udorthents, loamy | | | | | | | | | | | | | |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1023C: | | | | | | | | | | | | | |
| Lester, eroded | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Malardi------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 1023D: | | | | | | | | | | | | | |
| Lester, eroded | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Malardi------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 1026B: | | | | | | | | | | | | | |
| Lizzie, moderately wet---------- | B | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-3.6: Moist 3.6-6.7: Wet | 0.0-3.9: Moist 3.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-5.9: Moist 5.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-5.2: Moist 5.2-6.7: Wet |
| 1027. | | | | | | | | | | | | | |
| Udorthents, wet substratum | | | | | | | | | | | | | |
| 1030: | | | | | | | | | | | | | |
| Pits, gravel. | | | | | | | | | | | | | |
| Udipsamments. | | | | | | | | | | | | | |
| 1035B: | | | | | | | | | | | | | |
| Crowfork------ | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 1035C: | | | | | | | | | | | | | |
| Crowfork------ | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1035D: | | | | | | | | | | | | | |
| Crowfork------ | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 1036B: | | | | | | | | | | | | | |
| Angus--------- | B | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-3.6: Moist 3.6-6.7: Wet | 0.0-3.9: Moist 3.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-5.9: Moist 5.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-5.2: Moist 5.2-6.7: Wet |
| 1037: | | | | | | | | | | | | | |
| Eckvoll, MAP >25------ | B | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-3.0: Moist 3.0-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-2.5: Moist 2.5-6.7: Wet | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-3.5: Moist 3.5-6.7: Wet | 0.0-4.5: Moist 4.5-6.7: Wet |
| 1038A: | | | | | | | | | | | | | |
| Verndale, acid substratum--- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 1038B: | | | | | | | | | | | | | |
| Verndale, acid substratum--- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 1066B: | | | | | | | | | | | | | |
| Malardi------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Hawick-------- | A | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 1066C: | | | | | | | | | | | | | |
| Malardi------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Hawick-------- | A | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1066E: | | | | | | | | | | | | | |
| Malardi------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Hawick-------- | A | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 1072. | | | | | | | | | | | | | |
| Udorthents, shallow | | | | | | | | | | | | | |
| 1075: | | | | | | | | | | | | | |
| Klossner, ponded------- | A/D | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet |
| Muskego, ponded------- | A/D | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet |
| 1080: | | | | | | | | | | | | | |
| Klossner, ponded------- | A/D | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet |
| Okoboji, ponded------- | C/D | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet |
| Glencoe, ponded------- | B/D | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet |
| 1087B: | | | | | | | | | | | | | |
| Angus--------- | B | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-3.6: Moist 3.6-6.7: Wet | 0.0-3.9: Moist 3.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-5.9: Moist 5.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-5.2: Moist 5.2-6.7: Wet |
| Malardi------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1094B: | | | | | | | | | | | | | |
| Angus--------- | B | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-3.6: Moist 3.6-6.7: Wet | 0.0-3.9: Moist 3.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-5.9: Moist 5.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-5.2: Moist 5.2-6.7: Wet |
| Cordova------- | B/D | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-2.5: Moist 2.5-6.7: Wet | 0.0-0.8: Moist 0.8-6.7: Wet | 0.0-0.5: Moist 0.5-6.7: Wet | 0.0-0.5: Moist 0.5-6.7: Wet | 0.0-0.8: Moist 0.8-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-2.5: Moist 2.5-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-0.7: Moist 0.7-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet |
| 1099: | | | | | | | | | | | | | |
| Granby, very wet---------- | A/D | 0.0-1.1: Moist 1.1-5.0: Wet | 0.0-1.5: Moist 1.5-5.0: Wet | 0.0-5.0: Wet --- | 0.0-5.0: Wet --- | 0.0-5.0: Wet --- | 0.0-5.0: Wet --- | 0.0-1.5: Moist 1.5-5.0: Wet | 0.0-1.8: Moist 1.8-5.0: Wet | 0.0-1.5: Moist 1.5-5.0: Wet | 0.0-0.5: Moist 0.5-5.0: Wet | 0.0-1.0: Moist 1.0-5.0: Wet | 0.0-0.8: Moist 0.8-5.0: Wet |
| 1110: | | | | | | | | | | | | | |
| Isan---------- | B/D | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-1.7: Moist 1.7-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-0.5: Moist 0.5-6.7: Wet | 0.0-0.5: Moist 0.5-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet |
| 1156: | | | | | | | | | | | | | |
| Cordova------- | B/D | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-2.5: Moist 2.5-6.7: Wet | 0.0-0.8: Moist 0.8-6.7: Wet | 0.0-0.5: Moist 0.5-6.7: Wet | 0.0-0.5: Moist 0.5-6.7: Wet | 0.0-0.8: Moist 0.8-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-2.5: Moist 2.5-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-0.7: Moist 0.7-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet |
| 1161: | | | | | | | | | | | | | |
| Barry--------- | B/D | 0.0-2.0: Moist 2.0-5.0: Wet | 0.0-2.5: Moist 2.5-5.0: Wet | 0.0-0.8: Moist 0.8-5.0: Wet | 0.0-0.5: Moist 0.5-5.0: Wet | 0.0-0.5: Moist 0.5-5.0: Wet | 0.0-0.8: Moist 0.8-5.0: Wet | 0.0-2.0: Moist 2.0-5.0: Wet | 0.0-2.5: Moist 2.5-5.0: Wet | 0.0-2.0: Moist 2.0-5.0: Wet | 0.0-1.5: Moist 1.5-5.0: Wet | 0.0-0.7: Moist 0.7-5.0: Wet | 0.0-1.0: Moist 1.0-5.0: Wet |
| 1163: | | | | | | | | | | | | | |
| Suckercreek, frequently flooded------ | D | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-1.8: Moist 1.8-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-6.7: Wet --- | 0.0-6.7: Wet --- | 0.0-6.7: Wet --- | 0.0-0.8: Moist 0.8-6.7: Wet | 0.0-1.2: Moist 1.2-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-0.7: Moist 0.7-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1165: | | | | | | | | | | | | | |
| Lundlake, depressional | B/D | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet |
| 1173: | | | | | | | | | | | | | |
| Muskego, frequently flooded | D | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-5.0: Wet<br>--- | 0.0-5.0: Wet<br>--- | 0.0-5.0: Wet<br>--- | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-0.5: Moist<br>0.5-5.0: Wet |
| Klossner, frequently flooded | D | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet |
| 1186: | | | | | | | | | | | | | |
| Forestcity | B/D | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-3.3: Moist<br>3.3-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.7: Moist<br>0.7-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-3.3: Moist<br>3.3-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet |
| Lundlake, depressional | B/D | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-5.0: Wet<br>--- | 0.0-5.0: Wet<br>--- | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-2.0: Moist<br>2.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet |
| 1196B: | | | | | | | | | | | | | |
| Lida | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Two Inlets | A | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-0.7: Dry<br>0.7-6.7: Moist | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1196C: | | | | | | | | | | | | | |
| Lida---------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Two Inlets---- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 1196E: | | | | | | | | | | | | | |
| Lida---------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Two Inlets---- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 1197: | | | | | | | | | | | | | |
| Suckercreek, occasionally flooded------ | D | 0.0-1.8: Moist 1.8-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-0.5: Moist 0.5-6.7: Wet | 0.0-0.7: Moist 0.7-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-1.6: Moist 1.6-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-2.3: Moist 2.3-6.7: Wet | 0.0-1.8: Moist 1.8-6.7: Wet | 0.0-1.3: Moist 1.3-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet |
| 1199: | | | | | | | | | | | | | |
| Klossner, ponded------- | A/D | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet |
| Lundlake, ponded------- | B/D | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet |
| 1203: | | | | | | | | | | | | | |
| Muskego, ponded------- | A/D | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet |
| Blue Earth, ponded------- | B/D | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1203: | | | | | | | | | | | | | |
| Houghton, ponded------- | A/D | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet |
| 1204B: | | | | | | | | | | | | | |
| Reedslake----- | B | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-3.6: Moist 3.6-6.7: Wet | 0.0-3.9: Moist 3.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-5.9: Moist 5.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-5.2: Moist 5.2-6.7: Wet |
| 1207B: | | | | | | | | | | | | | |
| Reedslake----- | B | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-3.6: Moist 3.6-6.7: Wet | 0.0-3.9: Moist 3.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-5.9: Moist 5.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-5.2: Moist 5.2-6.7: Wet |
| Le Sueur------ | B | 0.0-3.9: Moist 3.9-6.7: Wet | 0.0-6.7: Moist --- | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-1.6: Moist 1.6-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-3.9: Moist 3.9-6.7: Wet | 0.0-6.7: Moist --- | 0.0-3.9: Moist 3.9-6.7: Wet | 0.0-2.6: Moist 2.6-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-2.3: Moist 2.3-6.7: Wet |
| 1213C: | | | | | | | | | | | | | |
| Cokato, eroded | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Storden------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 1213D: | | | | | | | | | | | | | |
| Cokato, eroded | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Storden------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 1220C: | | | | | | | | | | | | | |
| Cokato, eroded | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| Storden------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1220C: | | | | | | | | | | | | | |
| Hawick-------- | A | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| 1223: | | | | | | | | | | | | | |
| Sandberg, MAP >25------ | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| Arvilla, MAP >25------ | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 1224: | | | | | | | | | | | | | |
| Hubbard------- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| Verndale, acid substratum--- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 1231: | | | | | | | | | | | | | |
| Hubbard------- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| Mosford------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 1255: | | | | | | | | | | | | | |
| Elkriver, occasionally flooded------ | B | 0.0-4.0: Moist 4.0-6.7: Wet | 0.0-4.5: Moist 4.5-6.7: Wet | 0.0-3.0: Moist 3.0-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-2.5: Moist 2.5-6.7: Wet | 0.0-3.0: Moist 3.0-6.7: Wet | 0.0-4.0: Moist 4.0-6.7: Wet | 0.0-4.0: Moist 4.0-6.7: Wet | 0.0-3.5: Moist 3.5-6.7: Wet | 0.0-3.0: Moist 3.0-6.7: Wet | 0.0-3.5: Moist 3.5-6.7: Wet |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1256: | | | | | | | | | | | | | |
