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Experiment Station

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Economics Experiment
Station and Cooperative
Extension Service, Iowa
State University; and
Division of Soil
Conservation, Iowa
Department of Agriculture
and Land Stewardship

Soil Survey of Iowa County, Iowa

Part II



How To Use This Soil Survey

This survey is divided into three parts. Part I includes general information about the survey area; descriptions of the general soil map units, detailed soil map units, and soil series in the area; and a description of how the soils formed. Part II describes the use and management of the soils and the major soil properties. This part may be updated as further information about soil management becomes available. Part III includes the maps.

On the **general soil map**, the survey area is divided into groups of soils called associations. This map is useful in planning the use and management of large areas.

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

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

To find information about your area of interest, locate that area on the **Index to Map Sheets** in Part III. 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. The **Contents** in Part I lists the map units and shows the page where each map unit is described.

The **Contents** in Part II shows which table has information on a specific land use or soil property for each detailed soil map unit. Also, see the **Contents** in Part I and Part II for other sections of this publication that may address your specific needs.

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

Major fieldwork for this soil survey was completed in 2004. Soil names and descriptions were approved in 2005. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2004. The most current official data are available through the NRCS Web Soil Survey (<http://soils.usda.gov>).

This survey was made cooperatively by the Natural Resources Conservation Service; the Iowa Agriculture and Home Economics Experiment Station and Cooperative Extension Service, Iowa State University; and the Division of Soil Conservation, Iowa Department of Agriculture and Land Stewardship. The survey is part of the technical assistance furnished to the Iowa 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: A typical rural landscape in Iowa County.

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

Contents

How To Use This Soil Survey	i
Introduction to Part II	1
Interpretive Ratings	1
Rating Class Terms	2
Numerical Ratings	2
Table: Classification of the Soils	2
Table: Acreage and Proportionate Extent of the Soils	4
Agronomy	9
Cropland Management Considerations	10
Table: Cropland Management Considerations	12
Crop Yield Estimates	37
Land Capability Classification	37
Corn Suitability Rating	38
Crop Yields	38
Pasture Yields	38
Table: Land Capability, Corn Suitability Rating, and Yields per Acre of Crops ...	39
Table: Land Capability and Yields per Acre of Pasture	51
Prime Farmland	64
Table: Prime Farmland	65
Agricultural Waste Management	67
Table: Agricultural Waste Management	69
Recreational Development	111
Table: Camp Areas, Picnic Areas, and Playgrounds	113
Table: Paths, Trails, and Golf Fairways	137
Engineering	157
Building Site Development	158
Table: Dwellings and Small Commercial Buildings	160
Table: Roads and Streets, Shallow Excavations, and Lawns and Landscaping	184
Sanitary Facilities	212
Table: Sewage Disposal	215
Table: Landfills	245
Construction Materials	271
Table: Source of Sand and Gravel	273
Table: Source of Reclamation Material, Roadfill, and Topsoil	295
Water Management	325
Table: Ponds and Embankments	326
Soil Properties	351
Engineering Properties	352
Table: Engineering Properties	353
Physical Properties	398
Table: Physical Properties of the Soils	400
Chemical Properties	434
Table: Chemical Properties of the Soils	435

Water Features	460
Table: Water Features	462
Soil Features	541
Table: Soil Features	542

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Soil Survey of Iowa County, Iowa

Introduction to Part II

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.

This part of the soil survey includes interpretations for various uses of the soils and data on soil properties. This information can be used to plan the use and management of soils for crops and pasture or as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities. 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.

Soils are rated in their natural state. No unusual modification of the soil site or material is made other than that which is considered normal practice for the rated use. Even though soils may have limitations, it is important to remember that engineers and others can modify soil features or can design or adjust the plans for a structure to compensate for most of the limitations. Most of these practices, however, are costly. The final decision in selecting a site for a particular use generally involves weighing the costs of site preparation and maintenance.

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 gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

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

The table "Classification of the Soils" is at the end of this section. Information about the system of soil taxonomy used by the Natural Resources Conservation Service is available in Part I of this publication. The extent of the map units in this survey area is shown in the table "Acreage and Proportionate Extent of the Soils."

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.

Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text in Part I for a description of those characteristics that are outside the range of the series)

Soil name	Family or higher taxonomic class
Ackmore-----	Fine-silty, mixed, superactive, nonacid, mesic Mollic Fluvaquents
*Adair-----	Fine, smectitic, mesic Aquertic HapludalFs
Amana-----	Fine-silty, mixed, superactive, mesic Aquic Hapludolls
Aquents-----	Mesic Aquents
Armstrong-----	Fine, smectitic, mesic Aquertic HapludalFs
Atterberry-----	Fine-silty, mixed, superactive, mesic Udollic EndoaqualFs
Bassett-----	Fine-loamy, mixed, superactive, mesic Mollic HapludalFs
*Bassett-----	Fine-loamy, mixed, superactive, mesic Typic HapludalFs
Bremer-----	Fine, smectitic, mesic Typic Argiaquolls
Chelsea-----	Mixed, mesic Lamellic Udipsamments
Chequest-----	Fine, smectitic, mesic Vertic Endoaquolls
Clinton-----	Fine, smectitic, mesic Chromic Vertic HapludalFs
Colo-----	Fine-silty, mixed, superactive, mesic Cumulic Endoaquolls
Dickinson-----	Coarse-loamy, mixed, superactive, mesic Typic Hapludolls
Dinsdale-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Downs-----	Fine-silty, mixed, superactive, mesic Mollic HapludalFs
*Downs-----	Fine-silty, mixed, superactive, mesic Typic HapludalFs
Ella-----	Fine-silty, mixed, superactive, mesic Mollic HapludalFs
Ely-----	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
Fayette-----	Fine-silty, mixed, superactive, mesic Typic HapludalFs
Gara-----	Fine-loamy, mixed, superactive, mesic Mollic HapludalFs
*Gara-----	Fine-loamy, mixed, superactive, mesic Typic HapludalFs
Givin-----	Fine, smectitic, mesic Udollic EndoaqualFs
Hayfield-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Aquollic HapludalFs
Judson-----	Fine-silty, mixed, superactive, mesic Cumulic Hapludolls
Kenyon-----	Fine-loamy, mixed, superactive, mesic Typic Hapludolls
*Kenyon-----	Fine-loamy, mixed, superactive, mesic Dystric Eutrudepts
Keomah-----	Fine, smectitic, mesic Aeric EndoaqualFs
Keswick-----	Fine, smectitic, mesic Aquertic Chromic HapludalFs
Klum-----	Coarse-loamy, mixed, superactive, nonacid, mesic Mollic Udifluvents
Koszta-----	Fine-silty, mixed, superactive, mesic Udollic EndoaqualFs

Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Ladoga-----	Fine, smectitic, mesic Mollic HapludalFs
*Ladoga-----	Fine, smectitic, mesic Typic HapludalFs
Lawson-----	Fine-silty, mixed, superactive, mesic Aquic Cumulic Hapludolls
Lindley-----	Fine-loamy, mixed, superactive, mesic Typic HapludalFs
Mahaska-----	Fine, smectitic, mesic Aquertic Argiudolls
Muscatine-----	Fine-silty, mixed, superactive, mesic Aquic Hapludolls
Nevin-----	Fine-silty, mixed, superactive, mesic Aquic Argiudolls
Nodaway-----	Fine-silty, mixed, superactive, nonacid, mesic Mollic Udifluvents
Otley-----	Fine, smectitic, mesic Oxyaquic Argiudolls
*Otley-----	Fine, smectitic, mesic Mollic Oxyaquic HapludalFs
*Otley-----	Fine, smectitic, mesic Oxyaquic HapludalFs
Pillot-----	Fine-silty over sandy or sandy-skeletal, mixed, superactive, mesic Typic Argiudolls
*Pillot-----	Fine-silty over sandy or sandy-skeletal, mixed, superactive, mesic Mollic HapludalFs
Quiver-----	Fine-silty, mixed, superactive, nonacid, mesic Mollic Fluvaquents
Seaton-----	Fine-silty, mixed, superactive, mesic Typic HapludalFs
Shelby-----	Fine-loamy, mixed, superactive, mesic Typic Argiudolls
*Shelby-----	Fine-loamy, mixed, superactive, mesic Mollic HapludalFs
Sparta-----	Sandy, mixed, mesic Entic Hapludolls
Sperry-----	Fine, smectitic, mesic Typic Argialbolls
Stronghurst-----	Fine-silty, mixed, superactive, mesic Aeric EndoaqualFs
Taintor-----	Fine, smectitic, mesic Vertic Argiaquolls
Tama-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
*Tama-----	Fine-silty, mixed, superactive, mesic Mollic HapludalFs
Tell-----	Fine-silty over sandy or sandy-skeletal, mixed, superactive, mesic Typic HapludalFs
Tuskeego-----	Fine, smectitic, mesic Mollic EndoaqualFs
Udorthents-----	Loamy Udorthents
Vesser-----	Fine-silty, mixed, superactive, mesic Argiaquic Argialbolls
Wabash-----	Fine, smectitic, mesic Cumulic Vertic Endoaquolls
Walford-----	Fine-silty, mixed, superactive, mesic Mollic EndoaqualFs
Watkins-----	Fine-silty, mixed, superactive, mesic Mollic HapludalFs
Waubee-----	Fine-silty, mixed, superactive, mesic Mollic HapludalFs
Waukee-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Hapludolls
Wiota-----	Fine-silty, mixed, superactive, mesic Typic Argiudolls
Zook-----	Fine, smectitic, mesic Cumulic Vertic Endoaquolls

Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
5B	Ackmore-Colo complex, 2 to 5 percent slopes-----	12,371	3.3
7	Wiota silty clay loam, 0 to 2 percent slopes, rarely flooded-----	2,293	0.6
7B	Wiota silty clay loam, 2 to 5 percent slopes, rarely flooded-----	815	0.2
8B	Judson silty clay loam, 2 to 5 percent slopes-----	3,130	0.8
24C2	Shelby loam, 5 to 9 percent slopes, moderately eroded-----	321	*
24D2	Shelby loam, 9 to 14 percent slopes, moderately eroded-----	1,489	0.4
24D3	Shelby clay loam, 9 to 14 percent slopes, severely eroded-----	278	*
24E2	Shelby loam, 14 to 18 percent slopes, moderately eroded-----	826	0.2
24E3	Shelby clay loam, 14 to 18 percent slopes, severely eroded-----	597	0.2
41	Sparta loamy fine sand, 0 to 2 percent slopes-----	243	*
41B	Sparta loamy fine sand, 2 to 5 percent slopes-----	387	0.1
41C	Sparta loamy fine sand, 5 to 9 percent slopes-----	692	0.2
41D	Sparta loamy fine sand, 9 to 14 percent slopes-----	617	0.2
43	Bremer silty clay loam, 0 to 2 percent slopes, rarely flooded-----	4,386	1.2
51	Vesser silt loam, 0 to 2 percent slopes, occasionally flooded-----	145	*
54	Zook silty clay loam, 0 to 2 percent slopes, occasionally flooded-----	2,938	0.8
54+	Zook silt loam, 0 to 2 percent slopes, occasionally flooded, overwash----	229	*
63C	Chelsea loamy fine sand, 2 to 9 percent slopes-----	379	0.1
63E	Chelsea loamy fine sand, 9 to 18 percent slopes-----	105	*
63G	Chelsea loamy fine sand, 18 to 40 percent slopes-----	137	*
65D2	Lindley loam, 9 to 14 percent slopes, moderately eroded-----	385	0.1
65D3	Lindley clay loam, 9 to 14 percent slopes, severely eroded-----	81	*
65E2	Lindley loam, 14 to 18 percent slopes, moderately eroded-----	1,878	0.5
65E3	Lindley clay loam, 14 to 18 percent slopes, severely eroded-----	1,137	0.3
65F	Lindley loam, 18 to 25 percent slopes-----	732	0.2
65F2	Lindley loam, 18 to 25 percent slopes, moderately eroded-----	3,481	0.9
65F3	Lindley clay loam, 18 to 25 percent slopes, severely eroded-----	2,401	0.6
65G	Lindley loam, 25 to 40 percent slopes-----	1,894	0.5
75	Givin silt loam, 0 to 2 percent slopes-----	966	0.3
76B	Ladoga silt loam, 2 to 5 percent slopes-----	5,534	1.5
76C	Ladoga silt loam, 5 to 9 percent slopes-----	727	0.2
76C2	Ladoga silt loam, 5 to 9 percent slopes, moderately eroded-----	12,216	3.2
76D	Ladoga silt loam, 9 to 14 percent slopes-----	114	*
76D2	Ladoga silt loam, 9 to 14 percent slopes, moderately eroded-----	12,692	3.4
76D3	Ladoga silty clay loam, 9 to 14 percent slopes, severely eroded-----	1,168	0.3
76E2	Ladoga silt loam, 14 to 18 percent slopes, moderately eroded-----	825	0.2
76E3	Ladoga silty clay loam, 14 to 18 percent slopes, severely eroded-----	367	*
80B	Clinton silt loam, 2 to 5 percent slopes-----	1,800	0.5
80C	Clinton silt loam, 5 to 9 percent slopes-----	308	*
80C2	Clinton silty clay loam, 5 to 9 percent slopes, moderately eroded-----	8,525	2.3
80D	Clinton silt loam, 9 to 14 percent slopes-----	424	0.1
80D2	Clinton silty clay loam, 9 to 14 percent slopes, moderately eroded-----	11,514	3.1
80D3	Clinton silty clay loam, 9 to 14 percent slopes, severely eroded-----	2,747	0.7
80E2	Clinton silty clay loam, 14 to 18 percent slopes, moderately eroded-----	3,301	0.9
80E3	Clinton silty clay loam, 14 to 18 percent slopes, severely eroded-----	1,516	0.4
80F2	Clinton silty clay loam, 18 to 25 percent slopes, moderately eroded-----	511	0.1
83B	Kenyon loam, 2 to 5 percent slopes-----	288	*
83C	Kenyon loam, 5 to 9 percent slopes-----	621	0.2
83C2	Kenyon loam, 5 to 9 percent slopes, moderately eroded-----	629	0.2
83D2	Kenyon loam, 9 to 14 percent slopes, moderately eroded-----	51	*
88	Nevin silty clay loam, 0 to 2 percent slopes, rarely flooded-----	4,983	1.3
93D2	Shelby-Adair complex, 9 to 14 percent slopes, moderately eroded-----	1,560	0.4
93D3	Shelby-Adair complex, 9 to 14 percent slopes, severely eroded-----	328	*
93E2	Shelby-Adair complex, 14 to 18 percent slopes, moderately eroded-----	944	0.3
119	Muscatine silty clay loam, 0 to 2 percent slopes-----	999	0.3
120B	Tama silty clay loam, 2 to 5 percent slopes-----	3,305	0.9
120C	Tama silty clay loam, 5 to 9 percent slopes-----	1,321	0.4
120C2	Tama silty clay loam, 5 to 9 percent slopes, moderately eroded-----	4,194	1.1
120D2	Tama silty clay loam, 9 to 14 percent slopes, moderately eroded-----	4,413	1.2
120D3	Tama silty clay loam, 9 to 14 percent slopes, severely eroded-----	217	*
120E2	Tama silty clay loam, 14 to 18 percent slopes, moderately eroded-----	251	*
122	Sperry silt loam, 0 to 1 percent slopes, depressional-----	138	*

See footnote at end of table.

Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
133	Colo silty clay loam, 0 to 2 percent slopes, occasionally flooded-----	4,444	1.2
133+	Colo silt loam, 0 to 2 percent slopes, occasionally flooded, overwash----	9,219	2.5
162B	Downs silt loam, 2 to 5 percent slopes-----	1,872	0.5
162C	Downs silt loam, 5 to 9 percent slopes-----	804	0.2
162C2	Downs silt loam, 5 to 9 percent slopes, moderately eroded-----	5,094	1.4
162D2	Downs silt loam, 9 to 14 percent slopes, moderately eroded-----	5,911	1.6
162D3	Downs silty clay loam, 9 to 14 percent slopes, severely eroded-----	501	0.1
162E2	Downs silt loam, 14 to 18 percent slopes, moderately eroded-----	1,220	0.3
162E3	Downs silty clay loam, 14 to 18 percent slopes, severely eroded-----	513	0.1
163B	Fayette silt loam, 2 to 5 percent slopes-----	1,122	0.3
163C	Fayette silt loam, 5 to 9 percent slopes-----	1,088	0.3
163C2	Fayette silt loam, 5 to 9 percent slopes, moderately eroded-----	4,703	1.3
163D	Fayette silt loam, 9 to 14 percent slopes-----	1,094	0.3
163D2	Fayette silt loam, 9 to 14 percent slopes, moderately eroded-----	4,448	1.2
163D3	Fayette silty clay loam, 9 to 14 percent slopes, severely eroded-----	1,415	0.4
163E	Fayette silt loam, 14 to 18 percent slopes-----	592	0.2
163E2	Fayette silt loam, 14 to 18 percent slopes, moderately eroded-----	2,603	0.7
163E3	Fayette silty clay loam, 14 to 18 percent slopes, severely eroded-----	2,092	0.6
163F	Fayette silt loam, 18 to 25 percent slopes-----	1,469	0.4
163F2	Fayette silt loam, 18 to 25 percent slopes, moderately eroded-----	2,559	0.7
163F3	Fayette silty clay loam, 18 to 25 percent slopes, severely eroded-----	1,172	0.3
163G	Fayette silt loam, 25 to 40 percent slopes-----	5,249	1.4
165	Stronghurst silt loam, 0 to 2 percent slopes-----	99	*
171C2	Bassett loam, 5 to 9 percent slopes, moderately eroded-----	918	0.2
171D2	Bassett loam, 9 to 14 percent slopes, moderately eroded-----	376	*
171D3	Bassett loam, 9 to 14 percent slopes, severely eroded-----	240	*
171E2	Bassett loam, 14 to 18 percent slopes, moderately eroded-----	111	*
171E3	Bassett loam, 14 to 18 percent slopes, severely eroded-----	117	*
172	Wabash silty clay, 0 to 2 percent slopes, occasionally flooded-----	158	*
175	Dickinson fine sandy loam, 0 to 2 percent slopes-----	263	*
175B	Dickinson fine sandy loam, 2 to 5 percent slopes-----	352	*
175C	Dickinson fine sandy loam, 5 to 9 percent slopes-----	116	*
178	Waukee loam, 0 to 2 percent slopes-----	358	*
178B	Waukee loam, 2 to 5 percent slopes-----	572	0.2
178C	Waukee loam, 5 to 9 percent slopes-----	197	*
179D2	Gara loam, 9 to 14 percent slopes, moderately eroded-----	1,141	0.3
179D3	Gara clay loam, 9 to 14 percent slopes, severely eroded-----	194	*
179E2	Gara loam, 14 to 18 percent slopes, moderately eroded-----	1,769	0.5
179E3	Gara clay loam, 14 to 18 percent slopes, severely eroded-----	1,407	0.4
179F2	Gara loam, 18 to 25 percent slopes, moderately eroded-----	563	0.1
179F3	Gara clay loam, 18 to 25 percent slopes, severely eroded-----	717	0.2
180	Keomah silt loam, 0 to 2 percent slopes-----	102	*
192D2	Adair silty clay loam, 9 to 14 percent slopes, moderately eroded-----	1,332	0.4
192D3	Adair clay loam, 9 to 14 percent slopes, severely eroded-----	400	0.1
220	Nodaway silt loam, 0 to 2 percent slopes, occasionally flooded-----	5,179	1.4
279	Taintor silty clay loam, 0 to 2 percent slopes-----	885	0.2
280	Mahaska silty clay loam, 0 to 2 percent slopes-----	6,555	1.7
281B	Otley silty clay loam, 2 to 5 percent slopes-----	14,619	3.9
281C	Otley silty clay loam, 5 to 9 percent slopes-----	1,749	0.5
281C2	Otley silty clay loam, 5 to 9 percent slopes, moderately eroded-----	17,908	4.8
281D2	Otley silty clay loam, 9 to 14 percent slopes, moderately eroded-----	12,032	3.2
281D3	Otley silty clay loam, 9 to 14 percent slopes, severely eroded-----	455	0.1
281E2	Otley silty clay loam, 14 to 18 percent slopes, moderately eroded-----	181	*
291	Atterberry silt loam, 0 to 2 percent slopes-----	419	0.1
293C	Fayette-Chelsea-Tell complex, 5 to 9 percent slopes-----	767	0.2
293D	Fayette-Chelsea-Tell complex, 9 to 14 percent slopes-----	819	0.2
293D2	Fayette-Chelsea-Tell complex, 9 to 14 percent slopes, moderately eroded--	1,246	0.3
293E	Fayette-Chelsea-Tell complex, 14 to 18 percent slopes-----	578	0.2
293E2	Fayette-Chelsea-Tell complex, 14 to 18 percent slopes, moderately eroded	1,189	0.3
293G	Fayette-Chelsea-Tell complex, 18 to 40 percent slopes-----	1,722	0.5
353B	Tell silt loam, 2 to 5 percent slopes-----	138	*
353C	Tell silt loam, 5 to 9 percent slopes-----	135	*
353C2	Tell silt loam, 5 to 9 percent slopes, moderately eroded-----	193	*

See footnote at end of table.

Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
353D2	Tell silt loam, 9 to 14 percent slopes, moderately eroded-----	85	*
377B	Dinsdale silty clay loam, 2 to 5 percent slopes-----	896	0.2
377C	Dinsdale silty clay loam, 5 to 9 percent slopes-----	565	0.2
420	Tama silty clay loam, terrace, 0 to 2 percent slopes-----	159	*
420B	Tama silty clay loam, terrace, 2 to 5 percent slopes-----	793	0.2
422	Amara silt loam, 0 to 2 percent slopes, occasionally flooded-----	2,933	0.8
424D2	Lindley-Keswick complex, 9 to 14 percent slopes, moderately eroded-----	630	0.2
424E2	Lindley-Keswick complex, 14 to 18 percent slopes, moderately eroded-----	3,186	0.8
424E3	Lindley-Keswick complex, 14 to 18 percent slopes, severely eroded-----	1,437	0.4
424F2	Lindley-Keswick complex, 18 to 25 percent slopes, moderately eroded-----	86	*
425D2	Keswick silty clay loam, 9 to 14 percent slopes, moderately eroded-----	1,265	0.3
425D3	Keswick clay loam, 9 to 14 percent slopes, severely eroded-----	615	0.2
428B	Ely silty clay loam, 2 to 5 percent slopes-----	6,041	1.6
430	Ackmore silt loam, 0 to 2 percent slopes, occasionally flooded-----	2,114	0.6
450	Pillot silt loam, 0 to 2 percent slopes-----	38	*
450B	Pillot silt loam, 2 to 5 percent slopes-----	623	0.2
450C	Pillot silt loam, 5 to 9 percent slopes-----	285	*
453	Tuskeego silt loam, 0 to 2 percent slopes, rarely flooded-----	540	0.1
462B	Downs silt loam, terrace, 2 to 5 percent slopes-----	484	0.1
463B	Fayette silt loam, terrace, 2 to 5 percent slopes-----	844	0.2
463C2	Fayette silt loam, terrace, 5 to 9 percent slopes, moderately eroded-----	1,141	0.3
463D2	Fayette silt loam, terrace, 9 to 14 percent slopes, moderately eroded-----	270	*
463D3	Fayette silty clay loam, terrace, 9 to 14 percent slopes, severely eroded	86	*
463E2	Fayette silt loam, terrace, 14 to 18 percent slopes, moderately eroded---	84	*
463E3	Fayette silty clay loam, terrace, 14 to 18 percent slopes, severely eroded-----	168	*
463F2	Fayette silt loam, terrace, 18 to 25 percent slopes, moderately eroded---	149	*
463F3	Fayette silty clay loam, terrace, 18 to 25 percent slopes, severely eroded-----	83	*
484	Lawson silt loam, 0 to 2 percent slopes, occasionally flooded-----	570	0.2
587	Chequest silty clay loam, 0 to 2 percent slopes, occasionally flooded----	1,983	0.5
587+	Chequest silt loam, 0 to 2 percent slopes, occasionally flooded, overwash	257	*
626	Hayfield silt loam, 0 to 2 percent slopes-----	732	0.2
663D2	Seaton silt loam, 9 to 14 percent slopes, moderately eroded-----	207	*
663E2	Seaton silt loam, 14 to 18 percent slopes, moderately eroded-----	92	*
663E3	Seaton silt loam, 14 to 18 percent slopes, severely eroded-----	124	*
663F2	Seaton silt loam, 18 to 25 percent slopes, moderately eroded-----	200	*
687	Watkins silt loam, 0 to 2 percent slopes, rarely flooded-----	325	*
687B	Watkins silt loam, 2 to 5 percent slopes, rarely flooded-----	197	*
688	Koszta silt loam, 0 to 2 percent slopes, rarely flooded-----	3,780	1.0
771B	Waubek silt loam, 2 to 5 percent slopes-----	262	*
771C2	Waubek silt loam, 5 to 9 percent slopes, moderately eroded-----	310	*
792D2	Armstrong silty clay loam, 9 to 14 percent slopes, moderately eroded-----	2,914	0.8
876B	Ladoga silt loam, terrace, 2 to 5 percent slopes-----	518	0.1
876C	Ladoga silt loam, terrace, 5 to 9 percent slopes-----	777	0.2
876C2	Ladoga silt loam, terrace, 5 to 9 percent slopes, moderately eroded-----	633	0.2
876D2	Ladoga silt loam, terrace, 9 to 14 percent slopes, moderately eroded-----	333	*
881B	Otley silty clay loam, terrace, 2 to 5 percent slopes-----	256	*
911B	Colo-Ely complex, 2 to 5 percent slopes-----	34,869	9.3
993D2	Gara-Armstrong complex, 9 to 14 percent slopes, moderately eroded-----	1,499	0.4
993E2	Gara-Armstrong complex, 14 to 18 percent slopes, moderately eroded-----	3,029	0.8
993F2	Gara-Armstrong complex, 18 to 25 percent slopes, moderately eroded-----	75	*
1160	Walford silt loam, terrace, 0 to 2 percent slopes-----	203	*
1220	Nodaway silt loam, 0 to 2 percent slopes, channeled, frequently flooded--	915	0.2
1291	Atterberry silt loam, terrace, 0 to 2 percent slopes-----	660	0.2
1354	Aquents, ponded-----	123	*
1442B	Tama-Sparta-Pillot complex, 2 to 5 percent slopes-----	180	*
1442C	Tama-Sparta-Pillot complex, 5 to 9 percent slopes-----	322	*
1442C2	Tama-Sparta-Pillot complex, 5 to 9 percent slopes, moderately eroded-----	466	0.1
1442D2	Tama-Sparta-Pillot complex, 9 to 14 percent slopes, moderately eroded----	1,069	0.3
1442E2	Tama-Sparta-Pillot complex, 14 to 18 percent slopes, moderately eroded---	562	0.1
1540	Quiver-Zook-Klum complex, 0 to 2 percent slopes, frequently flooded-----	10,797	2.9
2219	Ella silt loam, 0 to 2 percent slopes, rarely flooded-----	161	*

See footnote at end of table.

Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
2219B	Ella silt loam, 2 to 5 percent slopes, rarely flooded-----	327	*
2219C2	Ella silt loam, 5 to 9 percent slopes, moderately eroded, rarely flooded	59	*
2422	Amana-Nodaway-Lawson complex, 0 to 2 percent slopes, occasionally flooded	2,849	0.8
4946	Udorthents-Interstate highway complex, 0 to 5 percent slopes-----	964	0.3
5010	Pits, sand and gravel-----	73	*
5040	Udorthents, loamy-----	490	0.1
6220	Nodaway silt loam, 0 to 2 percent slopes, frequently flooded-----	495	0.1
6422	Amana silt loam, 0 to 2 percent slopes, frequently flooded-----	1,701	0.5
AW	Animal waste lagoon-----	9	*
SL	Sewage lagoon-----	70	*
W	Water-----	2,744	0.7
	Total-----	376,100	100.0

* Less than 0.1 percent.

Agronomy

This section provides some general information about managing the soils for crops and for hay and pasture. The Iowa corn suitability rating system and the system of land capability classification used by the Natural Resources Conservation Service are explained, and the estimated yields of the main crops and hay and pasture plants are listed for each soil. Prime farmland is described, and interpretations for agricultural waste management are provided.

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.

Cropland Management Considerations

The management concerns affecting the use of the detailed soil map units in the county for crops are shown in the table “Cropland Management Considerations” at the end of this section. 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 content of organic matter, 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 content of organic matter.—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 content of organic matter.—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 seasonal high water table 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 to 0.1 percent of the surface is covered by stones or 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.

Water table.—A water table is within 2.5 feet of the surface.

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

Hydrologic groups are described under the heading “Water Features.” Erosion factors (e.g., K factor) and wind erodibility groups are described under the heading “Physical Properties.”

Cropland Management Considerations

(See text for a description of the considerations listed in this table)

Map symbol and soil name	Pct. of map unit	Cropland management considerations
5B: Ackmore-----	45	Potential for ground-water contamination Potential for surface-water contamination Water erosion Water table
Colo-----	35	Potential poor tilth and compaction Potential for ground-water contamination Water erosion Water table
7: Wiota, rarely flooded-----	100	No major considerations
7B: Wiota, rarely flooded-----	100	Potential for surface-water contamination Water erosion
8B: Judson-----	95	Potential poor tilth and compaction Potential for surface-water contamination Water erosion
24C2: Shelby, moderately eroded----	85	Potential for surface-water contamination Previously eroded Water erosion
24D2: Shelby, moderately eroded----	70	Potential for surface-water contamination Previously eroded Water erosion
24D3: Shelby, severely eroded-----	90	Limited content of organic matter Potential poor tilth and compaction Potential for surface-water contamination Previously eroded Surface crusting Water erosion
24E2: Shelby, moderately eroded----	85	Slope Potential for surface-water contamination Previously eroded Water erosion
24E3: Shelby, severely eroded-----	95	Slope Limited content of organic matter Potential poor tilth and compaction Potential for surface-water contamination Previously eroded Surface crusting Water erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
41: Sparta-----	100	Acid soil Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Wind erosion
41B: Sparta-----	100	Acid soil Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Wind erosion
41C: Sparta-----	85	Acid soil Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Wind erosion
41D: Sparta-----	75	Acid soil Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
43: Bremer, rarely flooded-----	100	Potential poor tilth and compaction Potential for ground-water contamination Water table
51: Vesser, occasionally flooded	95	Acid soil Flooding Potential for ground-water contamination Potential for surface-water contamination Water table
54: Zook, occasionally flooded---	100	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water table
54+: Zook, occasionally flooded, overwash-----	100	Flooding Potential for ground-water contamination Potential for surface-water contamination Water table

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
63C: Chelsea-----	90	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Wind erosion
63E: Chelsea-----	95	Slope Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
63G: Chelsea-----	95	Slope Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
65D2: Lindley, moderately eroded---	85	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
65D3: Lindley, severely eroded----	85	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
65E2: Lindley, moderately eroded---	85	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
65E3: Lindley, severely eroded----	85	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
65F: Lindley-----	100	Slope Limited content of organic matter Potential for surface-water contamination Water erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
65F2: Lindley, moderately eroded---	80	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
65F3: Lindley, severely eroded----	90	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
65G: Lindley-----	100	Slope Limited content of organic matter Potential for surface-water contamination Water erosion
75: Givin-----	95	Acid soil Potential for ground-water contamination Water table
76B: Ladoga-----	95	Acid soil Potential for ground-water contamination Potential for surface-water contamination Water erosion
76C: Ladoga-----	85	Acid soil Potential for ground-water contamination Potential for surface-water contamination Water erosion
76C2: Ladoga, moderately eroded---	95	Acid soil Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
76D: Ladoga-----	90	Acid soil Potential for ground-water contamination Potential for surface-water contamination Water erosion
76D2: Ladoga, moderately eroded---	90	Acid soil Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
76D3: Ladoga, severely eroded-----	85	Acid soil Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
76E2: Ladoga, moderately eroded----	70	Acid soil Slope Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
76E3: Ladoga, severely eroded-----	85	Acid soil Slope Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
80B: Clinton-----	100	Acid soil Potential for ground-water contamination Potential for surface-water contamination Water erosion
80C: Clinton-----	95	Acid soil Potential for ground-water contamination Potential for surface-water contamination Water erosion
80C2: Clinton, moderately eroded---	85	Acid soil Limited content of organic matter Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Surface crusting Water erosion
80D: Clinton-----	90	Acid soil Potential for ground-water contamination Potential for surface-water contamination Water erosion
80D2: Clinton, moderately eroded---	85	Acid soil Limited content of organic matter Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Surface crusting Water erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
80D3: Clinton, severely eroded-----	75	Acid soil Limited content of organic matter Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Surface crusting Water erosion
80E2: Clinton, moderately eroded---	90	Acid soil Slope Limited content of organic matter Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Surface crusting Water erosion
80E3: Clinton, severely eroded-----	70	Acid soil Slope Limited content of organic matter Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Surface crusting Water erosion
80F2: Clinton, moderately eroded---	90	Acid soil Slope Limited content of organic matter Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Surface crusting Water erosion
83B: Kenyon-----	75	Potential for ground-water contamination Potential for surface-water contamination Water erosion
83C: Kenyon-----	80	Potential for ground-water contamination Potential for surface-water contamination Water erosion
83C2: Kenyon, moderately eroded---	85	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
83D2: Kenyon, moderately eroded---	80	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
88: Nevin, rarely flooded-----	90	Potential poor tilth and compaction Potential for ground-water contamination Water table
93D2: Shelby, moderately eroded----	50	Potential for surface-water contamination Previously eroded Water erosion
Adair, moderately eroded----	35	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
93D3: Shelby, severely eroded-----	50	Limited content of organic matter Potential poor tilth and compaction Potential for surface-water contamination Previously eroded Surface crusting Water erosion
Adair, severely eroded-----	30	Limited content of organic matter Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Surface crusting Water erosion Water table
93E2: Shelby, moderately eroded----	60	Slope Potential for surface-water contamination Previously eroded Water erosion
Adair, moderately eroded----	35	Slope Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
119: Muscatine-----	95	Potential poor tilth and compaction Potential for ground-water contamination Water table
120B: Tama-----	95	Potential for surface-water contamination Water erosion
120C: Tama-----	85	Potential for surface-water contamination Water erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
120C2: Tama, moderately eroded-----	75	Potential for surface-water contamination Previously eroded Water erosion
120D2: Tama, moderately eroded-----	85	Potential for surface-water contamination Previously eroded Water erosion
120D3: Tama, severely eroded-----	80	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
120E2: Tama, moderately eroded-----	80	Slope Potential for surface-water contamination Previously eroded Water erosion
122: Sperry-----	95	Ponding Potential for ground-water contamination Potential for surface-water contamination Water table
133: Colo, occasionally flooded---	90	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water table
133+: Colo, occasionally flooded, overwash-----	90	Flooding Potential for ground-water contamination Potential for surface-water contamination Water table
162B: Downs-----	95	Potential for surface-water contamination Water erosion
162C: Downs-----	85	Potential for surface-water contamination Water erosion
162C2: Downs, moderately eroded-----	85	Potential for surface-water contamination Previously eroded Water erosion
162D2: Downs, moderately eroded-----	85	Potential for surface-water contamination Previously eroded Water erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
162D3: Downs, severely eroded-----	80	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
162E2: Downs, moderately eroded-----	75	Slope Potential for surface-water contamination Previously eroded Water erosion
162E3: Downs, severely eroded-----	75	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
163B: Fayette-----	95	Potential for surface-water contamination Water erosion
163C: Fayette-----	90	Potential for surface-water contamination Water erosion
163C2: Fayette, moderately eroded---	85	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
163D: Fayette-----	85	Potential for surface-water contamination Water erosion
163D2: Fayette, moderately eroded---	65	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
163D3: Fayette, severely eroded-----	60	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
163E: Fayette-----	75	Slope Potential for surface-water contamination Water erosion
163E2: Fayette, moderately eroded---	70	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
163E3: Fayette, severely eroded-----	70	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
163F: Fayette-----	75	Slope Potential for surface-water contamination Water erosion
163F2: Fayette, moderately eroded---	70	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
163F3: Fayette, severely eroded-----	70	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
163G: Fayette-----	85	Slope Potential for surface-water contamination Water erosion
165: Stronghurst-----	95	Potential for ground-water contamination Water table
171C2: Bassett, moderately eroded---	85	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
171D2: Bassett, moderately eroded---	80	Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
171D3: Bassett, severely eroded-----	75	Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
171E2: Bassett, moderately eroded---	80	Slope Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
171E3: Bassett, severely eroded-----	75	Slope Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
172: Wabash, occasionally flooded	100	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Restricted permeability Water table
175: Dickinson-----	100	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Wind erosion
175B: Dickinson-----	95	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Water erosion Wind erosion
175C: Dickinson-----	85	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
178: Waukee-----	90	Acid soil Excessive permeability Potential for ground-water contamination
178B: Waukee-----	100	Acid soil Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion
178C: Waukee-----	100	Acid soil Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion
179D2: Gara, moderately eroded-----	80	Potential for surface-water contamination Previously eroded Water erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
179D3: Gara, severely eroded-----	70	Limited content of organic matter Potential poor tilth and compaction Potential for surface-water contamination Previously eroded Surface crusting Water erosion
179E2: Gara, moderately eroded-----	85	Slope Potential for surface-water contamination Previously eroded Water erosion
179E3: Gara, severely eroded-----	75	Slope Limited content of organic matter Potential poor tilth and compaction Potential for surface-water contamination Previously eroded Surface crusting Water erosion
179F2: Gara, moderately eroded-----	85	Slope Potential for surface-water contamination Previously eroded Water erosion
179F3: Gara, severely eroded-----	90	Slope Limited content of organic matter Potential poor tilth and compaction Potential for surface-water contamination Previously eroded Surface crusting Water erosion
180: Keomah-----	95	Acid soil Potential for ground-water contamination Water table
192D2: Adair, moderately eroded-----	75	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
192D3: Adair, severely eroded-----	70	Limited content of organic matter Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Surface crusting Water erosion Water table

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
220: Nodaway, occasionally flooded	85	Flooding Potential for ground-water contamination Potential for surface-water contamination
279: Taintor-----	90	Potential poor tilth and compaction Potential for ground-water contamination Water table
280: Mahaska-----	95	Acid soil Potential poor tilth and compaction Potential for ground-water contamination Water table
281B: Otley-----	100	Acid soil Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Water table
281C: Otley-----	90	Acid soil Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Water table
281C2: Otley, moderately eroded----	85	Acid soil Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
281D2: Otley, moderately eroded----	80	Acid soil Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
281D3: Otley, severely eroded-----	80	Acid soil Limited content of organic matter Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Surface crusting Water erosion Water table

