United States Department of Agriculture

NRCS

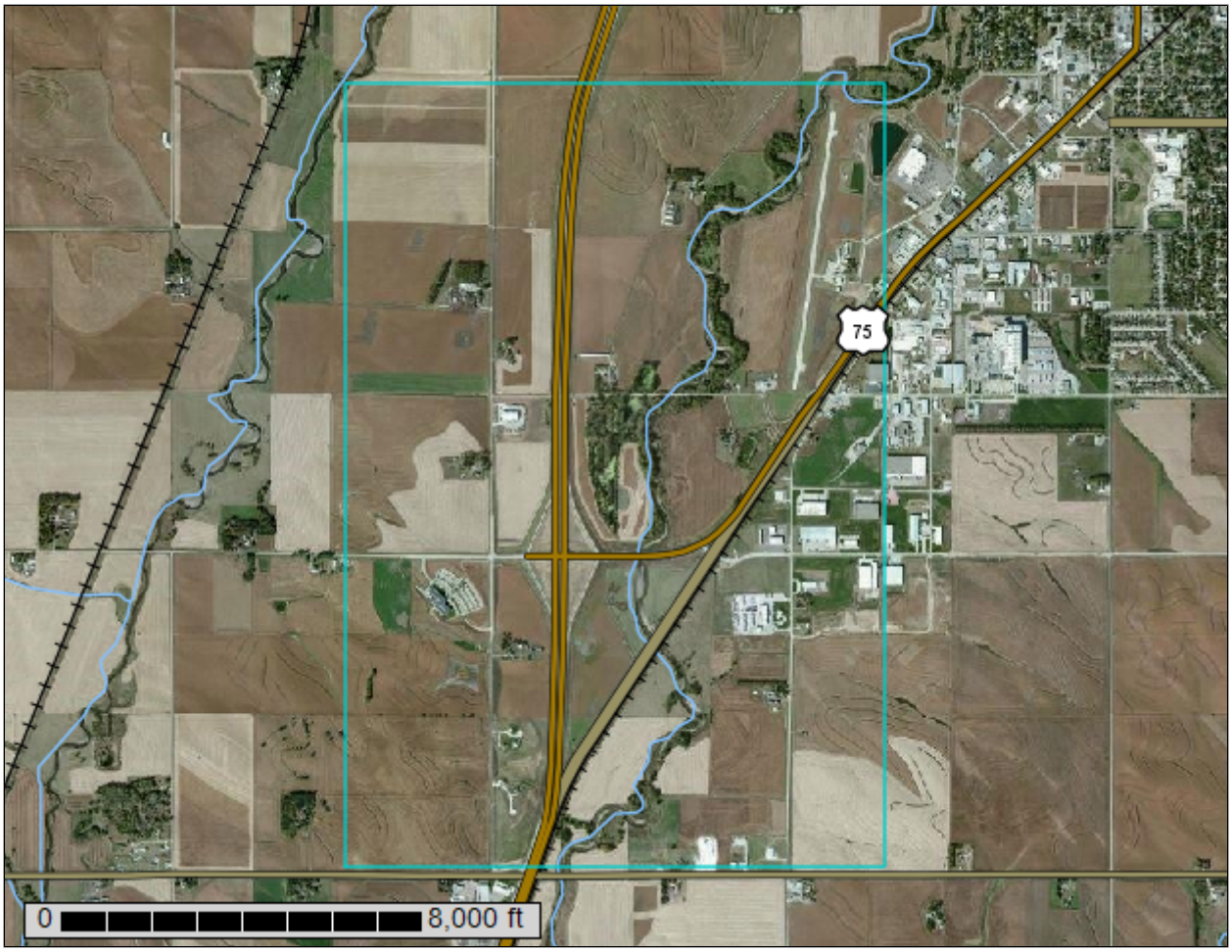
Natural Resources Conservation Service

A product 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 participants

Custom Soil Resource Report for

Plymouth County, Iowa

Site project



September 16, 2015

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is 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.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

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

The National Cooperative Soil Survey is 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 (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various 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 observed and described many soil profiles. A soil profile 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 or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