| Cantlin------- | A | 0.0-5.2: Moist<br>5.2-6.7: Wet | 0.0-5.5: Moist<br>5.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-5.0: Moist<br>5.0-6.7: Wet | 0.0-0.7: Dry<br>0.7-6.7: Moist | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-4.8: Moist<br>4.8-6.7: Wet |
| 1257: | | | | | | | | | | | | | |
| Elkriver, rarely flooded------ | B | 0.0-5.0: Moist<br>5.0-6.7: Wet | 0.0-5.5: Moist<br>5.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-5.0: Moist<br>5.0-6.7: Wet | 0.0-6.0: Moist<br>6.0-6.7: Wet | 0.0-6.7: Moist<br>--- | 0.0-5.0: Moist<br>5.0-6.7: Wet | 0.0-4.5: Moist<br>4.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet |
| Mosford, rarely flooded------ | B | 0.0-5.0: Moist<br>5.0-6.7: Wet | 0.0-5.5: Moist<br>5.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-5.0: Moist<br>5.0-6.7: Wet | 0.0-6.0: Moist<br>6.0-6.7: Wet | 0.0-6.7: Moist<br>--- | 0.0-5.0: Moist<br>5.0-6.7: Wet | 0.0-4.5: Moist<br>4.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet |
| 1260B: | | | | | | | | | | | | | |
| Stonelake----- | A | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-0.7: Dry<br>0.7-6.7: Moist | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- |
| Nebish, moderately wet---------- | B | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-4.6: Moist<br>4.6-6.7: Wet | 0.0-3.6: Moist<br>3.6-6.7: Wet | 0.0-3.9: Moist<br>3.9-6.7: Wet | 0.0-4.6: Moist<br>4.6-6.7: Wet | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-5.9: Moist<br>5.9-6.7: Wet | 0.0-4.6: Moist<br>4.6-6.7: Wet | 0.0-5.2: Moist<br>5.2-6.7: Wet |
| 1260C: | | | | | | | | | | | | | |
| Stonelake----- | A | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-0.7: Dry<br>0.7-6.7: Moist | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- |
| Nebish-------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1260E: | | | | | | | | | | | | | |
| Stonelake----- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| Nebish-------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |
| 1288: | | | | | | | | | | | | | |
| Seelyeville, ponded------- | A/D | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet |
| Markey, ponded | A/D | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet | 0.0-6.7: Wet |
| 1356. | | | | | | | | | | | | | |
| Water, miscellaneous | | | | | | | | | | | | | |
| 1362B: | | | | | | | | | | | | | |
| Angus--------- | B | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-3.6: Moist 3.6-6.7: Wet | 0.0-3.9: Moist 3.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-5.9: Moist 5.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-5.2: Moist 5.2-6.7: Wet |
| 1368: | | | | | | | | | | | | | |
| Southhaven---- | B | 0.0-5.2: Moist 5.2-6.7: Wet | 0.0-5.5: Moist 5.5-6.7: Wet | 0.0-4.0: Moist 4.0-6.7: Wet | 0.0-3.5: Moist 3.5-6.7: Wet | 0.0-3.5: Moist 3.5-6.7: Wet | 0.0-4.0: Moist 4.0-6.7: Wet | 0.0-5.0: Moist 5.0-6.7: Wet | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-4.0: Moist 4.0-6.7: Wet | 0.0-4.8: Moist 4.8-6.7: Wet |
| 1377B: | | | | | | | | | | | | | |
| Dorset-------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Two Inlets---- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1377C: | | | | | | | | | | | | | |
| Dorset-------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Two Inlets---- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 1377D: | | | | | | | | | | | | | |
| Dorset-------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Two Inlets---- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 1377E: | | | | | | | | | | | | | |
| Dorset-------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Two Inlets---- | A | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-0.7: Dry 0.7-6.7: Moist | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- |
| 1378: | | | | | | | | | | | | | |
| Fordum, occasionally flooded------ | D | 0.0-1.8: Moist 1.8-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-0.5: Moist 0.5-6.7: Wet | 0.0-0.7: Moist 0.7-6.7: Wet | 0.0-1.0: Moist 1.0-6.7: Wet | 0.0-1.6: Moist 1.6-6.7: Wet | 0.0-2.0: Moist 2.0-6.7: Wet | 0.0-2.3: Moist 2.3-6.7: Wet | 0.0-1.8: Moist 1.8-6.7: Wet | 0.0-1.3: Moist 1.3-6.7: Wet | 0.0-1.5: Moist 1.5-6.7: Wet |
| 1379B: | | | | | | | | | | | | | |
| Dorset-------- | B | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist | 0.0-5.0: Moist |
| Almora-------- | B | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist | 0.0-6.7: Moist |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1380A: Bygland, MAP >25 | C | 0.0-3.8: Moist<br>3.8-6.0: Wet<br>6.0-6.7: Moist | 0.0-4.0: Moist<br>4.0-6.0: Wet<br>6.0-6.7: Moist | 0.0-3.5: Moist<br>3.5-6.0: Wet<br>6.0-6.7: Moist | 0.0-2.5: Moist<br>2.5-6.0: Wet<br>6.0-6.7: Moist | 0.0-2.5: Moist<br>2.5-6.0: Wet<br>6.0-6.7: Moist | 0.0-3.0: Moist<br>3.0-6.0: Wet<br>6.0-6.7: Moist | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-4.0: Moist<br>4.0-6.0: Wet<br>6.0-6.7: Moist | 0.0-3.0: Moist<br>3.0-6.0: Wet<br>6.0-6.7: Moist | 0.0-3.3: Moist<br>3.3-6.0: Wet<br>6.0-6.7: Moist |
| 1380B: Bygland, MAP >25 | C | 0.0-4.5: Moist<br>4.5-6.0: Wet<br>6.0-6.7: Moist | 0.0-5.0: Moist<br>5.0-6.0: Wet<br>6.0-6.7: Moist | 0.0-4.0: Moist<br>4.0-6.0: Wet<br>6.0-6.7: Moist | 0.0-3.0: Moist<br>3.0-6.0: Wet<br>6.0-6.7: Moist | 0.0-3.5: Moist<br>3.5-6.0: Wet<br>6.0-6.7: Moist | 0.0-4.0: Moist<br>4.0-6.0: Wet<br>6.0-6.7: Moist | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-4.5: Moist<br>4.5-6.0: Wet<br>6.0-6.7: Moist | 0.0-3.5: Moist<br>3.5-6.0: Wet<br>6.0-6.7: Moist | 0.0-4.0: Moist<br>4.0-6.0: Wet<br>6.0-6.7: Moist |
| 1380C: Bygland, MAP >25 | C | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-3.0: Moist<br>3.0-6.0: Wet<br>6.0-6.7: Moist | 0.0-3.5: Moist<br>3.5-6.0: Wet<br>6.0-6.7: Moist | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- | 0.0-6.7: Moist<br>---<br>--- |
| 1381: Lindaas, morainic | C/D | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-0.8: Moist<br>0.8-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.8: Moist<br>0.8-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-0.7: Moist<br>0.7-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet |
| 1383A: Shorewood, moderately wet | C | 0.0-5.0: Moist<br>---<br>--- | 0.0-5.0: Moist<br>---<br>--- | 0.0-3.0: Moist<br>3.0-3.4: Wet<br>3.4-5.0: Moist | 0.0-1.0: Moist<br>1.0-3.4: Wet<br>3.4-5.0: Moist | 0.0-1.5: Moist<br>1.5-3.4: Wet<br>3.4-5.0: Moist | 0.0-2.5: Moist<br>2.5-3.4: Wet<br>3.4-5.0: Moist | 0.0-5.0: Moist<br>---<br>--- | 0.0-5.0: Moist<br>---<br>--- | 0.0-5.0: Moist<br>---<br>--- | 0.0-3.0: Moist<br>3.0-3.4: Wet<br>3.4-5.0: Moist | 0.0-2.7: Moist<br>2.7-3.4: Wet<br>3.4-5.0: Moist | 0.0-3.0: Moist<br>3.0-3.4: Wet<br>3.4-5.0: Moist |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1388B: | | | | | | | | | | | | | |
| Terril, moderately wet---------- | B | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-3.6: Moist 3.6-6.7: Wet | 0.0-3.9: Moist 3.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-5.9: Moist 5.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-5.2: Moist 5.2-6.7: Wet |
| 1406: | | | | | | | | | | | | | |
| Medo, ponded-- | A/D | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet |
| Dassel, ponded | B/D | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet |
| Biscay, ponded | B/D | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet | 0.0-5.0: Wet |
| 1408B: | | | | | | | | | | | | | |
| Angus--------- | B | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-3.6: Moist 3.6-6.7: Wet | 0.0-3.9: Moist 3.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-6.7: Moist --- | 0.0-5.9: Moist 5.9-6.7: Wet | 0.0-4.6: Moist 4.6-6.7: Wet | 0.0-5.2: Moist 5.2-6.7: Wet |
| Kilkenny------ | C | 0.0-4.9: Moist 4.9-6.7: Wet --- --- | 0.0-6.7: Moist --- --- --- | 0.0-3.0: Moist 3.0-4.0: Wet 4.0-4.4: Moist 4.4-6.7: Wet | 0.0-1.7: Moist 1.7-6.7: Wet --- --- | 0.0-3.0: Moist 3.0-6.7: Wet --- --- | 0.0-4.4: Moist 4.4-6.7: Wet --- --- | 0.0-6.7: Moist --- --- --- | 0.0-6.7: Moist --- --- --- | 0.0-6.7: Moist --- --- --- | 0.0-5.2: Moist 5.2-6.7: Wet --- --- | 0.0-4.6: Moist 4.6-6.7: Wet --- --- | 0.0-4.6: Moist 4.6-6.7: Wet --- --- |
| 1438B: | | | | | | | | | | | | | |
| Braham, moderately wet---------- | B | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-3.5: Moist 3.5-5.0: Wet | 0.0-2.5: Moist 2.5-5.0: Wet | 0.0-3.0: Moist 3.0-5.0: Wet | 0.0-5.0: Moist --- | 0.0-5.0: Moist --- | 0.0-0.7: Dry 0.7-5.0: Moist | 0.0-5.0: Moist --- | 0.0-4.6: Moist 4.6-5.0: Wet | 0.0-3.5: Moist 3.5-5.0: Wet | 0.0-4.5: Moist 4.5-5.0: Wet |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1443: | | | | | | | | | | | | | |
| Belleville---- | B/D | 0.0-1.3: Moist<br>1.3-6.7: Wet | 0.0-1.6: Moist<br>1.6-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.7: Moist<br>0.7-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.6: Moist<br>1.6-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-1.6: Moist<br>1.6-6.7: Wet | 0.0-1.3: Moist<br>1.3-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.3: Moist<br>1.3-6.7: Wet |
| 1901B: | | | | | | | | | | | | | |
| Angus--------- | B | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-4.6: Moist<br>4.6-6.7: Wet | 0.0-3.6: Moist<br>3.6-6.7: Wet | 0.0-3.9: Moist<br>3.9-6.7: Wet | 0.0-4.6: Moist<br>4.6-6.7: Wet | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-6.7: Moist<br>--- | 0.0-5.9: Moist<br>5.9-6.7: Wet | 0.0-4.6: Moist<br>4.6-6.7: Wet | 0.0-5.2: Moist<br>5.2-6.7: Wet |
| Le Sueur------ | B | 0.0-3.9: Moist<br>3.9-6.7: Wet | 0.0-6.7: Moist<br>--- | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.6: Moist<br>1.6-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-3.9: Moist<br>3.9-6.7: Wet | 0.0-6.7: Moist<br>--- | 0.0-3.9: Moist<br>3.9-6.7: Wet | 0.0-2.6: Moist<br>2.6-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-2.3: Moist<br>2.3-6.7: Wet |
| 1931: | | | | | | | | | | | | | |
| Essexville---- | B/D | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.7: Moist<br>1.7-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-0.5: Moist<br>0.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet |
| 1942: | | | | | | | | | | | | | |
| Forada, depressional | B/D | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.5: Moist<br>1.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-5.0: Wet<br>--- | 0.0-5.0: Wet<br>--- | 0.0-5.0: Wet<br>--- | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-1.0: Moist<br>1.0-5.0: Wet | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-0.5: Moist<br>0.5-5.0: Wet | 0.0-0.5: Moist<br>0.5-5.0: Wet |
| 1946: | | | | | | | | | | | | | |
| Fordum, frequently flooded------ | D | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.8: Moist<br>1.8-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-6.7: Wet<br>--- | 0.0-0.8: Moist<br>0.8-6.7: Wet | 0.0-1.2: Moist<br>1.2-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet | 0.0-0.7: Moist<br>0.7-6.7: Wet | 0.0-1.0: Moist<br>1.0-6.7: Wet |
| Winterfield, frequently flooded------ | A | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-1.5: Moist<br>1.5-6.7: Wet | 0.0-1.8: Moist<br>1.8-6.7: Wet | 0.0-2.0: Moist<br>2.0-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-4.5: Moist<br>4.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-3.5: Moist<br>3.5-6.7: Wet |