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
281E2: Otley, moderately eroded-----	85	Acid soil Slope Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
291: Atterberry-----	90	Potential for ground-water contamination Water table
293C: Fayette-----	45	Potential for surface-water contamination Water erosion
Chelsea-----	35	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Tell-----	20	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion
293D: Fayette-----	45	Potential for surface-water contamination Water erosion
Chelsea-----	35	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Tell-----	20	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion
293D2: Fayette, moderately eroded---	45	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Chelsea, moderately eroded---	35	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
293D2: Tell, moderately eroded-----	20	Excessive permeability Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
293E: Fayette-----	40	Slope Potential for surface-water contamination Water erosion
Chelsea-----	35	Slope Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Tell-----	25	Slope Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion
293E2: Fayette, moderately eroded---	40	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Chelsea, moderately eroded---	35	Slope Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Tell, moderately eroded-----	25	Slope Excessive permeability Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
293G: Fayette-----	40	Slope Potential for surface-water contamination Water erosion Wind erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
293G: Chelsea-----	35	Slope Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Water erosion Wind erosion
Tell-----	25	Slope Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion
353B: Tell-----	85	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion
353C: Tell-----	90	Excessive permeability Potential for ground-water contamination Potential for surface-water contamination Water erosion
353C2: Tell, moderately eroded-----	90	Excessive permeability Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
353D2: Tell, moderately eroded-----	90	Excessive permeability Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
377B: Dinsdale-----	100	Potential for ground-water contamination Potential for surface-water contamination Water erosion
377C: Dinsdale-----	85	Potential for ground-water contamination Potential for surface-water contamination Water erosion
420: Tama, terrace-----	100	No major considerations
420B: Tama, terrace-----	100	Potential for surface-water contamination Water erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
422: Amana, occasionally flooded--	90	Flooding Potential for ground-water contamination Potential for surface-water contamination Water table
424D2: Lindley, moderately eroded---	50	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
Keswick, moderately eroded---	35	Acid soil Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
424E2: Lindley, moderately eroded---	45	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
Keswick, moderately eroded---	40	Acid soil Slope Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
424E3: Lindley, severely eroded-----	45	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
Keswick, severely eroded-----	40	Acid soil Slope Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
424F2: Lindley, moderately eroded---	65	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
424F2: Keswick, moderately eroded---	25	Acid soil Slope Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
425D2: Keswick, moderately eroded---	90	Acid soil Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
425D3: Keswick, severely eroded----	60	Acid soil Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
428B: Ely-----	95	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Water table
430: Ackmore, occasionally flooded	100	Flooding Potential for ground-water contamination Potential for surface-water contamination Water table
450: Pillot-----	100	Potential for ground-water contamination
450B: Pillot-----	90	Potential for ground-water contamination Potential for surface-water contamination Water erosion
450C: Pillot-----	85	Potential for ground-water contamination Potential for surface-water contamination Water erosion
453: Tuskeego, rarely flooded----	75	Potential for ground-water contamination Restricted permeability Water table
462B: Downs, terrace-----	90	Potential for surface-water contamination Water erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
463B: Fayette, terrace-----	100	Potential for surface-water contamination Water erosion
463C2: Fayette, moderately eroded, terrace-----	90	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
463D2: Fayette, moderately eroded, terrace-----	90	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
463D3: Fayette, severely eroded, terrace-----	80	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
463E2: Fayette, moderately eroded, terrace-----	90	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
463E3: Fayette, severely eroded, terrace-----	90	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
463F2: Fayette, moderately eroded, terrace-----	85	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
463F3: Fayette, severely eroded, terrace-----	90	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
484: Lawson, occasionally flooded	80	Flooding Potential for ground-water contamination Potential for surface-water contamination Water table

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
587: Chequest, occasionally flooded-----	95	Acid soil Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water table
587+: Chequest, occasionally flooded, overwash-----	95	Acid soil Flooding Potential for ground-water contamination Potential for surface-water contamination Water table
626: Hayfield-----	90	Acid soil Excessive permeability Potential for ground-water contamination Water table
663D2: Seaton, moderately eroded----	85	Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
663E2: Seaton, moderately eroded----	85	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
663E3: Seaton, severely eroded-----	80	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
663F2: Seaton, moderately eroded----	80	Slope Limited content of organic matter Potential for surface-water contamination Previously eroded Water erosion
687: Watkins, rarely flooded-----	90	No major considerations
687B: Watkins, rarely flooded-----	100	Potential for surface-water contamination Water erosion
688: Koszta, rarely flooded-----	95	Potential for ground-water contamination Water table

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
771B: Waubek-----	90	Acid soil Potential for ground-water contamination Potential for surface-water contamination Water erosion
771C2: Waubek, moderately eroded---	90	Acid soil Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
792D2: Armstrong, moderately eroded	75	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
876B: Ladoga, terrace-----	90	Acid soil Potential for ground-water contamination Potential for surface-water contamination Water erosion
876C: Ladoga, terrace-----	80	Acid soil Potential for ground-water contamination Potential for surface-water contamination Water erosion
876C2: Ladoga, moderately eroded, terrace-----	85	Acid soil Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
876D2: Ladoga, moderately eroded, terrace-----	90	Acid soil Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
881B: Otley, terrace-----	95	Acid soil Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Water table
911B: Colo-----	55	Potential poor tilth and compaction Potential for ground-water contamination Water erosion Water table

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
911B: Ely-----	35	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water erosion Water table
993D2: Gara, moderately eroded-----	45	Potential for surface-water contamination Previously eroded Water erosion
Armstrong, moderately eroded	35	Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
993E2: Gara, moderately eroded-----	45	Slope Potential for surface-water contamination Previously eroded Water erosion
Armstrong, moderately eroded	40	Slope Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
993F2: Gara, moderately eroded-----	65	Slope Potential for surface-water contamination Previously eroded Water erosion
Armstrong, moderately eroded	25	Slope Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Water table
1160: Walford, terrace-----	95	Acid soil Potential for ground-water contamination Water table
1220: Nodaway, frequently flooded, channeled-----	75	Flooding Channeled Potential for ground-water contamination Potential for surface-water contamination
1291: Atterberry, terrace-----	95	Potential for ground-water contamination Water table

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
1354: Aguents, ponded-----	100	Onsite investigation required
1442B: Tama-----	40	Potential for surface-water contamination Water erosion Wind erosion
Sparta-----	35	Acid soil Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Wind erosion
Pillot-----	20	Potential for ground-water contamination Potential for surface-water contamination Water erosion
1442C: Tama-----	40	Potential for surface-water contamination Water erosion Wind erosion
Sparta-----	35	Acid soil Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Wind erosion
Pillot-----	20	Potential for ground-water contamination Potential for surface-water contamination Water erosion
1442C2: Tama, moderately eroded-----	40	Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Sparta, moderately eroded----	35	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Wind erosion
Pillot, moderately eroded----	20	Limited content of organic matter Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Surface crusting Water erosion
1442D2: Tama, moderately eroded-----	40	Potential for surface-water contamination Previously eroded Water erosion Wind erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
1442D2: Sparta, moderately eroded----	35	Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Pillot, moderately eroded----	20	Limited content of organic matter Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Surface crusting Water erosion
1442E2: Tama, moderately eroded-----	40	Slope Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Sparta, moderately eroded----	35	Slope Excessive permeability Limited available water capacity Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion Wind erosion
Pillot, moderately eroded----	20	Slope Limited content of organic matter Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Previously eroded Surface crusting Water erosion
1540: Quiver, frequently flooded---	40	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water table
Zook, frequently flooded-----	30	Flooding Potential poor tilth and compaction Potential for ground-water contamination Potential for surface-water contamination Water table
Klum, frequently flooded-----	15	Flooding Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Wind erosion

Cropland Management Considerations--Continued

Map symbol and soil name	Pct. of map unit	Cropland management considerations
2219: Ella, rarely flooded-----	70	Potential for ground-water contamination
2219B: Ella, rarely flooded-----	75	Potential for ground-water contamination Potential for surface-water contamination Water erosion
2219C2: Ella, moderately eroded-----	80	Limited content of organic matter Potential for ground-water contamination Potential for surface-water contamination Previously eroded Water erosion
2422: Amana, occasionally flooded--	50	Flooding Potential for ground-water contamination Potential for surface-water contamination Water table
Nodaway, occasionally flooded	30	Flooding Potential for ground-water contamination Potential for surface-water contamination
Lawson, occasionally flooded	20	Flooding Potential for ground-water contamination Potential for surface-water contamination Water table
4946: Udorthents-----	65	Onsite investigation required
Interstate highway-----	30	Not applicable
5010. Pits, sand and gravel		
5040: Udorthents-----	100	Restricted permeability
6220: Nodaway, frequently flooded--	85	Flooding Potential for ground-water contamination Potential for surface-water contamination
6422: Amana, frequently flooded----	90	Flooding Potential for ground-water contamination Potential for surface-water contamination Water table
AW. Animal waste lagoon		
SL. Sewage lagoon		
W. Water		

Crop Yield Estimates

The tables “Land Capability, Corn Suitability Rating, and Yields per Acre of Crops” and “Land Capability and Yields per Acre of Pasture” are described in this section. 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 the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit.

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

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the

soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, or wildlife habitat.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in all soil surveys.

[Reference: United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. USDA Handbook 210.]

Corn Suitability Rating

The corn suitability rating (CSR) system was developed in Iowa to rate the productivity of each different kind of soil for row crops. CSRs provide a relative ranking of all soils mapped in the State of Iowa. They can be used to compare the potential yield production of one soil with that of other soils. Ratings range from 5 to 100. A rating of 5 indicates severe limitations for row crop production. Soil properties and weather conditions are the dominant factors that affect productivity.

Crop Yields

The average yields per acre that can be expected of the principal crops under a high level of management are shown in the table. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors.

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

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

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

Pasture Yields

Some pasture yields are expressed in the table in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

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

Land Capability, Corn Suitability Rating, and Yields per Acre of Crops

(The following crop yield estimates are based on a high level of management and are determined through recent research conducted by Iowa State University. They are for nonirrigated areas. See text for additional information. 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	Corn suitability rating	Corn	Soybeans	Oats
				Bu	Bu	Bu
5B----- Ackmore----- Colo-----	45 35	2w 2w	83	169	45	80
7----- Wiota, rarely flooded	100	1	90	190	52	92
7B----- Wiota, rarely flooded	100	2e	85	187	54	96
8B----- Judson	95	2e	90	197	53	87
24C2----- Shelby, moderately eroded	85	3e	58	153	42	63
24D2----- Shelby, moderately eroded	70	3e	48	144	39	62
24D3----- Shelby, severely eroded	90	4e	45	126	36	60
24E2----- Shelby, moderately eroded	85	4e	38	112	33	54
24E3----- Shelby, severely eroded	95	6e	35	---	---	---
41----- Sparta	100	4s	45	82	27	49
41B----- Sparta	100	4s	40	79	26	47
41C----- Sparta	85	4s	25	74	24	44
41D----- Sparta	75	6s	15	---	---	---
43----- Bremer, rarely flooded	100	2w	82	172	47	83
51----- Vesser, occasionally flooded	95	2w	70	163	44	72
54----- Zook, occasionally flooded	100	2w	70	158	42	69

Land Capability, Corn Suitability Rating, and Yields per Acre of Crops--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Corn suitability rating	Corn	Soybeans	Oats
				Bu	Bu	Bu
54+----- Zook, occasionally flooded, overwash	100	2w	75	162	44	72
63C----- Chelsea	90	4s	36	69	19	34
63E----- Chelsea	95	7s	11	---	---	---
63G----- Chelsea	95	7s	5	---	---	---
65D2----- Lindley, moderately eroded	85	4e	38	93	32	53
65D3----- Lindley, severely eroded	85	6e	35	---	---	---
65E2----- Lindley, moderately eroded	85	6e	28	---	---	---
65E3----- Lindley, severely eroded	85	7e	25	---	---	---
65F----- Lindley	100	7e	10	---	---	---
65F2----- Lindley, moderately eroded	80	7e	8	---	---	---
65F3----- Lindley, severely eroded	90	7e	5	---	---	---
65G----- Lindley	100	7e	5	---	---	---
75----- Givin	95	1	85	183	50	81
76B----- Ladoga	95	2e	85	183	50	81
76C----- Ladoga	85	3e	70	176	48	79
76C2----- Ladoga, moderately eroded	95	3e	65	173	47	76
76D----- Ladoga	90	3e	60	167	45	74
76D2----- Ladoga, moderately eroded	90	3e	55	164	44	72
76D3----- Ladoga, severely eroded	85	4e	50	136	41	67

Land Capability, Corn Suitability Rating, and Yields per Acre of Crops--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Corn suitability rating	Corn	Soybeans	Oats
				Bu	Bu	Bu
76E2----- Ladoga, moderately eroded	70	4e	45	117	38	62
76E3----- Ladoga, severely eroded	85	6e	42	---	---	---
80B----- Clinton	100	2e	80	172	47	76
80C----- Clinton	95	3e	65	166	45	74
80C2----- Clinton, moderately eroded	85	3e	60	162	44	72
80D----- Clinton	90	3e	55	150	42	69
80D2----- Clinton, moderately eroded	85	3e	50	149	41	67
80D3----- Clinton, severely eroded	75	4e	45	130	38	62
80E2----- Clinton, moderately eroded	90	4e	40	126	35	57
80E3----- Clinton, severely eroded	70	6e	35	---	---	---
80F2----- Clinton, moderately eroded	90	6e	20	---	---	---
83B----- Kenyon	75	2e	87	194	48	92
83C----- Kenyon	80	3e	74	187	47	91
83C2----- Kenyon, moderately eroded	85	3e	69	183	45	88
83D2----- Kenyon, moderately eroded	80	3e	58	173	43	83
88----- Nevin, rarely flooded	90	1	92	198	55	98
93D2----- Shelby, moderately eroded-----	50	3e	35	116	39	62
Adair, moderately eroded	35	4e				

Land Capability, Corn Suitability Rating, and Yields per Acre of Crops--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Corn suitability rating	Corn	Soybeans	Oats
				Bu	Bu	Bu
93D3----- Shelby, severely eroded	50	4e	20	97	36	41
Adair, severely eroded--	30	6e				
93E2----- Shelby, moderately eroded-----	60	4e	15	82	23	34
Adair, moderately eroded	35	6e				
119----- Muscatine	95	1	100	210	57	102
120B----- Tama	95	2e	95	206	56	100
120C----- Tama	85	3e	80	200	54	95
120C2----- Tama, moderately eroded	75	3e	78	196	53	95
120D2----- Tama, moderately eroded	85	3e	68	184	50	88
120D3----- Tama, severely eroded	80	4e	65	176	47	85
120E2----- Tama, moderately eroded	80	4e	58	146	44	79
122----- Sperry	95	3w	63	155	42	68
133----- Colo, occasionally flooded	90	2w	80	170	46	75
133+----- Colo, occasionally flooded, overwash	90	2w	85	173	47	77
162B----- Downs	95	2e	90	195	53	92
162C----- Downs	85	3e	75	190	51	92
162C2----- Downs, moderately eroded	85	3e	73	184	50	86
162D2----- Downs, moderately eroded	85	3e	63	181	47	81
162D3----- Downs, severely eroded	80	4e	60	165	44	79
162E2----- Downs, moderately eroded	75	4e	53	139	44	71
162E3----- Downs, severely eroded	75	6e	50	---	---	---

Land Capability, Corn Suitability Rating, and Yields per Acre of Crops--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Corn suitability rating	Corn	Soybeans	Oats
				Bu	Bu	Bu
163B----- Fayette	95	2e	85	184	50	89
163C----- Fayette	90	3e	70	178	48	86
163C2----- Fayette, moderately eroded	85	3e	68	173	47	84
163D----- Fayette	85	3e	60	168	45	81
163D2----- Fayette, moderately eroded	65	3e	58	153	44	79
163D3----- Fayette, severely eroded	60	4e	55	140	41	74
163E----- Fayette	75	4e	50	134	40	71
163E2----- Fayette, moderately eroded	70	4e	48	122	38	68
163E3----- Fayette, severely eroded	70	6e	45	---	---	---
163F----- Fayette	75	6e	30	---	---	---
163F2----- Fayette, moderately eroded	70	6e	28	---	---	---
163F3----- Fayette, severely eroded	70	6e	25	---	---	---
163G----- Fayette	85	7e	20	---	---	---
165----- Stronghurst	95	1	90	169	48	86
171C2----- Bassett, moderately eroded	85	3e	63	172	42	83
171D2----- Bassett, moderately eroded	80	3e	53	165	39	77
171D3----- Bassett, severely eroded	75	3e	50	161	37	73
171E2----- Bassett, moderately eroded	80	4e	43	136	34	67

Land Capability, Corn Suitability Rating, and Yields per Acre of Crops--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Corn suitability rating	Corn	Soybeans	Oats
				Bu	Bu	Bu
171E3----- Bassett, severely eroded	75	6e	40	---	---	---
172----- Wabash, occasionally flooded	100	3w	45	86	29	47
175----- Dickinson	100	3s	60	112	38	67
175B----- Dickinson	95	3e	55	111	37	65
175C----- Dickinson	85	3e	40	103	35	62
178----- Waukee	90	2s	79	124	69	42
178B----- Waukee	100	2e	74	122	40	67
178C----- Waukee	100	3e	54	117	39	64
179D2----- Gara, moderately eroded	80	4e	43	134	36	58
179D3----- Gara, severely eroded	70	6e	40	---	---	---
179E2----- Gara, moderately eroded	85	6e	33	---	---	---
179E3----- Gara, severely eroded	75	6e	30	---	---	---
179F2----- Gara, moderately eroded	85	7e	13	---	---	---
179F3----- Gara, severely eroded	90	7e	10	---	---	---
180----- Keomah	95	2w	76	163	44	72
192D2----- Adair, moderately eroded	75	4e	15	78	18	29
192D3----- Adair, severely eroded	70	6e	12	---	---	---
220----- Nodaway, occasionally flooded	85	2w	87	193	53	84
279----- Taintor	90	2w	88	191	52	85
280----- Mahaska	95	1	95	203	55	91

Land Capability, Corn Suitability Rating, and Yields per Acre of Crops--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Corn suitability rating	Corn	Soybeans	Oats
				Bu	Bu	Bu
281B----- Otley	100	2e	90	195	53	87
281C----- Otley	90	3e	75	189	51	84
281C2----- Otley, moderately eroded	85	3e	70	184	50	82
281D2----- Otley, moderately eroded	80	3e	60	168	47	77
281D3----- Otley, severely eroded	80	4e	55	153	44	73
281E2----- Otley, moderately eroded	85	4e	50	152	41	68
291----- Atterberry	90	1	95	185	49	87
293C----- Fayette----- Chelsea----- Tell-----	45 35 20	3e 4s 3e	40	124	34	60
293D----- Fayette----- Chelsea----- Tell-----	45 35 20	3e 6s 3e	30	97	30	55
293D2----- Fayette, moderately eroded----- Chelsea, moderately eroded----- Tell, moderately eroded	45 35 20	3e 6s 4e	28	94	29	53
293E----- Fayette----- Chelsea----- Tell-----	40 35 25	4e 7s 4e	20	58	16	28
293E2----- Fayette, moderately eroded----- Chelsea, moderately eroded----- Tell, moderately eroded	40 35 25	4e 7s 4e	18	56	15	27
293G----- Fayette----- Chelsea----- Tell-----	40 35 25	7e 7s 6e	5	---	---	---
353B----- Tell	85	2e	58	127	42	74
353C----- Tell	90	3e	38	125	40	71

Land Capability, Corn Suitability Rating, and Yields per Acre of Crops--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Corn suitability rating	Corn	Soybeans	Oats
				Bu	Bu	Bu
353C2----- Tell, moderately eroded	90	3e	33	121	39	69
353D2----- Tell, moderately eroded	90	4e	18	112	36	64
377B----- Dinsdale	100	2e	90	198	54	96
377C----- Dinsdale	85	3e	75	187	52	93
420----- Tama, terrace	100	1	100	210	57	102
420B----- Tama, terrace	100	2e	95	206	56	100
422----- Amana, occasionally flooded	90	2w	85	181	49	80
424D2----- Lindley, moderately eroded----- Keswick, moderately eroded-----	50 35	4e 4e	15	92	29	48
424E2----- Lindley, moderately eroded----- Keswick, moderately eroded-----	45 40	6e 6e	5	---	---	---
424E3----- Lindley, severely eroded Keswick, severely eroded	45 40	7e 7e	5	---	---	---
424F2----- Lindley, moderately eroded----- Keswick, moderately eroded-----	65 25	7e 7e	5	---	---	---
425D2----- Keswick, moderately eroded	90	4e	12	59	18	30
425D3----- Keswick, severely eroded	60	6e	9	---	---	---
428B----- Ely	95	2e	88	196	53	87
430----- Ackmore, occasionally flooded	100	2w	83	174	47	78
450----- Pillot	100	2e	73	150	50	90

Land Capability, Corn Suitability Rating, and Yields per Acre of Crops--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Corn suitability rating	Corn	Soybeans	Oats
				Bu	Bu	Bu
450B----- Pillot	90	2e	68	155	48	85
450C----- Pillot	85	3e	53	152	45	80
453----- Tuskeego, rarely flooded	75	3w	53	141	35	58
462B----- Downs, terrace	90	2e	90	196	51	92
463B----- Fayette, terrace	100	2e	85	184	50	89
463C2----- Fayette, moderately eroded, terrace	90	3e	68	174	47	84
463D2----- Fayette, moderately eroded, terrace	90	3e	58	161	44	79
463D3----- Fayette, severely eroded, terrace	80	4e	55	154	44	79
463E2----- Fayette, moderately eroded, terrace	90	4e	48	127	38	68
463E3----- Fayette, severely eroded, terrace	90	6e	45	---	---	---
463F2----- Fayette, moderately eroded, terrace	85	6e	28	---	---	---
463F3----- Fayette, severely eroded, terrace	90	6e	25	---	---	---
484----- Lawson, occasionally flooded	80	2w	90	191	53	94
587----- Chequest, occasionally flooded	95	2w	65	123	40	66
587+----- Chequest, occasionally flooded, overwash	95	2w	67	154	42	68
626----- Hayfield	90	2s	67	118	37	72
663D2----- Seaton, moderately eroded	85	3e	58	128	44	79

Land Capability, Corn Suitability Rating, and Yields per Acre of Crops--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Corn suitability rating	Corn	Soybeans	Oats
				Bu	Bu	Bu
663E2----- Seaton, moderately eroded	85	4e	48	114	38	68
663E3----- Seaton, severely eroded	80	6e	45	---	---	---
663F2----- Seaton, moderately eroded	80	6e	28	---	---	---
687----- Watkins, rarely flooded	90	1	85	190	52	83
687B----- Watkins, rarely flooded	100	2e	80	187	51	83
688----- Koszta, rarely flooded	95	1	85	190	52	85
771B----- Waubeeek	90	2e	85	192	52	93
771C2----- Waubeeek, moderately eroded	90	3e	68	177	48	85
792D2----- Armstrong, moderately eroded	75	4e	13	77	21	34
876B----- Ladoga, terrace	90	2e	85	183	50	81
876C----- Ladoga, terrace	80	3e	70	178	48	79
876C2----- Ladoga, moderately eroded, terrace	85	3e	65	173	47	76
876D2----- Ladoga, moderately eroded, terrace	90	3e	55	164	44	72
881B----- Otley, terrace	95	2e	90	195	53	86
911B----- Colo----- Ely-----	55 35	2w 2e	68	180	46	82
993D2----- Gara, moderately eroded Armstrong, moderately eroded-----	45 35	4e 4e	20	106	36	58
993E2----- Gara, moderately eroded Armstrong, moderately eroded-----	45 40	6e 6e	10	---	---	---

Land Capability, Corn Suitability Rating, and Yields per Acre of Crops--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Corn suitability rating	Corn	Soybeans	Oats
				Bu	Bu	Bu
993F2----- Gara, moderately eroded Armstrong, moderately eroded-----	65 25	7e 7e	5	---	---	---
1160----- Walford, terrace	95	2w	63	155	42	74
1220----- Nodaway, frequently flooded, channeled	75	5w	25	---	---	---
1291----- Atterberry, terrace	95	1	95	189	51	92
1354----- Aguents, ponded	100	7w	5	---	---	---
1442B----- Tama----- Sparta----- Pillot-----	40 35 20	2e 4s 2e	70	145	49	100
1442C----- Tama----- Sparta----- Pillot-----	40 35 20	3e 4s 3e	60	139	43	76
1442C2----- Tama, moderately eroded Sparta, moderately eroded----- Pillot, moderately eroded-----	40 35 20	3e 4s 3e	58	135	46	83
1442D2----- Tama, moderately eroded Sparta, moderately eroded----- Pillot, moderately eroded-----	40 35 20	3e 6s 3e	43	104	43	77
1442E2----- Tama, moderately eroded Sparta, moderately eroded----- Pillot, moderately eroded-----	40 35 20	4e 6s 4e	38	104	30	50
1540----- Quiver, frequently flooded----- Zook, frequently flooded Klum, frequently flooded	40 30 15	5w 5w 5w	5	---	---	---
2219----- Ella, rarely flooded	70	1	82	175	48	86
2219B----- Ella, rarely flooded	75	2e	78	167	46	85

Land Capability, Corn Suitability Rating, and Yields per Acre of Crops--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Corn suitability rating	Corn	Soybeans	Oats
				Bu	Bu	Bu
2219C2----- Ella, moderately eroded	80	3e	58	156	43	79
2422----- Amana, occasionally flooded-----	50	2w	57	187	43	77
Nodaway, occasionally flooded-----	30	2w				
Lawson, occasionally flooded-----	20	2w				
4946. Udorthents-Interstate highway						
5010. Pits, sand and gravel						
5040. Udorthents						
6220----- Nodaway, frequently flooded	85	4w	35	---	---	---
6422----- Amana, frequently flooded	90	4w	51	---	---	---
AW. Animal waste lagoon						
SL. Sewage lagoon						
W. Water						

Land Capability and Yields per Acre of Pasture

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

Map symbol and soil name	Pct. of map unit	Land capability	Brome-grass-	Smooth	Kentucky	Brome-grass-
			alfalfa hay	brome-grass	bluegrass	alfalfa
			Tons	AUM*	AUM*	AUM*
5B----- Ackmore----- Colo-----	45 35	2w 2w	4.0	5.5	3.3	7.1
7----- Wiota, rarely flooded	100	1	6.5	6.3	3.8	11.4
7B----- Wiota, rarely flooded	100	2e	6.7	6.6	3.9	11.2
8B----- Judson	95	2e	6.7	6.5	3.9	11.2
24C2----- Shelby, moderately eroded	85	3e	5.2	5.1	3.1	8.7
24D2----- Shelby, moderately eroded	70	3e	4.8	4.7	2.8	8.1
24D3----- Shelby, severely eroded	90	4e	4.8	4.7	2.8	8.1
24E2----- Shelby, moderately eroded	85	4e	4.1	4.0	2.4	6.9
24E3----- Shelby, severely eroded	95	6e	4.1	4.0	2.4	6.9
41----- Sparta	100	4s	3.4	3.3	2.0	3.5
41B----- Sparta	100	4s	3.3	3.2	1.9	3.5
41C----- Sparta	85	4s	3.1	3.0	1.8	3.2
41D----- Sparta	75	6s	2.6	2.5	1.6	2.6
43----- Bremer, rarely flooded	100	2w	4.2	5.7	3.4	7.0
51----- Vesser, occasionally flooded	95	2w	5.2	5.3	3.2	6.5
54----- Zook, occasionally flooded	100	2w	3.8	5.2	3.1	6.8

See footnote at end of table.

Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Bromegrass-	Smooth	Kentucky	Bromegrass-
			alfalfa hay	bromegrass	bluegrass	alfalfa
			Tons	AUM*	AUM*	AUM*
54+----- Zook, occasionally flooded, overwash	100	2w	3.9	5.2	3.2	7.0
63C----- Chelsea	90	4s	2.4	2.3	1.4	5.0
63E----- Chelsea	95	7s	2.3	2.2	1.3	3.8
63G----- Chelsea	95	7s	1.6	1.6	1.0	3.8
65D2----- Lindley, moderately eroded	85	4e	4.2	4.0	2.4	6.7
65D3----- Lindley, severely eroded	85	6e	3.7	3.6	2.2	6.2
65E2----- Lindley, moderately eroded	85	6e	3.3	3.3	2.0	5.6
65E3----- Lindley, severely eroded	85	7e	---	3.1	1.8	5.1
65F----- Lindley	100	7e	---	3.0	1.8	4.8
65F2----- Lindley, moderately eroded	80	7e	---	2.9	1.7	4.5
65F3----- Lindley, severely eroded	90	7e	---	2.8	1.5	4.0
65G----- Lindley	100	7e	---	2.8	1.7	3.0
75----- Givin	95	1	5.9	6.1	3.6	9.9
76B----- Ladoga	95	2e	6.2	6.1	3.6	10.4
76C----- Ladoga	85	3e	6.0	5.9	3.5	10.0
76C2----- Ladoga, moderately eroded	95	3e	5.8	5.7	3.4	9.8
76D----- Ladoga	90	3e	5.7	5.6	3.3	9.4
76D2----- Ladoga, moderately eroded	90	3e	5.5	5.3	3.2	9.1

See footnote at end of table.

Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Bromegrass-	Smooth	Kentucky	Bromegrass-
			alfalfa hay	bromegrass	bluegrass	alfalfa
			Tons	AUM*	AUM*	AUM*
76D3----- Ladoga, severely eroded	85	4e	5.5	5.4	3.2	9.1
76E2----- Ladoga, moderately eroded	70	4e	4.6	4.5	2.7	7.9
76E3----- Ladoga, severely eroded	85	6e	4.6	4.5	2.7	7.9
80B----- Clinton	100	2e	5.8	5.7	3.4	9.8
80C----- Clinton	95	3e	5.6	5.5	3.3	9.4
80C2----- Clinton, moderately eroded	85	3e	5.5	5.3	3.2	9.1
80D----- Clinton	90	3e	5.3	5.1	3.1	8.8
80D2----- Clinton, moderately eroded	85	3e	5.1	5.0	3.0	8.5
80D3----- Clinton, severely eroded	75	4e	4.7	4.6	2.8	7.9
80E2----- Clinton, moderately eroded	90	4e	4.5	4.4	2.7	7.3
80E3----- Clinton, severely eroded	70	6e	4.5	4.4	2.7	7.3
80F2----- Clinton, moderately eroded	90	6e	4.5	4.4	2.7	7.3
83B----- Kenyon	75	2e	6.6	6.4	3.8	10.9
83C----- Kenyon	80	3e	6.3	6.2	3.7	10.6
83C2----- Kenyon, moderately eroded	85	3e	6.2	6.0	3.6	10.3
83D2----- Kenyon, moderately eroded	80	3e	5.8	5.7	3.4	9.7
88----- Nevin, rarely flooded	90	1	6.5	6.7	4.0	10.9

See footnote at end of table.

Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Bromegrass-	Smooth	Kentucky	Bromegrass-
			alfalfa hay	bromegrass	bluegrass	alfalfa
			Tons	AUM*	AUM*	AUM*
93D2----- Shelby, moderately eroded----- Adair, moderately eroded	50 35	3e 4e	4.6	4.7	2.8	8.1
93D3----- Shelby, severely eroded Adair, severely eroded--	50 30	4e 6e	3.0	3.1	1.8	7.4
93E2----- Shelby, moderately eroded----- Adair, moderately eroded	60 35	4e 6e	3.1	3.2	1.9	6.9
119----- Muscatine	95	1	6.8	7.0	4.2	11.4
120B----- Tama	95	2e	7.0	6.8	4.1	11.7
120C----- Tama	85	3e	6.7	6.6	3.9	11.4
120C2----- Tama, moderately eroded	75	3e	6.6	6.5	3.9	11.1
120D2----- Tama, moderately eroded	85	3e	6.1	6.0	3.6	10.5
120D3----- Tama, severely eroded	80	4e	5.9	5.8	3.5	9.9
120E2----- Tama, moderately eroded	80	4e	5.5	5.4	3.2	9.3
122----- Sperry	95	3w	3.7	5.1	3.1	6.2
133----- Colo, occasionally flooded	90	2w	4.1	5.6	3.3	6.8
133+----- Colo, occasionally flooded, overwash	90	2w	4.2	5.7	3.4	7.0
162B----- Downs	95	2e	6.4	6.3	3.8	11.1
162C----- Downs	85	3e	6.4	6.3	3.8	10.7
162C2----- Downs, moderately eroded	85	3e	6.0	5.9	3.5	10.5
162D2----- Downs, moderately eroded	85	3e	5.7	5.5	3.3	9.8

See footnote at end of table.

Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Bromegrass-	Smooth	Kentucky	Bromegrass-
			alfalfa hay	bromegrass	bluegrass	alfalfa
			Tons	AUM*	AUM*	AUM*
162D3----- Downs, severely eroded	80	4e	5.5	5.4	3.2	9.3
162E2----- Downs, moderately eroded	75	4e	5.0	4.9	2.9	8.6
162E3----- Downs, severely eroded	75	6e	4.8	4.7	2.8	8.1
163B----- Fayette	95	2e	6.3	6.1	3.7	10.5
163C----- Fayette	90	3e	6.0	5.9	3.5	10.1
163C2----- Fayette, moderately eroded	85	3e	5.9	5.7	3.4	9.8
163D----- Fayette	85	3e	5.7	5.5	3.3	9.5
163D2----- Fayette, moderately eroded	65	3e	5.5	5.4	3.2	9.2
163D3----- Fayette, severely eroded	60	4e	5.2	5.0	3.0	8.6
163E----- Fayette	75	4e	5.0	4.8	2.9	8.3
163E2----- Fayette, moderately eroded	70	4e	4.8	4.7	2.8	8.0
163E3----- Fayette, severely eroded	70	6e	4.5	4.3	2.6	7.4
163F----- Fayette	75	6e	4.5	4.7	2.8	7.6
163F2----- Fayette, moderately eroded	70	6e	4.4	4.3	2.6	7.3
163F3----- Fayette, severely eroded	70	6e	4.0	3.9	2.4	6.7
163G----- Fayette	85	7e	---	4.2	2.5	7.2
165----- Stronghurst	95	1	5.4	5.3	3.3	9.3
171C2----- Bassett, moderately eroded	85	3e	5.8	5.7	3.4	9.4

See footnote at end of table.

Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Bromegrass-	Smooth	Kentucky	Bromegrass-
			alfalfa hay	bromegrass	bluegrass	alfalfa
			Tons	AUM*	AUM*	AUM*
171D2----- Bassett, moderately eroded	80	3e	5.4	5.3	3.2	8.9
171D3----- Bassett, severely eroded	75	3e	5.4	5.3	3.2	8.9
171E2----- Bassett, moderately eroded	80	4e	4.7	4.6	2.8	7.7
171E3----- Bassett, severely eroded	75	6e	4.7	4.6	2.8	7.7
172----- Wabash, occasionally flooded	100	3w	2.6	2.5	2.1	6.0
175----- Dickinson	100	3s	4.8	4.7	2.8	7.9
175B----- Dickinson	95	3e	4.7	4.6	2.7	7.7
175C----- Dickinson	85	3e	4.5	4.3	2.6	7.3
178----- Waukee	90	2s	5.7	5.5	3.3	9.3
178B----- Waukee	100	2e	5.4	5.3	3.2	9.0
178C----- Waukee	100	3e	5.4	5.3	3.2	9.0
179D2----- Gara, moderately eroded	80	4e	4.5	4.3	2.6	7.4
179D3----- Gara, severely eroded	70	6e	4.1	4.0	2.4	6.9
179E2----- Gara, moderately eroded	85	6e	3.7	3.6	2.2	2.2
179E3----- Gara, severely eroded	75	6e	3.4	3.3	2.0	5.7
179F2----- Gara, moderately eroded	85	7e	---	3.0	1.8	5.4
179F3----- Gara, severely eroded	90	7e	---	2.7	1.6	5.3
180----- Keomah	95	2w	5.2	5.4	3.2	8.8
192D2----- Adair, moderately eroded	75	4e	2.1	2.2	1.3	4.6

See footnote at end of table.

Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Bromegrass-	Smooth	Kentucky	Bromegrass-
			alfalfa hay	bromegrass	bluegrass	alfalfa
			Tons	AUM*	AUM*	AUM*
192D3----- Adair, severely eroded	70	6e	1.3	1.4	0.8	3.6
220----- Nodaway, occasionally flooded	85	2w	6.4	6.3	3.8	10.7
279----- Taintor	90	2w	4.7	6.4	3.8	7.8
280----- Mahaska	95	1	6.6	6.8	4.1	11.0
281B----- Otley	100	2e	6.6	6.4	3.9	11.0
281C----- Otley	90	3e	6.4	6.2	3.7	10.7
281C2----- Otley, moderately eroded	85	3e	6.2	6.1	3.6	10.4
281D2----- Otley, moderately eroded	80	3e	5.8	5.7	3.4	9.8
281D3----- Otley, severely eroded	80	4e	5.5	5.4	3.2	9.2
281E2----- Otley, moderately eroded	85	4e	5.8	5.7	3.4	9.8
291----- Atterberry	90	1	5.8	5.7	3.6	9.3
293C----- Fayette----- Chelsea----- Tell-----	45 35 20	3e 4s 3e	2.7	3.6	2.1	4.4
293D----- Fayette----- Chelsea----- Tell-----	45 35 20	3e 6s 3e	1.6	3.2	1.9	3.8
293D2----- Fayette, moderately eroded----- Chelsea, moderately eroded----- Tell, moderately eroded	45 35 20	3e 6s 4e	3.7	3.6	2.1	3.6
293E----- Fayette----- Chelsea----- Tell-----	40 35 25	4e 7s 4e	2.7	2.7	1.6	3.4

See footnote at end of table.

Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Bromegrass-	Smooth	Kentucky	Bromegrass-
			alfalfa hay	bromegrass	bluegrass	alfalfa
			Tons	AUM*	AUM*	AUM*
293E2----- Fayette, moderately eroded----- Chelsea, moderately eroded----- Tell, moderately eroded	40 35 25	4e 7s 4e	3.0	2.9	1.7	2.6
293G----- Fayette----- Chelsea----- Tell-----	40 35 25	7e 7s 6e	---	---	1.8	5.5
353B----- Tell	85	2e	5.3	5.2	3.1	3.5
353C----- Tell	90	3e	5.1	5.0	3.0	3.4
353C2----- Tell, moderately eroded	90	3e	4.8	4.6	2.8	3.3
353D2----- Tell, moderately eroded	90	4e	4.5	4.4	2.6	3.1
377B----- Dinsdale	100	2e	6.7	6.6	3.9	11.2
377C----- Dinsdale	85	3e	6.5	6.4	3.8	10.9
420----- Tama, terrace	100	1	7.1	7.0	4.2	11.9
420B----- Tama, terrace	100	2e	7.0	6.8	4.1	11.7
422----- Amana, occasionally flooded	90	2w	5.8	5.9	3.6	9.7
424D2----- Lindley, moderately eroded----- Keswick, moderately eroded-----	50 35	4e 4e	3.6	3.8	2.1	5.3
424E2----- Lindley, moderately eroded----- Keswick, moderately eroded-----	45 40	6e 6e	2.1	2.3	1.3	4.2
424E3----- Lindley, severely eroded Keswick, severely eroded	45 40	7e 7e	---	2.3	1.3	2.6
424F2----- Lindley, moderately eroded----- Keswick, moderately eroded-----	65 25	7e 7e	---	2.1	1.3	2.2

See footnote at end of table.

Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Brome-grass-	Smooth	Kentucky	Brome-grass-
			alfalfa hay	brome-grass	bluegrass	alfalfa
			Tons	AUM*	AUM*	AUM*
425D2----- Keswick, moderately eroded	90	4e	2.3	2.3	1.4	3.9
425D3----- Keswick, severely eroded	60	6e	1.5	1.4	0.9	2.5
428B----- Ely	95	2e	6.4	6.5	3.9	10.6
430----- Ackmore, occasionally flooded	100	2w	4.2	4.1	3.5	7.1
450----- Pillot	100	2e	6.6	6.5	3.9	7.1
450B----- Pillot	90	2e	6.4	6.3	3.7	7.1
450C----- Pillot	85	3e	6.2	6.1	3.6	6.5
453----- Tuskeego, rarely flooded	75	3w	3.2	4.3	2.6	5.3
462B----- Downs, terrace	90	2e	6.4	6.3	3.8	11.1
463B----- Fayette, terrace	100	2e	6.3	6.1	3.7	10.5
463C2----- Fayette, moderately eroded, terrace	90	3e	5.9	5.7	3.4	9.8
463D2----- Fayette, moderately eroded, terrace	90	3e	5.5	5.4	3.2	9.2
463D3----- Fayette, severely eroded, terrace	80	4e	5.5	5.4	3.2	9.2
463E2----- Fayette, moderately eroded, terrace	90	4e	4.8	4.7	2.8	8.0
463E3----- Fayette, severely eroded, terrace	90	6e	4.8	4.7	2.8	8.0
463F2----- Fayette, moderately eroded, terrace	85	6e	4.4	4.3	2.6	7.3
463F3----- Fayette, severely eroded, terrace	90	6e	4.4	4.3	2.6	7.3

See footnote at end of table.

Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Bromegrass-	Smooth	Kentucky	Bromegrass-
			alfalfa hay	bromegrass	bluegrass	alfalfa
			Tons	AUM*	AUM*	AUM*
484----- Lawson, occasionally flooded	80	2w	6.3	6.2	3.9	4.0
587----- Chequest, occasionally flooded	95	2w	3.6	4.9	3.0	6.0
587+----- Chequest, occasionally flooded, overwash	95	2w	3.6	5.1	3.1	6.0
626----- Hayfield	90	2s	4.8	4.9	2.9	8.0
663D2----- Seaton, moderately eroded	85	3e	5.5	5.4	3.2	7.1
663E2----- Seaton, moderately eroded	85	4e	4.8	4.7	2.8	6.9
663E3----- Seaton, severely eroded	80	6e	4.5	4.4	2.4	6.1
663F2----- Seaton, moderately eroded	80	6e	4.3	4.2	2.0	5.7
687----- Watkins, rarely flooded	90	1	6.3	6.2	3.7	10.6
687B----- Watkins, rarely flooded	100	2e	6.3	6.2	3.7	10.6
688----- Koszta, rarely flooded	95	1	6.2	6.3	3.8	10.3
771B----- Waubeeek	90	2e	6.5	6.4	3.8	10.9
771C2----- Waubeeek, moderately eroded	90	3e	6.0	5.8	3.5	10.0
792D2----- Armstrong, moderately eroded	75	4e	2.6	2.5	1.5	1.9
876B----- Ladoga, terrace	90	2e	6.2	6.1	3.6	10.4
876C----- Ladoga, terrace	80	3e	6.0	5.9	3.5	10.0
876C2----- Ladoga, moderately eroded, terrace	85	3e	5.8	5.7	3.4	9.8

See footnote at end of table.

Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Bromegrass-	Smooth	Kentucky	Bromegrass-
			alfalfa hay	bromegrass	bluegrass	alfalfa
			Tons	AUM*	AUM*	AUM*
876D2----- Ladoga, moderately eroded, terrace	90	3e	5.5	5.3	3.2	9.1
881B----- Otley, terrace	95	2e	6.6	6.4	3.9	11.0
911B----- Colo----- Ely-----	55 35	2w 2e	4.1	5.6	3.3	7.0
993D2----- Gara, moderately eroded Armstrong, moderately eroded-----	45 35	4e 4e	4.5	4.4	2.6	7.4
993E2----- Gara, moderately eroded Armstrong, moderately eroded-----	45 40	6e 6e	3.8	3.7	2.2	6.2
993F2----- Gara, moderately eroded Armstrong, moderately eroded-----	65 25	7e 7e	---	3.0	1.5	5.0
1160----- Walford, terrace	95	2w	3.7	5.1	3.1	6.4
1220----- Nodaway, frequently flooded, channeled	75	5w	4.2	6.2	2.0	7.0
1291----- Atterberry, terrace	95	1	6.1	6.0	3.9	9.3
1354----- Aquents, ponded	100	7w	---	---	---	---
1442B----- Tama----- Sparta----- Pillot-----	40 35 20	2e 4s 2e	6.1	6.0	3.6	11.7
1442C----- Tama----- Sparta----- Pillot-----	40 35 20	3e 4s 3e	5.3	5.2	3.1	7.3
1442C2----- Tama, moderately eroded Sparta, moderately eroded----- Pillot, moderately eroded-----	40 35 20	3e 4s 3e	5.8	5.7	3.4	11.1

See footnote at end of table.

Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Bromegrass-	Smooth	Kentucky	Bromegrass-
			alfalfa hay	bromegrass	bluegrass	alfalfa
			Tons	AUM*	AUM*	AUM*
1442D2----- Tama, moderately eroded	40	3e	5.4	5.3	3.2	10.5
Sparta, moderately eroded-----	35	6s				
Pillot, moderately eroded-----	20	3e				
1442E2----- Tama, moderately eroded	40	4e	3.8	3.7	2.2	8.6
Sparta, moderately eroded-----	35	6s				
Pillot, moderately eroded-----	20	4e				
1540----- Quiver, frequently flooded-----	40	5w	---	---	2.0	---
Zook, frequently flooded	30	5w				
Klum, frequently flooded	15	5w				
2219----- Ella, rarely flooded	70	1	6.0	5.9	3.5	4.0
2219B----- Ella, rarely flooded	75	2e	5.9	5.8	3.5	3.8
2219C2----- Ella, moderately eroded	80	3e	5.5	5.4	3.2	3.6
2422----- Amana, occasionally flooded-----	50	2w	5.1	5.0	2.0	---
Nodaway, occasionally flooded-----	30	2w				
Lawson, occasionally flooded-----	20	2w				
4946. Udorthents-Interstate highway						
5010. Pits, sand and gravel						
5040. Udorthents						
6220----- Nodaway, frequently flooded	85	4w	---	---	2.0	---
6422----- Amana, frequently flooded	90	4w	---	---	2.0	---
AW. Animal waste lagoon						

See footnote at end of table.

Land Capability and Yields per Acre of Pasture--Continued

Map symbol and soil name	Pct. of map unit	Land capability	Bromegrass- alfalfa hay Tons	Smooth bromegrass AUM*	Kentucky bluegrass AUM*	Bromegrass- alfalfa AUM*
SL. Sewage lagoon						
W. Water						

* Animal unit month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Prime Farmland

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in the table "Prime Farmland" at the end of this section. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

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 map unit name)

Map symbol	Map unit name
5B	Ackmore-Colo complex, 2 to 5 percent slopes (where drained)
7	Wiota silty clay loam, 0 to 2 percent slopes, rarely flooded
7B	Wiota silty clay loam, 2 to 5 percent slopes, rarely flooded
8B	Judson silty clay loam, 2 to 5 percent slopes
41	Sparta loamy fine sand, 0 to 2 percent slopes (where irrigated)
41B	Sparta loamy fine sand, 2 to 5 percent slopes (where irrigated)
43	Bremer silty clay loam, 0 to 2 percent slopes, rarely flooded (where drained)
51	Vesser silt loam, 0 to 2 percent slopes, occasionally flooded (where drained)
54	Zook silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
54+	Zook silt loam, 0 to 2 percent slopes, occasionally flooded, overwash (where drained and either protected from flooding or not frequently flooded during the growing season)
75	Givin silt loam, 0 to 2 percent slopes
76B	Ladoga silt loam, 2 to 5 percent slopes
80B	Clinton silt loam, 2 to 5 percent slopes
83B	Kenyon loam, 2 to 5 percent slopes
88	Nevin silty clay loam, 0 to 2 percent slopes, rarely flooded
119	Muscatine silty clay loam, 0 to 2 percent slopes
120B	Tama silty clay loam, 2 to 5 percent slopes
122	Sperry silt loam, 0 to 1 percent slopes, depressionnal (where drained)
133	Colo silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
133+	Colo silt loam, 0 to 2 percent slopes, occasionally flooded, overwash (where drained and either protected from flooding or not frequently flooded during the growing season)
162B	Downs silt loam, 2 to 5 percent slopes
163B	Fayette silt loam, 2 to 5 percent slopes
165	Stronghurst silt loam, 0 to 2 percent slopes
175	Dickinson fine sandy loam, 0 to 2 percent slopes
175B	Dickinson fine sandy loam, 2 to 5 percent slopes
178	Waukee loam, 0 to 2 percent slopes
178B	Waukee loam, 2 to 5 percent slopes
180	Keomah silt loam, 0 to 2 percent slopes
220	Nodaway silt loam, 0 to 2 percent slopes, occasionally flooded (where protected from flooding or not frequently flooded during the growing season)
279	Taintor silty clay loam, 0 to 2 percent slopes (where drained)
280	Mahaska silty clay loam, 0 to 2 percent slopes
281B	Otley silty clay loam, 2 to 5 percent slopes
291	Atterberry silt loam, 0 to 2 percent slopes
353B	Tell silt loam, 2 to 5 percent slopes
377B	Dinsdale silty clay loam, 2 to 5 percent slopes
420	Tama silty clay loam, terrace, 0 to 2 percent slopes
420B	Tama silty clay loam, terrace, 2 to 5 percent slopes
422	Amana silt loam, 0 to 2 percent slopes, occasionally flooded (where protected from flooding or not frequently flooded during the growing season)
428B	Ely silty clay loam, 2 to 5 percent slopes
430	Ackmore silt loam, 0 to 2 percent slopes, occasionally flooded (where protected from flooding or not frequently flooded during the growing season)
450	Pillot silt loam, 0 to 2 percent slopes
450B	Pillot silt loam, 2 to 5 percent slopes
453	Tuskeego silt loam, 0 to 2 percent slopes, rarely flooded (where drained)
462B	Downs silt loam, terrace, 2 to 5 percent slopes
463B	Fayette silt loam, terrace, 2 to 5 percent slopes
484	Lawson silt loam, 0 to 2 percent slopes, occasionally flooded (where protected from flooding or not frequently flooded during the growing season)
587	Chequest silty clay loam, 0 to 2 percent slopes, occasionally flooded (where drained and either protected from flooding or not frequently flooded during the growing season)
587+	Chequest silt loam, 0 to 2 percent slopes, occasionally flooded, overwash (where drained and either protected from flooding or not frequently flooded during the growing season)

Prime Farmland--Continued

Map symbol	Map unit name
626	Hayfield silt loam, 0 to 2 percent slopes
687	Watkins silt loam, 0 to 2 percent slopes, rarely flooded
687B	Watkins silt loam, 2 to 5 percent slopes, rarely flooded
688	Koszta silt loam, 0 to 2 percent slopes, rarely flooded
771B	Waubeek silt loam, 2 to 5 percent slopes
876B	Ladoga silt loam, terrace, 2 to 5 percent slopes
881B	Otley silty clay loam, terrace, 2 to 5 percent slopes
911B	Colo-Ely complex, 2 to 5 percent slopes (where drained)
1160	Walford silt loam, terrace, 0 to 2 percent slopes (where drained)
1291	Atterberry silt loam, terrace, 0 to 2 percent slopes
1442B	Tama-Sparta-Pillot complex, 2 to 5 percent slopes
2219	Ella silt loam, 0 to 2 percent slopes, rarely flooded
2219B	Ella silt loam, 2 to 5 percent slopes, rarely flooded
2422	Amana-Nodaway-Lawson complex, 0 to 2 percent slopes, occasionally flooded (where protected from flooding or not frequently flooded during the growing season)

Agricultural Waste Management

The table “Agricultural Waste Management” is described in this section.

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

This table shows the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of this table, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the table are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a

cemented pan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to bedrock or a cemented pan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erosion factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge. Permanently frozen soils are unsuitable for waste treatment.

Disposal of wastewater by irrigation not only disposes of municipal wastewater and wastewater from food-processing plants, lagoons, and storage ponds but also can improve crop production by increasing the amount of water available to crops. The ratings in the table are based on the soil properties that affect the design, construction, management, and performance of the irrigation system. The properties that affect design and management include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, slope, and flooding. The properties that affect construction include stones, cobbles, depth to bedrock or a cemented pan, depth to a water table, and ponding. The properties that affect performance include depth to bedrock or a cemented pan, bulk density, the sodium adsorption ratio, salinity, reaction, and the cation-exchange capacity, which is used to estimate the capacity of a soil to adsorb heavy metals. Permanently frozen soils are not suitable for disposal of wastewater by irrigation.

A soil feature considered in the ratings for application of manure, sewage sludge, and wastewater is depth to the top of a water table (saturated zone). During August, September, and October, this depth is generally more than 60 cm in normal years. For soils that are limited by wetness, "Nov-Jul" indicates the most problematic months of the year for application of manure, sewage sludge, and wastewater. These soils may be slow to drain and can become waterlogged and boggy during periods of heavy precipitation.

Agricultural Waste Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table)

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5B: Ackmore-----	45	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul) Too steep for surface application	1.00 0.08
Colo-----	35	Very limited Depth to saturated zone (Nov-Jul) Leaching	1.00 0.70	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul) Too steep for surface application	1.00 0.08
7: Wiota, rarely flooded-----	100	Not limited		Somewhat limited Flooding	0.40	Not limited	
7B: Wiota, rarely flooded-----	100	Not limited		Somewhat limited Flooding	0.40	Somewhat limited Too steep for surface application	0.08
8B: Judson-----	95	Not limited		Not limited		Somewhat limited Too steep for surface application	0.08
24C2: Shelby, moderately eroded-----	85	Somewhat limited Slow water movement Too acid	0.41 0.02	Somewhat limited Slow water movement Too acid	0.31 0.07	Somewhat limited Too steep for surface application Slow water movement Too acid	0.92 0.31 0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24D2: Shelby, moderately eroded-----	70	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Too steep for surface	1.00
		Slow water movement	0.41	Slow water movement	0.31	application	
		Too acid	0.02	Too acid	0.07	Too steep for sprinkler application	0.78
						Slow water movement	0.31
24D3: Shelby, severely eroded-----	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Too steep for surface	1.00
		Slow water movement	0.41	Slow water movement	0.31	application	
		Too acid	0.02	Too acid	0.07	Too steep for sprinkler application	0.78
						Slow water movement	0.31
24E2: Shelby, moderately eroded-----	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Too steep for surface	1.00
		Slow water movement	0.41	Slow water movement	0.31	application	
		Too acid	0.02	Too acid	0.07	Too steep for sprinkler application	1.00
						Slow water movement	0.31
24E3: Shelby, severely eroded-----	95	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Too steep for surface	1.00
		Slow water movement	0.41	Slow water movement	0.31	application	
		Too acid	0.02	Too acid	0.07	Too steep for sprinkler application	1.00
						Slow water movement	0.31
41: Sparta-----	100	Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Leaching	0.45	Too acid	0.07	Too acid	0.07
		Too acid	0.02				

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
41B: Sparta-----	100	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Leaching	0.45	Too acid	0.07	Too steep for surface application	0.08
		Too acid	0.02			Too acid	0.07
41C: Sparta-----	85	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Leaching	0.45	Too acid	0.07	Too steep for surface application	0.92
		Too acid	0.02			Too acid	0.07
41D: Sparta-----	75	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Slope	0.63	Slope	0.63	Too steep for surface application	1.00
		Leaching	0.45	Too acid	0.07	Too steep for sprinkler application	0.78
43: Bremer, rarely flooded-----	100	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00
		Slow water movement	0.30	Flooding Slow water movement	0.40 0.22	Slow water movement	0.22
51: Vesser, occasionally flooded-----	95	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00
		Flooding	0.60	Flooding	1.00	Flooding	0.60
54: Zook, occasionally flooded-----	100	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00
		Slow water movement	1.00	Flooding Slow water movement	1.00	Slow water movement	1.00
		Flooding	0.60			Flooding	0.60

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
54+: Zook, occasionally flooded, overwash--	100	Very limited		Very limited		Very limited	
		Depth to saturated zone (Nov-Jul)	1.00	Depth to saturated zone (Nov-Jul)	1.00	Depth to saturated zone (Nov-Jul)	1.00
		Slow water movement	1.00	Flooding	1.00	Slow water movement	1.00
		Flooding	0.60	Slow water movement	1.00	Flooding	0.60
63C: Chelsea-----	90	Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Leaching	0.45	Droughty	0.13	Too steep for surface application	0.92
		Droughty	0.13			Droughty	0.13
63E: Chelsea-----	95	Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Slope	1.00	Slope	1.00	Too steep for surface application	1.00
		Leaching	0.45	Droughty	0.13	Too steep for sprinkler application	1.00
63G: Chelsea-----	95	Very limited		Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00	Filtering capacity	1.00
		Filtering capacity	1.00	Slope	1.00	Too steep for sprinkler application	1.00
		Leaching	0.45	Droughty	0.13	Too steep for surface application	1.00
65D2: Lindley, moderately eroded-----	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Too steep for surface	1.00
		Slow water movement	0.41	Too acid	0.31	surface application	
		Too acid	0.08	Slow water movement	0.31	Too steep for sprinkler application	0.78
						Too acid	0.31

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65D3: Lindley, severely eroded-----	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Too steep for	1.00
		Slow water movement	0.41	Too acid	0.31	surface	
		Too acid	0.08	Slow water movement	0.31	application	
						Too steep for sprinkler application	0.78
						Too acid	0.31
65E2: Lindley, moderately eroded-----	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Too steep for	1.00
		Slow water movement	0.41	Too acid	0.31	surface	
		Too acid	0.08	Slow water movement	0.31	application	
						Too steep for sprinkler application	1.00
						Too acid	0.31
65E3: Lindley, severely eroded-----	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Too steep for	1.00
		Slow water movement	0.41	Too acid	0.31	surface	
		Too acid	0.08	Slow water movement	0.31	application	
						Too steep for sprinkler application	1.00
						Too acid	0.31
65F: Lindley-----	100	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Too steep for	1.00
		Slow water movement	0.41	Too acid	0.31	sprinkler	
		Too acid	0.08	Slow water movement	0.31	application	
						Too steep for surface application	1.00
						Too acid	0.31
65F2: Lindley, moderately eroded-----	80	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Too steep for	1.00
		Slow water movement	0.41	Too acid	0.31	sprinkler	
		Too acid	0.08	Slow water movement	0.31	application	
						Too steep for surface application	1.00
						Too acid	0.31

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65F3: Lindley, severely eroded-----	90	Very limited Slope Slow water movement Too acid	1.00 0.41 0.08	Very limited Slope Too acid Slow water movement	1.00 0.31 0.31	Very limited Too steep for sprinkler application Too steep for surface application Too acid	1.00 1.00 0.31
65G: Lindley-----	100	Very limited Slope Slow water movement Too acid	1.00 0.41 0.08	Very limited Slope Too acid Slow water movement	1.00 0.31 0.31	Very limited Too steep for sprinkler application Too steep for surface application Too acid	1.00 1.00 0.31
75: Givin-----	95	Very limited Depth to saturated zone (Nov-Jul) Slow water movement	1.00 0.41	Very limited Depth to saturated zone (Nov-Jul) Slow water movement	1.00 0.31	Very limited Depth to saturated zone (Nov-Jul) Slow water movement	1.00 0.31
76B: Ladoga-----	95	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31	Somewhat limited Slow water movement Too steep for surface application	0.31 0.08
76C: Ladoga-----	85	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31	Somewhat limited Too steep for surface application Slow water movement Too steep for sprinkler application	0.92 0.31 0.02
76C2: Ladoga, moderately eroded-----	95	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31	Somewhat limited Too steep for surface application Slow water movement Too steep for sprinkler application	0.92 0.31 0.02

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
76D: Ladoga-----	90	Somewhat limited Slope Slow water movement	0.63 0.41	Somewhat limited Slope Slow water movement	0.63 0.31	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 0.78 0.31
76D2: Ladoga, moderately eroded-----	90	Somewhat limited Slope Slow water movement	0.63 0.41	Somewhat limited Slope Slow water movement	0.63 0.31	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 0.78 0.31
76D3: Ladoga, severely eroded-----	85	Somewhat limited Slope Slow water movement	0.63 0.41	Somewhat limited Slope Slow water movement	0.63 0.31	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 0.78 0.31
76E2: Ladoga, moderately eroded-----	70	Very limited Slope Slow water movement	1.00 0.41	Very limited Slope Slow water movement	1.00 0.31	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 0.31
76E3: Ladoga, severely eroded-----	85	Very limited Slope Slow water movement	1.00 0.41	Very limited Slope Slow water movement	1.00 0.31	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 0.31

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
80B: Clinton-----	100	Somewhat limited Slow water movement Too acid	0.41 0.02	Somewhat limited Slow water movement Too acid	0.31 0.07	Somewhat limited Slow water movement Too steep for surface application Too acid	0.31 0.08 0.07
80C: Clinton-----	95	Somewhat limited Slow water movement Too acid	0.41 0.02	Somewhat limited Slow water movement Too acid	0.31 0.07	Somewhat limited Too steep for surface application Slow water movement Too acid	0.92 0.31 0.07
80C2: Clinton, moderately eroded-----	85	Somewhat limited Slow water movement Too acid	0.41 0.02	Somewhat limited Slow water movement Too acid	0.31 0.07	Somewhat limited Too steep for surface application Slow water movement Too acid	0.92 0.31 0.07
80D: Clinton-----	90	Somewhat limited Slope Slow water movement Too acid	0.63 0.41 0.02	Somewhat limited Slope Slow water movement Too acid	0.63 0.31 0.07	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 0.78 0.31
80D2: Clinton, moderately eroded-----	85	Somewhat limited Slope Slow water movement Too acid	0.63 0.41 0.02	Somewhat limited Slope Slow water movement Too acid	0.63 0.31 0.07	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 0.78 0.31

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
80D3: Clinton, severely eroded-----	75	Somewhat limited Slope Slow water movement	0.63 0.41	Somewhat limited Slope Slow water movement	0.63 0.31	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 0.78 0.31
80E2: Clinton, moderately eroded-----	90	Very limited Slope Slow water movement Too acid	1.00 0.41 0.02	Very limited Slope Slow water movement Too acid	1.00 0.31 0.07	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 1.00 0.31
80E3: Clinton, severely eroded-----	70	Very limited Slope Slow water movement	1.00 0.41	Very limited Slope Slow water movement	1.00 0.31	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 0.31
80F2: Clinton, moderately eroded-----	90	Very limited Slope Slow water movement Too acid	1.00 0.41 0.02	Very limited Slope Slow water movement Too acid	1.00 0.31 0.07	Very limited Too steep for sprinkler application Too steep for surface application Slow water movement	1.00 1.00 1.00 0.31
83B: Kenyon-----	75	Not limited		Not limited		Somewhat limited Too steep for surface application	0.08

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
83C: Kenyon-----	80	Not limited		Not limited		Somewhat limited Too steep for surface application	0.92
						Too steep for sprinkler application	0.02
83C2: Kenyon, moderately eroded-----	85	Not limited		Not limited		Somewhat limited Too steep for surface application	0.92
						Too steep for sprinkler application	0.02
83D2: Kenyon, moderately eroded-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Too steep for surface application	1.00
						Too steep for sprinkler application	0.78
88: Nevin, rarely flooded-----	90	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 0.40	Very limited Depth to saturated zone (Nov-Jul)	1.00
93D2: Shelby, moderately eroded-----	50	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Too steep for surface application	1.00
		Slow water movement	0.41	Slow water movement	0.31	Too steep for sprinkler application	0.78
		Too acid	0.02	Too acid	0.07	Slow water movement	0.31
Adair, moderately eroded-----	35	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00
		Slow water movement	1.00	Slow water movement	1.00	Too steep for surface application	1.00
		Slope	0.63	Slope	0.63	Slow water movement	1.00

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
93D3: Shelby, severely eroded-----	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Too steep for	1.00
		Slow water movement	0.41	Slow water movement	0.31	surface application	
		Too acid	0.02	Too acid	0.07	Too steep for sprinkler application	0.78
						Slow water movement	0.31
Adair, severely eroded-----	30	Very limited		Very limited		Very limited	
		Depth to saturated zone (Nov-Jul)	1.00	Depth to saturated zone (Nov-Jul)	1.00	Depth to saturated zone (Nov-Jul)	1.00
		Slow water movement	1.00	Slow water movement	1.00	Too steep for surface application	1.00
		Slope	0.63	Slope	0.63	Slow water movement	1.00
93E2: Shelby, moderately eroded-----	60	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Too steep for	1.00
		Slow water movement	0.41	Slow water movement	0.31	surface application	
		Too acid	0.02	Too acid	0.07	Too steep for sprinkler application	1.00
						Slow water movement	0.31
Adair, moderately eroded-----	35	Very limited		Very limited		Very limited	
		Depth to saturated zone (Nov-Jul)	1.00	Depth to saturated zone (Nov-Jul)	1.00	Depth to saturated zone (Nov-Jul)	1.00
		Slow water movement	1.00	Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Slope	1.00	Too steep for sprinkler application	1.00
119: Muscatine-----	95	Very limited		Very limited		Very limited	
		Depth to saturated zone (Nov-Jul)	1.00	Depth to saturated zone (Nov-Jul)	1.00	Depth to saturated zone (Nov-Jul)	1.00
		Too acid	0.02	Too acid	0.07	Too acid	0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
120B: Tama-----	95	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid	0.08 0.07
120C: Tama-----	85	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid Too steep for sprinkler application	0.92 0.07 0.02
120C2: Tama, moderately eroded-----	75	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid Too steep for sprinkler application	0.92 0.07 0.02
120D2: Tama, moderately eroded-----	85	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07
120D3: Tama, severely eroded-----	80	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
120E2: Tama, moderately eroded-----	80	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.07
122: Sperry-----	95	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Ponding	1.00 1.00 1.00
133: Colo, occasionally flooded-----	90	Very limited Depth to saturated zone (Nov-Jul) Leaching Flooding	1.00 0.70 0.60	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 1.00	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 0.60
133+: Colo, occasionally flooded, overwash--	90	Very limited Depth to saturated zone (Nov-Jul) Leaching Flooding	1.00 0.70 0.60	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 1.00	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 0.60
162B: Downs-----	95	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid	0.08 0.07
162C: Downs-----	85	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid Too steep for sprinkler application	0.92 0.07 0.02

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
162C2: Downs, moderately eroded-----	85	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid Too steep for sprinkler application	0.92 0.07 0.02
162D2: Downs, moderately eroded-----	85	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07
162D3: Downs, severely eroded-----	80	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07
162E2: Downs, moderately eroded-----	75	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.07
162E3: Downs, severely eroded-----	75	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
163B: Fayette-----	95	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid	0.08 0.07
163C: Fayette-----	90	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid Too steep for sprinkler application	0.92 0.07 0.02
163C2: Fayette, moderately eroded-----	85	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid Too steep for sprinkler application	0.92 0.07 0.02
163D: Fayette-----	85	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07
163D2: Fayette, moderately eroded-----	65	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07
163D3: Fayette, severely eroded-----	60	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
163E: Fayette-----	75	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.07
163E2: Fayette, moderately eroded-----	70	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.07
163E3: Fayette, severely eroded-----	70	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.07
163F: Fayette-----	75	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for sprinkler application Too steep for surface application Too acid	1.00 1.00 0.07
163F2: Fayette, moderately eroded-----	70	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for sprinkler application Too steep for surface application Too acid	1.00 1.00 0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
163F3: Fayette, severely eroded-----	70	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for sprinkler application Too steep for surface application Too acid	1.00 1.00 0.07
163G: Fayette-----	85	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for sprinkler application Too steep for surface application Too acid	1.00 1.00 0.07
165: Stronghurst-----	95	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.02	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.07	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.07
171C2: Bassett, moderately eroded-----	85	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid Too steep for sprinkler application	0.92 0.07 0.02
171D2: Bassett, moderately eroded-----	80	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
171D3: Bassett, severely eroded-----	75	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07
171E2: Bassett, moderately eroded-----	80	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.07
171E3: Bassett, severely eroded-----	75	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.07
172: Wabash, occasionally flooded-----	100	Very limited Slow water movement Depth to saturated zone (Nov-Jul) Flooding	1.00 1.00 0.60	Very limited Slow water movement Depth to saturated zone (Nov-Jul) Flooding	1.00 1.00 1.00	Very limited Slow water movement Depth to saturated zone (Nov-Jul) Flooding	1.00 1.00 0.60
175: Dickinson-----	100	Very limited Filtering capacity Leaching Droughty	1.00 0.45 0.01	Very limited Filtering capacity Droughty	1.00 0.01	Very limited Filtering capacity Droughty	1.00 0.01
175B: Dickinson-----	95	Very limited Filtering capacity Leaching Droughty	1.00 0.45 0.01	Very limited Filtering capacity Droughty	1.00 0.01	Very limited Filtering capacity Too steep for surface application Droughty	1.00 0.08 0.01

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
175C: Dickinson-----	85	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Leaching	0.45	Droughty	0.01	Too steep for surface application	0.92
		Droughty	0.01			Too steep for sprinkler application	0.02
178: Waukee-----	90	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Too acid	0.03	Too acid	0.14	Too acid	0.14
178B: Waukee-----	100	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Too acid	0.03	Too acid	0.14	Too acid	0.14
						Too steep for surface application	0.08
178C: Waukee-----	100	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00	Very limited Filtering capacity	1.00
		Too acid	0.03	Too acid	0.14	Too steep for surface application	0.92
						Too acid	0.14
179D2: Gara, moderately eroded-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Too steep for surface application	1.00
		Slow water movement	0.41	Slow water movement	0.31	Too steep for sprinkler application	0.78
						Slow water movement	0.31
179D3: Gara, severely eroded-----	70	Very limited Dense layer	1.00	Somewhat limited Slope	0.63	Very limited Too steep for surface application	1.00
		Slope	0.63	Slow water movement	0.31	Too steep for sprinkler application	0.78
		Slow water movement	0.41			Slow water movement	0.31

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
179E2: Gara, moderately eroded-----	85	Very limited Slope Slow water movement	1.00 0.41	Very limited Slope Slow water movement	1.00 0.31	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 0.31
179E3: Gara, severely eroded-----	75	Very limited Slope Dense layer Slow water movement	1.00 1.00 0.41	Very limited Slope Slow water movement	1.00 0.31	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 1.00 0.31
179F2: Gara, moderately eroded-----	85	Very limited Slope Slow water movement	1.00 0.41	Very limited Slope Slow water movement	1.00 0.31	Very limited Too steep for sprinkler application Too steep for surface application Slow water movement	1.00 1.00 0.31
179F3: Gara, severely eroded-----	90	Very limited Slope Dense layer Slow water movement	1.00 1.00 0.41	Very limited Slope Slow water movement	1.00 0.31	Very limited Too steep for sprinkler application Too steep for surface application Slow water movement	1.00 1.00 0.31
180: Keomah-----	95	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Too acid	1.00 0.74 0.08	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Too acid	1.00 0.60 0.31	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Too acid	1.00 0.60 0.31

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
192D2: Adair, moderately eroded-----	75	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Slope	1.00 1.00 0.63	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Slope	1.00 1.00 0.63	Very limited Depth to saturated zone (Nov-Jul) Too steep for surface application Slow water movement	1.00 1.00 1.00
192D3: Adair, severely eroded-----	70	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Slope	1.00 1.00 0.63	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Slope	1.00 1.00 0.63	Very limited Depth to saturated zone (Nov-Jul) Too steep for surface application Slow water movement	1.00 1.00 1.00
220: Nodaway, occasionally flooded-----	85	Somewhat limited Flooding	0.60	Very limited Flooding	1.00	Somewhat limited Flooding	0.60
279: Taintor-----	90	Very limited Depth to saturated zone (Nov-Jul) Leaching Slow water movement	1.00 0.50 0.41	Very limited Depth to saturated zone (Nov-Jul) Slow water movement	1.00 0.31	Very limited Depth to saturated zone (Nov-Jul) Slow water movement	1.00 0.31
280: Mahaska-----	95	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.02	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.07	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.07
281B: Otley-----	100	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.02	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.07	Very limited Depth to saturated zone (Nov-Jul) Too steep for surface application Too acid	1.00 0.08 0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
281C: Otley-----	90	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.02	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.07	Very limited Depth to saturated zone (Nov-Jul) Too steep for surface application Too acid	1.00 0.92 0.07
281C2: Otley, moderately eroded-----	85	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.02	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.07	Very limited Depth to saturated zone (Nov-Jul) Too steep for surface application Too acid	1.00 0.92 0.07
281D2: Otley, moderately eroded-----	80	Very limited Depth to saturated zone (Nov-Jul) Slope Too acid	1.00 0.63 0.02	Very limited Depth to saturated zone (Nov-Jul) Slope Too acid	1.00 0.63 0.07	Very limited Too steep for surface application Depth to saturated zone (Nov-Jul) Too steep for sprinkler application	1.00 1.00 0.78
281D3: Otley, severely eroded-----	80	Very limited Depth to saturated zone (Nov-Jul) Slope Too acid	1.00 0.63 0.02	Very limited Depth to saturated zone (Nov-Jul) Slope Too acid	1.00 0.63 0.07	Very limited Too steep for surface application Depth to saturated zone (Nov-Jul) Too steep for sprinkler application	1.00 1.00 0.78
281E2: Otley, moderately eroded-----	85	Very limited Slope Depth to saturated zone (Nov-Jul) Too acid	1.00 1.00 0.02	Very limited Slope Depth to saturated zone (Nov-Jul) Too acid	1.00 1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Depth to saturated zone (Nov-Jul)	1.00 1.00 1.00 1.00

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
291: Atterberry-----	90	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00
293C: Fayette-----	45	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid Too steep for sprinkler application	0.92 0.07 0.02
Chelsea-----	35	Very limited Filtering capacity Leaching Droughty	1.00 0.45 0.13	Very limited Filtering capacity Droughty	1.00 0.13	Very limited Filtering capacity Too steep for surface application Droughty	1.00 0.92 0.13
Tell-----	20	Very limited Filtering capacity Too acid	1.00 0.02	Very limited Filtering capacity Too acid	1.00 0.07	Very limited Filtering capacity Too steep for surface application Too acid	1.00 0.92 0.07
293D: Fayette-----	45	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07
Chelsea-----	35	Very limited Filtering capacity Slope Leaching	1.00 0.63 0.45	Very limited Filtering capacity Slope Droughty	1.00 0.63 0.13	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application	1.00 1.00 0.78

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
293D: Tell-----	20	Very limited Filtering capacity Slope Too acid	1.00 0.63 0.02	Very limited Filtering capacity Slope Too acid	1.00 0.63 0.07	Very limited Too steep for surface application Filtering capacity Too steep for sprinkler application	1.00 1.00 0.78
293D2: Fayette, moderately eroded-----	45	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07
Chelsea, moderately eroded-----	35	Very limited Filtering capacity Slope Leaching	1.00 0.63 0.45	Very limited Filtering capacity Slope Droughty	1.00 0.63 0.13	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application	1.00 1.00 0.78
Tell, moderately eroded-----	20	Very limited Filtering capacity Slope Too acid	1.00 0.63 0.02	Very limited Filtering capacity Slope Too acid	1.00 0.63 0.07	Very limited Too steep for surface application Filtering capacity Too steep for sprinkler application	1.00 1.00 0.78
293E: Fayette-----	40	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
293E: Chelsea-----	35	Very limited Filtering capacity Slope Leaching	1.00 1.00 0.45	Very limited Filtering capacity Slope Droughty	1.00 1.00 1.00 0.13	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00 1.00
Tell-----	25	Very limited Slope Filtering capacity Too acid	1.00 1.00 0.02	Very limited Slope Filtering capacity Too acid	1.00 1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity	1.00 1.00 1.00 1.00
293E2: Fayette, moderately eroded-----	40	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.07
Chelsea, moderately eroded-----	35	Very limited Filtering capacity Slope Leaching	1.00 1.00 0.45	Very limited Filtering capacity Slope Droughty	1.00 1.00 1.00 0.13	Very limited Filtering capacity Too steep for surface application Too steep for sprinkler application	1.00 1.00 1.00
Tell, moderately eroded-----	25	Very limited Slope Filtering capacity Too acid	1.00 1.00 0.02	Very limited Slope Filtering capacity Too acid	1.00 1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Filtering capacity	1.00 1.00 1.00 1.00