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

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

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

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

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

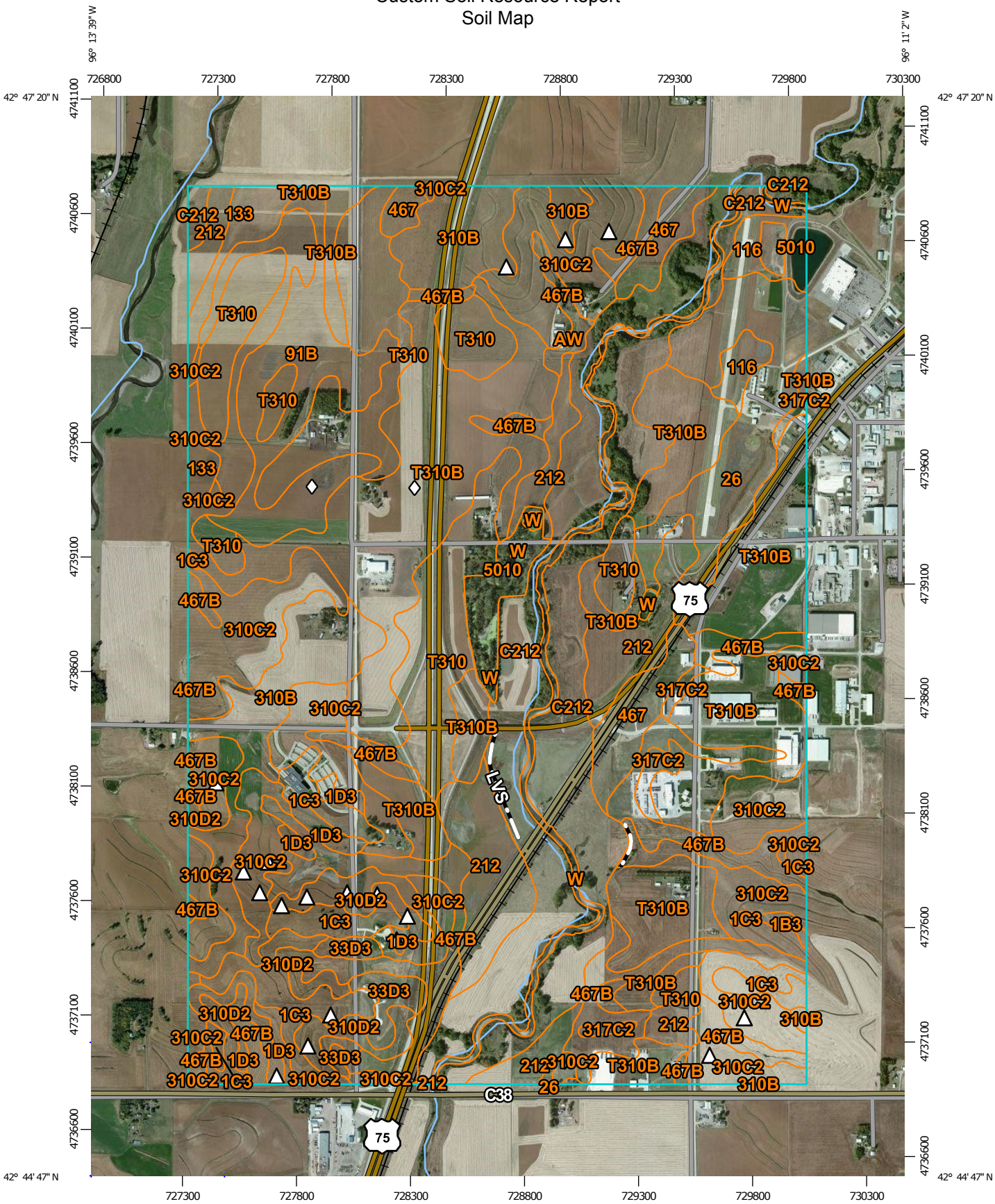
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree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

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

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:23,000 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 300 600 1200 1800