Table 20.--Soil Moisture Status by Depth--Continued

| Map symbol and component name | Hydro-logic group | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1975: | | | | | | | | | | | | | |
| Oylen--------- | B | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-2.5: Moist<br>2.5-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-4.0: Moist<br>4.0-6.7: Wet | 0.0-3.5: Moist<br>3.5-6.7: Wet | 0.0-3.0: Moist<br>3.0-6.7: Wet | 0.0-3.3: Moist<br>3.3-6.7: Wet |
| W. | | | | | | | | | | | | | |
| Water | | | | | | | | | | | | | |

Table 21.--Flooding Frequency and Duration

(See text for definitions of terms used in this table. Absence of an entry indicates that no estimate was made)

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7A: | | | | | | | | | | | | |
| Hubbard | None | None | None | None | None | None | None | None | None | None | None | None |
| 7B: | | | | | | | | | | | | |
| Hubbard | None | None | None | None | None | None | None | None | None | None | None | None |
| 7C: | | | | | | | | | | | | |
| Hubbard | None | None | None | None | None | None | None | None | None | None | None | None |
| 8B: | | | | | | | | | | | | |
| Sparta | None | None | None | None | None | None | None | None | None | None | None | None |
| 35: | | | | | | | | | | | | |
| Blue Earth, depressional | None | None | None | None | None | None | None | None | None | None | None | None |
| 74B: | | | | | | | | | | | | |
| Dickinson | None | None | None | None | None | None | None | None | None | None | None | None |
| 86: | | | | | | | | | | | | |
| Canisteo | None | None | None | None | None | None | None | None | None | None | None | None |
| 106C2: | | | | | | | | | | | | |
| Lester, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| 106D2: | | | | | | | | | | | | |
| Lester, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| 106E: | | | | | | | | | | | | |
| Lester | None | None | None | None | None | None | None | None | None | None | None | None |
| 109: | | | | | | | | | | | | |
| Cordova | None | None | None | None | None | None | None | None | None | None | None | None |
| 114: | | | | | | | | | | | | |
| Glencoe, depressional | None | None | None | None | None | None | None | None | None | None | None | None |
| 138: | | | | | | | | | | | | |
| Lerdal | None | None | None | None | None | None | None | None | None | None | None | None |
| 158A: | | | | | | | | | | | | |
| Zimmerman | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 158B: | | | | | | | | | | | | |
| Zimmerman------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 158C: | | | | | | | | | | | | |
| Zimmerman------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 158E: | | | | | | | | | | | | |
| Zimmerman------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 169C: | | | | | | | | | | | | |
| Braham---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 181: | | | | | | | | | | | | |
| Litchfield------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 229: | | | | | | | | | | | | |
| Waldorf--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 231C: | | | | | | | | | | | | |
| Lester---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 231D: | | | | | | | | | | | | |
| Lester---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 235: | | | | | | | | | | | | |
| Nessel---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 239: | | | | | | | | | | | | |
| Le Sueur-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 247: | | | | | | | | | | | | |
| Linder---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 255: | | | | | | | | | | | | |
| Mayer----------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 256: | | | | | | | | | | | | |
| Mazaska--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 258B: | | | | | | | | | | | | |
| Sandberg-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 258C: | | | | | | | | | | | | |
| Sandberg-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 258E: | | | | | | | | | | | | |
| Sandberg-------- | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 260: | | | | | | | | | | | | |
| Duelm | None | None | None | None | None | None | None | None | None | None | None | None |
| 261: | | | | | | | | | | | | |
| Isan, depressional | None | None | None | None | None | None | None | None | None | None | None | None |
| 286B: | | | | | | | | | | | | |
| Shorewood | None | None | None | None | None | None | None | None | None | None | None | None |
| 294A: | | | | | | | | | | | | |
| Rasset | None | None | None | None | None | None | None | None | None | None | None | None |
| 323: | | | | | | | | | | | | |
| Shields | None | None | None | None | None | None | None | None | None | None | None | None |
| 327A: | | | | | | | | | | | | |
| Dickman | None | None | None | None | None | None | None | None | None | None | None | None |
| 327B: | | | | | | | | | | | | |
| Dickman | None | None | None | None | None | None | None | None | None | None | None | None |
| 375: | | | | | | | | | | | | |
| Forada | None | None | None | None | None | None | None | None | None | None | None | None |
| 392: | | | | | | | | | | | | |
| Biscay | None | None | None | None | None | None | None | None | None | None | None | None |
| 406: | | | | | | | | | | | | |
| Dorset | None | None | None | None | None | None | None | None | None | None | None | None |
| 414: | | | | | | | | | | | | |
| Hamel | None | None | None | None | None | None | None | None | None | None | None | None |
| 441: | | | | | | | | | | | | |
| Almora | None | None | None | None | None | None | None | None | None | None | None | None |
| 461B: | | | | | | | | | | | | |
| Koronis | None | None | None | None | None | None | None | None | None | None | None | None |
| 461C2: | | | | | | | | | | | | |
| Koronis, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| 461E: | | | | | | | | | | | | |
| Koronis | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 511: | | | | | | | | | | | | |
| Marcellon, MAP <30 | None | None | None | None | None | None | None | None | None | None | None | None |
| 523: | | | | | | | | | | | | |
| Houghton, drained | None | None | None | None | None | None | None | None | None | None | None | None |
| 525: | | | | | | | | | | | | |
| Muskego, surface drained | None | None | None | None | None | None | None | None | None | None | None | None |
| 539: | | | | | | | | | | | | |
| Klossner, drained | None | None | None | None | None | None | None | None | None | None | None | None |
| 540: | | | | | | | | | | | | |
| Seelyeville, surface drained | None | None | None | None | None | None | None | None | None | None | None | None |
| 543: | | | | | | | | | | | | |
| Markey, surface drained | None | None | None | None | None | None | None | None | None | None | None | None |
| 548: | | | | | | | | | | | | |
| Medo, drained | None | None | None | None | None | None | None | None | None | None | None | None |
| 603: | | | | | | | | | | | | |
| Hanlon, occasionally flooded | None | None | Occasional Brief | Occasional Brief | Occasional Brief | Occasional Brief | Occasional Very brief | Occasional Very brief | None | None | None | None |
| 611D: | | | | | | | | | | | | |
| Hawick | None | None | None | None | None | None | None | None | None | None | None | None |
| 708: | | | | | | | | | | | | |
| Rushlake | None | None | None | None | None | None | None | None | None | None | None | None |
| 740: | | | | | | | | | | | | |
| Hamel | None | None | None | None | None | None | None | None | None | None | None | None |
| Glencoe, depressional | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 768: | | | | | | | | | | | | |
| Mosford | None | None | None | None | None | None | None | None | None | None | None | None |
| 771: | | | | | | | | | | | | |
| Elkriver, rarely flooded | None | None | Rare Very brief | Rare Very brief | Rare Very brief | Rare Very brief | None | None | None | None | None | None |
| 783C2: | | | | | | | | | | | | |
| Lester, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| Kilkenny, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| 792: | | | | | | | | | | | | |
| Fordum, frequently flooded | None | None | Frequent Long | Frequent Long | Frequent Long | Frequent Long | Occasional Brief | Occasional Brief | None | None | None | None |
| 799: | | | | | | | | | | | | |
| Seelyeville, frequently flooded | None | None | Frequent Long | Frequent Long | Frequent Long | Frequent Long | Occasional Brief | Occasional Brief | None | None | None | None |
| Bowstring, frequently flooded | None | None | Frequent Long | Frequent Long | Frequent Long | Frequent Long | Occasional Brief | Occasional Brief | None | None | None | None |
| 804B: | | | | | | | | | | | | |
| Koronis | None | None | None | None | None | None | None | None | None | None | None | None |
| Sunburg | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick | None | None | None | None | None | None | None | None | None | None | None | None |
| 804C2: | | | | | | | | | | | | |
| Koronis, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| Sunburg | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 804D2: | | | | | | | | | | | | |
| Koronis, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| Sunburg--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 804E: | | | | | | | | | | | | |
| Koronis--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Sunburg--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 807D2: | | | | | | | | | | | | |
| Koronis, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| Sunburg--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 875B: | | | | | | | | | | | | |
| Estherville----- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 875C: | | | | | | | | | | | | |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Estherville----- | None | None | None | None | None | None | None | None | None | None | None | None |
| 896B: | | | | | | | | | | | | |
| Kingsley-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Gotham---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 896C: | | | | | | | | | | | | |
| Kingsley-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Gotham---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 945C2: | | | | | | | | | | | | |
| Lester, eroded-- | None | None | None | None | None | None | None | None | None | None | None | None |
| Storden, eroded | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 945D2: | | | | | | | | | | | | |
| Lester, eroded-- | None | None | None | None | None | None | None | None | None | None | None | None |
| Storden, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| 956: | | | | | | | | | | | | |
| Canisteo-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Glencoe, depressional--- | None | None | None | None | None | None | None | None | None | None | None | None |
| 978: | | | | | | | | | | | | |
| Cordova--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Rolfe, depressional--- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1000: | | | | | | | | | | | | |
| Arvilla, MAP >25 | None | None | None | None | None | None | None | None | None | None | None | None |
| 1015: | | | | | | | | | | | | |
| Udipsamments (cut and fill land)---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1016: | | | | | | | | | | | | |
| Udorthents, loamy---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1023C: | | | | | | | | | | | | |
| Lester, eroded-- | None | None | None | None | None | None | None | None | None | None | None | None |
| Malardi--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1023D: | | | | | | | | | | | | |