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
293G: Fayette-----	40	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for sprinkler application Too steep for surface application Too acid	1.00 1.00 0.07
Chelsea-----	35	Very limited Slope Filtering capacity Leaching	1.00 1.00 0.45	Very limited Filtering capacity Slope Droughty	1.00 1.00 0.13	Very limited Filtering capacity Too steep for sprinkler application Too steep for surface application	1.00 1.00 1.00 1.00
Tell-----	25	Very limited Slope Filtering capacity Too acid	1.00 1.00 0.02	Very limited Slope Filtering capacity Too acid	1.00 1.00 0.07	Very limited Too steep for sprinkler application Too steep for surface application Filtering capacity	1.00 1.00 1.00 1.00
353B: Tell-----	85	Very limited Filtering capacity Too acid	1.00 0.02	Very limited Filtering capacity Too acid	1.00 0.07	Very limited Filtering capacity Too steep for surface application Too acid	1.00 0.08 0.07
353C: Tell-----	90	Very limited Filtering capacity Too acid	1.00 0.02	Very limited Filtering capacity Too acid	1.00 0.07	Very limited Filtering capacity Too steep for surface application Too acid	1.00 0.92 0.07
353C2: Tell, moderately eroded-----	90	Very limited Filtering capacity Too acid	1.00 0.02	Very limited Filtering capacity Too acid	1.00 0.07	Very limited Filtering capacity Too steep for surface application Too acid	1.00 0.92 0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
353D2: Tell, moderately eroded-----	90	Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Too steep for surface application	1.00
		Slope	0.63	Slope	0.63	Filtering capacity	1.00
		Too acid	0.02	Too acid	0.07	Too steep for sprinkler application	0.78
377B: Dinsdale-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Too acid	0.02	Too acid	0.07	Too steep for surface application	0.08
						Too acid	0.07
377C: Dinsdale-----	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too acid	0.02	Too acid	0.07	Too steep for surface application	0.92
						Too acid	0.07
						Too steep for sprinkler application	0.02
420: Tama, terrace-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Too acid	0.02	Too acid	0.07	Too acid	0.07
420B: Tama, terrace-----	100	Somewhat limited		Somewhat limited		Somewhat limited	
		Too acid	0.02	Too acid	0.07	Too steep for surface application	0.08
						Too acid	0.07
422: Amana, occasionally flooded-----	90	Very limited		Very limited		Very limited	
		Depth to saturated zone (Nov-Jul)	1.00	Depth to saturated zone (Nov-Jul)	1.00	Depth to saturated zone (Nov-Jul)	1.00
		Flooding	0.60	Flooding	1.00	Flooding	0.60
424D2: Lindley, moderately eroded-----	50	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Too steep for surface application	1.00
		Slow water movement	0.41	Too acid	0.31	Too steep for sprinkler application	0.78
		Too acid	0.08	Slow water movement	0.31	Too acid	0.31

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
424D2: Keswick, moderately eroded-----	35	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00
		Slow water movement	1.00	Slow water movement	1.00	Too steep for surface application	1.00
		Slope	0.63	Slope	0.63	Slow water movement	1.00
424E2: Lindley, moderately eroded-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	0.41	Too acid	0.31	Too steep for sprinkler application	1.00
		Too acid	0.08	Slow water movement	0.31	Too acid	0.31
Keswick, moderately eroded-----	40	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00
		Slow water movement	1.00	Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Slope	1.00	Too steep for sprinkler application	1.00
424E3: Lindley, severely eroded-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	0.41	Too acid	0.31	Too steep for sprinkler application	1.00
		Too acid	0.08	Slow water movement	0.31	Too acid	0.31
Keswick, severely eroded-----	40	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00
		Slow water movement	1.00	Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Slope	1.00	Too steep for sprinkler application	1.00

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
424F2: Lindley, moderately eroded-----	65	Very limited Slope Slow water movement Too acid	1.00 0.41 0.08	Very limited Slope Too acid Slow water movement	1.00 0.31 0.31	Very limited Too steep for sprinkler application Too steep for surface application Too acid	1.00 1.00 0.31
Keswick, moderately eroded-----	25	Very limited Slope Depth to saturated zone (Nov-Jul) Slow water movement	1.00 1.00 1.00	Very limited Depth to saturated zone (Nov-Jul) Slope Slow water movement	1.00 1.00 1.00	Very limited Too steep for sprinkler application Depth to saturated zone (Nov-Jul) Too steep for surface application	1.00 1.00 1.00
425D2: Keswick, moderately eroded-----	90	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Slope	1.00 1.00 0.63	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Slope	1.00 1.00 0.63	Very limited Depth to saturated zone (Nov-Jul) Too steep for surface application Slow water movement	1.00 1.00 1.00
425D3: Keswick, severely eroded-----	60	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Slope	1.00 1.00 0.63	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Slope	1.00 1.00 0.63	Very limited Depth to saturated zone (Nov-Jul) Too steep for surface application Slow water movement	1.00 1.00 1.00
428B: Ely-----	95	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul) Too steep for surface application	1.00 0.08

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
430: Ackmore, occasionally flooded-----	100	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 0.60	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 1.00	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 0.60
450: Pillot-----	100	Not limited		Not limited		Not limited	
450B: Pillot-----	90	Not limited		Not limited		Somewhat limited Too steep for surface application	0.08
450C: Pillot-----	85	Not limited		Not limited		Somewhat limited Too steep for surface application Too steep for sprinkler application	0.92 0.02
453: Tuskeego, rarely flooded-----	75	Very limited Slow water movement Depth to saturated zone (Nov-Jul) Leaching	1.00 1.00 0.50	Very limited Slow water movement Depth to saturated zone (Nov-Jul) Flooding	1.00 1.00 0.40	Very limited Slow water movement Depth to saturated zone (Nov-Jul) Too acid	1.00 1.00 0.07
462B: Downs, terrace-----	90	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid	0.08 0.07
463B: Fayette, terrace----	100	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid	0.08 0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
463C2: Fayette, moderately eroded, terrace----	90	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid Too steep for sprinkler application	0.92 0.07 0.02
463D2: Fayette, moderately eroded, terrace----	90	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07
463D3: Fayette, severely eroded, terrace----	80	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07
463E2: Fayette, moderately eroded, terrace----	90	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.07
463E3: Fayette, severely eroded, terrace----	90	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 1.00 0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
463F2: Fayette, moderately eroded, terrace----	85	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for sprinkler application Too steep for surface application Too acid	1.00 1.00 0.07
463F3: Fayette, severely eroded, terrace----	90	Very limited Slope Too acid	1.00 0.02	Very limited Slope Too acid	1.00 0.07	Very limited Too steep for sprinkler application Too steep for surface application Too acid	1.00 1.00 0.07
484: Lawson, occasionally flooded-----	80	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 0.60	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 1.00	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 0.60
587: Chequest, occasionally flooded-----	95	Very limited Depth to saturated zone (Nov-Jul) Flooding Slow water movement	1.00 0.60 0.41	Very limited Depth to saturated zone (Nov-Jul) Flooding Slow water movement	1.00 1.00 0.31	Very limited Depth to saturated zone (Nov-Jul) Flooding Slow water movement	1.00 0.60 0.31
587+: Chequest, occasionally flooded, overwash--	95	Very limited Depth to saturated zone (Nov-Jul) Flooding Slow water movement	1.00 0.60 0.41	Very limited Depth to saturated zone (Nov-Jul) Flooding Slow water movement	1.00 1.00 0.31	Very limited Depth to saturated zone (Nov-Jul) Flooding Slow water movement	1.00 0.60 0.31
626: Hayfield-----	90	Very limited Filtering capacity Depth to saturated zone (Nov-Jul)	1.00 1.00	Very limited Filtering capacity Depth to saturated zone (Nov-Jul)	1.00 1.00	Very limited Filtering capacity Depth to saturated zone (Nov-Jul)	1.00 1.00

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
663D2: Seaton, moderately eroded-----	85	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Too steep for surface application Too steep for sprinkler application	1.00 0.78
663E2: Seaton, moderately eroded-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00
663E3: Seaton, severely eroded-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application Too steep for sprinkler application	1.00 1.00
663F2: Seaton, moderately eroded-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for sprinkler application Too steep for surface application	1.00 1.00
687: Watkins, rarely flooded-----	90	Not limited		Somewhat limited Flooding	0.40	Not limited	
687B: Watkins, rarely flooded-----	100	Not limited		Somewhat limited Flooding	0.40	Somewhat limited Too steep for surface application	0.08

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
688: Koszta, rarely flooded-----	95	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.02	Very limited Depth to saturated zone (Nov-Jul) Flooding Too acid	1.00 0.40 0.07	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.07
771B: Waubeeek-----	90	Not limited		Not limited		Somewhat limited Too steep for surface application	0.08
771C2: Waubeeek, moderately eroded-----	90	Very limited Dense layer	1.00	Not limited		Somewhat limited Too steep for surface application Too steep for sprinkler application	0.92 0.02
792D2: Armstrong, moderately eroded--	75	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Slope	1.00 1.00 0.63	Very limited Depth to saturated zone (Nov-Jul) Slow water movement Slope	1.00 1.00 0.63	Very limited Depth to saturated zone (Nov-Jul) Too steep for surface application Slow water movement	1.00 1.00 1.00
876B: Ladoga, terrace----	90	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31	Somewhat limited Slow water movement	0.31
876C: Ladoga, terrace----	80	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31	Somewhat limited Too steep for surface application Slow water movement Too steep for sprinkler application	0.92 0.31 0.02

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
876C2: Ladoga, moderately eroded, terrace----	85	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.31	Somewhat limited Too steep for surface application Slow water movement Too steep for sprinkler application	0.92 0.31 0.02
876D2: Ladoga, moderately eroded, terrace----	90	Somewhat limited Slope Slow water movement	0.63 0.41	Somewhat limited Slope Slow water movement	0.63 0.31	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 0.78 0.31
881B: Otley, terrace-----	95	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.02	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.07	Very limited Depth to saturated zone (Nov-Jul) Too acid	1.00 0.07
911B: Colo-----	55	Very limited Depth to saturated zone (Nov-Jul) Leaching	1.00 0.70	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul) Too steep for surface application	1.00 0.08
Ely-----	35	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul) Too steep for surface application	1.00 0.08
993D2: Gara, moderately eroded-----	45	Somewhat limited Slope Slow water movement	0.63 0.41	Somewhat limited Slope Slow water movement	0.63 0.31	Very limited Too steep for surface application Too steep for sprinkler application Slow water movement	1.00 0.78 0.31

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
993D2: Armstrong, moderately eroded--	35	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00
		Slow water movement	1.00	Slow water movement	1.00	Too steep for surface application	1.00
		Slope	0.63	Slope	0.63	Slow water movement	1.00
993E2: Gara, moderately eroded-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for surface application	1.00
		Slow water movement	0.41	Slow water movement	0.31	Too steep for sprinkler application	1.00
						Slow water movement	0.31
Armstrong, moderately eroded--	40	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00
		Slow water movement	1.00	Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Slope	1.00	Too steep for sprinkler application	1.00
993F2: Gara, moderately eroded-----	65	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Too steep for sprinkler application	1.00
		Slow water movement	0.41	Slow water movement	0.31	Too steep for surface application	1.00
						Slow water movement	0.31
Armstrong, moderately eroded--	25	Very limited Slope	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Too steep for sprinkler application	1.00
		Depth to saturated zone (Nov-Jul)	1.00	Slope	1.00	Depth to saturated zone (Nov-Jul)	1.00
		Slow water movement	1.00	Slow water movement	1.00	Too steep for surface application	1.00

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1160: Walford, terrace----	95	Very limited Depth to saturated zone (Nov-Jul) Leaching Slow water movement	1.00 0.70 0.30	Very limited Depth to saturated zone (Nov-Jul) Slow water movement	1.00 0.22	Very limited Depth to saturated zone (Nov-Jul) Slow water movement	1.00 0.22
1220: Nodaway, frequently flooded, channeled	75	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
1291: Atterberry, terrace	95	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00
1354: Aquents, ponded-----	100	Not rated		Not rated		Not rated	
1442B: Tama-----	40	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid	0.08 0.07
Sparta-----	35	Very limited Filtering capacity Leaching Too acid	1.00 0.45 0.02	Very limited Filtering capacity Too acid	1.00 0.07	Very limited Filtering capacity Too steep for surface application Too acid	1.00 0.08 0.07
Pillot-----	20	Not limited		Not limited		Somewhat limited Too steep for surface application	0.08
1442C: Tama-----	40	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid Too steep for sprinkler application	0.92 0.07 0.02

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1442C: Sparta-----	35	Very limited Filtering capacity Leaching Too acid	1.00 0.45 0.02	Very limited Filtering capacity Too acid	1.00 0.07	Very limited Filtering capacity Too steep for surface application Too acid	1.00 0.92 0.07
Pillot-----	20	Not limited		Not limited		Somewhat limited Too steep for surface application Too steep for sprinkler application	0.92 0.02
1442C2: Tama, moderately eroded-----	40	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid Too steep for sprinkler application	0.92 0.07 0.02
Sparta, moderately eroded-----	35	Very limited Filtering capacity Leaching Too acid	1.00 0.45 0.02	Very limited Filtering capacity Too acid	1.00 0.07	Very limited Filtering capacity Too steep for surface application Too acid	1.00 0.92 0.07
Pillot, moderately eroded-----	20	Somewhat limited Too acid	0.02	Somewhat limited Too acid	0.07	Somewhat limited Too steep for surface application Too acid Too steep for sprinkler application	0.92 0.07 0.02
1442D2: Tama, moderately eroded-----	40	Somewhat limited Slope Too acid	0.63 0.02	Somewhat limited Slope Too acid	0.63 0.07	Very limited Too steep for surface application Too steep for sprinkler application Too acid	1.00 0.78 0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1442D2: Sparta, moderately eroded-----	35	Very limited		Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00	Too steep for surface application	1.00
		Slope	0.63	Slope	0.63	Filtering capacity	1.00
		Leaching	0.45	Too acid	0.07	Too steep for sprinkler application	0.78
Pillot, moderately eroded-----	20	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Too steep for surface application	1.00
		Too acid	0.02	Too acid	0.07	Too steep for sprinkler application	0.78
						Too acid	0.07
1442E2: Tama, moderately eroded-----	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Too steep for surface application	1.00
		Too acid	0.02	Too acid	0.07	Too steep for sprinkler application	1.00
						Too acid	0.07
Sparta, moderately eroded-----	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Too steep for surface application	1.00
		Filtering capacity	1.00	Filtering capacity	1.00	Too steep for sprinkler application	1.00
		Leaching	0.45	Too acid	0.07	Filtering capacity	1.00
Pillot, moderately eroded-----	20	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Too steep for surface application	1.00
		Too acid	0.02	Too acid	0.07	Too steep for sprinkler application	1.00
						Too acid	0.07

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1540: Quiver, frequently flooded-----	40	Very limited Depth to saturated zone (Nov-Jul) Flooding Leaching	1.00 1.00 0.70	Very limited Depth to saturated zone (Nov-Jul) Flooding Slow water movement	1.00 1.00 0.31	Very limited Depth to saturated zone (Nov-Jul) Flooding Slow water movement	1.00 1.00 0.31
Zook, frequently flooded-----	30	Very limited Depth to saturated zone (Nov-Jul) Flooding Slow water movement	1.00 1.00 1.00	Very limited Depth to saturated zone (Nov-Jul) Flooding Slow water movement	1.00 1.00 1.00	Very limited Depth to saturated zone (Nov-Jul) Flooding Slow water movement	1.00 1.00 1.00
Klum, frequently flooded-----	15	Very limited Flooding Leaching Filtering capacity	1.00 0.45 0.01	Very limited Flooding Filtering capacity	1.00 0.01	Very limited Flooding Filtering capacity	1.00 0.01
2219: Ella, rarely flooded	70	Not limited		Somewhat limited Flooding	0.40	Not limited	
2219B: Ella, rarely flooded	75	Not limited		Somewhat limited Flooding	0.40	Somewhat limited Too steep for surface application	0.08
2219C2: Ella, moderately eroded-----	80	Not limited		Somewhat limited Flooding	0.40	Somewhat limited Too steep for surface application Too steep for sprinkler application	0.92 0.02
2422: Amana, occasionally flooded-----	50	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 0.60	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 1.00	Very limited Depth to saturated zone (Nov-Jul) Flooding	1.00 0.60
Nodaway, occasionally flooded-----	30	Somewhat limited Flooding	0.60	Very limited Flooding	1.00	Somewhat limited Flooding	0.60

Agricultural Waste Management--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food- processing waste		Application of sewage sludge		Disposal of wastewater by irrigation	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2422: Lawson, occasionally flooded-----	20	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00
		Flooding	0.60	Flooding	1.00	Flooding	0.60
4946: Udorthents-----	65	Not rated		Not rated		Not rated	
Interstate highway--	30	Not rated		Not rated		Not rated	
5010: Pits, sand and gravel-----	100	Not rated		Not rated		Not rated	
5040: Udorthents-----	100	Not rated		Not rated		Not rated	
6220: Nodaway, frequently flooded-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
6422: Amana, frequently flooded-----	90	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00	Very limited Depth to saturated zone (Nov-Jul)	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
AW: Animal waste lagoon	100	Not rated		Not rated		Not rated	
SL: Sewage lagoon-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Recreational Development

The titles of the tables described in this section are:

- “Camp Areas, Picnic Areas, and Playgrounds”
- “Paths, Trails, and Golf Fairways”

In the tables described in this section, the soils of the survey area are rated according to limitations that affect their suitability for recreational development. 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 these tables can be supplemented by other information in this survey, for example, interpretations for dwellings without basements, for local roads and streets, and for septic tank absorption fields.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the

surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Camp Areas, Picnic Areas, and Playgrounds

(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
5B: Ackmore-----	45	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 0.50
Colo-----	35	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 0.50
7: Wiota, rarely flooded-----	100	Very limited Flooding	1.00	Not limited		Not limited	
7B: Wiota, rarely flooded-----	100	Very limited Flooding	1.00	Not limited		Somewhat limited Slope	0.50
8B: Judson-----	95	Not limited		Not limited		Somewhat limited Slope	0.50
24C2: Shelby, moderately eroded-----	85	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Very limited Slope Slow water movement	1.00 0.21
24D2: Shelby, moderately eroded-----	70	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
24D3: Shelby, severely eroded-----	90	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
24E2: Shelby, moderately eroded-----	85	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21

Camp Areas, Picnic Areas, and Playgrounds--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
24E3: Shelby, severely eroded-----	95	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
41: Sparta-----	100	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95
41B: Sparta-----	100	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy Slope	0.95 0.50
41C: Sparta-----	85	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Very limited Slope Too sandy	1.00 0.95
41D: Sparta-----	75	Somewhat limited Too sandy Slope	0.95 0.63	Somewhat limited Too sandy Slope	0.95 0.63	Very limited Slope Too sandy	1.00 0.95
43: Bremer, rarely flooded-----	100	Very limited Depth to saturated zone Flooding Slow water movement	1.00 1.00 0.15	Very limited Depth to saturated zone Slow water movement	1.00 0.15	Very limited Depth to saturated zone Slow water movement	1.00 0.15
51: Vesser, occasionally flooded-----	95	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
54: Zook, occasionally flooded-----	100	Very limited Depth to saturated zone Flooding Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Slow water movement	1.00 0.96	Very limited Depth to saturated zone Slow water movement Flooding	1.00 0.96 0.60
54+: Zook, occasionally flooded, overwash--	100	Very limited Depth to saturated zone Flooding Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Slow water movement	1.00 0.96	Very limited Depth to saturated zone Slow water movement Flooding	1.00 0.96 0.60

Camp Areas, Picnic Areas, and Playgrounds--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
63C: Chelsea-----	90	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Very limited Slope Too sandy	1.00 0.95
63E: Chelsea-----	95	Very limited Slope Too sandy	1.00 0.95	Very limited Slope Too sandy	1.00 0.95	Very limited Slope Too sandy	1.00 0.95
63G: Chelsea-----	95	Very limited Slope Too sandy	1.00 0.95	Very limited Slope Too sandy	1.00 0.95	Very limited Slope Too sandy	1.00 0.95
65D2: Lindley, moderately eroded-----	85	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
65D3: Lindley, severely eroded-----	85	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
65E2: Lindley, moderately eroded-----	85	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
65E3: Lindley, severely eroded-----	85	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
65F: Lindley-----	100	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
65F2: Lindley, moderately eroded-----	80	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21

Camp Areas, Picnic Areas, and Playgrounds--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
65F3: Lindley, severely eroded-----	90	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
65G: Lindley-----	100	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
75: Givin-----	95	Very limited Depth to saturated zone Slow water movement	1.00 0.21	Very limited Depth to saturated zone Slow water movement	1.00 0.21	Very limited Depth to saturated zone Slow water movement	1.00 0.21
76B: Ladoga-----	95	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slope Slow water movement	0.50 0.21
76C: Ladoga-----	85	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Very limited Slope Slow water movement	1.00 0.21
76C2: Ladoga, moderately eroded-----	95	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Very limited Slope Slow water movement	1.00 0.21
76D: Ladoga-----	90	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
76D2: Ladoga, moderately eroded-----	90	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
76D3: Ladoga, severely eroded-----	85	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21

Camp Areas, Picnic Areas, and Playgrounds--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
76E2: Ladoga, moderately eroded-----	70	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
76E3: Ladoga, severely eroded-----	85	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
80B: Clinton-----	100	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slope Slow water movement	0.50 0.21
80C: Clinton-----	95	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Very limited Slope Slow water movement	1.00 0.21
80C2: Clinton, moderately eroded-----	85	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Very limited Slope Slow water movement	1.00 0.21
80D: Clinton-----	90	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
80D2: Clinton, moderately eroded-----	85	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
80D3: Clinton, severely eroded-----	75	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
80E2: Clinton, moderately eroded-----	90	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21

Camp Areas, Picnic Areas, and Playgrounds--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
80E3: Clinton, severely eroded-----	70	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
80F2: Clinton, moderately eroded-----	90	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
83B: Kenyon-----	75	Not limited		Not limited		Somewhat limited Slope	0.50
83C: Kenyon-----	80	Not limited		Not limited		Very limited Slope	1.00
83C2: Kenyon, moderately eroded-----	85	Not limited		Not limited		Very limited Slope	1.00
83D2: Kenyon, moderately eroded-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
88: Nevin, rarely flooded-----	90	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
93D2: Shelby, moderately eroded-----	50	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
Adair, moderately eroded-----	35	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96

Camp Areas, Picnic Areas, and Playgrounds--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
93D3: Shelby, severely eroded-----	50	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
Adair, severely eroded-----	30	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
93E2: Shelby, moderately eroded-----	60	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
Adair, moderately eroded-----	35	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
119: Muscatine-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
120B: Tama-----	95	Not limited		Not limited		Somewhat limited Slope	0.50
120C: Tama-----	85	Not limited		Not limited		Very limited Slope	1.00
120C2: Tama, moderately eroded-----	75	Not limited		Not limited		Very limited Slope	1.00
120D2: Tama, moderately eroded-----	85	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
120D3: Tama, severely eroded-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00

Camp Areas, Picnic Areas, and Playgrounds--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
120E2: Tama, moderately eroded-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
122: Sperry-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
133: Colo, occasionally flooded-----	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
		Flooding	1.00			Flooding	0.60
133+: Colo, occasionally flooded, overwash--	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
		Flooding	1.00			Flooding	0.60
162B: Downs-----	95	Not limited		Not limited		Somewhat limited Slope	0.50
162C: Downs-----	85	Not limited		Not limited		Very limited Slope	1.00
162C2: Downs, moderately eroded-----	85	Not limited		Not limited		Very limited Slope	1.00
162D2: Downs, moderately eroded-----	85	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
162D3: Downs, severely eroded-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
162E2: Downs, moderately eroded-----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
162E3: Downs, severely eroded-----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Camp Areas, Picnic Areas, and Playgrounds--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
163B: Fayette-----	95	Not limited		Not limited		Somewhat limited Slope	0.50
163C: Fayette-----	90	Not limited		Not limited		Very limited Slope	1.00
163C2: Fayette, moderately eroded-----	85	Not limited		Not limited		Very limited Slope	1.00
163D: Fayette-----	85	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
163D2: Fayette, moderately eroded-----	65	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
163D3: Fayette, severely eroded-----	60	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
163E: Fayette-----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
163E2: Fayette, moderately eroded-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
163E3: Fayette, severely eroded-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
163F: Fayette-----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
163F2: Fayette, moderately eroded-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
163F3: Fayette, severely eroded-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
163G: Fayette-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Camp Areas, Picnic Areas, and Playgrounds--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
165: Stronghurst-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
171C2: Bassett, moderately eroded-----	85	Not limited		Not limited		Very limited Slope	1.00
171D2: Bassett, moderately eroded-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
171D3: Bassett, severely eroded-----	75	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
171E2: Bassett, moderately eroded-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
171E3: Bassett, severely eroded-----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
172: Wabash, occasionally flooded-----	100	Very limited Depth to saturated zone Flooding Slow water movement	1.00 1.00 1.00	Very limited Depth to saturated zone Slow water movement Too clayey	1.00 1.00 1.00	Very limited Depth to saturated zone Slow water movement Too clayey	1.00 1.00 1.00
175: Dickinson-----	100	Not limited		Not limited		Not limited	
175B: Dickinson-----	95	Not limited		Not limited		Somewhat limited Slope	0.50
175C: Dickinson-----	85	Not limited		Not limited		Very limited Slope	1.00
178: Waukee-----	90	Not limited		Not limited		Not limited	
178B: Waukee-----	100	Not limited		Not limited		Somewhat limited Slope	0.50

Camp Areas, Picnic Areas, and Playgrounds--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
178C: Waukee-----	100	Not limited		Not limited		Very limited Slope	1.00
179D2: Gara, moderately eroded-----	80	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
179D3: Gara, severely eroded-----	70	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
179E2: Gara, moderately eroded-----	85	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
179E3: Gara, severely eroded-----	75	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
179F2: Gara, moderately eroded-----	85	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
179F3: Gara, severely eroded-----	90	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
180: Keomah-----	95	Very limited Depth to saturated zone Slow water movement	1.00 0.43	Very limited Depth to saturated zone Slow water movement	1.00 0.43	Very limited Depth to saturated zone Slow water movement	1.00 0.43

Camp Areas, Picnic Areas, and Playgrounds--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
192D2: Adair, moderately eroded-----	75	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
192D3: Adair, severely eroded-----	70	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
220: Nodaway, occasionally flooded-----	85	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
279: Taintor-----	90	Very limited Depth to saturated zone Slow water movement	1.00 0.21	Very limited Depth to saturated zone Slow water movement	1.00 0.21	Very limited Depth to saturated zone Slow water movement	1.00 0.21
280: Mahaska-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
281B: Otley-----	100	Somewhat limited Depth to saturated zone	0.39	Somewhat limited Depth to saturated zone	0.19	Somewhat limited Slope Depth to saturated zone	0.50 0.39
281C: Otley-----	90	Somewhat limited Depth to saturated zone	0.39	Somewhat limited Depth to saturated zone	0.19	Very limited Slope Depth to saturated zone	1.00 0.39
281C2: Otley, moderately eroded-----	85	Somewhat limited Depth to saturated zone	0.39	Somewhat limited Depth to saturated zone	0.19	Very limited Slope Depth to saturated zone	1.00 0.39

Camp Areas, Picnic Areas, and Playgrounds--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
281D2: Otley, moderately eroded-----	80	Somewhat limited Slope Depth to saturated zone	0.63 0.39	Somewhat limited Slope Depth to saturated zone	0.63 0.19	Very limited Slope Depth to saturated zone	1.00 0.39
281D3: Otley, severely eroded-----	80	Somewhat limited Slope Depth to saturated zone	0.63 0.39	Somewhat limited Slope Depth to saturated zone	0.63 0.19	Very limited Slope Depth to saturated zone	1.00 0.39
281E2: Otley, moderately eroded-----	85	Very limited Slope Depth to saturated zone	1.00 0.39	Very limited Slope Depth to saturated zone	1.00 0.19	Very limited Slope Depth to saturated zone	1.00 0.39
291: Atterberry-----	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
293C: Fayette-----	45	Not limited		Not limited		Very limited Slope	1.00
Chelsea-----	35	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Very limited Slope Too sandy	1.00 0.95
Tell-----	20	Not limited		Not limited		Very limited Slope	1.00
293D: Fayette-----	45	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
Chelsea-----	35	Somewhat limited Too sandy Slope	0.95 0.63	Somewhat limited Too sandy Slope	0.95 0.63	Very limited Slope Too sandy	1.00 0.95
Tell-----	20	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
293D2: Fayette, moderately eroded-----	45	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
Chelsea, moderately eroded-----	35	Somewhat limited Too sandy Slope	0.95 0.63	Somewhat limited Too sandy Slope	0.95 0.63	Very limited Slope Too sandy	1.00 0.95

Camp Areas, Picnic Areas, and Playgrounds--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
293D2: Tell, moderately eroded-----	20	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
293E: Fayette-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Chelsea-----	35	Very limited Slope Too sandy	1.00 0.95	Very limited Slope Too sandy	1.00 0.95	Very limited Slope Too sandy	1.00 0.95
Tell-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
293E2: Fayette, moderately eroded-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Chelsea, moderately eroded-----	35	Very limited Slope Too sandy	1.00 0.95	Very limited Slope Too sandy	1.00 0.95	Very limited Slope Too sandy	1.00 0.95
Tell, moderately eroded-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
293G: Fayette-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Chelsea-----	35	Very limited Slope Too sandy	1.00 0.95	Very limited Slope Too sandy	1.00 0.95	Very limited Slope Too sandy	1.00 0.95
Tell-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
353B: Tell-----	85	Not limited		Not limited		Somewhat limited Slope	0.50
353C: Tell-----	90	Not limited		Not limited		Very limited Slope	1.00
353C2: Tell, moderately eroded-----	90	Not limited		Not limited		Very limited Slope	1.00
353D2: Tell, moderately eroded-----	90	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00

Camp Areas, Picnic Areas, and Playgrounds--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
377B: Dinsdale-----	100	Not limited		Not limited		Somewhat limited Slope	0.50
377C: Dinsdale-----	85	Not limited		Not limited		Very limited Slope	1.00
420: Tama, terrace-----	100	Not limited		Not limited		Not limited	
420B: Tama, terrace-----	100	Not limited		Not limited		Somewhat limited Slope	0.50
422: Amana, occasionally flooded-----	90	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
424D2: Lindley, moderately eroded-----	50	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
Keswick, moderately eroded-----	35	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
424E2: Lindley, moderately eroded-----	45	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
Keswick, moderately eroded-----	40	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
424E3: Lindley, severely eroded-----	45	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21

Camp Areas, Picnic Areas, and Playgrounds--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
424E3: Keswick, severely eroded-----	40	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
424F2: Lindley, moderately eroded-----	65	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
Keswick, moderately eroded-----	25	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96	Very limited Slope Depth to saturated zone Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
425D2: Keswick, moderately eroded-----	90	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
425D3: Keswick, severely eroded-----	60	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
428B: Ely-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 0.50
430: Ackmore, occasionally flooded-----	100	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
450: Pillot-----	100	Not limited		Not limited		Not limited	

Camp Areas, Picnic Areas, and Playgrounds--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
450B: Pillot-----	90	Not limited		Not limited		Somewhat limited Slope	0.50
450C: Pillot-----	85	Not limited		Not limited		Very limited Slope	1.00
453: Tuskeego, rarely flooded-----	75	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Flooding	1.00	Slow water movement	1.00	Slow water movement	1.00
462B: Downs, terrace-----	90	Not limited		Not limited		Somewhat limited Slope	0.50
463B: Fayette, terrace----	100	Not limited		Not limited		Somewhat limited Slope	0.50
463C2: Fayette, moderately eroded, terrace----	90	Not limited		Not limited		Very limited Slope	1.00
463D2: Fayette, moderately eroded, terrace----	90	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
463D3: Fayette, severely eroded, terrace----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
463E2: Fayette, moderately eroded, terrace----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
463E3: Fayette, severely eroded, terrace----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
463F2: Fayette, moderately eroded, terrace----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Camp Areas, Picnic Areas, and Playgrounds--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
463F3: Fayette, severely eroded, terrace----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
484: Lawson, occasionally flooded-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Flooding	1.00	Flooding		Flooding	0.60
587: Chequest, occasionally flooded-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Flooding	1.00	Slow water movement	0.21	Flooding	0.60
		Slow water movement	0.21	Slow water movement		Slow water movement	0.21
587+: Chequest, occasionally flooded, overwash--	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Flooding	1.00	Slow water movement	0.21	Flooding	0.60
		Slow water movement	0.21	Slow water movement		Slow water movement	0.21
626: Hayfield-----	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
663D2: Seaton, moderately eroded-----	85	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
663E2: Seaton, moderately eroded-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
663E3: Seaton, severely eroded-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
663F2: Seaton, moderately eroded-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Camp Areas, Picnic Areas, and Playgrounds--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
687: Watkins, rarely flooded-----	90	Very limited Flooding	1.00	Not limited		Not limited	
687B: Watkins, rarely flooded-----	100	Very limited Flooding	1.00	Not limited		Somewhat limited Slope	0.50
688: Koszta, rarely flooded-----	95	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
771B: Waubeeek-----	90	Not limited		Not limited		Somewhat limited Slope	0.50
771C2: Waubeeek, moderately eroded-----	90	Not limited		Not limited		Very limited Slope	1.00
792D2: Armstrong, moderately eroded--	75	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
876B: Ladoga, terrace----	90	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement Slope	0.21 0.12
876C: Ladoga, terrace----	80	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Very limited Slope Slow water movement	1.00 0.21
876C2: Ladoga, moderately eroded, terrace----	85	Somewhat limited Slow water movement	0.21	Somewhat limited Slow water movement	0.21	Very limited Slope Slow water movement	1.00 0.21
876D2: Ladoga, moderately eroded, terrace----	90	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21

Camp Areas, Picnic Areas, and Playgrounds--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
881B: Otley, terrace-----	95	Somewhat limited Depth to saturated zone	0.39	Somewhat limited Depth to saturated zone	0.19	Somewhat limited Depth to saturated zone Slope	0.39 0.12
911B: Colo-----	55	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 0.50
Ely-----	35	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 0.50
993D2: Gara, moderately eroded-----	45	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Slow water movement	1.00 0.21
Armstrong, moderately eroded--	35	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slow water movement Slope	1.00 0.96 0.63	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
993E2: Gara, moderately eroded-----	45	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
Armstrong, moderately eroded--	40	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
993F2: Gara, moderately eroded-----	65	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21

Camp Areas, Picnic Areas, and Playgrounds--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
993F2: Armstrong, moderately eroded---	25	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96	Very limited Slope Depth to saturated zone Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.96
1160: Walford, terrace----	95	Very limited Depth to saturated zone Slow water movement	1.00 0.15	Very limited Depth to saturated zone Slow water movement	1.00 0.15	Very limited Depth to saturated zone Slow water movement	1.00 0.15
1220: Nodaway, frequently flooded, channeled	75	Very limited Flooding	1.00	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
1291: Atterberry, terrace	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
1354: Aquents, ponded----	100	Not rated		Not rated		Not rated	
1442B: Tama-----	40	Not limited		Not limited		Somewhat limited Slope	0.50
Sparta-----	35	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy Slope	0.95 0.50
Pilot-----	20	Not limited		Not limited		Somewhat limited Slope	0.50
1442C: Tama-----	40	Not limited		Not limited		Very limited Slope	1.00
Sparta-----	35	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Very limited Slope Too sandy	1.00 0.95
Pilot-----	20	Not limited		Not limited		Very limited Slope	1.00
1442C2: Tama, moderately eroded-----	40	Not limited		Not limited		Very limited Slope	1.00

Camp Areas, Picnic Areas, and Playgrounds--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
1442C2: Sparta, moderately eroded-----	35	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Very limited Slope Too sandy	1.00 0.95
Pillot, moderately eroded-----	20	Not limited		Not limited		Very limited Slope	1.00
1442D2: Tama, moderately eroded-----	40	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
Sparta, moderately eroded-----	35	Somewhat limited Too sandy Slope	0.95 0.63	Somewhat limited Too sandy Slope	0.95 0.63	Very limited Slope Too sandy	1.00 0.95
Pillot, moderately eroded-----	20	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
1442E2: Tama, moderately eroded-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Sparta, moderately eroded-----	35	Very limited Slope Too sandy	1.00 0.95	Very limited Slope Too sandy	1.00 0.95	Very limited Slope Too sandy	1.00 0.95
Pillot, moderately eroded-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
1540: Quiver, frequently flooded-----	40	Very limited Depth to saturated zone Flooding Slow water movement	1.00 1.00 0.21	Very limited Depth to saturated zone Flooding Slow water movement	1.00 0.40 0.21	Very limited Depth to saturated zone Flooding Slow water movement	1.00 1.00 0.21
Zook, frequently flooded-----	30	Very limited Depth to saturated zone Flooding Slow water movement	1.00 1.00 0.96	Very limited Depth to saturated zone Slow water movement Flooding	1.00 0.96 0.40	Very limited Depth to saturated zone Flooding Slow water movement	1.00 1.00 0.96
Klum, frequently flooded-----	15	Very limited Flooding	1.00	Somewhat limited Flooding	0.40	Very limited Flooding	1.00

Camp Areas, Picnic Areas, and Playgrounds--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
2219: Ella, rarely flooded	70	Very limited Flooding	1.00	Not limited		Not limited	
2219B: Ella, rarely flooded	75	Very limited Flooding	1.00	Not limited		Somewhat limited Slope	0.50
2219C2: Ella, moderately eroded-----	80	Very limited Flooding	1.00	Not limited		Very limited Slope	1.00
2422: Amana, occasionally flooded-----	50	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Nodaway, occasionally flooded-----	30	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Lawson, occasionally flooded-----	20	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
4946: Udorthents-----	65	Not rated		Not rated		Not rated	
Interstate highway--	30	Not rated		Not rated		Not rated	
5010: Pits, sand and gravel-----	100	Not rated		Not rated		Not rated	
5040: Udorthents-----	100	Not rated		Not rated		Not rated	
6220: Nodaway, frequently flooded-----	85	Very limited Flooding	1.00	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
6422: Amana, frequently flooded-----	90	Very limited Depth to saturated zone Flooding	1.00 1.00	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 1.00
AW: Animal waste lagoon	100	Not rated		Not rated		Not rated	

Camp Areas, Picnic Areas, and Playgrounds--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
SL: Sewage lagoon-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Paths, Trails, and Golf Fairways

(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
5B: Ackmore-----	45	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Colo-----	35	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
7: Wiota, rarely flooded-----	100	Not limited		Not limited		Not limited	
7B: Wiota, rarely flooded-----	100	Not limited		Not limited		Not limited	
8B: Judson-----	95	Not limited		Not limited		Not limited	
24C2: Shelby, moderately eroded-----	85	Not limited		Not limited		Not limited	
24D2: Shelby, moderately eroded-----	70	Not limited		Not limited		Somewhat limited Slope	0.63
24D3: Shelby, severely eroded-----	90	Not limited		Not limited		Somewhat limited Slope	0.63
24E2: Shelby, moderately eroded-----	85	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
24E3: Shelby, severely eroded-----	95	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
41: Sparta-----	100	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Droughty	0.07
41B: Sparta-----	100	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Droughty	0.07