Feet: 0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Plymouth County, Iowa
Survey Area Data: Version 23, Aug 20, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 19, 2011—Oct 3, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Plymouth County, Iowa (IA149)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
1B3	Ida silt loam, 2 to 5 percent slopes, severely eroded	3.3	0.1%
1C3	Ida silt loam, 5 to 9 percent slopes, severely eroded	74.6	2.8%
1D3	Ida silt loam, 9 to 14 percent slopes, severely eroded	32.7	1.2%
26	Kennebec silty clay loam, 0 to 2 percent slopes	109.4	4.1%
33D3	Steinauer clay loam, 9 to 14 percent slopes, severely eroded	24.1	0.9%
91B	Primghar silty clay loam, 2 to 5 percent slopes	96.2	3.6%
116	Graceville silt loam, 0 to 2 percent slopes	28.2	1.1%
133	Colo silty clay loam, 0 to 2 percent slopes	28.2	1.1%
212	Kennebec silt loam, 0 to 2 percent slopes	144.9	5.5%
310B	Galva silty clay loam, 2 to 5 percent slopes	138.6	5.3%
310C2	Galva silty clay loam, 5 to 9 percent slopes, moderately eroded	355.7	13.5%
310D2	Galva silty clay loam, 9 to 14 percent slopes, moderately eroded	68.0	2.6%
317C2	Galva-Wadena complex, 5 to 14 percent slopes, moderately eroded	18.0	0.7%
467	Radford silty clay loam, 0 to 2 percent slopes	59.6	2.3%
467B	Radford silty clay loam, 2 to 5 percent slopes	218.6	8.3%
5010	Pits, sand and gravel	33.2	1.3%
AW	Animal waste lagoon	0.4	0.0%
C212	Kennebec silt loam, channeled, 0 to 2 percent slopes	345.2	13.1%
T310	Galva silty clay loam, benches, 0 to 2 percent slopes	256.1	9.7%
T310B	Galva silty clay loam, benches, 2 to 5 percent slopes	565.9	21.4%
W	Lakes and Ponds	38.5	1.5%
Totals for Area of Interest		**2,639.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

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

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

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

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly

indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

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

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Plymouth County, Iowa

1B3—Ida silt loam, 2 to 5 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: frzf
Elevation: 1,100 to 1,500 feet
Mean annual precipitation: 26 to 36 inches
Mean annual air temperature: 46 to 55 degrees F
Frost-free period: 155 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ida, severely eroded, and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ida, Severely Eroded

Setting

Landform: Loess hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 60 inches: silt loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: Very high (about 12.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

1C3—Ida silt loam, 5 to 9 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: frzg
Elevation: 1,100 to 1,500 feet
Mean annual precipitation: 26 to 36 inches
Mean annual air temperature: 46 to 55 degrees F
Frost-free period: 155 to 200 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ida, severely eroded, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ida, Severely Eroded

Setting

Landform: Loess hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 60 inches: silt loam

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: Very high (about 12.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B

Minor Components

Steinauer, severely eroded

Percent of map unit: 5 percent
Landform: Hillslopes

Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Side slope, interfluve
Down-slope shape: Convex
Across-slope shape: Convex

1D3—Ida silt loam, 9 to 14 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: frzh
Elevation: 1,000 to 1,500 feet
Mean annual precipitation: 26 to 36 inches
Mean annual air temperature: 46 to 55 degrees F
Frost-free period: 155 to 200 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ida, severely eroded, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ida, Severely Eroded

Setting

Landform: Loess hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 60 inches: silt loam

Properties and qualities

Slope: 9 to 14 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: Very high (about 12.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B

Minor Components

Steinauer, severely eroded

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex

26—Kennebec silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: frzp
Elevation: 500 to 1,400 feet
Mean annual precipitation: 26 to 31 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 155 to 175 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Kennebec, occasionally flooded, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kennebec, Occasionally Flooded

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium

Typical profile

H1 - 0 to 32 inches: silty clay loam
H2 - 32 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Very high (about 13.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C

Minor Components

Colo, occasionally flooded

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear

33D3—Steinauer clay loam, 9 to 14 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: frzx
Elevation: 1,000 to 1,500 feet
Mean annual precipitation: 26 to 36 inches
Mean annual air temperature: 46 to 55 degrees F
Frost-free period: 155 to 200 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Steinauer, severely eroded, and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Steinauer, Severely Eroded

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Subglacial till

Typical profile

H1 - 0 to 6 inches: clay loam
H2 - 6 to 11 inches: clay loam
H3 - 11 to 60 inches: clay loam

Properties and qualities

Slope: 9 to 14 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 20 percent
Available water storage in profile: High (about 10.2 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

91B—Primghar silty clay loam, 2 to 5 percent slopes

Map Unit Setting
National map unit symbol: fs0d
Elevation: 1,100 to 1,500 feet
Mean annual precipitation: 26 to 31 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 155 to 175 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Primghar and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Primghar