| Lester, eroded-- | None | None | None | None | None | None | None | None | None | None | None | None |
| Malardi--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1026B: | | | | | | | | | | | | |
| Lizzie, moderately wet | None | None | None | None | None | None | None | None | None | None | None | None |
| 1027: | | | | | | | | | | | | |
| Udorthents, wet substratum----- | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1030: | | | | | | | | | | | | |
| Pits, gravel. | | | | | | | | | | | | |
| Udipsamments. | | | | | | | | | | | | |
| 1035B: | | | | | | | | | | | | |
| Crowfork-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1035C: | | | | | | | | | | | | |
| Crowfork-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1035D: | | | | | | | | | | | | |
| Crowfork-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1036B: | | | | | | | | | | | | |
| Angus---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1037: | | | | | | | | | | | | |
| Eckvoll, MAP >25 | None | None | None | None | None | None | None | None | None | None | None | None |
| 1038A: | | | | | | | | | | | | |
| Verndale, acid substratum----- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1038B: | | | | | | | | | | | | |
| Verndale, acid substratum----- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1066B: | | | | | | | | | | | | |
| Malardi--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1066C: | | | | | | | | | | | | |
| Malardi--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1066E: | | | | | | | | | | | | |
| Malardi--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1072: | | | | | | | | | | | | |
| Udorthents, shallow-------- | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1075: | | | | | | | | | | | | |
| Klossner, ponded | None | None | None | None | None | None | None | None | None | None | None | None |
| Muskego, ponded | None | None | None | None | None | None | None | None | None | None | None | None |
| 1080: | | | | | | | | | | | | |
| Klossner, ponded | None | None | None | None | None | None | None | None | None | None | None | None |
| Okoboji, ponded | None | None | None | None | None | None | None | None | None | None | None | None |
| Glencoe, ponded | None | None | None | None | None | None | None | None | None | None | None | None |
| 1087B: | | | | | | | | | | | | |
| Angus---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Malardi--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1094B: | | | | | | | | | | | | |
| Angus---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Cordova--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1099: | | | | | | | | | | | | |
| Granby, very wet | None | None | None | None | None | None | None | None | None | None | None | None |
| 1110: | | | | | | | | | | | | |
| Isan---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1156: | | | | | | | | | | | | |
| Cordova--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1161: | | | | | | | | | | | | |
| Barry---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1163: | | | | | | | | | | | | |
| Suckercreek, frequently flooded-------- | None | None | Frequent Long | Frequent Long | Frequent Long | Frequent Long | Occasional Brief | Occasional Brief | None | None | None | None |
| 1165: | | | | | | | | | | | | |
| Lundlake, depressional--- | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1173: | | | | | | | | | | | | |
| Muskego, frequently flooded | None | None | Frequent Long | Frequent Long | Frequent Long | Frequent Brief | Occasional Brief | None | None | None | None | None |
| Klossner, frequently flooded | None | None | Frequent Long | Frequent Long | Frequent Long | Frequent Brief | Occasional Brief | None | None | None | None | None |
| 1186: | | | | | | | | | | | | |
| Forestcity | None | None | None | None | None | None | None | None | None | None | None | None |
| Lundlake, depressional | None | None | None | None | None | None | None | None | None | None | None | None |
| 1196B: | | | | | | | | | | | | |
| Lida | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets | None | None | None | None | None | None | None | None | None | None | None | None |
| 1196C: | | | | | | | | | | | | |
| Lida | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets | None | None | None | None | None | None | None | None | None | None | None | None |
| 1196E: | | | | | | | | | | | | |
| Lida | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets | None | None | None | None | None | None | None | None | None | None | None | None |
| 1197: | | | | | | | | | | | | |
| Suckercreek, occasionally flooded | None | None | Occasional Brief | Occasional Long | Occasional Long | Occasional Long | Occasional Very brief | Occasional Very brief | None | None | None | None |
| 1199: | | | | | | | | | | | | |
| Klossner, ponded | None | None | None | None | None | None | None | None | None | None | None | None |
| Lundlake, ponded | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1203: | | | | | | | | | | | | |
| Muskego, ponded | None | None | None | None | None | None | None | None | None | None | None | None |
| Blue Earth, ponded | None | None | None | None | None | None | None | None | None | None | None | None |
| Houghton, ponded | None | None | None | None | None | None | None | None | None | None | None | None |
| 1204B: | | | | | | | | | | | | |
| Reedslake | None | None | None | None | None | None | None | None | None | None | None | None |
| 1207B: | | | | | | | | | | | | |
| Reedslake | None | None | None | None | None | None | None | None | None | None | None | None |
| Le Sueur | None | None | None | None | None | None | None | None | None | None | None | None |
| 1213C: | | | | | | | | | | | | |
| Cokato, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| Storden | None | None | None | None | None | None | None | None | None | None | None | None |
| 1213D: | | | | | | | | | | | | |
| Cokato, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| Storden | None | None | None | None | None | None | None | None | None | None | None | None |
| 1220C: | | | | | | | | | | | | |
| Cokato, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| Storden | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick | None | None | None | None | None | None | None | None | None | None | None | None |
| 1223: | | | | | | | | | | | | |
| Sandberg, MAP >25 | None | None | None | None | None | None | None | None | None | None | None | None |
| Arvilla, MAP >25 | None | None | None | None | None | None | None | None | None | None | None | None |
| 1224: | | | | | | | | | | | | |
| Hubbard | None | None | None | None | None | None | None | None | None | None | None | None |
| Verndale, acid substratum | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1231: | | | | | | | | | | | | |
| Hubbard | None | None | None | None | None | None | None | None | None | None | None | None |
| Mosford | None | None | None | None | None | None | None | None | None | None | None | None |
| 1255: | | | | | | | | | | | | |
| Elkriver, occasionally flooded | None | None | Occasional Brief | Occasional Brief | Occasional Brief | Occasional Brief | Occasional Very brief | Occasional Very brief | None | None | None | None |
| 1256: | | | | | | | | | | | | |
| Cantlin | None | None | None | None | None | None | None | None | None | None | None | None |
| 1257: | | | | | | | | | | | | |
| Elkriver, rarely flooded | None | None | Rare Very brief | Rare Very brief | Rare Very brief | Rare Very brief | None | None | None | None | None | None |
| Mosford, rarely flooded | None | None | Rare Very brief | Rare Very brief | Rare Very brief | Rare Very brief | None | None | None | None | None | None |
| 1260B: | | | | | | | | | | | | |
| Stonelake | None | None | None | None | None | None | None | None | None | None | None | None |
| Nebish, moderately wet | None | None | None | None | None | None | None | None | None | None | None | None |
| 1260C: | | | | | | | | | | | | |
| Stonelake | None | None | None | None | None | None | None | None | None | None | None | None |
| Nebish | None | None | None | None | None | None | None | None | None | None | None | None |
| 1260E: | | | | | | | | | | | | |
| Stonelake | None | None | None | None | None | None | None | None | None | None | None | None |
| Nebish | None | None | None | None | None | None | None | None | None | None | None | None |
| 1288: | | | | | | | | | | | | |
| Seelyeville, ponded | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1288: | | | | | | | | | | | | |
| Markey, ponded-- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1356. | | | | | | | | | | | | |
| Water, miscellaneous | | | | | | | | | | | | |
| 1362B: | | | | | | | | | | | | |
| Angus---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1368: | | | | | | | | | | | | |
| Southhaven------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 1377B: | | | | | | | | | | | | |
| Dorset---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 1377C: | | | | | | | | | | | | |
| Dorset---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 1377D: | | | | | | | | | | | | |
| Dorset---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 1377E: | | | | | | | | | | | | |
| Dorset---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 1378: | | | | | | | | | | | | |
| Fordum, occasionally flooded-------- | None | None | Occasional Brief | Occasional Long | Occasional Long | Occasional Long | Occasional Very brief | Occasional Very brief | None | None | None | None |
| 1379B: | | | | | | | | | | | | |
| Dorset---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Almora---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1380A: | | | | | | | | | | | | |
| Bygland, MAP >25 | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1380B: | | | | | | | | | | | | |
| Bygland, MAP >25 | None | None | None | None | None | None | None | None | None | None | None | None |
| 1380C: | | | | | | | | | | | | |
| Bygland, MAP >25 | None | None | None | None | None | None | None | None | None | None | None | None |
| 1381: | | | | | | | | | | | | |
| Lindaas, morainic | None | None | None | None | None | None | None | None | None | None | None | None |
| 1383A: | | | | | | | | | | | | |
| Shorewood, moderately wet | None | None | None | None | None | None | None | None | None | None | None | None |
| 1388B: | | | | | | | | | | | | |
| Terril, moderately wet | None | None | None | None | None | None | None | None | None | None | None | None |
| 1406: | | | | | | | | | | | | |
| Medo, ponded | None | None | None | None | None | None | None | None | None | None | None | None |
| Dassel, ponded | None | None | None | None | None | None | None | None | None | None | None | None |
| Biscay, ponded | None | None | None | None | None | None | None | None | None | None | None | None |
| 1408B: | | | | | | | | | | | | |
| Angus | None | None | None | None | None | None | None | None | None | None | None | None |
| Kilkenny | None | None | None | None | None | None | None | None | None | None | None | None |
| 1438B: | | | | | | | | | | | | |
| Braham, moderately wet | None | None | None | None | None | None | None | None | None | None | None | None |
| 1443: | | | | | | | | | | | | |
| Belleville | None | None | None | None | None | None | None | None | None | None | None | None |
| 1901B: | | | | | | | | | | | | |
| Angus | None | None | None | None | None | None | None | None | None | None | None | None |
| Le Sueur | None | None | None | None | None | None | None | None | None | None | None | None |
| 1931: | | | | | | | | | | | | |
| Essexville | None | None | None | None | None | None | None | None | None | None | None | None |