Paths, Trails, and Golf Fairways--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
41C: Sparta-----	85	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Droughty	0.07
41D: Sparta-----	75	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Slope Droughty	0.63 0.07
43: Bremer, rarely flooded-----	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
51: Vesser, occasionally flooded-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
54: Zook, occasionally flooded-----	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
54+: Zook, occasionally flooded, overwash--	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
63C: Chelsea-----	90	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Droughty	0.48
63E: Chelsea-----	95	Somewhat limited Too sandy Slope	0.95 0.02	Somewhat limited Too sandy	0.95	Very limited Slope Droughty	1.00 0.48
63G: Chelsea-----	95	Very limited Slope Too sandy	1.00 0.95	Somewhat limited Too sandy Slope	0.95 0.56	Very limited Slope Droughty	1.00 0.48
65D2: Lindley, moderately eroded-----	85	Not limited		Not limited		Somewhat limited Slope	0.63
65D3: Lindley, severely eroded-----	85	Not limited		Not limited		Somewhat limited Slope	0.63

Paths, Trails, and Golf Fairways--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
65E2: Lindley, moderately eroded-----	85	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
65E3: Lindley, severely eroded-----	85	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
65F: Lindley-----	100	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
65F2: Lindley, moderately eroded-----	80	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
65F3: Lindley, severely eroded-----	90	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
65G: Lindley-----	100	Very limited Slope	1.00	Somewhat limited Slope	0.56	Very limited Slope	1.00
75: Givin-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
76B: Ladoga-----	95	Not limited		Not limited		Not limited	
76C: Ladoga-----	85	Not limited		Not limited		Not limited	
76C2: Ladoga, moderately eroded-----	95	Not limited		Not limited		Not limited	
76D: Ladoga-----	90	Not limited		Not limited		Somewhat limited Slope	0.63
76D2: Ladoga, moderately eroded-----	90	Not limited		Not limited		Somewhat limited Slope	0.63
76D3: Ladoga, severely eroded-----	85	Not limited		Not limited		Somewhat limited Slope	0.63

Paths, Trails, and Golf Fairways--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
76E2: Ladoga, moderately eroded-----	70	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
76E3: Ladoga, severely eroded-----	85	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
80B: Clinton-----	100	Not limited		Not limited		Not limited	
80C: Clinton-----	95	Not limited		Not limited		Not limited	
80C2: Clinton, moderately eroded-----	85	Not limited		Not limited		Not limited	
80D: Clinton-----	90	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.63
80D2: Clinton, moderately eroded-----	85	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.63
80D3: Clinton, severely eroded-----	75	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.63
80E2: Clinton, moderately eroded-----	90	Very limited Water erosion Slope	1.00 0.02	Very limited Water erosion	1.00	Very limited Slope	1.00
80E3: Clinton, severely eroded-----	70	Very limited Water erosion Slope	1.00 0.02	Very limited Water erosion	1.00	Very limited Slope	1.00
80F2: Clinton, moderately eroded-----	90	Very limited Water erosion Slope	1.00 0.82	Very limited Water erosion	1.00	Very limited Slope	1.00
83B: Kenyon-----	75	Not limited		Not limited		Not limited	
83C: Kenyon-----	80	Not limited		Not limited		Not limited	

Paths, Trails, and Golf Fairways--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
83C2: Kenyon, moderately eroded-----	85	Not limited		Not limited		Not limited	
83D2: Kenyon, moderately eroded-----	80	Not limited		Not limited		Somewhat limited Slope	0.63
88: Nevin, rarely flooded-----	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
93D2: Shelby, moderately eroded-----	50	Not limited		Not limited		Somewhat limited Slope	0.63
Adair, moderately eroded-----	35	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 0.63
93D3: Shelby, severely eroded-----	50	Not limited		Not limited		Somewhat limited Slope	0.63
Adair, severely eroded-----	30	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 0.63
93E2: Shelby, moderately eroded-----	60	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
Adair, moderately eroded-----	35	Very limited Depth to saturated zone Slope	1.00 0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 1.00
119: Muscatine-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
120B: Tama-----	95	Not limited		Not limited		Not limited	
120C: Tama-----	85	Not limited		Not limited		Not limited	

Paths, Trails, and Golf Fairways--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
120C2: Tama, moderately eroded-----	75	Not limited		Not limited		Not limited	
120D2: Tama, moderately eroded-----	85	Not limited		Not limited		Somewhat limited Slope	0.63
120D3: Tama, severely eroded-----	80	Not limited		Not limited		Somewhat limited Slope	0.63
120E2: Tama, moderately eroded-----	80	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
122: Sperry-----	95	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding	1.00 1.00
133: Colo, occasionally flooded-----	90	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
133+: Colo, occasionally flooded, overwash--	90	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
162B: Downs-----	95	Not limited		Not limited		Not limited	
162C: Downs-----	85	Not limited		Not limited		Not limited	
162C2: Downs, moderately eroded-----	85	Not limited		Not limited		Not limited	
162D2: Downs, moderately eroded-----	85	Not limited		Not limited		Somewhat limited Slope	0.63
162D3: Downs, severely eroded-----	80	Not limited		Not limited		Somewhat limited Slope	0.63

Paths, Trails, and Golf Fairways--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
162E2: Downs, moderately eroded-----	75	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
162E3: Downs, severely eroded-----	75	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
163B: Fayette-----	95	Not limited		Not limited		Not limited	
163C: Fayette-----	90	Not limited		Not limited		Not limited	
163C2: Fayette, moderately eroded-----	85	Not limited		Not limited		Not limited	
163D: Fayette-----	85	Not limited		Not limited		Somewhat limited Slope	0.63
163D2: Fayette, moderately eroded-----	65	Not limited		Not limited		Somewhat limited Slope	0.63
163D3: Fayette, severely eroded-----	60	Not limited		Not limited		Somewhat limited Slope	0.63
163E: Fayette-----	75	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
163E2: Fayette, moderately eroded-----	70	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
163E3: Fayette, severely eroded-----	70	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
163F: Fayette-----	75	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
163F2: Fayette, moderately eroded-----	70	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00

Paths, Trails, and Golf Fairways--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
163F3: Fayette, severely eroded-----	70	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
163G: Fayette-----	85	Very limited Slope	1.00	Somewhat limited Slope	0.56	Very limited Slope	1.00
165: Stronghurst-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
171C2: Bassett, moderately eroded-----	85	Not limited		Not limited		Not limited	
171D2: Bassett, moderately eroded-----	80	Not limited		Not limited		Somewhat limited Slope	0.63
171D3: Bassett, severely eroded-----	75	Not limited		Not limited		Somewhat limited Slope	0.63
171E2: Bassett, moderately eroded-----	80	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
171E3: Bassett, severely eroded-----	75	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
172: Wabash, occasionally flooded-----	100	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone Too clayey Flooding	1.00 1.00 0.60
175: Dickinson-----	100	Not limited		Not limited		Not limited	
175B: Dickinson-----	95	Not limited		Not limited		Not limited	
175C: Dickinson-----	85	Not limited		Not limited		Not limited	
178: Waukee-----	90	Not limited		Not limited		Not limited	

Paths, Trails, and Golf Fairways--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
178B: Waukee-----	100	Not limited		Not limited		Not limited	
178C: Waukee-----	100	Not limited		Not limited		Not limited	
179D2: Gara, moderately eroded-----	80	Not limited		Not limited		Somewhat limited Slope	0.63
179D3: Gara, severely eroded-----	70	Not limited		Not limited		Somewhat limited Slope	0.63
179E2: Gara, moderately eroded-----	85	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
179E3: Gara, severely eroded-----	75	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
179F2: Gara, moderately eroded-----	85	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
179F3: Gara, severely eroded-----	90	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
180: Keomah-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
192D2: Adair, moderately eroded-----	75	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 0.63
192D3: Adair, severely eroded-----	70	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 0.63

Paths, Trails, and Golf Fairways--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
220: Nodaway, occasionally flooded-----	85	Not limited		Not limited		Somewhat limited Flooding	0.60
279: Taintor-----	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
280: Mahaska-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
281B: Otley-----	100	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19
281C: Otley-----	90	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19
281C2: Otley, moderately eroded-----	85	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19
281D2: Otley, moderately eroded-----	80	Not limited		Not limited		Somewhat limited Slope Depth to saturated zone	0.63 0.19
281D3: Otley, severely eroded-----	80	Not limited		Not limited		Somewhat limited Slope Depth to saturated zone	0.63 0.19
281E2: Otley, moderately eroded-----	85	Somewhat limited Slope	0.02	Not limited		Very limited Slope Depth to saturated zone	1.00 0.19
291: Atterberry-----	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

Paths, Trails, and Golf Fairways--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
293C:							
Fayette-----	45	Not limited		Not limited		Not limited	
Chelsea-----	35	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Droughty	0.48
Tell-----	20	Not limited		Not limited		Not limited	
293D:							
Fayette-----	45	Not limited		Not limited		Somewhat limited Slope	0.63
Chelsea-----	35	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Slope Droughty	0.63 0.48
Tell-----	20	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.63
293D2:							
Fayette, moderately eroded-----	45	Not limited		Not limited		Somewhat limited Slope	0.63
Chelsea, moderately eroded-----	35	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Slope Droughty	0.63 0.48
Tell, moderately eroded-----	20	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.63
293E:							
Fayette-----	40	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
Chelsea-----	35	Somewhat limited Too sandy Slope	0.95 0.02	Somewhat limited Too sandy	0.95	Very limited Slope Droughty	1.00 0.48
Tell-----	25	Very limited Water erosion Slope	1.00 0.02	Very limited Water erosion	1.00	Very limited Slope	1.00
293E2:							
Fayette, moderately eroded-----	40	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
Chelsea, moderately eroded-----	35	Somewhat limited Too sandy Slope	0.95 0.02	Somewhat limited Too sandy	0.95	Very limited Slope Droughty	1.00 0.48
Tell, moderately eroded-----	25	Very limited Water erosion Slope	1.00 0.02	Very limited Water erosion	1.00	Very limited Slope	1.00

Paths, Trails, and Golf Fairways--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
293G: Fayette-----	40	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope	1.00
Chelsea-----	35	Very limited Slope Too sandy	1.00 0.95	Somewhat limited Too sandy Slope	0.95 0.22	Very limited Slope Droughty	1.00 0.48
Tell-----	25	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.22	Very limited Slope	1.00
353B: Tell-----	85	Not limited		Not limited		Not limited	
353C: Tell-----	90	Not limited		Not limited		Not limited	
353C2: Tell, moderately eroded-----	90	Not limited		Not limited		Not limited	
353D2: Tell, moderately eroded-----	90	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.63
377B: Dinsdale-----	100	Not limited		Not limited		Not limited	
377C: Dinsdale-----	85	Not limited		Not limited		Not limited	
420: Tama, terrace-----	100	Not limited		Not limited		Not limited	
420B: Tama, terrace-----	100	Not limited		Not limited		Not limited	
422: Amana, occasionally flooded-----	90	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
424D2: Lindley, moderately eroded-----	50	Not limited		Not limited		Somewhat limited Slope	0.63
Keswick, moderately eroded-----	35	Very limited Depth to saturated zone Water erosion	1.00 1.00	Very limited Depth to saturated zone Water erosion	1.00 1.00	Very limited Depth to saturated zone Slope	1.00 0.63

Paths, Trails, and Golf Fairways--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
424E2: Lindley, moderately eroded-----	45	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
Keswick, moderately eroded-----	40	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Water erosion Slope	1.00 0.02	Water erosion	1.00	Slope	1.00
424E3: Lindley, severely eroded-----	45	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
Keswick, severely eroded-----	40	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Water erosion Slope	1.00 0.02	Water erosion	1.00	Slope	1.00
424F2: Lindley, moderately eroded-----	65	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
Keswick, moderately eroded-----	25	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Slope	1.00
		Water erosion Slope	1.00 0.82	Water erosion	1.00	Depth to saturated zone	1.00
425D2: Keswick, moderately eroded-----	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
		Water erosion	1.00	Water erosion	1.00	Slope	0.63
425D3: Keswick, severely eroded-----	60	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Water erosion	1.00	Water erosion	1.00	Slope	0.63
428B: Ely-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00

Paths, Trails, and Golf Fairways--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
430: Ackmore, occasionally flooded-----	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
450: Pillot-----	100	Not limited		Not limited		Not limited	
450B: Pillot-----	90	Not limited		Not limited		Not limited	
450C: Pillot-----	85	Not limited		Not limited		Not limited	
453: Tuskeego, rarely flooded-----	75	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
462B: Downs, terrace-----	90	Not limited		Not limited		Not limited	
463B: Fayette, terrace----	100	Not limited		Not limited		Not limited	
463C2: Fayette, moderately eroded, terrace----	90	Not limited		Not limited		Not limited	
463D2: Fayette, moderately eroded, terrace----	90	Not limited		Not limited		Somewhat limited Slope	0.63
463D3: Fayette, severely eroded, terrace----	80	Not limited		Not limited		Somewhat limited Slope	0.63
463E2: Fayette, moderately eroded, terrace----	90	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
463E3: Fayette, severely eroded, terrace----	90	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
463F2: Fayette, moderately eroded, terrace----	85	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00

Paths, Trails, and Golf Fairways--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
463F3: Fayette, severely eroded, terrace----	90	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
484: Lawson, occasionally flooded-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
587: Chequest, occasionally flooded-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
587+: Chequest, occasionally flooded, overwash--	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
626: Hayfield-----	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
663D2: Seaton, moderately eroded-----	85	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.63
663E2: Seaton, moderately eroded-----	85	Very limited Water erosion Slope	1.00 0.02	Very limited Water erosion	1.00	Very limited Slope	1.00
663E3: Seaton, severely eroded-----	80	Very limited Water erosion Slope	1.00 0.02	Very limited Water erosion	1.00	Very limited Slope	1.00
663F2: Seaton, moderately eroded-----	80	Very limited Water erosion Slope	1.00 0.82	Very limited Water erosion	1.00	Very limited Slope	1.00
687: Watkins, rarely flooded-----	90	Not limited		Not limited		Not limited	

Paths, Trails, and Golf Fairways--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
687B: Watkins, rarely flooded-----	100	Not limited		Not limited		Not limited	
688: Koszta, rarely flooded-----	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
771B: Waubeek-----	90	Not limited		Not limited		Not limited	
771C2: Waubeek, moderately eroded-----	90	Not limited		Not limited		Not limited	
792D2: Armstrong, moderately eroded--	75	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 0.63
876B: Ladoga, terrace----	90	Not limited		Not limited		Not limited	
876C: Ladoga, terrace----	80	Not limited		Not limited		Not limited	
876C2: Ladoga, moderately eroded, terrace----	85	Not limited		Not limited		Not limited	
876D2: Ladoga, moderately eroded, terrace----	90	Not limited		Not limited		Somewhat limited Slope	0.63
881B: Otley, terrace-----	95	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19
911B: Colo-----	55	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
Ely-----	35	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
993D2: Gara, moderately eroded-----	45	Not limited		Not limited		Somewhat limited Slope	0.63

Paths, Trails, and Golf Fairways--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
993D2: Armstrong, moderately eroded---	35	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 0.63
993E2: Gara, moderately eroded-----	45	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
Armstrong, moderately eroded---	40	Very limited Depth to saturated zone Slope	1.00 0.02	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Slope	1.00 1.00
993F2: Gara, moderately eroded-----	65	Somewhat limited Slope	0.82	Not limited		Very limited Slope	1.00
Armstrong, moderately eroded---	25	Very limited Depth to saturated zone Slope	1.00 0.82	Very limited Depth to saturated zone	1.00	Very limited Slope Depth to saturated zone	1.00 1.00
1160: Walford, terrace---	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
1220: Nodaway, frequently flooded, channeled	75	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
1291: Atterberry, terrace	95	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
1354: Aquents, ponded----	100	Not rated		Not rated		Not rated	
1442B: Tama-----	40	Not limited		Not limited		Not limited	
Sparta-----	35	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Droughty	0.07
Pillot-----	20	Not limited		Not limited		Not limited	

Paths, Trails, and Golf Fairways--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
1442C:							
Tama-----	40	Not limited		Not limited		Not limited	
Sparta-----	35	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Droughty	0.07
Pillot-----	20	Not limited		Not limited		Not limited	
1442C2:							
Tama, moderately eroded-----	40	Not limited		Not limited		Not limited	
Sparta, moderately eroded-----	35	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Droughty	0.17
Pillot, moderately eroded-----	20	Not limited		Not limited		Not limited	
1442D2:							
Tama, moderately eroded-----	40	Not limited		Not limited		Somewhat limited Slope	0.63
Sparta, moderately eroded-----	35	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Slope Droughty	0.63 0.17
Pillot, moderately eroded-----	20	Not limited		Not limited		Somewhat limited Slope	0.63
1442E2:							
Tama, moderately eroded-----	40	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
Sparta, moderately eroded-----	35	Somewhat limited Too sandy Slope	0.95 0.02	Somewhat limited Too sandy	0.95	Very limited Slope Droughty	1.00 0.17
Pillot, moderately eroded-----	20	Somewhat limited Slope	0.02	Not limited		Very limited Slope	1.00
1540:							
Quiver, frequently flooded-----	40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00
Zook, frequently flooded-----	30	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00

Paths, Trails, and Golf Fairways--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
1540: Klum, frequently flooded-----	15	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
2219: Ella, rarely flooded	70	Not limited		Not limited		Not limited	
2219B: Ella, rarely flooded	75	Not limited		Not limited		Not limited	
2219C2: Ella, moderately eroded-----	80	Not limited		Not limited		Not limited	
2422: Amana, occasionally flooded-----	50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
Nodaway, occasionally flooded-----	30	Not limited		Not limited		Somewhat limited Flooding	0.60
Lawson, occasionally flooded-----	20	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Flooding	1.00 0.60
4946: Udorthents-----	65	Not rated		Not rated		Not rated	
Interstate highway--	30	Not rated		Not rated		Not rated	
5010: Pits, sand and gravel-----	100	Not rated		Not rated		Not rated	
5040: Udorthents-----	100	Not rated		Not rated		Not rated	
6220: Nodaway, frequently flooded-----	85	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Very limited Flooding	1.00
6422: Amana, frequently flooded-----	90	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Flooding Depth to saturated zone	1.00 1.00

Paths, Trails, and Golf Fairways--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
AW: Animal waste lagoon	100	Not rated		Not rated		Not rated	
SL: Sewage lagoon-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

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

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary, which is in Part I of this publication.

Building Site Development

The titles of the tables described in this section are:

- “Dwellings and Small Commercial Buildings”
- “Roads and Streets, Shallow Excavations, and Lawns and Landscaping”

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. The tables described in this section show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Dwellings and Small Commercial Buildings

(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
5B: Ackmore-----	45	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Colo-----	35	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
7: Wiota, rarely flooded-----	100	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
7B: Wiota, rarely flooded-----	100	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
8B: Judson-----	95	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
24C2: Shelby, moderately eroded-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
24D2: Shelby, moderately eroded-----	70	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
24D3: Shelby, severely eroded-----	90	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
24E2: Shelby, moderately eroded-----	85	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50

Dwellings and Small Commercial Buildings--Continued

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
24E3: Shelby, severely eroded-----	95	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
41: Sparta-----	100	Not limited		Not limited		Not limited	
41B: Sparta-----	100	Not limited		Not limited		Not limited	
41C: Sparta-----	85	Not limited		Not limited		Somewhat limited Slope	0.88
41D: Sparta-----	75	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
43: Bremer, rarely flooded-----	100	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
51: Vesser, occasionally flooded-----	95	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00
54: Zook, occasionally flooded-----	100	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
54+: Zook, occasionally flooded, overwash--	100	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
63C: Chelsea-----	90	Not limited		Not limited		Somewhat limited Slope	0.88
63E: Chelsea-----	95	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Dwellings and Small Commercial Buildings--Continued

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
63G: Chelsea-----	95	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
65D2: Lindley, moderately eroded-----	85	Somewhat limited Slope Shrink-swell	0.63 0.32	Somewhat limited Slope Shrink-swell	0.63 0.32	Very limited Slope Shrink-swell	1.00 0.32
65D3: Lindley, severely eroded-----	85	Somewhat limited Slope Shrink-swell	0.63 0.32	Somewhat limited Slope Shrink-swell	0.63 0.06	Very limited Slope Shrink-swell	1.00 0.32
65E2: Lindley, moderately eroded-----	85	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.32
65E3: Lindley, severely eroded-----	85	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.06	Very limited Slope Shrink-swell	1.00 0.32
65F: Lindley-----	100	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.32
65F2: Lindley, moderately eroded-----	80	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.32
65F3: Lindley, severely eroded-----	90	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.06	Very limited Slope Shrink-swell	1.00 0.32
65G: Lindley-----	100	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.32
75: Givin-----	95	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 1.00

Dwellings and Small Commercial Buildings--Continued

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
76B: Ladoga-----	95	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.61	Very limited Shrink-swell	1.00
76C: Ladoga-----	85	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.61	Very limited Shrink-swell Slope	1.00 0.88
76C2: Ladoga, moderately eroded-----	95	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.61	Very limited Shrink-swell Slope	1.00 0.88
76D: Ladoga-----	90	Very limited Shrink-swell Slope	1.00 0.63	Very limited Shrink-swell Slope Depth to saturated zone	1.00 0.63 0.61	Very limited Slope Shrink-swell	1.00 1.00
76D2: Ladoga, moderately eroded-----	90	Very limited Shrink-swell Slope	1.00 0.63	Very limited Shrink-swell Slope Depth to saturated zone	1.00 0.63 0.61	Very limited Slope Shrink-swell	1.00 1.00
76D3: Ladoga, severely eroded-----	85	Very limited Shrink-swell Slope	1.00 0.63	Somewhat limited Slope Depth to saturated zone Shrink-swell	0.63 0.61 0.06	Very limited Slope Shrink-swell	1.00 1.00
76E2: Ladoga, moderately eroded-----	70	Very limited Shrink-swell Slope	1.00 1.00	Very limited Shrink-swell Slope Depth to saturated zone	1.00 1.00 0.61	Very limited Slope Shrink-swell	1.00 1.00
76E3: Ladoga, severely eroded-----	85	Very limited Shrink-swell Slope	1.00 1.00	Very limited Slope Depth to saturated zone Shrink-swell	1.00 0.61 0.06	Very limited Slope Shrink-swell	1.00 1.00

Dwellings and Small Commercial Buildings--Continued

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
80B: Clinton-----	100	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.61	Very limited Shrink-swell	1.00
80C: Clinton-----	95	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.61	Very limited Shrink-swell Slope	1.00 0.88
80C2: Clinton, moderately eroded-----	85	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.61	Very limited Shrink-swell Slope	1.00 0.88
80D: Clinton-----	90	Very limited Shrink-swell Slope	1.00 0.63	Very limited Shrink-swell Slope Depth to saturated zone	1.00 0.63 0.61	Very limited Slope Shrink-swell	1.00 1.00
80D2: Clinton, moderately eroded-----	85	Very limited Shrink-swell Slope	1.00 0.63	Very limited Shrink-swell Slope Depth to saturated zone	1.00 0.63 0.61	Very limited Slope Shrink-swell	1.00 1.00
80D3: Clinton, severely eroded-----	75	Very limited Shrink-swell Slope	1.00 0.63	Very limited Shrink-swell Slope Depth to saturated zone	1.00 0.63 0.61	Very limited Slope Shrink-swell	1.00 1.00
80E2: Clinton, moderately eroded-----	90	Very limited Shrink-swell Slope	1.00 1.00	Very limited Shrink-swell Slope Depth to saturated zone	1.00 1.00 0.61	Very limited Slope Shrink-swell	1.00 1.00
80E3: Clinton, severely eroded-----	70	Very limited Shrink-swell Slope	1.00 1.00	Very limited Shrink-swell Slope Depth to saturated zone	1.00 1.00 0.61	Very limited Slope Shrink-swell	1.00 1.00

Dwellings and Small Commercial Buildings--Continued

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
80F2: Clinton, moderately eroded-----	90	Very limited Slope Shrink-swell	1.00 1.00	Very limited Slope Shrink-swell Depth to saturated zone	1.00 1.00 0.61	Very limited Slope Shrink-swell	1.00 1.00
83B: Kenyon-----	75	Not limited		Somewhat limited Depth to saturated zone	0.61	Not limited	
83C: Kenyon-----	80	Not limited		Somewhat limited Depth to saturated zone	0.61	Somewhat limited Slope	0.88
83C2: Kenyon, moderately eroded-----	85	Not limited		Somewhat limited Depth to saturated zone	0.61	Somewhat limited Slope	0.88
83D2: Kenyon, moderately eroded-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope Depth to saturated zone	0.63 0.61	Very limited Slope	1.00
88: Nevin, rarely flooded-----	90	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
93D2: Shelby, moderately eroded-----	50	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
Adair, moderately eroded-----	35	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.92 0.63	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.92 0.63	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.92
93D3: Shelby, severely eroded-----	50	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50

Dwellings and Small Commercial Buildings--Continued

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
93D3: Adair, severely eroded-----	30	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.92 0.63	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.92 0.63	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.92
93E2: Shelby, moderately eroded-----	60	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Adair, moderately eroded-----	35	Very limited Depth to saturated zone Slope Shrink-swell	1.00 1.00 0.92	Very limited Depth to saturated zone Slope Shrink-swell	1.00 1.00 0.92	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.92
119: Muscatine-----	95	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
120B: Tama-----	95	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
120C: Tama-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
120C2: Tama, moderately eroded-----	75	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
120D2: Tama, moderately eroded-----	85	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
120D3: Tama, severely eroded-----	80	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
120E2: Tama, moderately eroded-----	80	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50

Dwellings and Small Commercial Buildings--Continued

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
122: Sperry-----	95	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.32	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.32	Very limited Depth to saturated zone Ponding Shrink-swell	1.00 1.00 0.32
133: Colo, occasionally flooded-----	90	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
133+: Colo, occasionally flooded, overwash--	90	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
162B: Downs-----	95	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
162C: Downs-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
162C2: Downs, moderately eroded-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
162D2: Downs, moderately eroded-----	85	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
162D3: Downs, severely eroded-----	80	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
162E2: Downs, moderately eroded-----	75	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50

Dwellings and Small Commercial Buildings--Continued

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
162E3: Downs, severely eroded-----	75	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
163B: Fayette-----	95	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
163C: Fayette-----	90	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
163C2: Fayette, moderately eroded-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
163D: Fayette-----	85	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
163D2: Fayette, moderately eroded-----	65	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
163D3: Fayette, severely eroded-----	60	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
163E: Fayette-----	75	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
163E2: Fayette, moderately eroded-----	70	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
163E3: Fayette, severely eroded-----	70	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
163F: Fayette-----	75	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50

Dwellings and Small Commercial Buildings--Continued

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
163F2: Fayette, moderately eroded-----	70	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
163F3: Fayette, severely eroded-----	70	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
163G: Fayette-----	85	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
165: Stronghurst-----	95	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
171C2: Bassett, moderately eroded-----	85	Not limited		Somewhat limited Depth to saturated zone	0.61	Somewhat limited Slope	0.88
171D2: Bassett, moderately eroded-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope Depth to saturated zone	0.63 0.61	Very limited Slope	1.00
171D3: Bassett, severely eroded-----	75	Somewhat limited Slope	0.63	Somewhat limited Slope Depth to saturated zone	0.63 0.61	Very limited Slope	1.00
171E2: Bassett, moderately eroded-----	80	Very limited Slope	1.00	Very limited Slope Depth to saturated zone	1.00 0.61	Very limited Slope	1.00
171E3: Bassett, severely eroded-----	75	Very limited Slope	1.00	Very limited Slope Depth to saturated zone	1.00 0.61	Very limited Slope	1.00

Dwellings and Small Commercial Buildings--Continued

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
172: Wabash, occasionally flooded-----	100	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
175: Dickinson-----	100	Not limited		Not limited		Not limited	
175B: Dickinson-----	95	Not limited		Not limited		Not limited	
175C: Dickinson-----	85	Not limited		Not limited		Somewhat limited Slope	0.88
178: Waukee-----	90	Not limited		Not limited		Not limited	
178B: Waukee-----	100	Not limited		Not limited		Not limited	
178C: Waukee-----	100	Not limited		Not limited		Somewhat limited Slope	0.88
179D2: Gara, moderately eroded-----	80	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
179D3: Gara, severely eroded-----	70	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
179E2: Gara, moderately eroded-----	85	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
179E3: Gara, severely eroded-----	75	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
179F2: Gara, moderately eroded-----	85	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50

Dwellings and Small Commercial Buildings--Continued

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
179F3: Gara, severely eroded-----	90	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
180: Keomah-----	95	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
192D2: Adair, moderately eroded-----	75	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.92 0.63	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.92 0.63	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.92
192D3: Adair, severely eroded-----	70	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.92 0.63	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.92 0.63	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.92
220: Nodaway, occasionally flooded-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.61 0.50	Very limited Flooding Shrink-swell	1.00 0.50
279: Taintor-----	90	Very limited Depth to saturated zone Shrink-swell	1.00 0.82	Very limited Depth to saturated zone Shrink-swell	1.00 0.18	Very limited Depth to saturated zone Shrink-swell	1.00 0.82
280: Mahaska-----	95	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
281B: Otley-----	100	Very limited Shrink-swell Depth to saturated zone	1.00 0.39	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.39

Dwellings and Small Commercial Buildings--Continued

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
281C: Otley-----	90	Very limited Shrink-swell Depth to saturated zone	1.00 0.39	Very limited Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Shrink-swell Slope Depth to saturated zone	1.00 0.88 0.39
281C2: Otley, moderately eroded-----	85	Very limited Shrink-swell Depth to saturated zone	1.00 0.39	Very limited Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Shrink-swell Slope Depth to saturated zone	1.00 0.88 0.39
281D2: Otley, moderately eroded-----	80	Very limited Shrink-swell Slope Depth to saturated zone	1.00 0.63 0.39	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 1.00 0.63	Very limited Slope Shrink-swell Depth to saturated zone	1.00 1.00 0.39
281D3: Otley, severely eroded-----	80	Very limited Shrink-swell Slope Depth to saturated zone	1.00 0.63 0.39	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 1.00 0.63	Very limited Slope Shrink-swell Depth to saturated zone	1.00 1.00 0.39
281E2: Otley, moderately eroded-----	85	Very limited Shrink-swell Slope Depth to saturated zone	1.00 1.00 0.39	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 1.00 1.00	Very limited Slope Shrink-swell Depth to saturated zone	1.00 1.00 0.39
291: Atterberry-----	90	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
293C: Fayette-----	45	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
Chelsea-----	35	Not limited		Not limited		Somewhat limited Slope	0.88
Tell-----	20	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Slope Shrink-swell	0.88 0.50

Dwellings and Small Commercial Buildings--Continued

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
293D:							
Fayette-----	45	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Chelsea-----	35	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
Tell-----	20	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
293D2:							
Fayette, moderately eroded-----	45	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Chelsea, moderately eroded-----	35	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
Tell, moderately eroded-----	20	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
293E:							
Fayette-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Chelsea-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Tell-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
293E2:							
Fayette, moderately eroded-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Chelsea, moderately eroded-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Tell, moderately eroded-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
293G:							
Fayette-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Chelsea-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Dwellings and Small Commercial Buildings--Continued

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
293G: Tell-----	25	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
353B: Tell-----	85	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
353C: Tell-----	90	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Slope Shrink-swell	0.88 0.50
353C2: Tell, moderately eroded-----	90	Not limited		Not limited		Somewhat limited Slope	0.88
353D2: Tell, moderately eroded-----	90	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
377B: Dinsdale-----	100	Somewhat limited Shrink-swell	0.68	Somewhat limited Depth to saturated zone	0.61	Somewhat limited Shrink-swell	0.68
377C: Dinsdale-----	85	Somewhat limited Shrink-swell	0.68	Somewhat limited Depth to saturated zone	0.61	Somewhat limited Slope Shrink-swell	0.88 0.68
420: Tama, terrace-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
420B: Tama, terrace-----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
422: Amana, occasionally flooded-----	90	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
424D2: Lindley, moderately eroded-----	50	Somewhat limited Slope Shrink-swell	0.63 0.32	Somewhat limited Slope Shrink-swell	0.63 0.32	Very limited Slope Shrink-swell	1.00 0.32

Dwellings and Small Commercial Buildings--Continued

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
424D2: Keswick, moderately eroded-----	35	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.63	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.99 0.63	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00
424E2: Lindley, moderately eroded-----	45	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.32
Keswick, moderately eroded-----	40	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Shrink-swell	1.00 1.00 0.99	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00
424E3: Lindley, severely eroded-----	45	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.06	Very limited Slope Shrink-swell	1.00 0.32
Keswick, severely eroded-----	40	Very limited Depth to saturated zone Slope Shrink-swell	1.00 1.00 1.00 0.99	Very limited Depth to saturated zone Slope Shrink-swell	1.00 1.00 1.00 0.99	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00 0.99
424F2: Lindley, moderately eroded-----	65	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.32	Very limited Slope Shrink-swell	1.00 0.32
Keswick, moderately eroded-----	25	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.99	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00
425D2: Keswick, moderately eroded-----	90	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.63	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.99 0.63	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00

Dwellings and Small Commercial Buildings--Continued

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
425D3: Keswick, severely eroded-----	60	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.99 0.63	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.99 0.63	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.99
428B: Ely-----	95	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
430: Ackmore, occasionally flooded-----	100	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
450: Pillot-----	100	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
450B: Pillot-----	90	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
450C: Pillot-----	85	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Slope Shrink-swell	0.88 0.50
453: Tuskeego, rarely flooded-----	75	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
462B: Downs, terrace-----	90	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
463B: Fayette, terrace----	100	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
463C2: Fayette, moderately eroded, terrace----	90	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50

Dwellings and Small Commercial Buildings--Continued

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
463D2: Fayette, moderately eroded, terrace----	90	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
463D3: Fayette, severely eroded, terrace----	80	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
463E2: Fayette, moderately eroded, terrace----	90	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
463E3: Fayette, severely eroded, terrace----	90	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
463F2: Fayette, moderately eroded, terrace----	85	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
463F3: Fayette, severely eroded, terrace----	90	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
484: Lawson, occasionally flooded-----	80	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00
587: Chequest, occasionally flooded-----	95	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00

Dwellings and Small Commercial Buildings--Continued

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
587+: Chequest, occasionally flooded, overwash--	95	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
626: Hayfield-----	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
663D2: Seaton, moderately eroded-----	85	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
663E2: Seaton, moderately eroded-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
663E3: Seaton, severely eroded-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
663F2: Seaton, moderately eroded-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
687: Watkins, rarely flooded-----	90	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
687B: Watkins, rarely flooded-----	100	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
688: Koszta, rarely flooded-----	95	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
771B: Waubeek-----	90	Somewhat limited Shrink-swell	0.18	Somewhat limited Depth to saturated zone	0.61	Somewhat limited Shrink-swell	0.18

Dwellings and Small Commercial Buildings--Continued

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
771C2: Waubee, moderately eroded-----	90	Somewhat limited Shrink-swell	0.18	Somewhat limited Depth to saturated zone	0.61	Somewhat limited Slope Shrink-swell	0.88 0.18
792D2: Armstrong, moderately eroded--	75	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.63	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.82 0.63	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00
876B: Ladoga, terrace----	90	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.61	Very limited Shrink-swell	1.00
876C: Ladoga, terrace----	80	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.61	Very limited Shrink-swell Slope	1.00 0.88
876C2: Ladoga, moderately eroded, terrace----	85	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.61	Very limited Shrink-swell Slope	1.00 0.88
876D2: Ladoga, moderately eroded, terrace----	90	Very limited Shrink-swell Slope	1.00 0.63	Very limited Shrink-swell Slope Depth to saturated zone	1.00 0.63 0.61	Very limited Slope Shrink-swell	1.00 1.00
881B: Otley, terrace-----	95	Very limited Shrink-swell Depth to saturated zone	1.00 0.39	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.39
911B: Colo-----	55	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50
Ely-----	35	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Shrink-swell	1.00 0.50

Dwellings and Small Commercial Buildings--Continued

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
993D2: Gara, moderately eroded-----	45	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
Armstrong, moderately eroded--	35	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 0.63	Very limited Depth to saturated zone Shrink-swell Slope	1.00 0.82 0.63	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00
993E2: Gara, moderately eroded-----	45	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Armstrong, moderately eroded--	40	Very limited Depth to saturated zone Shrink-swell Slope	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Shrink-swell	1.00 1.00 0.82	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00
993F2: Gara, moderately eroded-----	65	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Armstrong, moderately eroded--	25	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 0.82	Very limited Slope Depth to saturated zone Shrink-swell	1.00 1.00 1.00
1160: Walford, terrace----	95	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00	Very limited Depth to saturated zone Shrink-swell	1.00 1.00
1220: Nodaway, frequently flooded, channeled	75	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.61 0.50	Very limited Flooding Shrink-swell	1.00 0.50
1291: Atterberry, terrace	95	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50	Very limited Depth to saturated zone Shrink-swell	1.00 0.50

Dwellings and Small Commercial Buildings--Continued

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
1354: Aquents, ponded-----	100	Not rated		Not rated		Not rated	
1442B: Tama-----	40	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Sparta-----	35	Not limited		Not limited		Not limited	
Pillot-----	20	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
1442C: Tama-----	40	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
Sparta-----	35	Not limited		Not limited		Somewhat limited Slope	0.88
Pillot-----	20	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Slope Shrink-swell	0.88 0.50
1442C2: Tama, moderately eroded-----	40	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
Sparta, moderately eroded-----	35	Not limited		Not limited		Somewhat limited Slope	0.88
Pillot, moderately eroded-----	20	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Slope Shrink-swell	0.88 0.50
1442D2: Tama, moderately eroded-----	40	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
Sparta, moderately eroded-----	35	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
Pillot, moderately eroded-----	20	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope	0.63	Very limited Slope Shrink-swell	1.00 0.50