Setting
Landform: Hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess

Typical profile
Ap - 0 to 8 inches: silty clay loam
A,AB - 8 to 17 inches: silty clay loam
BW,Bkg - 17 to 48 inches: silty clay loam
Cg - 48 to 60 inches: silty clay loam

Properties and qualities
Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: About 12 to 42 inches

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: Very high (about 12.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D

Minor Components

Marcus

Percent of map unit: 5 percent
Landform: Flats
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Linear

116—Graceville silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: frz1
Elevation: 700 to 1,650 feet
Mean annual precipitation: 26 to 31 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 155 to 175 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Graceville and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Graceville

Setting

Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium over sandy and gravelly alluvium

Typical profile

Ap - 0 to 8 inches: silt loam
A - 8 to 20 inches: silt loam
Bw - 20 to 53 inches: silty clay loam
2C - 53 to 60 inches: very gravelly sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 0.2 mmhos/cm)
Available water storage in profile: High (about 11.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C

Minor Components

Dickman

Percent of map unit: 5 percent
Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear

Wadena, 24 to 32 inches to sand and gravel

Percent of map unit: 5 percent
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex

133—Colo silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: frz4
Elevation: 500 to 1,500 feet
Mean annual precipitation: 26 to 31 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 155 to 175 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Colo, occasionally flooded, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colo, Occasionally Flooded

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium

Typical profile

H1 - 0 to 37 inches: silty clay loam
H2 - 37 to 42 inches: silty clay loam
H3 - 42 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Very high (about 12.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D

Minor Components

Calco, occasionally flooded

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear

212—Kennebec silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: frzm
Elevation: 500 to 1,400 feet
Mean annual precipitation: 26 to 31 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 155 to 175 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Kennebec, occasionally flooded, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kennebec, Occasionally Flooded

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium

Typical profile

H1 - 0 to 32 inches: silt loam
H2 - 32 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Very high (about 13.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B

Minor Components

Colo, occasionally flooded

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear

310B—Galva silty clay loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2sy4p
Elevation: 1,150 to 1,580 feet
Mean annual precipitation: 28 to 33 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 140 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Galva and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Galva

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Fine-silty loess

Typical profile

Ap - 0 to 6 inches: silty clay loam
A - 6 to 17 inches: silty clay loam
Bw - 17 to 31 inches: silty clay loam
BC - 31 to 45 inches: silt loam
C - 45 to 79 inches: silt loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 12.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C

Minor Components

Primghar

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear

310C2—Galva silty clay loam, 5 to 9 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: frzt
Elevation: 1,000 to 1,500 feet
Mean annual precipitation: 26 to 31 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 155 to 175 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Galva, moderately eroded, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Galva, Moderately Eroded

Setting

Landform: Hillslopes
Landform position (two-dimensional): Toeslope, backslope
Landform position (three-dimensional): Side slope, riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess overlying sand and gravel outwash

Typical profile

Ap - 0 to 6 inches: silty clay loam
BA - 6 to 10 inches: silty clay loam
Bw1,Bw2 - 10 to 28 inches: silty clay loam
BC - 28 to 34 inches: silt loam
C - 34 to 60 inches: silt loam

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: High (about 11.8 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C

Minor Components

Primghar, moderately eroded
Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear

Steinauer, moderately eroded
Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Side slope, interfluve
Down-slope shape: Convex
Across-slope shape: Convex

Ida, moderately eroded
Percent of map unit: 5 percent
Landform: Loess hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex

310D2—Galva silty clay loam, 9 to 14 percent slopes, moderately eroded

Map Unit Setting
National map unit symbol: frzv
Elevation: 1,000 to 1,500 feet
Mean annual precipitation: 26 to 31 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 155 to 175 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Galva, moderately eroded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Galva, Moderately Eroded

Setting

Landform: Hillslopes
Landform position (two-dimensional): Toeslope, backslope
Landform position (three-dimensional): Side slope, riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess overlying sand and gravel outwash

Typical profile

Ap - 0 to 6 inches: silty clay loam
BA - 6 to 10 inches: silty clay loam
Bw1,Bw2 - 10 to 28 inches: silty clay loam
BC - 28 to 34 inches: silt loam
C - 34 to 60 inches: silt loam

Properties and qualities

Slope: 9 to 14 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C

Minor Components

Steinauer, moderately eroded

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex

Ida, moderately eroded

Percent of map unit: 5 percent
Landform: Loess hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex

317C2—Galva-Wadena complex, 5 to 14 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: frzw
Elevation: 700 to 1,600 feet
Mean annual precipitation: 26 to 31 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 155 to 175 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Galva, moderately eroded, and similar soils: 50 percent
Wadena, moderately eroded, and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Galva, Moderately Eroded

Setting

Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess overlying sand and gravel outwash

Typical profile

Ap - 0 to 6 inches: silty clay loam
BA - 6 to 10 inches: silty clay loam
Bw1,Bw2 - 10 to 28 inches: silty clay loam
BC - 28 to 34 inches: silt loam
C - 34 to 60 inches: silt loam

Properties and qualities

Slope: 5 to 14 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Description of Wadena, Moderately Eroded

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy sediments over sand and gravel

Typical profile

H1 - 0 to 15 inches: loam
H2 - 15 to 24 inches: loam
H3 - 24 to 60 inches: stratified gravelly coarse sand to sand

Properties and qualities

Slope: 5 to 14 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B

Minor Components

Dickman, moderately eroded

Percent of map unit: 20 percent
Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear

467—Radford silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: fs03
Elevation: 500 to 1,400 feet
Mean annual precipitation: 26 to 31 inches
Mean annual air temperature: 45 to 48 degrees F

Frost-free period: 155 to 175 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Radford, occasionally flooded, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Radford, Occasionally Flooded

Setting

Landform: Drainageways, flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium

Typical profile

H1 - 0 to 9 inches: silty clay loam
H2 - 9 to 24 inches: silt loam
H3 - 24 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: About 12 to 42 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Very high (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C/D

Minor Components

Colo, occasionally flooded

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear

467B—Radford silty clay loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: fs04
Elevation: 500 to 1,500 feet
Mean annual precipitation: 26 to 31 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 155 to 175 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Radford, occasionally flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Radford, Occasionally Flooded

Setting

Landform: Drainageways, flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium

Typical profile

H1 - 0 to 9 inches: silty clay loam
H2 - 9 to 24 inches: silt loam
H3 - 24 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: About 12 to 42 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Very high (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D

Minor Components

Colo, occasionally flooded

Percent of map unit: 5 percent
Landform: Alluvial fans

Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex
Across-slope shape: Linear

Primghar
Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear

5010—Pits, sand and gravel

Map Unit Setting
National map unit symbol: 20mnd
Mean annual precipitation: 34 to 41 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 175 to 210 days
Farmland classification: Not prime farmland

Map Unit Composition
Pits, sand and gravel: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

AW—Animal waste lagoon

Map Unit Composition
Animal waste lagoon: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

C212—Kennebec silt loam, channeled, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: fs0g
Elevation: 600 to 1,300 feet
Mean annual precipitation: 26 to 31 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 155 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition
Kennebec, frequently flooded, channeled, and similar soils: 95 percent
Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kennebec, Frequently Flooded, Channeled

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Silty alluvium

Typical profile

H1 - 0 to 32 inches: silt loam
H2 - 32 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: Very high (about 13.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B

Minor Components

Colo, frequently flooded, channeled

Percent of map unit: 5 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear

T310—Galva silty clay loam, benches, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: fs0j
Elevation: 1,200 to 1,500 feet
Mean annual precipitation: 26 to 31 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 155 to 175 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Galva, terrace, and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Galva, Terrace

Setting

Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess overlying sand and gravel outwash

Typical profile

Ap - 0 to 6 inches: silty clay loam
A,BA - 6 to 17 inches: silty clay loam
Bw1,Bw2 - 17 to 31 inches: silty clay loam
BC - 31 to 45 inches: silt loam
C - 45 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: Very high (about 12.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C

T310B—Galva silty clay loam, benches, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: fs0k
Elevation: 1,200 to 1,500 feet
Mean annual precipitation: 26 to 31 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 155 to 175 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Galva, terrace, and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Galva, Terrace

Setting

Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess overlying sand and gravel outwash

Typical profile

Ap - 0 to 6 inches: silty clay loam
A,BA - 6 to 17 inches: silty clay loam
Bw1,Bw2 - 17 to 31 inches: silty clay loam
BC - 31 to 45 inches: silt loam
C - 45 to 60 inches: silt loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: Very high (about 12.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C

W—Lakes and Ponds

Map Unit Setting

National map unit symbol: 20mnn
Mean annual precipitation: 33 to 38 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 170 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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