Table 21.--Flooding Frequency and Duration--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1942: | | | | | | | | | | | | |
| Forada, depressional--- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1946: | | | | | | | | | | | | |
| Fordum, frequently flooded-------- | None | None | Frequent Long | Frequent Long | Frequent Long | Frequent Long | Occasional Brief | Occasional Brief | None | None | None | None |
| Winterfield, frequently flooded-------- | None | None | Frequent Long | Frequent Brief | Occasional Brief | Occasional Brief | Occasional Very brief | Occasional Very brief | None | None | None | None |
| 1975: | | | | | | | | | | | | |
| Oylen---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| W. Water | | | | | | | | | | | | |

Table 22.--Ponding Frequency, Duration, and Depth

(Depth refers to the depth, in feet, of the water above the surface. See text for definitions of terms used in this table. Absence of an entry indicates that no estimate was made)

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7A: | | | | | | | | | | | | |
| Hubbard | None | None | None | None | None | None | None | None | None | None | None | None |
| 7B: | | | | | | | | | | | | |
| Hubbard | None | None | None | None | None | None | None | None | None | None | None | None |
| 7C: | | | | | | | | | | | | |
| Hubbard | None | None | None | None | None | None | None | None | None | None | None | None |
| 8B: | | | | | | | | | | | | |
| Sparta | None | None | None | None | None | None | None | None | None | None | None | None |
| 35: | | | | | | | | | | | | |
| Blue Earth, depressional | None | None | Frequent Long Depth: 0.5 | Frequent Brief Depth: 1.0 | None | None | None | None | None | None | None | None |
| 74B: | | | | | | | | | | | | |
| Dickinson | None | None | None | None | None | None | None | None | None | None | None | None |
| 86: | | | | | | | | | | | | |
| Canisteo | None | None | None | None | None | None | None | None | None | None | None | None |
| 106C2: | | | | | | | | | | | | |
| Lester, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| 106D2: | | | | | | | | | | | | |
| Lester, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| 106E: | | | | | | | | | | | | |
| Lester | None | None | None | None | None | None | None | None | None | None | None | None |
| 109: | | | | | | | | | | | | |
| Cordova | None | None | None | None | None | None | None | None | None | None | None | None |
| 114: | | | | | | | | | | | | |
| Glencoe, depressional | None | None | Frequent Long Depth: 0.5 | Frequent Brief Depth: 1.0 | None | None | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 138: | | | | | | | | | | | | |
| Lerdal---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 158A: | | | | | | | | | | | | |
| Zimmerman------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 158B: | | | | | | | | | | | | |
| Zimmerman------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 158C: | | | | | | | | | | | | |
| Zimmerman------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 158E: | | | | | | | | | | | | |
| Zimmerman------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 169C: | | | | | | | | | | | | |
| Braham---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 181: | | | | | | | | | | | | |
| Litchfield------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 229: | | | | | | | | | | | | |
| Waldorf--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 231C: | | | | | | | | | | | | |
| Lester---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 231D: | | | | | | | | | | | | |
| Lester---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 235: | | | | | | | | | | | | |
| Nessel---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 239: | | | | | | | | | | | | |
| Le Sueur-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 247: | | | | | | | | | | | | |
| Linder---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 255: | | | | | | | | | | | | |
| Mayer----------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 256: | | | | | | | | | | | | |
| Mazaska--------- | None | None | None | None | None | None | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 258B: | | | | | | | | | | | | |
| Sandberg-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 258C: | | | | | | | | | | | | |
| Sandberg-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 258E: | | | | | | | | | | | | |
| Sandberg-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 260: | | | | | | | | | | | | |
| Duelm---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 261: | | | | | | | | | | | | |
| Isan, depressional--- | None | None | Frequent Long Depth: 1.0 | Frequent Very long Depth: 1.0 | Frequent Long Depth: 1.0 | Frequent Brief Depth: 0.5 | None | None | None | None | None | None |
| 286B: | | | | | | | | | | | | |
| Shorewood------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 294A: | | | | | | | | | | | | |
| Rasset---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 323: | | | | | | | | | | | | |
| Shields--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 327A: | | | | | | | | | | | | |
| Dickman--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 327B: | | | | | | | | | | | | |
| Dickman--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 375: | | | | | | | | | | | | |
| Forada---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 392: | | | | | | | | | | | | |
| Biscay---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 406: | | | | | | | | | | | | |
| Dorset---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 414: | | | | | | | | | | | | |
| Hamel---------- | None | None | None | None | None | None | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 441: | | | | | | | | | | | | |
| Almora---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 461B: | | | | | | | | | | | | |
| Koronis--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 461C2: | | | | | | | | | | | | |
| Koronis, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| 461E: | | | | | | | | | | | | |
| Koronis--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 511: | | | | | | | | | | | | |
| Marcellon, MAP <30-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 523: | | | | | | | | | | | | |
| Houghton, drained-------- | None | None | Frequent Long Depth: 0.5 | Frequent Brief Depth: 1.0 | None | None | None | None | None | None | None | None |
| 525: | | | | | | | | | | | | |
| Muskego, surface drained-------- | None | None | Frequent Long Depth: 1.0 | Frequent Very long Depth: 1.0 | Frequent Long Depth: 1.0 | Frequent Brief Depth: 0.5 | None | None | None | None | None | None |
| 539: | | | | | | | | | | | | |
| Klossner, drained-------- | None | None | Frequent Long Depth: 0.5 | Frequent Brief Depth: 1.0 | None | None | None | None | None | None | None | None |
| 540: | | | | | | | | | | | | |
| Seelyeville, surface drained | None | None | Frequent Long Depth: 1.0 | Frequent Very long Depth: 1.0 | Frequent Long Depth: 1.0 | Frequent Brief Depth: 0.5 | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 543: | | | | | | | | | | | | |
| Markey, surface drained-------- | None | None | Frequent Long Depth: 1.0 | Frequent Very long Depth: 1.0 | Frequent Long Depth: 1.0 | Frequent Brief Depth: 0.5 | None | None | None | None | None | None |
| 548: | | | | | | | | | | | | |
| Medo, drained--- | None | None | Frequent Long Depth: 0.5 | Frequent Brief Depth: 1.0 | None | None | None | None | None | None | None | None |
| 603: | | | | | | | | | | | | |
| Hanlon, occasionally flooded-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 611D: | | | | | | | | | | | | |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 708: | | | | | | | | | | | | |
| Rushlake-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 740: | | | | | | | | | | | | |
| Hamel---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Glencoe, depressional--- | None | None | Frequent Long Depth: 0.5 | Frequent Brief Depth: 1.0 | None | None | None | None | None | None | None | None |
| 768: | | | | | | | | | | | | |
| Mosford--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 771: | | | | | | | | | | | | |
| Elkriver, rarely flooded-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 783C2: | | | | | | | | | | | | |
| Lester, eroded-- | None | None | None | None | None | None | None | None | None | None | None | None |
| Kilkenny, eroded | None | None | None | None | None | None | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 792: | | | | | | | | | | | | |
| Fordum, frequently flooded-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 799: | | | | | | | | | | | | |
| Seelyeville, frequently flooded-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Bowstring, frequently flooded-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 804B: | | | | | | | | | | | | |
| Koronis--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Sunburg--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 804C2: | | | | | | | | | | | | |
| Koronis, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| Sunburg--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 804D2: | | | | | | | | | | | | |
| Koronis, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| Sunburg--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 804E: | | | | | | | | | | | | |
| Koronis--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Sunburg--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 807D2: | | | | | | | | | | | | |
| Koronis, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| Sunburg--------- | None | None | None | None | None | None | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 875B: | | | | | | | | | | | | |
| Estherville----- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 875C: | | | | | | | | | | | | |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Estherville----- | None | None | None | None | None | None | None | None | None | None | None | None |
| 896B: | | | | | | | | | | | | |
| Kingsley-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Gotham---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 896C: | | | | | | | | | | | | |
| Kingsley-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Gotham---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 945C2: | | | | | | | | | | | | |
| Lester, eroded-- | None | None | None | None | None | None | None | None | None | None | None | None |
| Storden, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| 945D2: | | | | | | | | | | | | |
| Lester, eroded-- | None | None | None | None | None | None | None | None | None | None | None | None |
| Storden, eroded | None | None | None | None | None | None | None | None | None | None | None | None |
| 956: | | | | | | | | | | | | |
| Canisteo-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Glencoe, depressional--- | None | None | Frequent Long Depth: 0.5 | Frequent Brief Depth: 1.0 | None | None | None | None | None | None | None | None |
| 978: | | | | | | | | | | | | |
| Cordova--------- | None | None | None | None | None | None | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 978: | | | | | | | | | | | | |
| Rolfe, depressional--- | None | None | Frequent Long Depth: 0.5 | Frequent Brief Depth: 1.0 | None | None | None | None | None | None | None | None |
| 1000: | | | | | | | | | | | | |
| Arvilla, MAP >25 | None | None | None | None | None | None | None | None | None | None | None | None |
| 1015: | | | | | | | | | | | | |
| Udipsamments (cut and fill land)---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1016: | | | | | | | | | | | | |
| Udorthents, loamy---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1023C: | | | | | | | | | | | | |
| Lester, eroded-- | None | None | None | None | None | None | None | None | None | None | None | None |
| Malardi--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1023D: | | | | | | | | | | | | |
| Lester, eroded-- | None | None | None | None | None | None | None | None | None | None | None | None |
| Malardi--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1026B: | | | | | | | | | | | | |
| Lizzie, moderately wet | None | None | None | None | None | None | None | None | None | None | None | None |
| 1027: | | | | | | | | | | | | |
| Udorthents, wet substratum----- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1030: | | | | | | | | | | | | |
| Pits, gravel. | | | | | | | | | | | | |
| Udipsamments. | | | | | | | | | | | | |
| 1035B: | | | | | | | | | | | | |
| Crowfork-------- | None | None | None | None | None | None | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1035C: | | | | | | | | | | | | |
| Crowfork-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1035D: | | | | | | | | | | | | |
| Crowfork-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1036B: | | | | | | | | | | | | |
| Angus---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1037: | | | | | | | | | | | | |
| Eckvoll, MAP >25 | None | None | None | None | None | None | None | None | None | None | None | None |
| 1038A: | | | | | | | | | | | | |
| Verndale, acid substratum----- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1038B: | | | | | | | | | | | | |
| Verndale, acid substratum----- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1066B: | | | | | | | | | | | | |
| Malardi--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1066C: | | | | | | | | | | | | |
| Malardi--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1066E: | | | | | | | | | | | | |
| Malardi--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1072: | | | | | | | | | | | | |
| Udorthents, shallow-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1075: | | | | | | | | | | | | |
| Klossner, ponded | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1075: | | | | | | | | | | | | |
| Muskego, ponded | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| 1080: | | | | | | | | | | | | |
| Klossner, ponded | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| Okoboji, ponded | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| Glencoe, ponded | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| 1087B: | | | | | | | | | | | | |
| Angus | None | None | None | None | None | None | None | None | None | None | None | None |
| Malardi | None | None | None | None | None | None | None | None | None | None | None | None |
| 1094B: | | | | | | | | | | | | |
| Angus | None | None | None | None | None | None | None | None | None | None | None | None |
| Cordova | None | None | None | None | None | None | None | None | None | None | None | None |
| 1099: | | | | | | | | | | | | |
| Granby, very wet | None | None | Frequent Long Depth: 1.0 | Frequent Very long Depth: 1.0 | Frequent Long Depth: 1.0 | Frequent Brief Depth: 0.5 | None | None | None | None | None | None |
| 1110: | | | | | | | | | | | | |
| Isan | None | None | None | None | None | None | None | None | None | None | None | None |
| 1156: | | | | | | | | | | | | |
| Cordova | None | None | None | None | None | None | None | None | None | None | None | None |
| 1161: | | | | | | | | | | | | |
| Barry | None | None | None | None | None | None | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1163: | | | | | | | | | | | | |
| Suckercreek, frequently flooded-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1165: | | | | | | | | | | | | |
| Lundlake, depressional--- | None | None | Frequent Long Depth: 0.5 | Frequent Brief Depth: 1.0 | None | None | None | None | None | None | None | None |
| 1173: | | | | | | | | | | | | |
| Muskego, frequently flooded-------- | None | None | Frequent Long Depth: 1.0 | Frequent Very long Depth: 1.0 | Frequent Long Depth: 1.0 | Frequent Brief Depth: 0.5 | None | None | None | None | None | None |
| Klossner, frequently flooded-------- | None | None | Frequent Long Depth: 1.0 | Frequent Very long Depth: 1.0 | Frequent Long Depth: 1.0 | Frequent Brief Depth: 0.5 | None | None | None | None | None | None |
| 1186: | | | | | | | | | | | | |
| Forestcity------ | None | None | None | None | None | None | None | None | None | None | None | None |
| Lundlake, depressional--- | None | None | Frequent Long Depth: 0.5 | Frequent Brief Depth: 1.0 | None | None | None | None | None | None | None | None |
| 1196B: | | | | | | | | | | | | |
| Lida---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 1196C: | | | | | | | | | | | | |
| Lida---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets------ | None | None | None | None | None | None | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1196E: | | | | | | | | | | | | |
| Lida---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 1197: | | | | | | | | | | | | |
| Suckercreek, occasionally flooded-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1199: | | | | | | | | | | | | |
| Klossner, ponded | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| Lundlake, ponded | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| 1203: | | | | | | | | | | | | |
| Muskego, ponded | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| Blue Earth, ponded--------- | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| Houghton, ponded | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| 1204B: | | | | | | | | | | | | |
| Reedslake------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1207B: | | | | | | | | | | | | |
| Reedslake------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Le Sueur-------- | None | None | None | None | None | None | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1213C: | | | | | | | | | | | | |
| Cokato, eroded-- | None | None | None | None | None | None | None | None | None | None | None | None |
| Storden--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1213D: | | | | | | | | | | | | |
| Cokato, eroded-- | None | None | None | None | None | None | None | None | None | None | None | None |
| Storden--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1220C: | | | | | | | | | | | | |
| Cokato, eroded-- | None | None | None | None | None | None | None | None | None | None | None | None |
| Storden--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Hawick---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1223: | | | | | | | | | | | | |
| Sandberg, MAP >25-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Arvilla, MAP >25 | None | None | None | None | None | None | None | None | None | None | None | None |
| 1224: | | | | | | | | | | | | |
| Hubbard--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Verndale, acid substratum----- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1231: | | | | | | | | | | | | |
| Hubbard--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Mosford--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1255: | | | | | | | | | | | | |
| Elkriver, occasionally flooded-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1256: | | | | | | | | | | | | |
| Cantlin--------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1257: | | | | | | | | | | | | |
| Elkriver, rarely flooded-------- | None | None | None | None | None | None | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1257: | | | | | | | | | | | | |
| Mosford, rarely flooded | None | None | None | None | None | None | None | None | None | None | None | None |
| 1260B: | | | | | | | | | | | | |
| Stonelake | None | None | None | None | None | None | None | None | None | None | None | None |
| Nebish, moderately wet | None | None | None | None | None | None | None | None | None | None | None | None |
| 1260C: | | | | | | | | | | | | |
| Stonelake | None | None | None | None | None | None | None | None | None | None | None | None |
| Nebish | None | None | None | None | None | None | None | None | None | None | None | None |
| 1260E: | | | | | | | | | | | | |
| Stonelake | None | None | None | None | None | None | None | None | None | None | None | None |
| Nebish | None | None | None | None | None | None | None | None | None | None | None | None |
| 1288: | | | | | | | | | | | | |
| Seelyeville, ponded | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| Markey, ponded | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| 1356. | | | | | | | | | | | | |
| Water, miscellaneous | | | | | | | | | | | | |
| 1362B: | | | | | | | | | | | | |
| Angus | None | None | None | None | None | None | None | None | None | None | None | None |
| 1368: | | | | | | | | | | | | |
| Southhaven | None | None | None | None | None | None | None | None | None | None | None | None |
| 1377B: | | | | | | | | | | | | |
| Dorset | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets | None | None | None | None | None | None | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1377C: | | | | | | | | | | | | |
| Dorset---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 1377D: | | | | | | | | | | | | |
| Dorset---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 1377E: | | | | | | | | | | | | |
| Dorset---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Two Inlets------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 1378: | | | | | | | | | | | | |
| Fordum, occasionally flooded-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1379B: | | | | | | | | | | | | |
| Dorset---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Almora---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1380A: | | | | | | | | | | | | |
| Bygland, MAP >25 | None | None | None | None | None | None | None | None | None | None | None | None |
| 1380B: | | | | | | | | | | | | |
| Bygland, MAP >25 | None | None | None | None | None | None | None | None | None | None | None | None |
| 1380C: | | | | | | | | | | | | |
| Bygland, MAP >25 | None | None | None | None | None | None | None | None | None | None | None | None |
| 1381: | | | | | | | | | | | | |
| Lindaas, morainic------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1383A: | | | | | | | | | | | | |
| Shorewood, moderately wet | None | None | None | None | None | None | None | None | None | None | None | None |
| 1388B: | | | | | | | | | | | | |
| Terril, moderately wet | None | None | None | None | None | None | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406: | | | | | | | | | | | | |
| Medo, ponded---- | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| Dassel, ponded-- | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| Biscay, ponded-- | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 3.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 0.5 | Frequent Very long Depth: 1.0 | Frequent Very long Depth: 2.0 | Frequent Very long Depth: 2.5 | Frequent Very long Depth: 2.0 |
| 1408B: | | | | | | | | | | | | |
| Angus---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Kilkenny-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1438B: | | | | | | | | | | | | |
| Braham, moderately wet | None | None | None | None | None | None | None | None | None | None | None | None |
| 1443: | | | | | | | | | | | | |
| Belleville------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 1901B: | | | | | | | | | | | | |
| Angus---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Le Sueur-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1931: | | | | | | | | | | | | |
| Essexville------ | None | None | None | None | None | None | None | None | None | None | None | None |
| 1942: | | | | | | | | | | | | |
| Forada, depressional--- | None | None | Frequent Long Depth: 1.0 | Frequent Very long Depth: 1.0 | Frequent Long Depth: 1.0 | Frequent Brief Depth: 0.5 | None | None | None | None | None | None |