Dwellings and Small Commercial Buildings--Continued

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
1442E2: Tama, moderately eroded-----	40	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Sparta, moderately eroded-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Pillot, moderately eroded-----	20	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
1540: Quiver, frequently flooded-----	40	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50
Zook, frequently flooded-----	30	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
Klum, frequently flooded-----	15	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.61	Very limited Flooding	1.00
2219: Ella, rarely flooded	70	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.61 0.50	Very limited Flooding Shrink-swell	1.00 0.50
2219B: Ella, rarely flooded	75	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.61 0.50	Very limited Flooding Shrink-swell	1.00 0.50
2219C2: Ella, moderately eroded-----	80	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.61 0.50	Very limited Flooding Slope Shrink-swell	1.00 0.88 0.50

Dwellings and Small Commercial Buildings--Continued

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
2422: Amana, occasionally flooded-----	50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Nodaway, occasionally flooded-----	30	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.61 0.50	Very limited Flooding Shrink-swell	1.00 0.50
Lawson, occasionally flooded-----	20	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00
4946: Udorthents-----	65	Not rated		Not rated		Not rated	
Interstate highway--	30	Not rated		Not rated		Not rated	
5010: Pits, sand and gravel-----	100	Not rated		Not rated		Not rated	
5040: Udorthents-----	100	Not rated		Not rated		Not rated	
6220: Nodaway, frequently flooded-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.61 0.50	Very limited Flooding Shrink-swell	1.00 0.50
6422: Amana, frequently flooded-----	90	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
AW: Animal waste lagoon	100	Not rated		Not rated		Not rated	
SL: Sewage lagoon-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Roads and Streets, Shallow Excavations, and Lawns and Landscaping

(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
5B: Ackmore-----	45	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
Colo-----	35	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
7: Wiota, rarely flooded-----	100	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
7B: Wiota, rarely flooded-----	100	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
8B: Judson-----	95	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
24C2: Shelby, moderately eroded-----	85	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
24D2: Shelby, moderately eroded-----	70	Very limited Low strength Slope Shrink-swell	1.00 0.63 0.50	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
24D3: Shelby, severely eroded-----	90	Very limited Low strength Slope Shrink-swell	1.00 0.63 0.50	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
24E2: Shelby, moderately eroded-----	85	Very limited Slope Low strength Shrink-swell	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
24E3: Shelby, severely eroded-----	95	Very limited Slope Low strength Shrink-swell	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
41: Sparta-----	100	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.07
41B: Sparta-----	100	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.07
41C: Sparta-----	85	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.07
41D: Sparta-----	75	Somewhat limited Slope	0.63	Very limited Cutbanks cave Slope	1.00 0.63	Somewhat limited Slope Droughty	0.63 0.07
43: Bremer, rarely flooded-----	100	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
51: Vesser, occasionally flooded-----	95	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60
54: Zook, occasionally flooded-----	100	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
54+: Zook, occasionally flooded, overwash--	100	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60
63C: Chelsea-----	90	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.48
63E: Chelsea-----	95	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.48
63G: Chelsea-----	95	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.48
65D2: Lindley, moderately eroded-----	85	Very limited Low strength Slope Frost action	1.00 0.63 0.50	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
65D3: Lindley, severely eroded-----	85	Very limited Low strength Slope Frost action	1.00 0.63 0.50	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
65E2: Lindley, moderately eroded-----	85	Very limited Slope Low strength Frost action	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
65E3: Lindley, severely eroded-----	85	Very limited Slope Low strength Frost action	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
65F: Lindley-----	100	Very limited Slope Low strength Frost action	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
65F2: Lindley, moderately eroded-----	80	Very limited Slope Low strength Frost action	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
65F3: Lindley, severely eroded-----	90	Very limited Slope Low strength Frost action	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
65G: Lindley-----	100	Very limited Slope Low strength Frost action	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
75: Givin-----	95	Very limited Shrink-swell Depth to saturated zone Frost action	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
76B: Ladoga-----	95	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
76C: Ladoga-----	85	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
76C2: Ladoga, moderately eroded-----	95	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
76D: Ladoga-----	90	Very limited Shrink-swell Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Depth to saturated zone Cutbanks cave	0.63 0.61 0.10	Somewhat limited Slope	0.63
76D2: Ladoga, moderately eroded-----	90	Very limited Shrink-swell Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Depth to saturated zone Cutbanks cave	0.63 0.61 0.10	Somewhat limited Slope	0.63

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
76D3: Ladoga, severely eroded-----	85	Very limited Shrink-swell Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Depth to saturated zone Cutbanks cave	0.63 0.61 0.10	Somewhat limited Slope	0.63
76E2: Ladoga, moderately eroded-----	70	Very limited Shrink-swell Low strength Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone Cutbanks cave	1.00 0.61 0.10	Very limited Slope	1.00
76E3: Ladoga, severely eroded-----	85	Very limited Shrink-swell Low strength Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone Cutbanks cave	1.00 0.61 0.10	Very limited Slope	1.00
80B: Clinton-----	100	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
80C: Clinton-----	95	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
80C2: Clinton, moderately eroded-----	85	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
80D: Clinton-----	90	Very limited Shrink-swell Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Depth to saturated zone Cutbanks cave	0.63 0.61 0.10	Somewhat limited Slope	0.63
80D2: Clinton, moderately eroded-----	85	Very limited Shrink-swell Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Depth to saturated zone Cutbanks cave	0.63 0.61 0.10	Somewhat limited Slope	0.63

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
80D3: Clinton, severely eroded-----	75	Very limited Shrink-swell Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Depth to saturated zone Cutbanks cave	0.63 0.61 0.10	Somewhat limited Slope	0.63
80E2: Clinton, moderately eroded-----	90	Very limited Shrink-swell Low strength Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone Cutbanks cave	1.00 0.61 0.10	Very limited Slope	1.00
80E3: Clinton, severely eroded-----	70	Very limited Shrink-swell Low strength Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone Cutbanks cave	1.00 0.61 0.10	Very limited Slope	1.00
80F2: Clinton, moderately eroded-----	90	Very limited Shrink-swell Slope Low strength	1.00 1.00 1.00	Very limited Slope Depth to saturated zone Cutbanks cave	1.00 0.61 0.10	Very limited Slope	1.00
83B: Kenyon-----	75	Somewhat limited Frost action Low strength	0.50 0.22	Somewhat limited Depth to saturated zone Dense layer Cutbanks cave	0.61 0.50 0.10	Not limited	
83C: Kenyon-----	80	Somewhat limited Frost action Low strength	0.50 0.22	Somewhat limited Depth to saturated zone Dense layer Cutbanks cave	0.61 0.50 0.10	Not limited	
83C2: Kenyon, moderately eroded-----	85	Somewhat limited Frost action Low strength	0.50 0.22	Somewhat limited Depth to saturated zone Dense layer Cutbanks cave	0.61 0.50 0.10	Not limited	

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
83D2: Kenyon, moderately eroded-----	80	Somewhat limited Slope Frost action Low strength	0.63 0.50 0.22	Somewhat limited Slope Depth to saturated zone Dense layer	0.63 0.61 0.50	Somewhat limited Slope	0.63
88: Nevin, rarely flooded-----	90	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
93D2: Shelby, moderately eroded-----	50	Very limited Low strength Slope Shrink-swell	1.00 0.63 0.50	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
Adair, moderately eroded-----	35	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Cutbanks cave	1.00 0.63 0.10	Very limited Depth to saturated zone Slope	1.00 0.63
93D3: Shelby, severely eroded-----	50	Very limited Low strength Slope Shrink-swell	1.00 0.63 0.50	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
Adair, severely eroded-----	30	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Cutbanks cave	1.00 0.63 0.10	Very limited Depth to saturated zone Slope	1.00 0.63
93E2: Shelby, moderately eroded-----	60	Very limited Slope Low strength Shrink-swell	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Adair, moderately eroded-----	35	Very limited Depth to saturated zone Frost action Slope	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to saturated zone Slope	1.00 1.00

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
119: Muscatine-----	95	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
120B: Tama-----	95	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
120C: Tama-----	85	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
120C2: Tama, moderately eroded-----	75	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
120D2: Tama, moderately eroded-----	85	Very limited Frost action Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
120D3: Tama, severely eroded-----	80	Very limited Frost action Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
120E2: Tama, moderately eroded-----	80	Very limited Frost action Low strength Slope	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
122: Sperry-----	95	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Cutbanks cave	1.00 1.00 0.10	Very limited Depth to saturated zone Ponding	1.00 1.00

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
133: Colo, occasionally flooded-----	90	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60
133+: Colo, occasionally flooded, overwash--	90	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60
162B: Downs-----	95	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
162C: Downs-----	85	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
162C2: Downs, moderately eroded-----	85	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
162D2: Downs, moderately eroded-----	85	Very limited Frost action Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
162D3: Downs, severely eroded-----	80	Very limited Frost action Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
162E2: Downs, moderately eroded-----	75	Very limited Frost action Low strength Slope	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
162E3: Downs, severely eroded-----	75	Very limited Frost action Low strength Slope	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
163B: Fayette-----	95	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
163C: Fayette-----	90	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
163C2: Fayette, moderately eroded-----	85	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
163D: Fayette-----	85	Very limited Frost action Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
163D2: Fayette, moderately eroded-----	65	Very limited Frost action Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
163D3: Fayette, severely eroded-----	60	Very limited Frost action Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
163E: Fayette-----	75	Very limited Frost action Low strength Slope	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
163E2: Fayette, moderately eroded-----	70	Very limited Frost action Low strength Slope	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
163E3: Fayette, severely eroded-----	70	Very limited Frost action Low strength Slope	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
163F: Fayette-----	75	Very limited Slope Frost action Low strength	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
163F2: Fayette, moderately eroded-----	70	Very limited Slope Frost action Low strength	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
163F3: Fayette, severely eroded-----	70	Very limited Slope Frost action Low strength	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
163G: Fayette-----	85	Very limited Slope Frost action Low strength	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
165: Stronghurst-----	95	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
171C2: Bassett, moderately eroded-----	85	Somewhat limited Frost action Low strength	0.50 0.22	Somewhat limited Depth to saturated zone Dense layer Cutbanks cave	0.61 0.50 0.10	Not limited	
171D2: Bassett, moderately eroded-----	80	Somewhat limited Slope Frost action Low strength	0.63 0.50 0.22	Somewhat limited Slope Depth to saturated zone Dense layer	0.63 0.61 0.50	Somewhat limited Slope	0.63

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
171D3: Bassett, severely eroded-----	75	Somewhat limited Slope Frost action Low strength	0.63 0.50 0.22	Somewhat limited Slope Depth to saturated zone Dense layer	0.63 0.61 0.50	Somewhat limited Slope	0.63
171E2: Bassett, moderately eroded-----	80	Very limited Slope Frost action Low strength	1.00 0.50 0.22	Very limited Slope Depth to saturated zone Dense layer	1.00 0.61 0.50	Very limited Slope	1.00
171E3: Bassett, severely eroded-----	75	Very limited Slope Frost action Low strength	1.00 0.50 0.22	Very limited Slope Depth to saturated zone Dense layer	1.00 0.61 0.50	Very limited Slope	1.00
172: Wabash, occasionally flooded-----	100	Very limited Shrink-swell Depth to saturated zone Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Too clayey	1.00 0.60 0.50	Very limited Depth to saturated zone Too clayey Flooding	1.00 1.00 0.60
175: Dickinson-----	100	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
175B: Dickinson-----	95	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
175C: Dickinson-----	85	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
178: Waukee-----	90	Not limited		Very limited Cutbanks cave	1.00	Not limited	
178B: Waukee-----	100	Not limited		Very limited Cutbanks cave	1.00	Not limited	
178C: Waukee-----	100	Not limited		Very limited Cutbanks cave	1.00	Not limited	

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
179D2: Gara, moderately eroded-----	80	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10		
		Shrink-swell	0.50				
179D3: Gara, severely eroded-----	70	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10		
		Shrink-swell	0.50				
179E2: Gara, moderately eroded-----	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
179E3: Gara, severely eroded-----	75	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
179F2: Gara, moderately eroded-----	85	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
179F3: Gara, severely eroded-----	90	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
180: Keomah-----	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	Cutbanks cave	0.10		
		Low strength	1.00				
192D2: Adair, moderately eroded-----	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	Slope	0.63	Slope	0.63
		Low strength	1.00	Cutbanks cave	0.10		

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
192D3: Adair, severely eroded-----	70	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Cutbanks cave	1.00 0.63 0.10	Very limited Depth to saturated zone Slope	1.00 0.63
220: Nodaway, occasionally flooded-----	85	Very limited Frost action Flooding Low strength	1.00 1.00 1.00	Somewhat limited Depth to saturated zone Flooding Cutbanks cave	0.61 0.60 0.10	Somewhat limited Flooding	0.60
279: Taintor-----	90	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
280: Mahaska-----	95	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
281B: Otley-----	100	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.19
281C: Otley-----	90	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.19
281C2: Otley, moderately eroded-----	85	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.19
281D2: Otley, moderately eroded-----	80	Very limited Shrink-swell Low strength Slope	1.00 1.00 0.63	Very limited Depth to saturated zone Slope Cutbanks cave	1.00 0.63 0.10	Somewhat limited Slope Depth to saturated zone	0.63 0.19

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
281D3: Otley, severely eroded-----	80	Very limited Shrink-swell Low strength Slope	1.00 1.00 0.63	Very limited Depth to saturated zone Slope Cutbanks cave	1.00 0.63 0.10	Somewhat limited Slope Depth to saturated zone	0.63 0.19
281E2: Otley, moderately eroded-----	85	Very limited Shrink-swell Low strength Slope	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Cutbanks cave	1.00 1.00 0.10	Very limited Slope Depth to saturated zone	1.00 0.19
291: Atterberry-----	90	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
293C: Fayette-----	45	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Chelsea-----	35	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.48
Tell-----	20	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Very limited Cutbanks cave	1.00	Not limited	
293D: Fayette-----	45	Very limited Frost action Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
Chelsea-----	35	Somewhat limited Slope	0.63	Very limited Cutbanks cave Slope	1.00 0.63	Somewhat limited Slope Droughty	0.63 0.48
Tell-----	20	Very limited Frost action Low strength Slope	1.00 1.00 0.63	Very limited Cutbanks cave Slope	1.00 0.63	Somewhat limited Slope	0.63
293D2: Fayette, moderately eroded-----	45	Very limited Frost action Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
293D2: Chelsea, moderately eroded-----	35	Somewhat limited Slope	0.63	Very limited Cutbanks cave Slope	1.00 0.63	Somewhat limited Slope Droughty	0.63 0.48
Tell, moderately eroded-----	20	Very limited Frost action Slope	1.00 0.63	Very limited Cutbanks cave Slope	1.00 0.63	Somewhat limited Slope	0.63
293E: Fayette-----	40	Very limited Frost action Low strength Slope	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Chelsea-----	35	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.48
Tell-----	25	Very limited Frost action Slope Low strength	1.00 1.00 1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope	1.00
293E2: Fayette, moderately eroded-----	40	Very limited Frost action Low strength Slope	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Chelsea, moderately eroded-----	35	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.48
Tell, moderately eroded-----	25	Very limited Frost action Slope	1.00 1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope	1.00
293G: Fayette-----	40	Very limited Slope Frost action Low strength	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Chelsea-----	35	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.48
Tell-----	25	Very limited Slope Frost action Low strength	1.00 1.00 1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope	1.00

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
353B: Tell-----	85	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Very limited Cutbanks cave	1.00	Not limited	
353C: Tell-----	90	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Very limited Cutbanks cave	1.00	Not limited	
353C2: Tell, moderately eroded-----	90	Very limited Frost action	1.00	Very limited Cutbanks cave	1.00	Not limited	
353D2: Tell, moderately eroded-----	90	Very limited Frost action Slope	1.00 0.63	Very limited Cutbanks cave Slope	1.00 0.63	Somewhat limited Slope	0.63
377B: Dinsdale-----	100	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.68	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
377C: Dinsdale-----	85	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.68	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
420: Tama, terrace-----	100	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
420B: Tama, terrace-----	100	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
422: Amana, occasionally flooded-----	90	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
424D2: Lindley, moderately eroded-----	50	Very limited Low strength Slope Frost action	1.00 0.63 0.50	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
Keswick, moderately eroded-----	35	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.28	Very limited Depth to saturated zone Slope	1.00 0.63
424E2: Lindley, moderately eroded-----	45	Very limited Slope Low strength Frost action	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Keswick, moderately eroded-----	40	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.28	Very limited Depth to saturated zone Slope	1.00 1.00
424E3: Lindley, severely eroded-----	45	Very limited Slope Low strength Frost action	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Keswick, severely eroded-----	40	Very limited Depth to saturated zone Frost action Slope	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.28	Very limited Depth to saturated zone Slope	1.00 1.00
424F2: Lindley, moderately eroded-----	65	Very limited Slope Low strength Frost action	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Keswick, moderately eroded-----	25	Very limited Depth to saturated zone Slope Frost action	1.00 1.00 1.00	Very limited Slope Depth to saturated zone Too clayey	1.00 1.00 0.28	Very limited Slope Depth to saturated zone	1.00 1.00

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
425D2: Keswick, moderately eroded-----	90	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.28	Very limited Depth to saturated zone Slope	1.00 0.63
425D3: Keswick, severely eroded-----	60	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.28	Very limited Depth to saturated zone Slope	1.00 0.63
428B: Ely-----	95	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
430: Ackmore, occasionally flooded-----	100	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60
450: Pillot-----	100	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Very limited Cutbanks cave	1.00	Not limited	
450B: Pillot-----	90	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Very limited Cutbanks cave	1.00	Not limited	
450C: Pillot-----	85	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Very limited Cutbanks cave	1.00	Not limited	
453: Tuskeego, rarely flooded-----	75	Very limited Depth to saturated zone Low strength Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
462B: Downs, terrace-----	90	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
463B: Fayette, terrace----	100	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
463C2: Fayette, moderately eroded, terrace----	90	Very limited Frost action Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
463D2: Fayette, moderately eroded, terrace----	90	Very limited Frost action Low strength Slope	 1.00 1.00 0.63	Somewhat limited Slope Cutbanks cave	 0.63 0.10	Somewhat limited Slope	0.63
463D3: Fayette, severely eroded, terrace----	80	Very limited Frost action Low strength Slope	 1.00 1.00 0.63	Somewhat limited Slope Cutbanks cave	 0.63 0.10	Somewhat limited Slope	0.63
463E2: Fayette, moderately eroded, terrace----	90	Very limited Frost action Low strength Slope	 1.00 1.00 1.00	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	1.00
463E3: Fayette, severely eroded, terrace----	90	Very limited Frost action Low strength Slope	 1.00 1.00 1.00	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	1.00
463F2: Fayette, moderately eroded, terrace----	85	Very limited Slope Frost action Low strength	 1.00 1.00 1.00	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	1.00
463F3: Fayette, severely eroded, terrace----	90	Very limited Slope Frost action Low strength	 1.00 1.00 1.00	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	1.00

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
484: Lawson, occasionally flooded-----	80	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60
587: Chequest, occasionally flooded-----	95	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60
587+: Chequest, occasionally flooded, overwash--	95	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60
626: Hayfield-----	90	Very limited Depth to saturated zone Frost action	1.00 1.00	Very limited Cutbanks cave Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
663D2: Seaton, moderately eroded-----	85	Very limited Frost action Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
663E2: Seaton, moderately eroded-----	85	Very limited Frost action Slope Low strength	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
663E3: Seaton, severely eroded-----	80	Very limited Frost action Slope Low strength	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
663F2: Seaton, moderately eroded-----	80	Very limited Slope Frost action Low strength	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
687: Watkins, rarely flooded-----	90	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
687B: Watkins, rarely flooded-----	100	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
688: Koszta, rarely flooded-----	95	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
771B: Waubeek-----	90	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.18	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
771C2: Waubeek, moderately eroded-----	90	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.18	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
792D2: Armstrong, moderately eroded--	75	Very limited Shrink-swell Depth to saturated zone Frost action	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.32	Very limited Depth to saturated zone Slope	1.00 0.63
876B: Ladoga, terrace----	90	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
876C: Ladoga, terrace----	80	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
876C2: Ladoga, moderately eroded, terrace----	85	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
876D2: Ladoga, moderately eroded, terrace----	90	Very limited Shrink-swell Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Depth to saturated zone Cutbanks cave	0.63 0.61 0.10	Somewhat limited Slope	0.63
881B: Otley, terrace-----	95	Very limited Shrink-swell Low strength Frost action	1.00 1.00 0.50	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Somewhat limited Depth to saturated zone	0.19
911B: Colo-----	55	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
Ely-----	35	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
993D2: Gara, moderately eroded-----	45	Very limited Low strength Slope Shrink-swell	1.00 0.63 0.50	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
Armstrong, moderately eroded--	35	Very limited Shrink-swell Depth to saturated zone Frost action	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.32	Very limited Depth to saturated zone Slope	1.00 0.63
993E2: Gara, moderately eroded-----	45	Very limited Slope Low strength Shrink-swell	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
993E2: Armstrong, moderately eroded---	40	Very limited Shrink-swell Depth to saturated zone Frost action	1.00 1.00 1.00	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.32	Very limited Depth to saturated zone Slope	1.00 1.00
993F2: Gara, moderately eroded-----	65	Very limited Slope Low strength Shrink-swell	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Armstrong, moderately eroded---	25	Very limited Shrink-swell Depth to saturated zone Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone Too clayey	1.00 1.00 0.32	Very limited Slope Depth to saturated zone	1.00 1.00
1160: Walford, terrace----	95	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
1220: Nodaway, frequently flooded, channeled	75	Very limited Frost action Flooding Low strength	1.00 1.00 1.00	Somewhat limited Flooding Depth to saturated zone Cutbanks cave	0.80 0.61 0.10	Very limited Flooding	1.00
1291: Atterberry, terrace	95	Very limited Depth to saturated zone Frost action Low strength	1.00 1.00 1.00	Very limited Depth to saturated zone Cutbanks cave	1.00 0.10	Very limited Depth to saturated zone	1.00
1354: Aquests, ponded----	100	Not rated		Not rated		Not rated	
1442B: Tama-----	40	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Sparta-----	35	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.07

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
1442B: Pillot-----	20	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Very limited Cutbanks cave	1.00	Not limited	
1442C: Tama-----	40	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Sparta-----	35	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.07
Pillot-----	20	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Very limited Cutbanks cave	1.00	Not limited	
1442C2: Tama, moderately eroded-----	40	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Sparta, moderately eroded-----	35	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.17
Pillot, moderately eroded-----	20	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Very limited Cutbanks cave	1.00	Not limited	
1442D2: Tama, moderately eroded-----	40	Very limited Frost action Low strength Slope	1.00 1.00 0.63	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
Sparta, moderately eroded-----	35	Somewhat limited Slope	0.63	Very limited Cutbanks cave Slope	1.00 0.63	Somewhat limited Slope Droughty	0.63 0.17
Pillot, moderately eroded-----	20	Very limited Frost action Low strength Slope	1.00 1.00 0.63	Very limited Cutbanks cave Slope	1.00 0.63	Somewhat limited Slope	0.63

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
1442E2: Tama, moderately eroded-----	40	Very limited Frost action Low strength Slope	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Sparta, moderately eroded-----	35	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.17
Pillot, moderately eroded-----	20	Very limited Frost action Slope Low strength	1.00 1.00 1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope	1.00
1540: Quiver, frequently flooded-----	40	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.80 0.10	Very limited Flooding Depth to saturated zone	1.00 1.00
Zook, frequently flooded-----	30	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.80 0.10	Very limited Flooding Depth to saturated zone	1.00 1.00
Klum, frequently flooded-----	15	Very limited Flooding Frost action	1.00 0.50	Somewhat limited Flooding Depth to saturated zone Cutbanks cave	0.80 0.61 0.10	Very limited Flooding	1.00
2219: Ella, rarely flooded	70	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
2219B: Ella, rarely flooded	75	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	
2219C2: Ella, moderately eroded-----	80	Very limited Frost action Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	0.61 0.10	Not limited	

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
2422: Amana, occasionally flooded-----	50	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60
Nodaway, occasionally flooded-----	30	Very limited Frost action Flooding Low strength	1.00 1.00 1.00	Somewhat limited Depth to saturated zone Flooding Cutbanks cave	0.61 0.60 0.10	Somewhat limited Flooding	0.60
Lawson, occasionally flooded-----	20	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.60 0.10	Very limited Depth to saturated zone Flooding	1.00 0.60
4946: Udorthents-----	65	Not rated		Not rated		Not rated	
Interstate highway--	30	Not rated		Not rated		Not rated	
5010: Pits, sand and gravel-----	100	Not rated		Not rated		Not rated	
5040: Udorthents-----	100	Not rated		Not rated		Not rated	
6220: Nodaway, frequently flooded-----	85	Very limited Frost action Flooding Low strength	1.00 1.00 1.00	Somewhat limited Flooding Depth to saturated zone Cutbanks cave	0.80 0.61 0.10	Very limited Flooding	1.00
6422: Amana, frequently flooded-----	90	Very limited Depth to saturated zone Frost action Flooding	1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Cutbanks cave	1.00 0.80 0.10	Very limited Flooding Depth to saturated zone	1.00 1.00
AW: Animal waste lagoon	100	Not rated		Not rated		Not rated	

Roads and Streets, Shallow Excavations, and Lawns and Landscaping--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
SL: Sewage lagoon-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Sanitary Facilities

The titles of the tables described in this section are:

- “Sewage Disposal”
- “Landfills”

These tables show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

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

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If

the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Sewage Disposal

(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	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
5B: Ackmore-----	45	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage Slope	0.50 0.32
Colo-----	35	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage Slope	0.53 0.32
7: Wiota, rarely flooded-----	100	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage Flooding	0.50 0.40
		Flooding	0.40		
7B: Wiota, rarely flooded-----	100	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage Flooding	0.50 0.40
		Flooding	0.40	Slope	0.32
8B: Judson-----	95	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage Slope	0.53 0.32
24C2: Shelby, moderately eroded-----	85	Very limited Slow water movement	1.00	Very limited Slope	1.00
24D2: Shelby, moderately eroded-----	70	Very limited Slow water movement	1.00	Very limited Slope	1.00
		Slope	0.63		
24D3: Shelby, severely eroded-----	90	Very limited Slow water movement	1.00	Very limited Slope	1.00
		Slope	0.63		

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
24E2: Shelby, moderately eroded-----	85	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00
24E3: Shelby, severely eroded-----	95	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00
41: Sparta-----	100	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage	1.00
41B: Sparta-----	100	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 0.32
41C: Sparta-----	85	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 1.00
41D: Sparta-----	75	Very limited Filtering capacity Seepage, bottom layer Slope	1.00 1.00 0.63	Very limited Slope Seepage	1.00 1.00
43: Bremer, rarely flooded-----	100	Very limited Depth to saturated zone Slow water movement Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 0.50 0.40
51: Vesser, occasionally flooded-----	95	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
54: Zook, occasionally flooded-----	100	Very limited Flooding Slow water movement Depth to saturated zone	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
54+: Zook, occasionally flooded, overwash--	100	Very limited Flooding Slow water movement Depth to saturated zone	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
63C: Chelsea-----	90	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 1.00
63E: Chelsea-----	95	Very limited Filtering capacity Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00
63G: Chelsea-----	95	Very limited Filtering capacity Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00
65D2: Lindley, moderately eroded-----	85	Very limited Slow water movement Slope	1.00 0.63	Very limited Slope	1.00
65D3: Lindley, severely eroded-----	85	Very limited Slow water movement Slope	1.00 0.63	Very limited Slope	1.00

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
65E2: Lindley, moderately eroded-----	85	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00
65E3: Lindley, severely eroded-----	85	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00
65F: Lindley-----	100	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope	1.00
65F2: Lindley, moderately eroded-----	80	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope	1.00
65F3: Lindley, severely eroded-----	90	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope	1.00
65G: Lindley-----	100	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope	1.00
75: Givin-----	95	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Seepage	1.00 0.53
76B: Ladoga-----	95	Very limited Slow water movement Depth to saturated zone	1.00 0.99	Somewhat limited Depth to saturated zone Seepage Slope	0.71 0.53 0.32
76C: Ladoga-----	85	Very limited Slow water movement Depth to saturated zone	1.00 0.99	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.53

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
76C2: Ladoga, moderately eroded-----	95	Very limited Slow water movement Depth to saturated zone	1.00 0.99	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.53
76D: Ladoga-----	90	Very limited Slow water movement Depth to saturated zone Slope	1.00 0.99 0.63	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.53
76D2: Ladoga, moderately eroded-----	90	Very limited Slow water movement Depth to saturated zone Slope	1.00 0.99 0.63	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.53
76D3: Ladoga, severely eroded-----	85	Very limited Slow water movement Depth to saturated zone Slope	1.00 0.99 0.63	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.53
76E2: Ladoga, moderately eroded-----	70	Very limited Slow water movement Slope Depth to saturated zone	1.00 1.00 0.99	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.53
76E3: Ladoga, severely eroded-----	85	Very limited Slow water movement Slope Depth to saturated zone	1.00 1.00 0.99	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.53
80B: Clinton-----	100	Very limited Slow water movement Depth to saturated zone	1.00 0.99	Somewhat limited Depth to saturated zone Seepage Slope	0.71 0.53 0.32

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
80C: Clinton-----	95	Very limited Slow water movement Depth to saturated zone	1.00 0.99	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.53
80C2: Clinton, moderately eroded-----	85	Very limited Slow water movement Depth to saturated zone	1.00 0.99	Very limited Slope Depth to saturated zone	1.00 0.71
80D: Clinton-----	90	Very limited Slow water movement Depth to saturated zone Slope	1.00 0.99 0.63	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.53
80D2: Clinton, moderately eroded-----	85	Very limited Slow water movement Depth to saturated zone Slope	1.00 0.99 0.63	Very limited Slope Depth to saturated zone	1.00 0.71
80D3: Clinton, severely eroded-----	75	Very limited Slow water movement Depth to saturated zone Slope	1.00 0.99 0.63	Very limited Slope Depth to saturated zone	1.00 0.71
80E2: Clinton, moderately eroded-----	90	Very limited Slow water movement Slope Depth to saturated zone	1.00 1.00 0.99	Very limited Slope Depth to saturated zone	1.00 0.71
80E3: Clinton, severely eroded-----	70	Very limited Slow water movement Slope Depth to saturated zone	1.00 1.00 0.99	Very limited Slope Depth to saturated zone	1.00 0.71

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
80F2: Clinton, moderately eroded-----	90	Very limited Slope Slow water movement Depth to saturated zone	1.00 1.00 0.99	Very limited Slope Depth to saturated zone	1.00 0.71
83B: Kenyon-----	75	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.50	Somewhat limited Depth to saturated zone Seepage Slope	0.71 0.50 0.32
83C: Kenyon-----	80	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.50	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.50
83C2: Kenyon, moderately eroded-----	85	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.50	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.50
83D2: Kenyon, moderately eroded-----	80	Somewhat limited Depth to saturated zone Slope Slow water movement	0.99 0.63 0.50	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.50
88: Nevin, rarely flooded-----	90	Very limited Depth to saturated zone Slow water movement Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 0.50 0.40
93D2: Shelby, moderately eroded-----	50	Very limited Slow water movement Slope	1.00 0.63	Very limited Slope	1.00

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
93D2: Adair, moderately eroded-----	35	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 0.63	Very limited Slope Depth to saturated zone	1.00 1.00
93D3: Shelby, severely eroded-----	50	Very limited Slow water movement Slope	1.00 0.63	Very limited Slope	1.00
Adair, severely eroded-----	30	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 0.63	Very limited Slope Depth to saturated zone	1.00 1.00
93E2: Shelby, moderately eroded-----	60	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00
Adair, moderately eroded-----	35	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone	1.00 1.00
119: Muscatine-----	95	Very limited Depth to saturated zone Slow water movement	1.00 0.50	Very limited Depth to saturated zone Seepage	1.00 0.50
120B: Tama-----	95	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage Slope	0.50 0.32
120C: Tama-----	85	Somewhat limited Slow water movement	0.50	Very limited Slope Seepage	1.00 0.50

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
120C2: Tama, moderately eroded-----	75	Somewhat limited Slow water movement	0.50	Very limited Slope Seepage	1.00 0.50
120D2: Tama, moderately eroded-----	85	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Slope Seepage	1.00 0.50
120D3: Tama, severely eroded-----	80	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Slope Seepage	1.00 0.50
120E2: Tama, moderately eroded-----	80	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
122: Sperry-----	95	Very limited Slow water movement Depth to saturated zone Ponding	1.00 1.00 1.00	Very limited Depth to saturated zone Ponding Seepage	1.00 1.00 0.53
133: Colo, occasionally flooded-----	90	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
133+: Colo, occasionally flooded, overwash--	90	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
162B: Downs-----	95	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage Slope	0.50 0.32

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
162C: Downs-----	85	Somewhat limited Slow water movement	0.50	Very limited Slope Seepage	1.00 0.50
162C2: Downs, moderately eroded-----	85	Somewhat limited Slow water movement	0.50	Very limited Slope Seepage	1.00 0.50
162D2: Downs, moderately eroded-----	85	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Slope Seepage	1.00 0.50
162D3: Downs, severely eroded-----	80	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Slope Seepage	1.00 0.50
162E2: Downs, moderately eroded-----	75	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
162E3: Downs, severely eroded-----	75	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
163B: Fayette-----	95	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage Slope	0.50 0.32
163C: Fayette-----	90	Somewhat limited Slow water movement	0.50	Very limited Slope Seepage	1.00 0.50
163C2: Fayette, moderately eroded-----	85	Somewhat limited Slow water movement	0.50	Very limited Slope Seepage	1.00 0.50
163D: Fayette-----	85	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Slope Seepage	1.00 0.50

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
163D2: Fayette, moderately eroded-----	65	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Slope Seepage	1.00 0.50
163D3: Fayette, severely eroded-----	60	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Slope Seepage	1.00 0.50
163E: Fayette-----	75	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
163E2: Fayette, moderately eroded-----	70	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
163E3: Fayette, severely eroded-----	70	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
163F: Fayette-----	75	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
163F2: Fayette, moderately eroded-----	70	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
163F3: Fayette, severely eroded-----	70	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
163G: Fayette-----	85	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
165: Stronghurst-----	95	Very limited Depth to saturated zone Slow water movement	1.00 0.50	Very limited Depth to saturated zone Seepage	1.00 0.50
171C2: Bassett, moderately eroded-----	85	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.50	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.50
171D2: Bassett, moderately eroded-----	80	Somewhat limited Depth to saturated zone Slope Slow water movement	0.99 0.63 0.50	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.50
171D3: Bassett, severely eroded-----	75	Somewhat limited Depth to saturated zone Slope Slow water movement	0.99 0.63 0.50	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.50
171E2: Bassett, moderately eroded-----	80	Very limited Slope Depth to saturated zone Slow water movement	1.00 0.99 0.50	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.50
171E3: Bassett, severely eroded-----	75	Very limited Slope Depth to saturated zone Slow water movement	1.00 0.99 0.50	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.50
172: Wabash, occasionally flooded-----	100	Very limited Flooding Slow water movement Depth to saturated zone	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
175: Dickinson-----	100	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00
175B: Dickinson-----	95	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.32
175C: Dickinson-----	85	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 1.00
178: Waukee-----	90	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage	1.00
178B: Waukee-----	100	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage Slope	1.00 0.32
178C: Waukee-----	100	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage Slope	1.00 1.00
179D2: Gara, moderately eroded-----	80	Very limited Slow water movement Slope	1.00 0.63	Very limited Slope	1.00
179D3: Gara, severely eroded-----	70	Very limited Slow water movement Slope	1.00 0.63	Very limited Slope	1.00
179E2: Gara, moderately eroded-----	85	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
179E3: Gara, severely eroded-----	75	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00
179F2: Gara, moderately eroded-----	85	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope	1.00
179F3: Gara, severely eroded-----	90	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope	1.00
180: Keomah-----	95	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone	1.00
192D2: Adair, moderately eroded-----	75	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 0.63	Very limited Slope Depth to saturated zone	1.00 1.00
192D3: Adair, severely eroded-----	70	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 0.63	Very limited Slope Depth to saturated zone	1.00 1.00
220: Nodaway, occasionally flooded-----	85	Very limited Flooding Depth to saturated zone Slow water movement	1.00 0.99 0.50	Very limited Flooding Depth to saturated zone Seepage	1.00 0.71 0.50

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
279: Taintor-----	90	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Seepage	1.00 0.53
280: Mahaska-----	95	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Seepage	1.00 0.53
281B: Otley-----	100	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.32
281C: Otley-----	90	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Slope Seepage	1.00 1.00 0.53
281C2: Otley, moderately eroded-----	85	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Slope Seepage	1.00 1.00 0.53
281D2: Otley, moderately eroded-----	80	Very limited Depth to saturated zone Slope Slow water movement	1.00 0.63 0.46	Very limited Slope Depth to saturated zone Seepage	1.00 1.00 0.53
281D3: Otley, severely eroded-----	80	Very limited Depth to saturated zone Slope Slow water movement	1.00 0.63 0.46	Very limited Slope Depth to saturated zone Seepage	1.00 1.00 0.53

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
281E2: Otley, moderately eroded-----	85	Very limited Depth to saturated zone Slope Slow water movement	1.00 1.00 0.46	Very limited Slope Depth to saturated zone Seepage	1.00 1.00 0.53
291: Atterberry-----	90	Very limited Depth to saturated zone Slow water movement	1.00 0.50	Very limited Depth to saturated zone Seepage	1.00 0.50
293C: Fayette-----	45	Somewhat limited Slow water movement	0.50	Very limited Slope Seepage	1.00 0.50
Chelsea-----	35	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 1.00
Tell-----	20	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage Slope	1.00 1.00
293D: Fayette-----	45	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Slope Seepage	1.00 0.50
Chelsea-----	35	Very limited Filtering capacity Seepage, bottom layer Slope	1.00 1.00 0.63	Very limited Slope Seepage	1.00 1.00
Tell-----	20	Very limited Seepage, bottom layer Slope Slow water movement	1.00 0.63 0.50	Very limited Slope Seepage	1.00 1.00
293D2: Fayette, moderately eroded-----	45	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Slope Seepage	1.00 0.50

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
293D2: Chelsea, moderately eroded-----	35	Very limited Filtering capacity Seepage, bottom layer Slope	1.00 1.00 0.63	Very limited Slope Seepage	1.00 1.00
Tell, moderately eroded-----	20	Very limited Seepage, bottom layer Slope Slow water movement	1.00 0.63 0.50	Very limited Slope Seepage	1.00 1.00
293E: Fayette-----	40	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
Chelsea-----	35	Very limited Filtering capacity Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00
Tell-----	25	Very limited Seepage, bottom layer Slope Slow water movement	1.00 1.00 0.50	Very limited Slope Seepage	1.00 1.00
293E2: Fayette, moderately eroded-----	40	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
Chelsea, moderately eroded-----	35	Very limited Filtering capacity Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00
Tell, moderately eroded-----	25	Very limited Seepage, bottom layer Slope Slow water movement	1.00 1.00 0.50	Very limited Slope Seepage	1.00 1.00