Table 22.--Ponding Frequency, Duration, and Depth--Continued

| Map symbol and component name | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1946: | | | | | | | | | | | | |
| Fordum, frequently flooded-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| Winterfield, frequently flooded-------- | None | None | None | None | None | None | None | None | None | None | None | None |
| 1975: | | | | | | | | | | | | |
| Oylen---------- | None | None | None | None | None | None | None | None | None | None | None | None |
| W. Water | | | | | | | | | | | | |

Table 23.--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 | Pct. of map unit | Subsidence | | Potential for frost action | Risk of corrosion | |
|---|---|---|---|---|---|---|
| | | Initial | Total | | Uncoated steel | Concrete |
| | | In | In | | | |
| 7A: | | | | | | |
| Hubbard | 95 | 0 | --- | Low | Low | Low |
| 7B: | | | | | | |
| Hubbard | 90 | 0 | --- | Low | Low | Low |
| 7C: | | | | | | |
| Hubbard | 80 | 0 | --- | Low | Low | Low |
| 8B: | | | | | | |
| Sparta | 95 | 0 | --- | Low | Low | Moderate |
| 35: | | | | | | |
| Blue Earth, depressional | 80 | 0 | --- | High | High | Low |
| 74B: | | | | | | |
| Dickinson | 95 | 0 | --- | Moderate | Low | Moderate |
| 86: | | | | | | |
| Canisteo | 80 | 0 | --- | High | High | Low |
| 106C2: | | | | | | |
| Lester, eroded | 70 | 0 | --- | Moderate | Low | Moderate |
| 106D2: | | | | | | |
| Lester, eroded | 80 | 0 | --- | Moderate | Low | Moderate |
| 106E: | | | | | | |
| Lester | 80 | 0 | --- | Moderate | Low | Moderate |
| 109: | | | | | | |
| Cordova | 90 | 0 | --- | High | High | Low |
| 114: | | | | | | |
| Glencoe, depressional | 90 | 0 | --- | High | High | Low |
| 138: | | | | | | |
| Lerdal | 80 | 0 | --- | High | High | High |
| 158A: | | | | | | |
| Zimmerman | 90 | 0 | --- | Low | Low | High |
| 158B: | | | | | | |
| Zimmerman | 90 | 0 | --- | Low | Low | High |
| 158C: | | | | | | |
| Zimmerman | 90 | 0 | --- | Low | Low | High |
| 158E: | | | | | | |
| Zimmerman | 85 | 0 | --- | Low | Low | High |
| 169C: | | | | | | |
| Braham | 90 | 0 | --- | Low | Low | Moderate |
| 181: | | | | | | |
| Litchfield | 95 | 0 | --- | Moderate | Low | Low |
| 229: | | | | | | |
| Waldorf | 90 | 0 | --- | High | High | Low |

Table 23.--Soil Features--Continued

| Map symbol and soil name | Pct. of map unit | Subsidence: Initial | Subsidence: Total | Potential for frost action | Risk of corrosion: Uncoated steel | Risk of corrosion: Concrete |
|---|---|---|---|---|---|---|
| | | In | In | | | |
| 231C: | | | | | | |
| Lester | 80 | 0 | --- | Moderate | Low | Moderate |
| 231D: | | | | | | |
| Lester | 80 | 0 | --- | Moderate | Low | Moderate |
| 235: | | | | | | |
| Nessel | 85 | 0 | --- | High | Moderate | Moderate |
| 239: | | | | | | |
| Le Sueur | 80 | 0 | --- | High | High | Low |
| 247: | | | | | | |
| Linder | 90 | 0 | --- | High | Moderate | Low |
| 255: | | | | | | |
| Mayer | 85 | 0 | --- | High | High | Low |
| 256: | | | | | | |
| Mazaska | 90 | 0 | --- | High | High | Moderate |
| 258B: | | | | | | |
| Sandberg | 95 | 0 | --- | Low | Moderate | Low |
| 258C: | | | | | | |
| Sandberg | 90 | 0 | --- | Low | Moderate | Low |
| 258E: | | | | | | |
| Sandberg | 85 | 0 | --- | Low | Moderate | Low |
| 260: | | | | | | |
| Duelm | 90 | 0 | --- | Moderate | Low | Moderate |
| 261: | | | | | | |
| Isan, depressional | 90 | 0 | --- | Moderate | High | Moderate |
| 286B: | | | | | | |
| Shorewood | 95 | 0 | --- | High | High | Moderate |
| 294A: | | | | | | |
| Rasset | 90 | 0 | --- | Moderate | Low | Low |
| 323: | | | | | | |
| Shields | 95 | 0 | --- | High | High | Low |
| 327A: | | | | | | |
| Dickman | 85 | 0 | --- | Low | Low | Moderate |
| 327B: | | | | | | |
| Dickman | 85 | 0 | --- | Low | Low | Moderate |
| 375: | | | | | | |
| Forada | 85 | 0 | --- | High | High | Low |
| 392: | | | | | | |
| Biscay | 90 | 0 | --- | High | High | Low |
| 406: | | | | | | |
| Dorset | 90 | 0 | --- | Moderate | Low | Low |
| 414: | | | | | | |
| Hamel | 90 | 0 | --- | High | High | Low |

Table 23.--Soil Features--Continued

| Map symbol and soil name | Pct. of map unit | Subsidence Initial | Subsidence Total | Potential for frost action | Risk of corrosion Uncoated steel | Risk of corrosion Concrete |
|---|---|---|---|---|---|---|
| | | In | In | | | |
| 441: | | | | | | |
| Almora | 90 | 0 | --- | Moderate | Low | Low |
| 461B: | | | | | | |
| Koronis | 85 | 0 | --- | Moderate | Low | Moderate |
| 461C2: | | | | | | |
| Koronis, eroded | 80 | 0 | --- | Moderate | Low | Moderate |
| 461E: | | | | | | |
| Koronis | 80 | 0 | --- | Moderate | Low | Moderate |
| 511: | | | | | | |
| Marcellon, MAP <30 | 85 | 0 | --- | High | High | Moderate |
| 523: | | | | | | |
| Houghton, drained | 80 | 6-18 | 55-60 | High | High | Moderate |
| 525: | | | | | | |
| Muskego, surface drained | 75 | 0 | 35-45 | High | Moderate | Moderate |
| 539: | | | | | | |
| Klossner, drained | 80 | 2-4 | 25-32 | High | High | Moderate |
| 540: | | | | | | |
| Seelyeville, surface drained | 80 | 0 | 66-78 | High | High | Moderate |
| 543: | | | | | | |
| Markey, surface drained | 80 | 8-22 | 16-44 | High | High | Moderate |
| 548: | | | | | | |
| Medo, drained | 80 | 8-22 | 16-44 | High | High | Moderate |
| 603: | | | | | | |
| Hanlon, occasionally flooded | 80 | 0 | --- | Moderate | Moderate | Low |
| 611D: | | | | | | |
| Hawick | 85 | 0 | --- | Low | Low | Low |
| 708: | | | | | | |
| Rushlake | 85 | 0 | --- | Moderate | Moderate | Low |
| 740: | | | | | | |
| Hamel | 70 | 0 | --- | High | High | Low |
| Glencoe, depressional | 20 | 0 | --- | High | High | Low |
| 768: | | | | | | |
| Mosford | 85 | 0 | --- | Low | Low | Moderate |
| 771: | | | | | | |
| Elkriver, rarely flooded | 85 | 0 | --- | Moderate | Moderate | Low |
| 783C2: | | | | | | |
| Lester, eroded | 50 | 0 | --- | Moderate | Low | Moderate |
| Kilkenny, eroded | 30 | 0 | --- | High | Moderate | Moderate |

Table 23.--Soil Features--Continued

| Map symbol and soil name | Pct. of map unit | Subsidence: Initial | Subsidence: Total | Potential for frost action | Risk of corrosion: Uncoated steel | Risk of corrosion: Concrete |
|---|---|---|---|---|---|---|
| | | In | In | | | |
| 792: | | | | | | |
| Fordum, frequently flooded | 90 | 0 | --- | High | High | Low |
| 799: | | | | | | |
| Seelyeville, frequently flooded | 45 | --- | 50-55 | High | High | Moderate |
| Bowstring, frequently flooded | 45 | --- | 20-30 | High | High | Low |
| 804B: | | | | | | |
| Koronis | 50 | 0 | --- | Moderate | Low | Moderate |
| Sunburg | 20 | 0 | --- | Moderate | Low | Low |
| Hawick | 15 | 0 | --- | Low | Low | Low |
| 804C2: | | | | | | |
| Koronis, eroded | 45 | 0 | --- | Moderate | Low | Moderate |
| Sunburg | 25 | 0 | --- | Moderate | Low | Low |
| Hawick | 15 | 0 | --- | Low | Low | Low |
| 804D2: | | | | | | |
| Koronis, eroded | 40 | 0 | --- | Moderate | Low | Moderate |
| Sunburg | 30 | 0 | --- | Moderate | Low | Low |
| Hawick | 15 | 0 | --- | Low | Low | Low |
| 804E: | | | | | | |
| Koronis | 50 | 0 | --- | Moderate | Low | Moderate |
| Sunburg | 20 | 0 | --- | Moderate | Low | Low |
| Hawick | 15 | 0 | --- | Low | Low | Low |
| 807D2: | | | | | | |
| Koronis, eroded | 65 | 0 | --- | Moderate | Low | Moderate |
| Sunburg | 20 | 0 | --- | Moderate | Low | Low |
| 875B: | | | | | | |
| Estherville | 60 | 0 | --- | Low | Low | Low |
| Hawick | 30 | 0 | --- | Low | Low | Low |
| 875C: | | | | | | |
| Hawick | 60 | 0 | --- | Low | Low | Low |
| Estherville | 25 | 0 | --- | Low | Low | Low |
| 896B: | | | | | | |
| Kingsley | 70 | 0 | --- | Low | Low | Moderate |
| Gotham | 25 | 0 | --- | Low | Low | Moderate |
| 896C: | | | | | | |
| Kingsley | 70 | 0 | --- | Low | Low | Moderate |
| Gotham | 25 | 0 | --- | Low | Low | Moderate |

Table 23.--Soil Features--Continued

| Map symbol and soil name | Pct. of map unit | Subsidence | | Potential for frost action | Risk of corrosion | |
|---|---|---|---|---|---|---|
| | | Initial | Total | | Uncoated steel | Concrete |
| | | In | In | | | |
| 945C2: | | | | | | |
| Lester, eroded--------- | 50 | 0 | --- | Moderate | Low | Moderate |
| Storden, eroded-------- | 30 | 0 | --- | Moderate | Low | Low |
| 945D2: | | | | | | |
| Lester, eroded--------- | 60 | 0 | --- | Moderate | Low | Moderate |
| Storden, eroded-------- | 20 | 0 | --- | Moderate | Low | Low |
| 956: | | | | | | |
| Canisteo---------- | 65 | 0 | --- | High | High | Low |
| Glencoe, depressional-- | 25 | 0 | --- | High | High | Low |
| 978: | | | | | | |
| Cordova---------- | 60 | 0 | --- | High | High | Low |
| Rolfe, depressional---- | 30 | 0 | --- | High | High | Moderate |
| 1000: | | | | | | |
| Arvilla, MAP >25------- | 90 | 0 | --- | Low | Moderate | Low |
| 1015. | | | | | | |
| Udipsamments (cut and fill land) | | | | | | |
| 1016. | | | | | | |
| Udorthents, loamy | | | | | | |
| 1023C: | | | | | | |
| Lester, eroded--------- | 50 | 0 | --- | Moderate | Low | Moderate |
| Malardi---------- | 35 | 0 | --- | Moderate | Low | Low |
| 1023D: | | | | | | |
| Lester, eroded--------- | 45 | 0 | --- | Moderate | Low | Moderate |
| Malardi---------- | 40 | 0 | --- | Moderate | Low | Low |
| 1026B: | | | | | | |
| Lizzie, moderately wet | 90 | 0 | --- | High | Low | Low |
| 1027. | | | | | | |
| Udorthents, wet substratum | | | | | | |
| 1030: | | | | | | |
| Pits, gravel. | | | | | | |
| Udipsamments. | | | | | | |
| 1035B: | | | | | | |
| Crowfork---------- | 90 | 0 | --- | Low | Low | Moderate |
| 1035C: | | | | | | |
| Crowfork---------- | 90 | 0 | --- | Low | Low | Moderate |
| 1035D: | | | | | | |
| Crowfork---------- | 85 | 0 | --- | Low | Low | Moderate |
| 1036B: | | | | | | |
| Angus---------- | 85 | 0 | --- | Moderate | Low | Moderate |