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
293G:					
Fayette-----	40	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
Chelsea-----	35	Very limited Filtering capacity Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00
Tell-----	25	Very limited Slope Seepage, bottom layer Slow water movement	1.00 1.00 0.50	Very limited Slope Seepage	1.00 1.00
353B:					
Tell-----	85	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage Slope	1.00 0.32
353C:					
Tell-----	90	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage Slope	1.00 1.00
353C2:					
Tell, moderately eroded-----	90	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage Slope	1.00 1.00
353D2:					
Tell, moderately eroded-----	90	Very limited Seepage, bottom layer Slope Slow water movement	1.00 0.63 0.50	Very limited Slope Seepage	1.00 1.00
377B:					
Dinsdale-----	100	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.50	Somewhat limited Depth to saturated zone Seepage Slope	0.71 0.50 0.32

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
377C: Dinsdale-----	85	Somewhat limited Depth to saturated zone	0.99	Very limited Slope	1.00
		Slow water movement	0.50	Depth to saturated zone	0.71
				Seepage	0.50
420: Tama, terrace-----	100	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage	0.50
420B: Tama, terrace-----	100	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage	0.50
				Slope	0.32
422: Amana, occasionally flooded-----	90	Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.46	Seepage	0.53
424D2: Lindley, moderately eroded-----	50	Very limited Slow water movement	1.00	Very limited Slope	1.00
		Slope	0.63		
Keswick, moderately eroded-----	35	Very limited Slow water movement	1.00	Very limited Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	0.63		
424E2: Lindley, moderately eroded-----	45	Very limited Slow water movement	1.00	Very limited Slope	1.00
		Slope	1.00		
Keswick, moderately eroded-----	40	Very limited Slow water movement	1.00	Very limited Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slope	1.00		

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
424E3: Lindley, severely eroded-----	45	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00
Keswick, severely eroded-----	40	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone	1.00 1.00
424F2: Lindley, moderately eroded-----	65	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope	1.00
Keswick, moderately eroded-----	25	Very limited Slow water movement Depth to saturated zone Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone	1.00 1.00
425D2: Keswick, moderately eroded-----	90	Very limited Slow water movement Depth to saturated zone Slope	1.00 1.00 1.00 0.63	Very limited Slope Depth to saturated zone	1.00 1.00
425D3: Keswick, severely eroded-----	60	Very limited Depth to saturated zone Slow water movement Slope	1.00 1.00 1.00 0.63	Very limited Slope Depth to saturated zone	1.00 1.00
428B: Ely-----	95	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.32

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
430: Ackmore, occasionally flooded-----	100	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.50
450: Pillot-----	100	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage	1.00
450B: Pillot-----	90	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage Slope	1.00 0.32
450C: Pillot-----	85	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage Slope	1.00 1.00
453: Tuskeego, rarely flooded-----	75	Very limited Slow water movement Depth to saturated zone Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 0.50 0.40
462B: Downs, terrace-----	90	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage Slope	0.50 0.32
463B: Fayette, terrace----	100	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage Slope	0.50 0.32
463C2: Fayette, moderately eroded, terrace----	90	Somewhat limited Slow water movement	0.50	Very limited Slope Seepage	1.00 0.50

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
463D2: Fayette, moderately eroded, terrace----	90	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Slope Seepage	1.00 0.50
463D3: Fayette, severely eroded, terrace----	80	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Slope Seepage	1.00 0.50
463E2: Fayette, moderately eroded, terrace----	90	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
463E3: Fayette, severely eroded, terrace----	90	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
463F2: Fayette, moderately eroded, terrace----	85	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
463F3: Fayette, severely eroded, terrace----	90	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
484: Lawson, occasionally flooded-----	80	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.50
587: Chequest, occasionally flooded-----	95	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
587+: Chequest, occasionally flooded, overwash--	95	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
626: Hayfield-----	90	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 0.50	Very limited Seepage Depth to saturated zone	1.00 1.00
663D2: Seaton, moderately eroded-----	85	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Slope Seepage	1.00 0.50
663E2: Seaton, moderately eroded-----	85	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
663E3: Seaton, severely eroded-----	80	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
663F2: Seaton, moderately eroded-----	80	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
687: Watkins, rarely flooded-----	90	Somewhat limited Slow water movement Flooding	0.50 0.40	Somewhat limited Seepage Flooding	0.50 0.40
687B: Watkins, rarely flooded-----	100	Somewhat limited Slow water movement Flooding	0.50 0.40	Somewhat limited Seepage Flooding Slope	0.50 0.40 0.32

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
688: Koszta, rarely flooded-----	95	Very limited Depth to saturated zone Slow water movement Flooding	1.00 0.46 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 0.53 0.40
771B: Waubeek-----	90	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.50	Somewhat limited Depth to saturated zone Seepage Slope	0.71 0.50 0.32
771C2: Waubeek, moderately eroded-----	90	Somewhat limited Depth to saturated zone Slow water movement	0.99 0.50	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.50
792D2: Armstrong, moderately eroded--	75	Very limited Slow water movement Depth to saturated zone Slope	1.00 1.00 0.63	Very limited Slope Depth to saturated zone	1.00 1.00
876B: Ladoga, terrace-----	90	Very limited Slow water movement Depth to saturated zone	1.00 0.99	Somewhat limited Depth to saturated zone Seepage Slope	0.71 0.53 0.08
876C: Ladoga, terrace-----	80	Very limited Slow water movement Depth to saturated zone	1.00 0.99	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.53
876C2: Ladoga, moderately eroded, terrace-----	85	Very limited Slow water movement Depth to saturated zone	1.00 0.99	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.53

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
876D2: Ladoga, moderately eroded, terrace----	90	Very limited Slow water movement Depth to saturated zone Slope	1.00 0.99 0.63	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.53
881B: Otley, terrace-----	95	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.08
911B: Colo-----	55	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.32
Ely-----	35	Very limited Depth to saturated zone Slow water movement	1.00 0.46	Very limited Depth to saturated zone Seepage Slope	1.00 0.53 0.32
993D2: Gara, moderately eroded-----	45	Very limited Slow water movement Slope	1.00 0.63	Very limited Slope	1.00
Armstrong, moderately eroded--	35	Very limited Slow water movement Depth to saturated zone Slope	1.00 1.00 0.63	Very limited Slope Depth to saturated zone	1.00 1.00
993E2: Gara, moderately eroded-----	45	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00
Armstrong, moderately eroded--	40	Very limited Slow water movement Depth to saturated zone Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone	1.00 1.00

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
993F2: Gara, moderately eroded-----	65	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope	1.00
Armstrong, moderately eroded--	25	Very limited Slow water movement Depth to saturated zone Slope	1.00 1.00 1.00	Very limited Slope Depth to saturated zone	1.00 1.00
1160: Walford, terrace----	95	Very limited Depth to saturated zone Slow water movement	1.00 1.00	Very limited Depth to saturated zone Seepage	1.00 0.50
1220: Nodaway, frequently flooded, channeled	75	Very limited Flooding Depth to saturated zone Slow water movement	1.00 0.99 0.50	Very limited Flooding Depth to saturated zone Seepage	1.00 0.71 0.50
1291: Atterberry, terrace	95	Very limited Depth to saturated zone Slow water movement	1.00 0.50	Very limited Depth to saturated zone Seepage	1.00 0.50
1354: Aquents, ponded----	100	Not rated		Not rated	
1442B: Tama-----	40	Somewhat limited Slow water movement	0.50	Somewhat limited Seepage Slope	0.50 0.32
Sparta-----	35	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 0.32
Pillot-----	20	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage Slope	1.00 0.32

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1442C:					
Tama-----	40	Somewhat limited Slow water movement	0.50	Very limited Slope Seepage	1.00 0.50
Sparta-----	35	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 1.00
Pillot-----	20	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage Slope	1.00 1.00
1442C2:					
Tama, moderately eroded-----	40	Somewhat limited Slow water movement	0.50	Very limited Slope Seepage	1.00 0.50
Sparta, moderately eroded-----	35	Very limited Seepage, bottom layer Filtering capacity	1.00 1.00	Very limited Seepage Slope	1.00 1.00
Pillot, moderately eroded-----	20	Very limited Seepage, bottom layer Slow water movement	1.00 0.50	Very limited Seepage Slope	1.00 1.00
1442D2:					
Tama, moderately eroded-----	40	Somewhat limited Slope Slow water movement	0.63 0.50	Very limited Slope Seepage	1.00 0.50
Sparta, moderately eroded-----	35	Very limited Seepage, bottom layer Filtering capacity Slope	1.00 1.00 0.63	Very limited Slope Seepage	1.00 1.00
Pillot, moderately eroded-----	20	Very limited Seepage, bottom layer Slope Slow water movement	1.00 0.63 0.50	Very limited Slope Seepage	1.00 1.00

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1442E2: Tama, moderately eroded-----	40	Very limited Slope Slow water movement	1.00 0.50	Very limited Slope Seepage	1.00 0.50
Sparta, moderately eroded-----	35	Very limited Seepage, bottom layer Slope Filtering capacity	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00
Pillot, moderately eroded-----	20	Very limited Slope Seepage, bottom layer Slow water movement	1.00 1.00 0.50	Very limited Slope Seepage	1.00 1.00
1540: Quiver, frequently flooded-----	40	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Zook, frequently flooded-----	30	Very limited Flooding Slow water movement Depth to saturated zone	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Klum, frequently flooded-----	15	Very limited Flooding Seepage, bottom layer Depth to saturated zone	1.00 1.00 0.99	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 0.71
2219: Ella, rarely flooded	70	Somewhat limited Depth to saturated zone Slow water movement Flooding	0.99 0.50 0.40	Somewhat limited Depth to saturated zone Seepage Flooding	0.71 0.53 0.40

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
2219B: Ella, rarely flooded	75	Somewhat limited Depth to saturated zone Slow water movement Flooding	0.99 0.50 0.40	Somewhat limited Depth to saturated zone Seepage Flooding	0.71 0.53 0.40
2219C2: Ella, moderately eroded-----	80	Somewhat limited Depth to saturated zone Slow water movement Flooding	0.99 0.50 0.40	Very limited Slope Depth to saturated zone Seepage	1.00 0.71 0.53
2422: Amana, occasionally flooded-----	50	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
Nodaway, occasionally flooded-----	30	Very limited Flooding Depth to saturated zone Slow water movement	1.00 0.99 0.50	Very limited Flooding Depth to saturated zone Seepage	1.00 0.71 0.50
Lawson, occasionally flooded-----	20	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.50
4946: Udorthents-----	65	Not rated		Not rated	
Interstate highway--	30	Not rated		Not rated	
5010: Pits, sand and gravel-----	100	Not rated		Not rated	
5040: Udorthents-----	100	Not rated		Not rated	

Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
6220: Nodaway, frequently flooded-----	85	Very limited Flooding Depth to saturated zone Slow water movement	 1.00 0.99 0.50	Very limited Flooding Depth to saturated zone Seepage	 1.00 0.71 0.50
6422: Amana, frequently flooded-----	90	Very limited Flooding Depth to saturated zone Slow water movement	 1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	 1.00 1.00 0.53
AW: Animal waste lagoon	100	Not rated		Not rated	
SL: Sewage lagoon-----	100	Not rated		Not rated	
W: Water-----	100	Not rated		Not rated	

Landfills

(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	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5B: Ackmore-----	45	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
Colo-----	35	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
7: Wiota, rarely flooded-----	100	Somewhat limited Too clayey Flooding	0.50 0.40	Somewhat limited Flooding	0.40	Somewhat limited Too clayey	0.50
7B: Wiota, rarely flooded-----	100	Somewhat limited Too clayey Flooding	0.50 0.40	Somewhat limited Flooding	0.40	Somewhat limited Too clayey	0.50
8B: Judson-----	95	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
24C2: Shelby, moderately eroded-----	85	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
24D2: Shelby, moderately eroded-----	70	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50
24D3: Shelby, severely eroded-----	90	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50
24E2: Shelby, moderately eroded-----	85	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24E3: Shelby, severely eroded-----	95	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
41: Sparta-----	100	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
41B: Sparta-----	100	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
41C: Sparta-----	85	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
41D: Sparta-----	75	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 0.63	Very limited Seepage Slope	1.00 0.63	Very limited Too sandy Seepage Slope	1.00 1.00 0.63
43: Bremer, rarely flooded-----	100	Very limited Depth to saturated zone Too clayey Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Hard to compact Too clayey	1.00 1.00 0.50
51: Vesser, occasionally flooded-----	95	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
54: Zook, occasionally flooded-----	100	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
54+: Zook, occasionally flooded, overwash--	100	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
63C: Chelsea-----	90	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
63E: Chelsea-----	95	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Too sandy Seepage Slope	1.00 1.00 1.00
63G: Chelsea-----	95	Very limited Slope Seepage, bottom layer Too sandy	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Too sandy Seepage	1.00 1.00 1.00
65D2: Lindley, moderately eroded-----	85	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50
65D3: Lindley, severely eroded-----	85	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50
65E2: Lindley, moderately eroded-----	85	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
65E3: Lindley, severely eroded-----	85	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
65F: Lindley-----	100	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65F2: Lindley, moderately eroded-----	80	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
65F3: Lindley, severely eroded-----	90	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
65G: Lindley-----	100	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
75: Givin-----	95	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
76B: Ladoga-----	95	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
76C: Ladoga-----	85	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
76C2: Ladoga, moderately eroded-----	95	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
76D: Ladoga-----	90	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Somewhat limited Slope Too clayey	0.63 0.50
76D2: Ladoga, moderately eroded-----	90	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Somewhat limited Slope Too clayey	0.63 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
76D3: Ladoga, severely eroded-----	85	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Somewhat limited Slope Too clayey	0.63 0.50
76E2: Ladoga, moderately eroded-----	70	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Slope Too clayey	1.00 0.50
76E3: Ladoga, severely eroded-----	85	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Slope Too clayey	1.00 0.50
80B: Clinton-----	100	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
80C: Clinton-----	95	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
80C2: Clinton, moderately eroded-----	85	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
80D: Clinton-----	90	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Somewhat limited Slope Too clayey	0.63 0.50
80D2: Clinton, moderately eroded-----	85	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Somewhat limited Slope Too clayey	0.63 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
80D3: Clinton, severely eroded-----	75	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Somewhat limited Slope Too clayey	0.63 0.50
80E2: Clinton, moderately eroded-----	90	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Slope Too clayey	1.00 0.50
80E3: Clinton, severely eroded-----	70	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Slope Too clayey	1.00 0.50
80F2: Clinton, moderately eroded-----	90	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50	Very limited Slope Depth to saturated zone	1.00 1.00	Very limited Slope Too clayey	1.00 0.50
83B: Kenyon-----	75	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
83C: Kenyon-----	80	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
83C2: Kenyon, moderately eroded-----	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
83D2: Kenyon, moderately eroded-----	80	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Slope	1.00 0.63	Somewhat limited Slope	0.63

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
88: Nevin, rarely flooded-----	90	Very limited Depth to saturated zone Too clayey Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Too clayey	1.00 0.50
93D2: Shelby, moderately eroded-----	50	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50
Adair, moderately eroded-----	35	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50
93D3: Shelby, severely eroded-----	50	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50
Adair, severely eroded-----	30	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50
93E2: Shelby, moderately eroded-----	60	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
Adair, moderately eroded-----	35	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50
119: Muscatine-----	95	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
120B: Tama-----	95	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
120C: Tama-----	85	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
120C2: Tama, moderately eroded-----	75	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
120D2: Tama, moderately eroded-----	85	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50
120D3: Tama, severely eroded-----	80	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50
120E2: Tama, moderately eroded-----	80	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
122: Sperry-----	95	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone Ponding	1.00 1.00	Very limited Depth to saturated zone Ponding Too clayey	1.00 1.00 0.50
133: Colo, occasionally flooded-----	90	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 1.00 0.50
133+: Colo, occasionally flooded, overwash--	90	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 1.00 0.50
162B: Downs-----	95	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
162C: Downs-----	85	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
162C2: Downs, moderately eroded-----	85	Not limited		Not limited		Not limited	
162D2: Downs, moderately eroded-----	85	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63
162D3: Downs, severely eroded-----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63
162E2: Downs, moderately eroded-----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
162E3: Downs, severely eroded-----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
163B: Fayette-----	95	Not limited		Not limited		Not limited	
163C: Fayette-----	90	Not limited		Not limited		Not limited	
163C2: Fayette, moderately eroded-----	85	Not limited		Not limited		Not limited	
163D: Fayette-----	85	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63
163D2: Fayette, moderately eroded-----	65	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63
163D3: Fayette, severely eroded-----	60	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63
163E: Fayette-----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
163E2: Fayette, moderately eroded-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
163E3: Fayette, severely eroded-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
163F: Fayette-----	75	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
163F2: Fayette, moderately eroded-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
163F3: Fayette, severely eroded-----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
163G: Fayette-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
165: Stronghurst-----	95	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
171C2: Bassett, moderately eroded-----	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	
171D2: Bassett, moderately eroded-----	80	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Slope	1.00 0.63	Somewhat limited Slope	0.63
171D3: Bassett, severely eroded-----	75	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Slope	1.00 0.63	Somewhat limited Slope	0.63
171E2: Bassett, moderately eroded-----	80	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Slope	1.00

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
171E3: Bassett, severely eroded-----	75	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Slope	1.00
172: Wabash, occasionally flooded-----	100	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey Hard to compact	1.00 1.00 1.00
175: Dickinson-----	100	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
175B: Dickinson-----	95	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
175C: Dickinson-----	85	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
178: Waukee-----	90	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
178B: Waukee-----	100	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
178C: Waukee-----	100	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
179D2: Gara, moderately eroded-----	80	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
179D3: Gara, severely eroded-----	70	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50
179E2: Gara, moderately eroded-----	85	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
179E3: Gara, severely eroded-----	75	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
179F2: Gara, moderately eroded-----	85	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
179F3: Gara, severely eroded-----	90	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
180: Keomah-----	95	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact Too clayey	1.00 1.00 0.50
192D2: Adair, moderately eroded-----	75	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50
192D3: Adair, severely eroded-----	70	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
220: Nodaway, occasionally flooded-----	85	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00 1.00	Somewhat limited Too clayey	0.50
279: Taintor-----	90	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
280: Mahaska-----	95	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact Too clayey	1.00 1.00 0.50
281B: Otley-----	100	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Too clayey	0.86 0.50
281C: Otley-----	90	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Too clayey	0.86 0.50
281C2: Otley, moderately eroded-----	85	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Too clayey	0.86 0.50
281D2: Otley, moderately eroded-----	80	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Somewhat limited Depth to saturated zone Slope Too clayey	0.86 0.63 0.50
281D3: Otley, severely eroded-----	80	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Somewhat limited Depth to saturated zone Slope Too clayey	0.86 0.63 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
281E2: Otley, moderately eroded-----	85	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Slope Depth to saturated zone Too clayey	1.00 0.86 0.50
291: Atterberry-----	90	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact Too clayey	1.00 1.00 0.50
293C: Fayette-----	45	Not limited		Not limited		Not limited	
Chelsea-----	35	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
Tell-----	20	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
293D: Fayette-----	45	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63
Chelsea-----	35	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 0.63	Very limited Seepage Slope	1.00 0.63	Very limited Too sandy Seepage Slope	1.00 1.00 0.63
Tell-----	20	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 0.63	Very limited Seepage Slope	1.00 0.63	Very limited Too sandy Seepage Slope	1.00 1.00 0.63
293D2: Fayette, moderately eroded-----	45	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63
Chelsea, moderately eroded-----	35	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 0.63	Very limited Seepage Slope	1.00 0.63	Very limited Too sandy Seepage Slope	1.00 1.00 0.63

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
293D2: Tell, moderately eroded-----	20	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 0.63	Very limited Seepage Slope	1.00 0.63	Very limited Too sandy Seepage Slope	1.00 1.00 0.63
293E: Fayette-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Chelsea-----	35	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Too sandy Seepage Slope	1.00 1.00 1.00
Tell-----	25	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Too sandy Seepage Slope	1.00 1.00 1.00
293E2: Fayette, moderately eroded-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Chelsea, moderately eroded-----	35	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Too sandy Seepage Slope	1.00 1.00 1.00
Tell, moderately eroded-----	25	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Too sandy Seepage Slope	1.00 1.00 1.00
293G: Fayette-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Chelsea-----	35	Very limited Slope Seepage, bottom layer Too sandy	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Too sandy Seepage	1.00 1.00 1.00
Tell-----	25	Very limited Slope Seepage, bottom layer Too sandy	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Too sandy Seepage	1.00 1.00 1.00

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
353B: Tell-----	85	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
353C: Tell-----	90	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
353C2: Tell, moderately eroded-----	90	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
353D2: Tell, moderately eroded-----	90	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 0.63	Very limited Seepage Slope	1.00 0.63	Very limited Too sandy Seepage Slope	1.00 1.00 0.63
377B: Dinsdale-----	100	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
377C: Dinsdale-----	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
420: Tama, terrace-----	100	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
420B: Tama, terrace-----	100	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
422: Amana, occasionally flooded-----	90	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
424D2: Lindley, moderately eroded-----	50	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
424D2: Keswick, moderately eroded-----	35	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50
424E2: Lindley, moderately eroded-----	45	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
Keswick, moderately eroded-----	40	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50
424E3: Lindley, severely eroded-----	45	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
Keswick, severely eroded-----	40	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50
424F2: Lindley, moderately eroded-----	65	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
Keswick, moderately eroded-----	25	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50	Very limited Slope Depth to saturated zone	1.00 1.00	Very limited Slope Depth to saturated zone Too clayey	1.00 1.00 0.50
425D2: Keswick, moderately eroded-----	90	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
425D3: Keswick, severely eroded-----	60	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50
428B: Ely-----	95	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
430: Ackmore, occasionally flooded-----	100	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
450: Pillot-----	100	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
450B: Pillot-----	90	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
450C: Pillot-----	85	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
453: Tuskeego, rarely flooded-----	75	Very limited Depth to saturated zone Too clayey Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Too clayey	1.00 0.50
462B: Downs, terrace-----	90	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
463B: Fayette, terrace----	100	Not limited		Not limited		Not limited	

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
463C2: Fayette, moderately eroded, terrace----	90	Not limited		Not limited		Not limited	
463D2: Fayette, moderately eroded, terrace----	90	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63
463D3: Fayette, severely eroded, terrace----	80	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63
463E2: Fayette, moderately eroded, terrace----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
463E3: Fayette, severely eroded, terrace----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
463F2: Fayette, moderately eroded, terrace----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
463F3: Fayette, severely eroded, terrace----	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
484: Lawson, occasionally flooded-----	80	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
587: Chequest, occasionally flooded-----	95	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
587+: Chequest, occasionally flooded, overwash--	95	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
626: Hayfield-----	90	Very limited Depth to saturated zone Seepage, bottom layer Too sandy	1.00 1.00 0.50	Very limited Depth to saturated zone Seepage	1.00 1.00	Very limited Depth to saturated zone Seepage Too sandy	1.00 1.00 0.50
663D2: Seaton, moderately eroded-----	85	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63
663E2: Seaton, moderately eroded-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
663E3: Seaton, severely eroded-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
663F2: Seaton, moderately eroded-----	80	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
687: Watkins, rarely flooded-----	90	Somewhat limited Too clayey Flooding	0.50 0.40	Somewhat limited Flooding	0.40	Somewhat limited Too clayey	0.50
687B: Watkins, rarely flooded-----	100	Somewhat limited Too clayey Flooding	0.50 0.40	Somewhat limited Flooding	0.40	Somewhat limited Too clayey	0.50
688: Koszta, rarely flooded-----	95	Very limited Depth to saturated zone Too clayey Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Too clayey	1.00 0.50
771B: Waubee-----	90	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
771C2: Waubee, moderately eroded-----	90	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Not limited	

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
792D2: Armstrong, moderately eroded--	75	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50
876B: Ladoga, terrace----	90	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
876C: Ladoga, terrace----	80	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
876C2: Ladoga, moderately eroded, terrace----	85	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey	0.50
876D2: Ladoga, moderately eroded, terrace----	90	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Somewhat limited Slope Too clayey	0.63 0.50
881B: Otley, terrace-----	95	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone Too clayey	0.86 0.50
911B: Colo-----	55	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
Ely-----	35	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
993D2: Gara, moderately eroded-----	45	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
993D2: Armstrong, moderately eroded--	35	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50	Very limited Depth to saturated zone Slope	1.00 0.63	Very limited Depth to saturated zone Slope Too clayey	1.00 0.63 0.50
993E2: Gara, moderately eroded-----	45	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
Armstrong, moderately eroded--	40	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50	Very limited Depth to saturated zone Slope	1.00 1.00	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50
993F2: Gara, moderately eroded-----	65	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
Armstrong, moderately eroded--	25	Very limited Depth to saturated zone Slope Too clayey	1.00 1.00 0.50	Very limited Slope Depth to saturated zone	1.00 1.00	Very limited Slope Depth to saturated zone Too clayey	1.00 1.00 0.50
1160: Walford, terrace----	95	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
1220: Nodaway, frequently flooded, channeled	75	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Too clayey	0.50
1291: Atterberry, terrace	95	Very limited Depth to saturated zone Too clayey	1.00 0.50	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Hard to compact Too clayey	1.00 1.00 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1354: Aquents, ponded-----	100	Not rated		Very limited Flooding Depth to saturated zone Ponding	1.00 1.00 1.00	Not rated	
1442B: Tama-----	40	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Sparta-----	35	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
Pillot-----	20	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
1442C: Tama-----	40	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Sparta-----	35	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
Pillot-----	20	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
1442C2: Tama, moderately eroded-----	40	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Sparta, moderately eroded-----	35	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
Pillot, moderately eroded-----	20	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
1442D2: Tama, moderately eroded-----	40	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1442D2: Sparta, moderately eroded-----	35	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 0.63	Very limited Seepage Slope	1.00 0.63	Very limited Too sandy Seepage Slope	1.00 1.00 0.63
Pillot, moderately eroded-----	20	Very limited Seepage, bottom layer Slope Too sandy	1.00 0.63 0.50	Very limited Seepage Slope	1.00 0.63	Very limited Seepage Slope Too sandy	1.00 0.63 0.50
1442E2: Tama, moderately eroded-----	40	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
Sparta, moderately eroded-----	35	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Too sandy Seepage Slope	1.00 1.00 1.00
Pillot, moderately eroded-----	20	Very limited Slope Seepage, bottom layer Too sandy	1.00 1.00 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Too sandy	1.00 1.00 0.50
1540: Quiver, frequently flooded-----	40	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
Zook, frequently flooded-----	30	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
Klum, frequently flooded-----	15	Very limited Flooding Depth to saturated zone Seepage, bottom layer	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Somewhat limited Seepage	0.52

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
2219: Ella, rarely flooded	70	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Not limited	
2219B: Ella, rarely flooded	75	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Not limited	
2219C2: Ella, moderately eroded-----	80	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Not limited	
2422: Amana, occasionally flooded-----	50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
Nodaway, occasionally flooded-----	30	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Too clayey	0.50
Lawson, occasionally flooded-----	20	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
4946: Udorthents-----	65	Not rated		Not limited		Not rated	
Interstate highway--	30	Not rated		Not rated		Not rated	
5010: Pits, sand and gravel-----	100	Not rated		Not rated		Not rated	
5040: Udorthents-----	100	Not rated		Not rated		Not rated	
6220: Nodaway, frequently flooded-----	85	Very limited Flooding Depth to saturated zone Too clayey	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Too clayey	0.50

Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
6422: Amana, frequently flooded-----	90	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too clayey	1.00 0.50
AW: Animal waste lagoon	100	Not rated		Not rated		Not rated	
SL: Sewage lagoon-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Construction Materials

The titles of the tables described in this section are:

- “Source of Sand and Gravel”
- “Source of Reclamation Material, Roadfill, and Topsoil”

These tables give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Gravel and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the table “Source of Sand and Gravel,” 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 as *improbable*, *possible*, *probable*, or *very likely* sources of gravel. 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 gravel. The number 0.00 indicates an improbable source; 0.01 to 0.39, a possible source; 0.40 to 0.99, a probable source; and 1.00, a very likely source.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand. A rating of good or fair means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. The larger the number, the greater the likelihood that the layer is a source of sand.

In the table “Source of Reclamation Material, Roadfill, and Topsoil,” the rating class terms are *good*, *fair*, and *poor*. 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, and 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 this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation

is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

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

Source of Sand and Gravel

(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 as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
5B: Ackmore-----	45	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Colo-----	35	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
7: Wiota, rarely flooded-----	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
7B: Wiota, rarely flooded-----	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
8B: Judson-----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
24C2: Shelby, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
24D2: Shelby, moderately eroded-----	70	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
24D3: Shelby, severely eroded-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
24E2: Shelby, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
24E3: Shelby, severely eroded-----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
41: Sparta-----	100	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.27
		Bottom layer	0.00	Bottom layer	0.35
41B: Sparta-----	100	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.27
		Bottom layer	0.00	Bottom layer	0.35
41C: Sparta-----	85	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.27
		Bottom layer	0.00	Bottom layer	0.35
41D: Sparta-----	75	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.27
		Bottom layer	0.00	Bottom layer	0.35
43: Bremer, rarely flooded-----	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
51: Vesser, occasionally flooded-----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
54: Zook, occasionally flooded-----	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
54+: Zook, occasionally flooded, overwash--	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
63C: Chelsea-----	90	Improbable		Fair	
		Thickest layer	0.00	Bottom layer	0.12
		Bottom layer	0.00	Thickest layer	0.12
63E: Chelsea-----	95	Improbable		Fair	
		Thickest layer	0.00	Bottom layer	0.12
		Bottom layer	0.00	Thickest layer	0.12

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
63G: Chelsea-----	95	Improbable		Fair	
		Thickest layer	0.00	Bottom layer	0.12
		Bottom layer	0.00	Thickest layer	0.12
65D2: Lindley, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
65D3: Lindley, severely eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
65E2: Lindley, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
65E3: Lindley, severely eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
65F: Lindley-----	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
65F2: Lindley, moderately eroded-----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
65F3: Lindley, severely eroded-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
65G: Lindley-----	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
75: Givin-----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
76B: Ladoga-----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
76C: Ladoga-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
76C2: Ladoga, moderately eroded-----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
76D: Ladoga-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
76D2: Ladoga, moderately eroded-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
76D3: Ladoga, severely eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
76E2: Ladoga, moderately eroded-----	70	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
76E3: Ladoga, severely eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
80B: Clinton-----	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
80C: Clinton-----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
80C2: Clinton, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
80D: Clinton-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
80D2: Clinton, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
80D3: Clinton, severely eroded-----	75	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
80E2: Clinton, moderately eroded-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
80E3: Clinton, severely eroded-----	70	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
80F2: Clinton, moderately eroded-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
83B: Kenyon-----	75	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
83C: Kenyon-----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
83C2: Kenyon, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
83D2: Kenyon, moderately eroded-----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
88: Nevin, rarely flooded-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
93D2: Shelby, moderately eroded-----	50	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Adair, moderately eroded-----	35	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
93D3: Shelby, severely eroded-----	50	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Adair, severely eroded-----	30	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
93E2: Shelby, moderately eroded-----	60	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Adair, moderately eroded-----	35	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
119: Muscatine-----	95	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
120B: Tama-----	95	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
120C: Tama-----	85	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
120C2: Tama, moderately eroded-----	75	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
120D2: Tama, moderately eroded-----	85	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
120D3: Tama, severely eroded-----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
120E2: Tama, moderately eroded-----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
122: Sperry-----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
133: Colo, occasionally flooded-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
133+: Colo, occasionally flooded, overwash--	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
162B: Downs-----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
162C: Downs-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
162C2: Downs, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
162D2: Downs, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
162D3: Downs, severely eroded-----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
162E2: Downs, moderately eroded-----	75	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
162E3: Downs, severely eroded-----	75	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
163B: Fayette-----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
163C: Fayette-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
163C2: Fayette, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
163D: Fayette-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
163D2: Fayette, moderately eroded-----	65	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
163D3: Fayette, severely eroded-----	60	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
163E: Fayette-----	75	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
163E2: Fayette, moderately eroded-----	70	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
163E3: Fayette, severely eroded-----	70	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
163F: Fayette-----	75	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
163F2: Fayette, moderately eroded-----	70	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
163F3: Fayette, severely eroded-----	70	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
163G: Fayette-----	85	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
165: Stronghurst-----	95	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
171C2: Bassett, moderately eroded-----	85	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
171D2: Bassett, moderately eroded-----	80	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
171D3: Bassett, severely eroded-----	75	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
171E2: Bassett, moderately eroded-----	80	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
171E3: Bassett, severely eroded-----	75	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
172: Wabash, occasionally flooded-----	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
175: Dickinson-----	100	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.36
175B: Dickinson-----	95	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.36
175C: Dickinson-----	85	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.36
178: Waukee-----	90	Possible		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.04	Bottom layer	0.20
178B: Waukee-----	100	Possible		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.04	Bottom layer	0.20
178C: Waukee-----	100	Possible		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.04	Bottom layer	0.20
179D2: Gara, moderately eroded-----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
179D3: Gara, severely eroded-----	70	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
179E2: Gara, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
179E3: Gara, severely eroded-----	75	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
179F2: Gara, moderately eroded-----	85	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
179F3: Gara, severely eroded-----	90	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
180: Keomah-----	95	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
192D2: Adair, moderately eroded-----	75	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
192D3: Adair, severely eroded-----	70	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
220: Nodaway, occasionally flooded-----	85	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
279: Taintor-----	90	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
280: Mahaska-----	95	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
281B: Otley-----	100	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
281C: Otley-----	90	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
281C2: Otley, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
281D2: Otley, moderately eroded-----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
281D3: Otley, severely eroded-----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
281E2: Otley, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
291: Atterberry-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
293C: Fayette-----	45	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Chelsea-----	35	Improbable		Fair	
		Thickest layer	0.00	Bottom layer	0.12
		Bottom layer	0.00	Thickest layer	0.12
Tell-----	20	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.64
293D: Fayette-----	45	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Chelsea-----	35	Improbable		Fair	
		Thickest layer	0.00	Bottom layer	0.12
		Bottom layer	0.00	Thickest layer	0.12
Tell-----	20	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.64

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
293D2: Fayette, moderately eroded-----	45	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Chelsea, moderately eroded-----	35	Improbable Thickest layer Bottom layer	0.00 0.00	Fair Bottom layer Thickest layer	0.12 0.12
Tell, moderately eroded-----	20	Improbable Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.64
293E: Fayette-----	40	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Chelsea-----	35	Improbable Thickest layer Bottom layer	0.00 0.00	Fair Bottom layer Thickest layer	0.12 0.12
Tell-----	25	Improbable Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.64
293E2: Fayette, moderately eroded-----	40	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Chelsea, moderately eroded-----	35	Improbable Thickest layer Bottom layer	0.00 0.00	Fair Bottom layer Thickest layer	0.12 0.12
Tell, moderately eroded-----	25	Improbable Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.64
293G: Fayette-----	40	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Chelsea-----	35	Improbable Thickest layer Bottom layer	0.00 0.00	Fair Bottom layer Thickest layer	0.12 0.12
Tell-----	25	Improbable Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.64

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
353B: Tell-----	85	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.64
353C: Tell-----	90	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.64
353C2: Tell, moderately eroded-----	90	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.64
353D2: Tell, moderately eroded-----	90	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.64
377B: Dinsdale-----	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
377C: Dinsdale-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
420: Tama, terrace-----	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
420B: Tama, terrace-----	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
422: Amana, occasionally flooded-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
424D2: Lindley, moderately eroded-----	50	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Keswick, moderately eroded-----	35	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
424E2: Lindley, moderately eroded-----	45	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Keswick, moderately eroded-----	40	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
424E3: Lindley, severely eroded-----	45	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Keswick, severely eroded-----	40	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
424F2: Lindley, moderately eroded-----	65	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Keswick, moderately eroded-----	25	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
425D2: Keswick, moderately eroded-----	90	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
425D3: Keswick, severely eroded-----	60	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
428B: Ely-----	95	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
430: Ackmore, occasionally flooded-----	100	Improbable Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
450: Pillot-----	100	Improbable Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.10

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
450B: Pillot-----	90	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.10
450C: Pillot-----	85	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.10
453: Tuskeego, rarely flooded-----	75	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
462B: Downs, terrace-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
463B: Fayette, terrace----	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
463C2: Fayette, moderately eroded, terrace----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
463D2: Fayette, moderately eroded, terrace----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
463D3: Fayette, severely eroded, terrace----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
463E2: Fayette, moderately eroded, terrace----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
463E3: Fayette, severely eroded, terrace----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
463F2: Fayette, moderately eroded, terrace----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
463F3: Fayette, severely eroded, terrace----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
484: Lawson, occasionally flooded-----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
587: Chequest, occasionally flooded-----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
587+: Chequest, occasionally flooded, overwash--	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
626: Hayfield-----	90	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.10
663D2: Seaton, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
663E2: Seaton, moderately eroded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
663E3: Seaton, severely eroded-----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
663F2: Seaton, moderately eroded-----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
687: Watkins, rarely flooded-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
687B: Watkins, rarely flooded-----	100	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
688: Koszta, rarely flooded-----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
771B: Waubeek-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
771C2: Waubeek, moderately eroded-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
792D2: Armstrong, moderately eroded--	75	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
876B: Ladoga, terrace----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
876C: Ladoga, terrace----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
876C2: Ladoga, moderately eroded, terrace----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
876D2: Ladoga, moderately eroded, terrace----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
881B: Otley, terrace-----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
911B: Colo-----	55	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Ely-----	35	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
993D2: Gara, moderately eroded-----	45	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Armstrong, moderately eroded--	35	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
993E2: Gara, moderately eroded-----	45	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Armstrong, moderately eroded--	40	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
993F2: Gara, moderately eroded-----	65	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Armstrong, moderately eroded--	25	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
1160: Walford, terrace----	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
1220: Nodaway, frequently flooded, channeled	75	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
1291: Atterberry, terrace	95	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
1354: Aquents, ponded----	100	Not rated		Not rated	
1442B: Tama-----	40	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Sparta-----	35	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.27
		Bottom layer	0.00	Bottom layer	0.35
Pillot-----	20	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.10
1442C: Tama-----	40	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Sparta-----	35	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.27
		Bottom layer	0.00	Bottom layer	0.35
Pillot-----	20	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.10
1442C2: Tama, moderately eroded-----	40	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Sparta, moderately eroded-----	35	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.18
		Bottom layer	0.00	Bottom layer	0.34
Pillot, moderately eroded-----	20	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.10
1442D2: Tama, moderately eroded-----	40	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
1442D2: Sparta, moderately eroded-----	35	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.18
		Bottom layer	0.00	Bottom layer	0.34
Pillot, moderately eroded-----	20	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.10
1442E2: Tama, moderately eroded-----	40	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Sparta, moderately eroded-----	35	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.18
		Bottom layer	0.00	Bottom layer	0.34
Pillot, moderately eroded-----	20	Improbable		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.10
1540: Quiver, frequently flooded-----	40	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Zook, frequently flooded-----	30	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Klum, frequently flooded-----	15	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
2219: Ella, rarely flooded	70	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
2219B: Ella, rarely flooded	75	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
2219C2: Ella, moderately eroded-----	80	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