Table 23.--Soil Features--Continued

| Map symbol and soil name | Pct. of map unit | Subsidence: Initial | Subsidence: Total | Potential for frost action | Risk of corrosion: Uncoated steel | Risk of corrosion: Concrete |
|---|---|---|---|---|---|---|
| | | In | In | | | |
| 1037: | | | | | | |
| Eckvoll, MAP >25 | 90 | 0 | --- | High | Moderate | Low |
| 1038A: | | | | | | |
| Verndale, acid substratum | 90 | 0 | --- | Moderate | Low | Moderate |
| 1038B: | | | | | | |
| Verndale, acid substratum | 85 | 0 | --- | Moderate | Low | Moderate |
| 1066B: | | | | | | |
| Malardi | 65 | 0 | --- | Moderate | Low | Low |
| Hawick | 25 | 0 | --- | Low | Low | Low |
| 1066C: | | | | | | |
| Malardi | 60 | 0 | --- | Moderate | Low | Low |
| Hawick | 25 | 0 | --- | Low | Low | Low |
| 1066E: | | | | | | |
| Malardi | 55 | 0 | --- | Moderate | Low | Low |
| Hawick | 30 | 0 | --- | Low | Low | Low |
| 1072. | | | | | | |
| Udorthents, shallow | | | | | | |
| 1075: | | | | | | |
| Klossner, ponded | 40 | 2-4 | 25-32 | High | High | Moderate |
| Muskego, ponded | 40 | 0 | 35-45 | High | Moderate | Moderate |
| 1080: | | | | | | |
| Klossner, ponded | 30 | 2-4 | 25-32 | High | High | Moderate |
| Okoboji, ponded | 30 | 0 | --- | High | High | Low |
| Glencoe, ponded | 30 | 0 | --- | High | High | Low |
| 1087B: | | | | | | |
| Angus | 55 | 0 | --- | Moderate | Low | Moderate |
| Malardi | 30 | 0 | --- | Moderate | Low | Low |
| 1094B: | | | | | | |
| Angus | 60 | 0 | --- | Moderate | Low | Moderate |
| Cordova | 30 | 0 | --- | High | High | Low |
| 1099: | | | | | | |
| Granby, very wet | 85 | 0 | --- | High | High | Low |
| 1110: | | | | | | |
| Isan | 90 | 0 | --- | Moderate | High | Moderate |
| 1156: | | | | | | |
| Cordova | 85 | 0 | --- | High | High | Low |
| 1161: | | | | | | |
| Barry | 85 | 0 | --- | High | High | Low |

Table 23.--Soil Features--Continued

| Map symbol and soil name | Pct. of map unit | Subsidence Initial | Subsidence Total | Potential for frost action | Risk of corrosion Uncoated steel | Risk of corrosion Concrete |
|---|---|---|---|---|---|---|
| | | In | In | | | |
| 1163: | | | | | | |
| Suckercreek, frequently flooded | 85 | 0 | --- | High | High | Low |
| 1165: | | | | | | |
| Lundlake, depressional | 90 | 0 | --- | High | High | Low |
| 1173: | | | | | | |
| Muskego, frequently flooded | 45 | 0 | 35-45 | High | Moderate | Moderate |
| Klossner, frequently flooded | 45 | 2-4 | 25-32 | High | High | Moderate |
| 1186: | | | | | | |
| Forestcity | 75 | 0 | --- | High | Moderate | Low |
| Lundlake, depressional | 20 | 0 | --- | High | High | Low |
| 1196B: | | | | | | |
| Lida | 60 | 0 | --- | Low | Low | Low |
| Two Inlets | 30 | 0 | --- | Low | Low | Low |
| 1196C: | | | | | | |
| Lida | 55 | 0 | --- | Low | Low | Low |
| Two Inlets | 30 | 0 | --- | Low | Low | Low |
| 1196E: | | | | | | |
| Lida | 50 | 0 | --- | Low | Low | Low |
| Two Inlets | 40 | 0 | --- | Low | Low | Low |
| 1197: | | | | | | |
| Suckercreek, occasionally flooded | 80 | 0 | --- | High | High | Low |
| 1199: | | | | | | |
| Klossner, ponded | 45 | 2-4 | 25-32 | High | High | Moderate |
| Lundlake, ponded | 45 | 0 | --- | High | High | Low |
| 1203: | | | | | | |
| Muskego, ponded | 30 | 0 | 35-45 | High | Moderate | Moderate |
| Blue Earth, ponded | 30 | 0 | --- | High | High | Low |
| Houghton, ponded | 30 | 6-18 | 55-60 | High | High | Moderate |
| 1204B: | | | | | | |
| Reedslake | 85 | 0 | --- | Moderate | Low | Low |
| 1207B: | | | | | | |
| Reedslake | 60 | 0 | --- | Moderate | Low | Low |
| Le Sueur | 25 | 0 | --- | High | High | Low |
| 1213C: | | | | | | |
| Cokato, eroded | 65 | 0 | --- | Moderate | Low | Low |
| Storden | 20 | 0 | --- | Moderate | Low | Low |

Table 23.--Soil Features--Continued

| Map symbol and soil name | Pct. of map unit | Subsidence | | Potential for frost action | Risk of corrosion | |
|---|---|---|---|---|---|---|
| | | Initial | Total | | Uncoated steel | Concrete |
| | | In | In | | | |
| 1213D: | | | | | | |
| Cokato, eroded | 60 | 0 | --- | Moderate | Low | Low |
| Storden | 25 | 0 | --- | Moderate | Low | Low |
| 1220C: | | | | | | |
| Cokato, eroded | 50 | 0 | --- | Moderate | Low | Low |
| Storden | 20 | 0 | --- | Moderate | Low | Low |
| Hawick | 15 | 0 | --- | Low | Low | Low |
| 1223: | | | | | | |
| Sandberg, MAP >25 | 60 | 0 | --- | Low | Moderate | Low |
| Arvilla, MAP >25 | 30 | 0 | --- | Low | Moderate | Low |
| 1224: | | | | | | |
| Hubbard | 60 | 0 | --- | Low | Low | Low |
| Verndale, acid substratum | 30 | 0 | --- | Moderate | Low | Moderate |
| 1231: | | | | | | |
| Hubbard | 60 | 0 | --- | Low | Low | Low |
| Mosford | 30 | 0 | --- | Low | Low | Moderate |
| 1255: | | | | | | |
| Elkriver, occasionally flooded | 80 | 0 | --- | Moderate | Moderate | Low |
| 1256: | | | | | | |
| Cantlin | 90 | 0 | --- | Low | Low | Moderate |
| 1257: | | | | | | |
| Elkriver, rarely flooded | 55 | 0 | --- | Moderate | Moderate | Low |
| Mosford, rarely flooded | 35 | 0 | --- | Low | Low | Moderate |
| 1260B: | | | | | | |
| Stonelake | 55 | 0 | --- | Low | Low | Moderate |
| Nebish, moderately wet | 30 | 0 | --- | Moderate | Moderate | Low |
| 1260C: | | | | | | |
| Stonelake | 55 | 0 | --- | Low | Low | Moderate |
| Nebish | 30 | 0 | --- | Moderate | Moderate | Low |
| 1260E: | | | | | | |
| Stonelake | 60 | 0 | --- | Low | Low | Moderate |
| Nebish | 25 | 0 | --- | Moderate | Moderate | Low |
| 1288: | | | | | | |
| Seelyeville, ponded | 45 | 0 | 66-78 | High | High | Moderate |
| Markey, ponded | 45 | 8-22 | 16-44 | High | High | Moderate |
| 1356. | | | | | | |
| Water, miscellaneous | | | | | | |

Table 23.--Soil Features--Continued

| Map symbol and soil name | Pct. of map unit | Subsidence: Initial | Subsidence: Total | Potential for frost action | Risk of corrosion: Uncoated steel | Risk of corrosion: Concrete |
|---|---|---|---|---|---|---|
| | | In | In | | | |
| 1362B: | | | | | | |
| Angus | 85 | 0 | --- | Moderate | Low | Moderate |
| 1368: | | | | | | |
| Southhaven | 90 | 0 | --- | Moderate | Moderate | Low |
| 1377B: | | | | | | |
| Dorset | 70 | 0 | --- | Moderate | Low | Low |
| Two Inlets | 20 | 0 | --- | Low | Low | Low |
| 1377C: | | | | | | |
| Dorset | 50 | 0 | --- | Moderate | Low | Low |
| Two Inlets | 35 | 0 | --- | Low | Low | Low |
| 1377D: | | | | | | |
| Dorset | 45 | 0 | --- | Moderate | Low | Low |
| Two Inlets | 40 | 0 | --- | Low | Low | Low |
| 1377E: | | | | | | |
| Dorset | 45 | 0 | --- | Moderate | Low | Low |
| Two Inlets | 45 | 0 | --- | Low | Low | Low |
| 1378: | | | | | | |
| Fordum, occasionally flooded | 85 | 0 | --- | High | High | Low |
| 1379B: | | | | | | |
| Dorset | 65 | 0 | --- | Moderate | Low | Low |
| Almora | 25 | 0 | --- | Moderate | Low | Low |
| 1380A: | | | | | | |
| Bygland, MAP >25 | 85 | 0 | --- | High | High | Low |
| 1380B: | | | | | | |
| Bygland, MAP >25 | 70 | 0 | --- | High | High | Low |
| 1380C: | | | | | | |
| Bygland, MAP >25 | 70 | 0 | --- | High | High | Low |
| 1381: | | | | | | |
| Lindaas, morainic | 80 | 0 | --- | High | High | Low |
| 1383A: | | | | | | |
| Shorewood, moderately wet | 95 | 0 | --- | High | High | Moderate |
| 1388B: | | | | | | |
| Terril, moderately wet | 85 | 0 | --- | Moderate | Moderate | Low |
| 1406: | | | | | | |
| Medo, ponded | 30 | 8-22 | 16-44 | High | High | Moderate |
| Dassel, ponded | 30 | 0 | --- | High | High | Low |
| Biscay, ponded | 30 | 0 | --- | High | High | Low |

Table 23.--Soil Features--Continued

| Map symbol and soil name | Pct. of map unit | Subsidence | | Potential for frost action | Risk of corrosion | |
|---|---|---|---|---|---|---|
| | | Initial | Total | | Uncoated steel | Concrete |
| | | In | In | | | |
| 1408B: | | | | | | |
| Angus | 45 | 0 | --- | Moderate | Low | Moderate |
| Kilkenny | 40 | 0 | --- | High | Moderate | Moderate |
| 1438B: | | | | | | |
| Braham, moderately wet | 85 | 0 | --- | Low | Moderate | Moderate |
| 1443: | | | | | | |
| Belleville | 85 | 0 | --- | High | High | Low |
| 1901B: | | | | | | |
| Angus | 60 | 0 | --- | Moderate | Low | Moderate |
| Le Sueur | 30 | 0 | --- | High | High | Low |
| 1931: | | | | | | |
| Essexville | 75 | 0 | --- | High | High | Low |
| 1942: | | | | | | |
| Forada, depressional | 85 | 0 | --- | High | Low | Low |
| 1946: | | | | | | |
| Fordum, frequently flooded | 70 | 0 | --- | High | High | Low |
| Winterfield, frequently flooded | 20 | 0 | --- | Moderate | Moderate | Moderate |
| 1975: | | | | | | |
| Oylen | 90 | 0 | --- | Moderate | Moderate | Low |
| W. | | | | | | |
| Water | | | | | | |

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# Glossary

**Ablation till.** Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.

**Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

**Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

**Alluvium.** Material, such as sand, silt, or clay, deposited on land by streams.

**Alpha,alpha-dipyridyl.** A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

**Animal unit month (AUM).** The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

**Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.

**Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.

**Aspect.** The direction in which a slope faces.

**Available water capacity (available moisture capacity).** The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

| | |
|---|---|
| Very low | 0 to 3 |
| Low | 3 to 6 |
| Moderate | 6 to 9 |
| High | 9 to 12 |
| Very high | more than 12 |

**Backslope.** The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

**Basal till.** Compact glacial till deposited beneath the ice.

**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.** 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).

**Beach deposits.** Material, such as sand and gravel, that is generally laid down parallel to an active or relict shoreline of a postglacial or glacial lake.

**Bedding planes.** Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

**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.

**Blowout.** A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.

**Bog.** Waterlogged, spongy ground, consisting

primarily of mosses, containing acidic, decaying vegetation (such as sphagnum, sedges, and heaths) that develops into peat.

**Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.

**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.

**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 but have different characteristics as a result of differences in relief and drainage.

**Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

**Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

**Catsteps.** Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.

**Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

**Chemical treatment.** Control of unwanted vegetation through the use of chemicals.

**Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

**Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

**Clay depletions.** Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

**Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

**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.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

**Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

**Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

**Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

**Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and

practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

**Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

**Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

**Contour stripcropping.** Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

**Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

**Coprogenous earth (sedimentary peat).** Fecal material deposited in water by aquatic organisms.

**Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

**Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

**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.

**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.

**Delta.** A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

**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.

**Depression.** Any relatively sunken part of the earth's surface; especially a low-lying area surrounded by higher ground. A closed depression has no natural outlet for surface drainage.

**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.

**Disintegration moraine.** A drift topography characterized by chaotic mounds and pits, generally randomly oriented, developed in supraglacial drift by collapse and flow as the underlying stagnant ice melted. Slopes may be steep and unstable. Abrupt changes between materials of differing lithology are common.

**Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

**Drainage class** (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

**Drainage, surface.** Runoff, or surface flow of water, from an area.

**Drainageway.** A relatively small, linear depression that, at some time, moves concentrated water and either does not have a defined channel or has only a small defined channel.

**Drumlin.** A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is

parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

**Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

**Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

**End moraine.** A ridgelike accumulation that is being or was produced at the outer margin of an actively flowing glacier at any given time.

**Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

**Eolian soil material.** Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

**Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

**Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

**Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

*Erosion* (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

*Erosion* (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

**Erosion pavement.** A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

**Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

**Esker.** A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

**Fan terrace.** A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

**Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

**Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

**Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

**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.** The normal flood plain of a stream, subject to frequent or occasional flooding.

**Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

**Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

**Flood plain.** A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

**Footslope.** The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

**Forb.** Any herbaceous plant not a grass or a sedge.

**Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.

**Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

**Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

**Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

**Geomorphology.** The science that treats the general configuration of the earth's surface; specifically, the study of the classification, description, nature, origin, and development of landforms and their relationships to underlying structures, and the history of geologic changes as recorded by these surface features. The term is especially applied to the genetic interpretation of landforms.

**Glacial drift.** Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.

**Glacial outwash.** Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

**Glacial till.** Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

**Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

**Glaciolacustrine deposits.** Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.

**Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

**Graded stripcropping.** Growing crops in strips that grade toward a protected waterway.

**Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

**Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

**Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

**Green manure crop** (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

**Ground water.** Water filling all the unblocked pores of the material below the water table.

**Gully.** A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

**Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

**Hard to reclaim** (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

**Head slope.** A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

**Hemic soil material (mucky peat).** Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

**Herbaceous peat.** An accumulation of organic material, decomposed to some degree, that is predominantly the remains of sedges, reeds, cattails, and other herbaceous plants.

**High-chroma zones.** Zones having chroma of 3 or more. Typical color in areas of iron concentrations.

**High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

**Hill.** A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

**Horizon, soil.** A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

*O horizon.*—An organic layer of fresh and decaying plant residue.

*A horizon.*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

*E horizon.*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

*B horizon.*—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

*C horizon.*—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

*Cr horizon.*—Soft, consolidated bedrock beneath the soil.

*R layer.*—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

**Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

**Hydrologic soil groups.** Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

**Ice-walled lake plain.** A relict surface marking the floor of an extinct lake basin that was formed on solid ground and surrounded by stagnant ice in a stable or unstable superglacial environment on stagnation moraines. As the ice melted, the lake plain became perched above the adjacent landscape. The lake plain is well sorted, generally fine textured, stratified deposits.

**Igneous rock.** Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

**Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

**Impervious soil.** A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

**Increasers.** Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**Intake rate.** The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a

constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

| | |
|---|---|
| Less than 0.2 | very low |
| 0.2 to 0.4 | low |
| 0.4 to 0.75 | moderately low |
| 0.75 to 1.25 | moderate |
| 1.25 to 1.75 | moderately high |
| 1.75 to 2.5 | high |
| More than 2.5 | very high |

**Interfluve.** An elevated area between two drainageways that sheds water to those drainageways.

**Intermittent stream.** A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**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 concentrations.** High-chroma zones having a high content of iron and manganese oxide because of chemical oxidation and accumulation, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic concentration.

**Iron depletions.** Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

**Irrigation.** Application of water to soils to assist in production of crops. Methods of irrigation are:

*Basin.*—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

*Border.*—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

*Controlled flooding.*—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

*Corrugation.*—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

*Drip (or trickle).*—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

*Furrow.*—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

*Sprinkler.*—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

*Subirrigation.*—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

*Wild flooding.*—Water, released at high points, is allowed to flow onto an area without controlled distribution.

**Kame.** An irregular, short ridge or hill of stratified glacial drift.

**Kame moraine.** An end moraine that contains numerous kames. A group of kames along the front of a stagnant glacier, commonly comprising the slumped remnants of a formerly continuous outwash plain built up over the foot of rapidly wasting or stagnant ice.

**Karst** (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

**Knoll.** A small, low, rounded hill rising above adjacent landforms.

**$K_{sat}$.** Saturated hydraulic conductivity. (See Permeability.)

**Lacustrine deposit.** Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

**Lake bed.** The bottom of a lake; a lake basin.

**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.

**Lakeshore.** A narrow strip of land in contact with or bordering a lake; especially the beach of a lake.

**Lamella.** A thin (commonly less than 1 cm thick), discontinuous or continuous, generally horizontal layer of fine material (especially clay and iron oxides) that has been pedogenically concentrated (illuviated within a coarser textured eluviated layer several centimeters to several decimeters thick).

**Landslide.** The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

**Large stones** (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

**Leaching.** The removal of soluble material from soil or other material by percolating water.

**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.** Fine grained material, dominantly of silt-sized particles, deposited by wind.

**Low strength.** The soil is not strong enough to support loads.

**Low-chroma zones.** Zones having chroma of 2 or less. Typical color in areas of iron depletions.

**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 amounts.

**Masses.** Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

**Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.

**Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.

**Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

**Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

**Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.

**Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.

**Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.

**Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.

**Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

**Moraine.** An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

**Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

**Mottling, soil.** Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

**Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

**Mucky peat.** Unconsolidated soil material consisting primarily of organic matter that is in an intermediate stage of decomposition such that a significant part of the material can be recognized and a significant part of the material cannot be recognized.

**Mudstone.** Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

**Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

**Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

**Nodules.** Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds

making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

**Nose slope.** A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

**Nutrient, plant.** Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

**Organic matter.** Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

| | |
|---|---|
| Very low | less than 0.5 percent |
| Low | 0.5 to 1.0 percent |
| Moderately low | 1.0 to 2.0 percent |
| Moderate | 2.0 to 4.0 percent |
| High | 4.0 to 8.0 percent |
| Very high | more than 8.0 percent |

**Outwash plain.** A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

**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.

**Parent material.** The unconsolidated organic and mineral material in which soil forms.

**Peat.** Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

**Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.

**Pedisediment.** A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

**Pedon.** The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

**Percolation.** The movement of water through the soil.

**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.

**Pitted outwash plain.** An outwash plain marked by many irregular depressions, such as kettles, shallow pits, and potholes, which formed by melting of incorporated ice masses; common in Wisconsin and Minnesota.

**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.** An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**Poorly graded.** Refers to a coarse grained soil or soil material consisting mainly of particles of nearly

the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

**Potential native plant community.** See Climax plant community.

**Potential rooting depth (effective rooting depth).** Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

**Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

**Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Proper grazing use.** Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

| | |
|---|---|
| Ultra acid | less than 3.5 |
| Extremely acid | 3.5 to 4.4 |
| Very strongly acid | 4.5 to 5.0 |
| Strongly acid | 5.1 to 5.5 |
| Moderately acid | 5.6 to 6.0 |
| Slightly acid | 6.1 to 6.5 |
| Neutral | 6.6 to 7.3 |
| Slightly alkaline | 7.4 to 7.8 |
| Moderately alkaline | 7.9 to 8.4 |
| Strongly alkaline | 8.5 to 9.0 |
| Very strongly alkaline | 9.1 and higher |

**Redoximorphic concentrations.** Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

**Redoximorphic depletions.** Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

**Redoximorphic features.** Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

**Reduced matrix.** A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

**Regolith.** The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

**Relief.** The elevations or inequalities of a land surface, considered collectively.

**Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

**Rill.** A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

**Rise.** A slight increase in elevation of the land surface, typically with a broad summit and gently sloping sides.

**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.

**Saprolite.** Unconsolidated residual material underlying the soil and grading to hard bedrock below.

**Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

**Scarification.** The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

**Second bottom.** The first terrace above the normal flood plain (or first bottom) of a river.

**Sedimentary rock.** Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

**Seepage** (in tables). The movement of water through the soil adversely affects the specified use.

**Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

**Series, soil.** A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

**Shale.** Sedimentary rock formed by the hardening of a clay deposit.

**Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

**Shoulder.** The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

**Shrink-swell** (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

**Side slope.** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

**Silica.** A combination of silicon and oxygen. The mineral form is called quartz.

**Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

**Siltstone.** Sedimentary rock made up of dominantly silt-sized particles.

**Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

**Sinkhole.** A depression in the landscape where limestone has been dissolved.

**Slickensides.** Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

**Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

**Sloughed till.** Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

**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.

**Stagnation moraine.** A body of drift released by the melting of a glacier that ceased flowing. Commonly, but not always, occurs near ice margins; composed of till, ice-contact stratified drift, and small areas of glacial lake sediment. Typical landforms are knob-and-kettle topography, locally including ice-walled lake plains.

**Stone line.** A concentration of rock fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

**Stones.** Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

**Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.

**Stripcropping.** Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

**Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (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.

**Subsidence.** The potential decrease in surface elevation as a result of the drainage of wet soils that have organic layers or semifluid mineral layers. Subsidence, as a result of drainage, is attributed to (1) shrinkage from drying, (2) consolidation because of the loss of ground-water buoyancy, (3) compaction from tillage or manipulation, (4) wind erosion, (5) burning, and (6) biochemical oxidation.

**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 or loosen a layer that restricts roots.

**Substratum.** The part of the soil below the solum.

**Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.

**Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

**Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

**Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

**Swale.** A slight depression in the midst of generally level land. A shallow depression in an undulating ground moraine caused by uneven glacial deposition.

**Terminal moraine.** A belt of thick glacial drift that generally marks the termination of important glacial advances.

**Terrace.** An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

**Terrace** (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

**Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

**Thin layer** (in tables). Otherwise suitable soil material that is too thin for the specified use.

**Till plain.** An extensive area of nearly level to undulating soils underlain by glacial till.

**Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

**Toeslope.** The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

**Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

**Trace elements.** Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

**Upland.** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

**Valley fill.** In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

**Variegation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

**Water bars.** Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

**Weathering.** All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

**Well graded.** Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

**Wilting point (or permanent wilting point).** The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

**Windthrow.** The uprooting and tipping over of trees by the wind.

**Woody peat.** An accumulation of organic material that is predominantly composed of trees, shrubs, and other woody plants.