Source of Sand and Gravel--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of gravel		Potential as source of sand	
		Rating class	Value	Rating class	Value
2422:					
Amana, occasionally flooded-----	50	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Nodaway, occasionally flooded-----	30	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Lawson, occasionally flooded-----	20	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
4946:					
Udorthents-----	65	Not rated		Not rated	
Interstate highway--	30	Not rated		Not rated	
5010:					
Pits, sand and gravel-----	100	Not rated		Not rated	
5040:					
Udorthents-----	100	Not rated		Not rated	
6220:					
Nodaway, frequently flooded-----	85	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
6422:					
Amana, frequently flooded-----	90	Improbable		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
AW:					
Animal waste lagoon	100	Not rated		Not rated	
SL:					
Sewage lagoon-----	100	Not rated		Not rated	
W:					
Water-----	100	Not rated		Not rated	

Source of Reclamation Material, Roadfill, and Topsoil

(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 as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5B: Ackmore-----	45	Good		Poor Wetness	0.00	Poor Wetness	0.00
				Low strength	0.00		
				Shrink-swell	0.33		
Colo-----	35	Fair Too clayey	0.88	Poor Wetness	0.00	Poor Wetness	0.00
				Low strength	0.00	Too clayey	0.88
				Shrink-swell	0.89		
7: Wiota, rarely flooded-----	100	Fair Too clayey Too acid Water erosion	0.82 0.84 0.90	Poor Low strength Shrink-swell	0.00 0.97	Fair Too clayey	0.81
7B: Wiota, rarely flooded-----	100	Fair Too clayey Too acid Water erosion	0.82 0.84 0.90	Poor Low strength Shrink-swell	0.00 0.97	Fair Too clayey	0.81
8B: Judson-----	95	Fair Water erosion	0.90	Poor Low strength Shrink-swell	0.00 0.87	Good	
24C2: Shelby, moderately eroded-----	85	Fair Organic matter content Too clayey Too acid	0.50 0.88 0.97	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.57
24D2: Shelby, moderately eroded-----	70	Fair Organic matter content Too clayey Too acid	0.50 0.88 0.97	Poor Low strength Shrink-swell	0.00 0.87	Fair Slope Too clayey	0.37 0.57
24D3: Shelby, severely eroded-----	90	Fair Organic matter content Too clayey Too acid	0.12 0.88 0.97	Poor Low strength Shrink-swell	0.00 0.87	Fair Slope Too clayey	0.37 0.57

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24E2: Shelby, moderately eroded-----	85	Fair		Poor		Poor	
		Organic matter content	0.50	Low strength	0.00	Slope	0.00
		Too clayey	0.88	Shrink-swell	0.87	Too clayey	0.57
		Too acid	0.97	Slope	0.98		
24E3: Shelby, severely eroded-----	95	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength	0.00	Slope	0.00
		Too clayey	0.88	Shrink-swell	0.87	Too clayey	0.57
		Too acid	0.97	Slope	0.98		
41: Sparta-----	100	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content	0.12				
41B: Sparta-----	100	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content	0.12				
41C: Sparta-----	85	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content	0.12				
41D: Sparta-----	75	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.37
		Organic matter content	0.12				
43: Bremer, rarely flooded-----	100	Fair		Poor		Poor	
		Too clayey	0.05	Wetness	0.00	Wetness	0.00
		Water erosion	0.90	Low strength	0.00	Too clayey	0.04
		Too acid	0.95	Shrink-swell	0.23		
51: Vesser, occasionally flooded-----	95	Fair		Poor		Poor	
		Organic matter content	0.50	Wetness	0.00	Wetness	0.00
		Too acid	0.74	Low strength	0.00		
		Water erosion	0.90				

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
54: Zook, occasionally flooded-----	100	Fair		Poor		Poor	
		Too clayey	0.12	Wetness	0.00	Wetness	0.00
		Water erosion	0.99	Low strength	0.00	Too clayey	0.12
				Shrink-swell	0.12		
54+: Zook, occasionally flooded, overwash--	100	Fair		Poor		Poor	
		Too clayey	0.12	Wetness	0.00	Wetness	0.00
		Water erosion	0.99	Low strength	0.00	Too clayey	0.12
				Shrink-swell	0.22		
63C: Chelsea-----	90	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content	0.12				
63E: Chelsea-----	95	Poor		Fair		Poor	
		Too sandy	0.00	Slope	0.98	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Organic matter content	0.12				
63G: Chelsea-----	95	Poor		Poor		Poor	
		Too sandy	0.00	Slope	0.00	Slope	0.00
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content	0.12				
65D2: Lindley, moderately eroded-----	85	Fair		Poor		Fair	
		Organic matter content	0.18	Low strength	0.00	Slope	0.37
		Too acid	0.68	Shrink-swell	0.95		
65D3: Lindley, severely eroded-----	85	Fair		Fair		Fair	
		Organic matter content	0.18	Shrink-swell	0.96	Slope	0.37
		Too acid	0.68				
65E2: Lindley, moderately eroded-----	85	Fair		Poor		Poor	
		Organic matter content	0.18	Low strength	0.00	Slope	0.00
		Too acid	0.68	Shrink-swell	0.95		
				Slope	0.98		

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65E3: Lindley, severely eroded-----	85	Fair		Fair		Poor	
		Organic matter content	0.18	Shrink-swell Slope	0.96 0.98	Slope	0.00
		Too acid	0.68				
65F: Lindley-----	100	Fair		Poor		Poor	
		Organic matter content	0.60	Low strength Slope	0.00 0.18	Slope	0.00
		Too acid	0.68	Shrink-swell	0.94		
65F2: Lindley, moderately eroded-----	80	Fair		Poor		Poor	
		Organic matter content	0.18	Low strength Slope	0.00 0.18	Slope	0.00
		Too acid	0.68	Shrink-swell	0.95		
65F3: Lindley, severely eroded-----	90	Fair		Fair		Poor	
		Organic matter content	0.18	Slope Shrink-swell	0.18 0.96	Slope	0.00
		Too acid	0.68				
65G: Lindley-----	100	Fair		Poor		Poor	
		Organic matter content	0.60	Slope Low strength	0.00 0.00	Slope	0.00
		Too acid	0.68	Shrink-swell	0.94		
75: Givin-----	95	Fair		Poor		Poor	
		Too clayey	0.02	Wetness	0.00	Wetness	0.00
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.67	Too clayey Too acid	0.01 0.98
		Too acid	0.54				
76B: Ladoga-----	95	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Too acid	0.74	Shrink-swell	0.65		
		Organic matter content	0.88				
76C: Ladoga-----	85	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Too acid	0.74	Shrink-swell	0.65		
		Organic matter content	0.88				

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
76C2: Ladoga, moderately eroded-----	95	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Too acid	0.74	Shrink-swell	0.63		
		Organic matter content	0.88				
76D: Ladoga-----	90	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Too acid	0.74	Shrink-swell	0.65	Slope	0.37
		Organic matter content	0.88				
76D2: Ladoga, moderately eroded-----	90	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Too acid	0.74	Shrink-swell	0.63	Slope	0.37
		Organic matter content	0.88				
76D3: Ladoga, severely eroded-----	85	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Organic matter content	0.12	Shrink-swell	0.74	Slope	0.37
		Too acid	0.74				
76E2: Ladoga, moderately eroded-----	70	Fair		Poor		Poor	
		Too clayey	0.02	Low strength	0.00	Slope	0.00
		Too acid	0.74	Shrink-swell	0.63	Too clayey	0.01
		Organic matter content	0.88	Slope	0.98		
76E3: Ladoga, severely eroded-----	85	Fair		Poor		Poor	
		Too clayey	0.02	Low strength	0.00	Slope	0.00
		Organic matter content	0.12	Shrink-swell	0.74	Too clayey	0.01
		Too acid	0.74	Slope	0.98		
80B: Clinton-----	100	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Organic matter content	0.50	Shrink-swell	0.37	Too acid	0.98
		Too acid	0.54				

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
80C: Clinton-----	95	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Organic matter content	0.50	Shrink-swell	0.37	Too acid	0.98
		Too acid	0.54				
80C2: Clinton, moderately eroded-----	85	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Organic matter content	0.12	Shrink-swell	0.22	Too acid	0.98
		Too acid	0.54				
80D: Clinton-----	90	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Organic matter content	0.50	Shrink-swell	0.37	Slope	0.37
		Too acid	0.54			Too acid	0.98
80D2: Clinton, moderately eroded-----	85	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Organic matter content	0.12	Shrink-swell	0.22	Slope	0.37
		Too acid	0.54			Too acid	0.98
80D3: Clinton, severely eroded-----	75	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Organic matter content	0.12	Shrink-swell	0.22	Slope	0.37
		Too acid	0.54			Too acid	0.98
80E2: Clinton, moderately eroded-----	90	Fair		Poor		Poor	
		Too clayey	0.02	Low strength	0.00	Slope	0.00
		Organic matter content	0.12	Shrink-swell	0.22	Too clayey	0.01
		Too acid	0.54	Slope	0.98	Too acid	0.98
80E3: Clinton, severely eroded-----	70	Fair		Poor		Poor	
		Too clayey	0.02	Low strength	0.00	Slope	0.00
		Organic matter content	0.12	Shrink-swell	0.22	Too clayey	0.01
		Too acid	0.54	Slope	0.98	Too acid	0.98

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
80F2: Clinton, moderately eroded-----	90	Fair		Poor		Poor	
		Too clayey	0.02	Low strength	0.00	Slope	0.00
		Organic matter content	0.12	Slope	0.18	Too clayey	0.01
		Too acid	0.54	Shrink-swell	0.22	Too acid	0.98
83B: Kenyon-----	75	Fair		Fair		Good	
		Organic matter content	0.50	Low strength	0.78		
		Too acid	0.97				
83C: Kenyon-----	80	Fair		Fair		Good	
		Organic matter content	0.50	Low strength	0.78		
		Too acid	0.97				
83C2: Kenyon, moderately eroded-----	85	Fair		Fair		Good	
		Organic matter content	0.12	Low strength	0.78		
		Too acid	0.97				
		Water erosion	0.99				
83D2: Kenyon, moderately eroded-----	80	Fair		Fair		Fair	
		Organic matter content	0.12	Low strength	0.78	Slope	0.37
		Too acid	0.97				
		Water erosion	0.99				
88: Nevin, rarely flooded-----	90	Fair		Poor		Poor	
		Water erosion	0.90	Wetness	0.00	Wetness	0.00
		Too acid	0.99	Low strength	0.00		
				Shrink-swell	0.87		
93D2: Shelby, moderately eroded-----	50	Fair		Poor		Fair	
		Organic matter content	0.50	Low strength	0.00	Slope	0.37
		Too clayey	0.88	Shrink-swell	0.87	Too clayey	0.57
		Too acid	0.97				
Adair, moderately eroded-----	35	Fair		Poor		Poor	
		Organic matter content	0.12	Wetness	0.00	Wetness	0.00
		Too clayey	0.68	Low strength	0.00	Slope	0.37
		Too acid	0.84	Shrink-swell	0.51	Too clayey	0.39

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
93D3: Shelby, severely eroded-----	50	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.37 0.57
		Too clayey	0.88				
		Too acid	0.97				
Adair, severely eroded-----	30	Fair		Poor		Poor	
		Organic matter content	0.12	Wetness Low strength	0.00 0.00	Wetness Slope	0.00 0.37
		Too clayey	0.68	Shrink-swell	0.51	Too clayey	0.39
		Too acid	0.84				
93E2: Shelby, moderately eroded-----	60	Fair		Poor		Poor	
		Organic matter content	0.50	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.00 0.57
		Too clayey	0.88	Slope	0.98		
		Too acid	0.97				
Adair, moderately eroded-----	35	Fair		Poor		Poor	
		Organic matter content	0.12	Wetness Low strength	0.00 0.00	Wetness Slope	0.00 0.00
		Too clayey	0.68	Shrink-swell	0.51	Too clayey	0.39
		Too acid	0.84				
119: Muscatine-----	95	Fair		Poor		Poor	
		Too clayey	0.88	Wetness	0.00	Wetness	0.00
		Water erosion	0.90	Low strength	0.00	Too clayey	0.77
		Too acid	0.97	Shrink-swell	0.69		
120B: Tama-----	95	Fair		Poor		Fair	
		Too acid	0.84	Low strength	0.00	Too clayey	0.86
		Water erosion	0.90	Shrink-swell	0.87		
		Too clayey	0.98				
120C: Tama-----	85	Fair		Poor		Fair	
		Too acid	0.84	Low strength	0.00	Too clayey	0.86
		Water erosion	0.90	Shrink-swell	0.87		
		Too clayey	0.98				
120C2: Tama, moderately eroded-----	75	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Too clayey	0.86
		Too acid	0.84				
		Water erosion	0.90				

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
120D2: Tama, moderately eroded-----	85	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.37 0.86
		Too acid	0.84				
		Water erosion	0.90				
120D3: Tama, severely eroded-----	80	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope	0.37
		Too acid	0.84				
		Water erosion	0.90				
120E2: Tama, moderately eroded-----	80	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.00 0.86
		Too acid	0.84	Slope	0.98		
		Water erosion	0.90				
122: Sperry-----	95	Fair		Poor		Poor	
		Organic matter content	0.12	Wetness Low strength	0.00 0.00	Wetness	0.00
		Too acid	0.84	Shrink-swell	0.88		
		Water erosion	0.90				
133: Colo, occasionally flooded-----	90	Fair		Poor		Poor	
		Too clayey	0.88	Wetness Low strength Shrink-swell	0.00 0.00 0.89	Wetness Too clayey	0.00 0.88
133+: Colo, occasionally flooded, overwash--	90	Fair		Poor		Poor	
		Too clayey	0.88	Wetness Low strength Shrink-swell	0.00 0.00 0.92	Wetness Too clayey	0.00 0.88
162B: Downs-----	95	Fair		Poor		Fair	
		Organic matter content	0.88	Low strength Shrink-swell	0.00 0.94	Too clayey	0.72
		Too acid	0.88				
		Water erosion	0.90				
162C: Downs-----	85	Fair		Poor		Fair	
		Organic matter content	0.88	Low strength Shrink-swell	0.00 0.94	Too clayey	0.72
		Too acid	0.88				
		Water erosion	0.90				

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
162C2: Downs, moderately eroded-----	85	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Too clayey	0.72
		Too acid	0.88				
		Water erosion	0.90				
162D2: Downs, moderately eroded-----	85	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.37 0.72
		Too acid	0.88				
		Water erosion	0.90				
162D3: Downs, severely eroded-----	80	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.37 0.58
		Too acid	0.88				
		Water erosion	0.90				
162E2: Downs, moderately eroded-----	75	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.00 0.72
		Too acid	0.88	Slope	0.98		
		Water erosion	0.90				
162E3: Downs, severely eroded-----	75	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.00 0.58
		Too acid	0.88	Slope	0.98		
		Water erosion	0.90				
163B: Fayette-----	95	Fair		Poor		Good	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.91		
		Too acid	0.68				
		Water erosion	0.90				
163C: Fayette-----	90	Fair		Poor		Good	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.91		
		Too acid	0.68				
		Water erosion	0.90				

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
163C2: Fayette, moderately eroded-----	85	Fair		Poor		Good	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87		
		Too acid	0.68				
		Water erosion	0.90				
163D: Fayette-----	85	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.91	Slope	0.37
		Too acid	0.68				
		Water erosion	0.90				
163D2: Fayette, moderately eroded-----	65	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope	0.37
		Too acid	0.68				
		Water erosion	0.90				
163D3: Fayette, severely eroded-----	60	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope	0.37
		Too acid	0.68				
		Water erosion	0.90				
163E: Fayette-----	75	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.91	Slope	0.00
		Too acid	0.68	Slope	0.98		
		Water erosion	0.90				
163E2: Fayette, moderately eroded-----	70	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope	0.00
		Too acid	0.68	Slope	0.98		
		Water erosion	0.90				
163E3: Fayette, severely eroded-----	70	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope	0.00
		Too acid	0.68	Slope	0.98		
		Water erosion	0.90				

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
163F: Fayette-----	75	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Slope	0.00 0.18	Slope	0.00
		Too acid	0.68	Shrink-swell	0.91		
		Water erosion	0.90				
163F2: Fayette, moderately eroded-----	70	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Slope	0.00 0.18	Slope	0.00
		Too acid	0.68	Shrink-swell	0.87		
		Water erosion	0.90				
163F3: Fayette, severely eroded-----	70	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Slope	0.00 0.18	Slope	0.00
		Too acid	0.68	Shrink-swell	0.87		
		Water erosion	0.90				
163G: Fayette-----	85	Fair		Poor		Poor	
		Organic matter content	0.12	Slope	0.00	Slope	0.00
		Too acid	0.68	Low strength Shrink-swell	0.00 0.91		
		Water erosion	0.90				
165: Stronghurst-----	95	Fair		Poor		Poor	
		Organic matter content	0.88	Wetness	0.00	Wetness	0.00
		Too acid	0.97	Low strength	0.00	Too clayey	0.70
		Too clayey	0.98	Shrink-swell	0.97		
171C2: Bassett, moderately eroded-----	85	Fair		Fair		Good	
		Organic matter content	0.88	Low strength	0.78		
		Too acid	0.88				
171D2: Bassett, moderately eroded-----	80	Fair		Fair		Fair	
		Organic matter content	0.88	Low strength	0.78	Slope	0.37
		Too acid	0.88				
171D3: Bassett, severely eroded-----	75	Fair		Fair		Fair	
		Organic matter content	0.88	Low strength	0.78	Slope	0.37
		Too acid	0.88				

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
171E2: Bassett, moderately eroded-----	80	Fair Organic matter content Too acid	0.88 0.88	Fair Low strength Slope	0.78 0.98	Poor Slope	0.00
171E3: Bassett, severely eroded-----	75	Fair Organic matter content Too acid	0.88 0.88	Fair Low strength Slope	0.78 0.98	Poor Slope	0.00
172: Wabash, occasionally flooded-----	100	Poor Too clayey Too acid	0.00 0.97	Poor Wetness Shrink-swell Low strength	0.00 0.00 0.00	Poor Too clayey Wetness	0.00 0.00
175: Dickinson-----	100	Fair Organic matter content Too acid Droughty	0.12 0.84 0.99	Good		Good	
175B: Dickinson-----	95	Fair Organic matter content Too acid Droughty	0.12 0.84 0.99	Good		Good	
175C: Dickinson-----	85	Fair Organic matter content Too acid Droughty	0.12 0.84 0.99	Good		Good	
178: Waukee-----	90	Fair Organic matter content Too acid	0.50 0.74	Good		Fair Hard to reclaim (rock fragments)	0.98
178B: Waukee-----	100	Fair Organic matter content Too acid	0.50 0.74	Good		Fair Hard to reclaim (rock fragments)	0.98
178C: Waukee-----	100	Fair Organic matter content Too acid	0.50 0.74	Good		Fair Hard to reclaim (rock fragments)	0.98

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
179D2: Gara, moderately eroded-----	80	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.37 0.55
		Too acid	0.68				
		Too clayey	0.95				
179D3: Gara, severely eroded-----	70	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.37 0.57
		Too acid	0.68				
		Too clayey	0.98				
179E2: Gara, moderately eroded-----	85	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.00 0.55
		Too acid	0.68	Slope	0.98		
		Too clayey	0.95				
179E3: Gara, severely eroded-----	75	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87	Slope Too clayey	0.00 0.57
		Too acid	0.68	Slope	0.98		
		Too clayey	0.98				
179F2: Gara, moderately eroded-----	85	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Slope	0.00 0.18	Slope Too clayey	0.00 0.55
		Too acid	0.68	Shrink-swell	0.87		
		Too clayey	0.95				
179F3: Gara, severely eroded-----	90	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Slope	0.00 0.18	Slope Too clayey	0.00 0.57
		Too acid	0.68	Shrink-swell	0.87		
		Too clayey	0.98				
180: Keomah-----	95	Fair		Poor		Poor	
		Too clayey	0.05	Wetness	0.00	Wetness	0.00
		Too acid	0.32	Low strength	0.00	Too clayey	0.03
		Organic matter content	0.88	Shrink-swell	0.46	Too acid	0.88

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
192D2: Adair, moderately eroded-----	75	Fair		Poor		Poor	
		Organic matter content	0.12	Wetness	0.00	Wetness	0.00
		Too clayey	0.68	Low strength	0.00	Slope	0.37
		Too acid	0.84	Shrink-swell	0.51	Too clayey	0.39
192D3: Adair, severely eroded-----	70	Fair		Poor		Poor	
		Organic matter content	0.12	Wetness	0.00	Wetness	0.00
		Too clayey	0.68	Low strength	0.00	Slope	0.37
		Too acid	0.84	Shrink-swell	0.51	Too clayey	0.39
220: Nodaway, occasionally flooded-----	85	Fair		Poor		Good	
		Organic matter content	0.12	Low strength	0.00		
		Water erosion	0.90	Shrink-swell	0.87		
279: Taintor-----	90	Fair		Poor		Poor	
		Organic matter content	0.50	Wetness	0.00	Wetness	0.00
		Too clayey	0.82	Low strength	0.00	Too clayey	0.81
		Water erosion	0.90	Shrink-swell	0.70		
280: Mahaska-----	95	Fair		Poor		Poor	
		Too acid	0.54	Wetness	0.00	Wetness	0.00
		Water erosion	0.90	Low strength	0.00		
				Shrink-swell	0.41		
281B: Otley-----	100	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.02
		Too acid	0.54	Shrink-swell	0.31	Wetness	0.53
		Water erosion	0.90	Wetness	0.53	Too acid	0.98
281C: Otley-----	90	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.02
		Too acid	0.54	Shrink-swell	0.31	Wetness	0.53
		Water erosion	0.90	Wetness	0.53	Too acid	0.98
281C2: Otley, moderately eroded-----	85	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Organic matter content	0.50	Shrink-swell	0.27	Wetness	0.53
		Too acid	0.54	Wetness	0.53	Too acid	0.98

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
281D2: Otley, moderately eroded-----	80	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Organic matter content	0.50	Shrink-swell	0.27	Slope	0.37
		Too acid	0.54	Wetness	0.53	Wetness	0.53
281D3: Otley, severely eroded-----	80	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Organic matter content	0.50	Shrink-swell	0.35	Slope	0.37
		Too acid	0.54	Wetness	0.53	Wetness	0.53
281E2: Otley, moderately eroded-----	85	Fair		Poor		Poor	
		Too clayey	0.02	Low strength	0.00	Slope	0.00
		Organic matter content	0.50	Shrink-swell	0.27	Too clayey	0.01
		Too acid	0.54	Wetness	0.53	Wetness	0.53
291: Atterberry-----	90	Fair		Poor		Poor	
		Organic matter content	0.18	Wetness	0.00	Wetness	0.00
		Water erosion	0.90	Low strength	0.00		
		Too acid	0.97	Shrink-swell	0.99		
293C: Fayette-----	45	Fair		Poor		Good	
		Organic matter content	0.12	Low strength	0.00		
		Too acid	0.68	Shrink-swell	0.91		
		Water erosion	0.90				
Chelsea-----	35	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00				
		Organic matter content	0.12				
Tell-----	20	Fair		Good		Good	
		Organic matter content	0.12				
		Too acid	0.84				
		Water erosion	0.99				
293D: Fayette-----	45	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength	0.00	Slope	0.37
		Too acid	0.68	Shrink-swell	0.91		
		Water erosion	0.90				

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
293D: Chelsea-----	35	Poor Too sandy Wind erosion Organic matter content	0.00 0.00 0.12	Good		Poor Too sandy Slope	0.00 0.37
Tell-----	20	Fair Organic matter content Too acid Water erosion	0.12 0.84 0.99	Good		Fair Slope	0.37
293D2: Fayette, moderately eroded-----	45	Poor Wind erosion Organic matter content Too acid	0.00 0.12 0.68	Poor Low strength Shrink-swell	0.00 0.87	Fair Slope	0.37
Chelsea, moderately eroded-----	35	Poor Too sandy Wind erosion Organic matter content	0.00 0.00 0.12	Good		Poor Too sandy Slope	0.00 0.37
Tell, moderately eroded-----	20	Poor Too sandy Organic matter content Too acid	0.00 0.12 0.84	Good		Poor Too sandy Slope	0.00 0.37
293E: Fayette-----	40	Fair Organic matter content Too acid Water erosion	0.12 0.68 0.90	Poor Low strength Shrink-swell Slope	0.00 0.91 0.98	Poor Slope	0.00
Chelsea-----	35	Poor Too sandy Wind erosion Organic matter content	0.00 0.00 0.12	Fair Slope	0.98	Poor Too sandy Slope	0.00 0.00
Tell-----	25	Fair Organic matter content Too acid Water erosion	0.12 0.84 0.99	Fair Slope	0.98	Poor Slope	0.00

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
293E2: Fayette, moderately eroded-----	40	Poor Wind erosion Organic matter content Too acid	0.00 0.12 0.68	Poor Low strength Shrink-swell Slope	0.00 0.87 0.98	Poor Slope	0.00
Chelsea, moderately eroded-----	35	Poor Too sandy Wind erosion Organic matter content	0.00 0.00 0.12	Fair Slope	0.98	Poor Too sandy Slope	0.00 0.00
Tell, moderately eroded-----	25	Poor Too sandy Organic matter content Too acid	0.00 0.12 0.84	Fair Slope	0.98	Poor Too sandy Slope	0.00 0.00
293G: Fayette-----	40	Poor Wind erosion Organic matter content Too acid	0.00 0.12 0.68	Poor Low strength Slope Shrink-swell	0.00 0.00 0.91	Poor Slope	0.00
Chelsea-----	35	Poor Too sandy Wind erosion Organic matter content	0.00 0.00 0.12	Poor Slope	0.00	Poor Slope Too sandy	0.00 0.00
Tell-----	25	Fair Organic matter content Too acid Water erosion	0.12 0.84 0.99	Poor Slope	0.00	Poor Slope	0.00
353B: Tell-----	85	Fair Organic matter content Too acid Water erosion	0.12 0.84 0.99	Good		Good	
353C: Tell-----	90	Fair Organic matter content Too acid Water erosion	0.12 0.84 0.99	Good		Good	

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
353C2: Tell, moderately eroded-----	90	Poor Too sandy Organic matter content Too acid	0.00 0.12 0.84	Good		Poor Too sandy	0.00
353D2: Tell, moderately eroded-----	90	Poor Too sandy Organic matter content Too acid	0.00 0.12 0.84	Good		Poor Too sandy Slope	0.00 0.37
377B: Dinsdale-----	100	Fair Organic matter content Water erosion Too clayey	0.12 0.90 0.92	Fair Low strength Shrink-swell	0.78 0.99	Fair Too clayey	0.80
377C: Dinsdale-----	85	Fair Organic matter content Water erosion Too clayey	0.12 0.90 0.92	Fair Low strength Shrink-swell	0.78 0.99	Fair Too clayey	0.80
420: Tama, terrace-----	100	Fair Too acid Water erosion Too clayey	0.84 0.90 0.98	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.86
420B: Tama, terrace-----	100	Fair Too acid Water erosion Too clayey	0.84 0.90 0.98	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.86
422: Amana, occasionally flooded-----	90	Fair Organic matter content Too acid Water erosion	0.50 0.84 0.99	Poor Wetness Low strength	0.00 0.00	Poor Wetness	0.00
424D2: Lindley, moderately eroded-----	50	Fair Organic matter content Too acid	0.18 0.68	Poor Low strength Shrink-swell	0.00 0.95	Fair Slope	0.37

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
424D2: Keswick, moderately eroded-----	35	Poor Too clayey Organic matter content Too acid	0.00 0.12 0.54	Poor Wetness Low strength Shrink-swell	0.00 0.00 0.43	Poor Wetness Too clayey Slope	0.00 0.00 0.37
424E2: Lindley, moderately eroded-----	45	Fair Organic matter content Too acid	0.18 0.68	Poor Low strength Shrink-swell Slope	0.00 0.95 0.98	Poor Slope	0.00
Keswick, moderately eroded-----	40	Poor Too clayey Organic matter content Too acid	0.00 0.12 0.54	Poor Wetness Low strength Shrink-swell	0.00 0.00 0.43	Poor Wetness Slope Too clayey	0.00 0.00 0.00
424E3: Lindley, severely eroded-----	45	Fair Organic matter content Too acid	0.18 0.68	Fair Shrink-swell Slope	0.96 0.98	Poor Slope	0.00
Keswick, severely eroded-----	40	Fair Organic matter content Too clayey Too acid	0.12 0.50 0.54	Poor Wetness Low strength Shrink-swell	0.00 0.00 0.52	Poor Wetness Slope Too clayey	0.00 0.00 0.29
424F2: Lindley, moderately eroded-----	65	Fair Organic matter content Too acid	0.18 0.68	Poor Low strength Slope Shrink-swell	0.00 0.18 0.95	Poor Slope	0.00
Keswick, moderately eroded-----	25	Poor Too clayey Organic matter content Too acid	0.00 0.12 0.54	Poor Wetness Low strength Slope	0.00 0.00 0.18	Poor Slope Wetness Too clayey	0.00 0.00 0.00
425D2: Keswick, moderately eroded-----	90	Poor Too clayey Organic matter content Too acid	0.00 0.12 0.54	Poor Wetness Low strength Shrink-swell	0.00 0.00 0.43	Poor Wetness Too clayey Slope	0.00 0.00 0.37

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
425D3: Keswick, severely eroded-----	60	Fair		Poor		Poor	
		Organic matter content	0.12	Wetness	0.00	Wetness	0.00
		Too clayey	0.50	Low strength	0.00	Too clayey	0.29
		Too acid	0.54	Shrink-swell	0.52	Slope	0.37
428B: Ely-----	95	Fair		Poor		Poor	
		Water erosion	0.90	Wetness	0.00	Wetness	0.00
				Low strength	0.00		
				Shrink-swell	0.94		
430: Ackmore, occasionally flooded-----	100	Good		Poor		Poor	
				Wetness	0.00	Wetness	0.00
				Low strength	0.00		
				Shrink-swell	0.33		
450: Pillot-----	100	Fair		Good		Fair	
		Organic matter content	0.12			Too clayey	0.86
		Water erosion	0.90				
		Too clayey	0.98				
450B: Pillot-----	90	Fair		Good		Fair	
		Organic matter content	0.12			Too clayey	0.86
		Water erosion	0.90				
		Too clayey	0.98				
450C: Pillot-----	85	Fair		Good		Fair	
		Organic matter content	0.12			Too clayey	0.86
		Water erosion	0.90				
		Too clayey	0.98				
453: Tuskeego, rarely flooded-----	75	Fair		Poor		Poor	
		Organic matter content	0.50	Wetness	0.00	Wetness	0.00
		Too clayey	0.68	Low strength	0.00	Too clayey	0.44
		Too acid	0.84	Shrink-swell	0.82		
462B: Downs, terrace-----	90	Fair		Poor		Fair	
		Organic matter content	0.88	Low strength	0.00	Too clayey	0.72
		Too acid	0.88	Shrink-swell	0.94		
		Water erosion	0.90				

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
463B: Fayette, terrace----	100	Fair		Poor		Good	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.91		
		Too acid	0.68				
		Water erosion	0.90				
463C2: Fayette, moderately eroded, terrace----	90	Fair		Poor		Good	
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87		
		Too acid	0.68				
		Water erosion	0.90				
463D2: Fayette, moderately eroded, terrace----	90	Fair		Poor		Fair Slope	0.37
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87		
		Too acid	0.68				
		Water erosion	0.90				
463D3: Fayette, severely eroded, terrace----	80	Fair		Poor		Fair Slope	0.37
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87		
		Too acid	0.68				
		Water erosion	0.90				
463E2: Fayette, moderately eroded, terrace----	90	Fair		Poor		Poor Slope	0.00
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87		
		Too acid	0.68	Slope	0.98		
		Water erosion	0.90				
463E3: Fayette, severely eroded, terrace----	90	Fair		Poor		Poor Slope	0.00
		Organic matter content	0.12	Low strength Shrink-swell	0.00 0.87		
		Too acid	0.68	Slope	0.98		
		Water erosion	0.90				
463F2: Fayette, moderately eroded, terrace----	85	Fair		Poor		Poor Slope	0.00
		Organic matter content	0.12	Low strength Slope	0.00 0.18		
		Too acid	0.68	Shrink-swell	0.87		
		Water erosion	0.90				

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
463F3: Fayette, severely eroded, terrace----	90	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength	0.00	Slope	0.00
		Too acid	0.68	Slope	0.18		
		Water erosion	0.90	Shrink-swell	0.87		
484: Lawson, occasionally flooded-----	80	Fair		Poor		Poor	
		Water erosion	0.90	Wetness	0.00	Wetness	0.00
				Shrink-swell	0.99		
587: Chequest, occasionally flooded-----	95	Fair		Poor		Poor	
		Too clayey	0.05	Wetness	0.00	Wetness	0.00
		Organic matter content	0.50	Low strength	0.00	Too clayey	0.03
		Too acid	0.74	Shrink-swell	0.12		
587+: Chequest, occasionally flooded, overwash--	95	Fair		Poor		Poor	
		Too clayey	0.05	Wetness	0.00	Wetness	0.00
		Organic matter content	0.50	Low strength	0.00	Too clayey	0.03
		Too acid	0.74	Shrink-swell	0.51		
626: Hayfield-----	90	Fair		Poor		Poor	
		Organic matter content	0.12	Wetness	0.00	Wetness	0.00
		Too acid	0.74				
663D2: Seaton, moderately eroded-----	85	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength	0.00	Slope	0.37
		Too acid	0.88				
		Water erosion	0.99				
663E2: Seaton, moderately eroded-----	85	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength	0.00	Slope	0.00
		Too acid	0.88	Slope	0.98		
		Water erosion	0.99				

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
663E3: Seaton, severely eroded-----	80	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Slope	0.00 0.98	Slope	0.00
		Too acid	0.88				
		Water erosion	0.99				
663F2: Seaton, moderately eroded-----	80	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength Slope	0.00 0.18	Slope	0.00
		Too acid	0.88				
		Water erosion	0.99				
687: Watkins, rarely flooded-----	90	Fair		Poor		Good	
		Too acid	0.84	Low strength	0.00		
		Water erosion	0.90	Shrink-swell	0.87		
687B: Watkins, rarely flooded-----	100	Fair		Poor		Good	
		Too acid	0.84	Low strength	0.00		
		Water erosion	0.90	Shrink-swell	0.87		
688: Koszta, rarely flooded-----	95	Fair		Poor		Poor	
		Organic matter content	0.12	Wetness Low strength	0.00 0.00	Wetness Too clayey	0.00 0.55
		Water erosion	0.90	Shrink-swell	0.91		
		Too clayey	0.95				
771B: Waubeeek-----	90	Fair		Good		Good	
		Organic matter content	0.12				
		Too acid	0.74				
		Water erosion	0.99				
771C2: Waubeeek, moderately eroded-----	90	Fair		Good		Good	
		Organic matter content	0.12				
		Too acid	0.74				
		Water erosion	0.99				
792D2: Armstrong, moderately eroded--	75	Fair		Poor		Poor	
		Too clayey	0.05	Wetness	0.00	Wetness	0.00
		Organic matter content	0.12	Low strength	0.00	Too clayey	0.03
		Too acid	0.68	Shrink-swell	0.52	Slope	0.37

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
876B: Ladoga, terrace-----	90	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Too acid	0.74	Shrink-swell	0.65		
		Organic matter content	0.88				
876C: Ladoga, terrace-----	80	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Too acid	0.74	Shrink-swell	0.65		
		Organic matter content	0.88				
876C2: Ladoga, moderately eroded, terrace----	85	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Too acid	0.74	Shrink-swell	0.63		
		Organic matter content	0.88				
876D2: Ladoga, moderately eroded, terrace----	90	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.01
		Too acid	0.74	Shrink-swell	0.63	Slope	0.37
		Organic matter content	0.88				
881B: Otley, terrace-----	95	Fair		Poor		Fair	
		Too clayey	0.02	Low strength	0.00	Too clayey	0.02
		Too acid	0.54	Shrink-swell	0.31	Wetness	0.53
		Water erosion	0.90	Wetness	0.53	Too acid	0.98
911B: Colo-----	55	Fair		Poor		Poor	
		Too clayey	0.88	Wetness	0.00	Wetness	0.00
				Low strength	0.00	Too clayey	0.88
				Shrink-swell	0.89		
Ely-----	35	Fair		Poor		Poor	
		Water erosion	0.90	Wetness	0.00	Wetness	0.00
				Low strength	0.00		
				Shrink-swell	0.94		
993D2: Gara, moderately eroded-----	45	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength	0.00	Slope	0.37
		Too acid	0.68	Shrink-swell	0.87	Too clayey	0.55
		Too clayey	0.95				

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
993D2: Armstrong, moderately eroded--	35	Fair		Poor		Poor	
		Too clayey	0.05	Wetness	0.00	Wetness	0.00
		Organic matter content	0.12	Low strength	0.00	Too clayey	0.03
		Too acid	0.68	Shrink-swell	0.52	Slope	0.37
993E2: Gara, moderately eroded-----	45	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength	0.00	Slope	0.00
		Too acid	0.68	Shrink-swell	0.87	Too clayey	0.55
		Too clayey	0.95	Slope	0.98		
Armstrong, moderately eroded--	40	Fair		Poor		Poor	
		Too clayey	0.05	Wetness	0.00	Wetness	0.00
		Organic matter content	0.12	Low strength	0.00	Slope	0.00
		Too acid	0.68	Shrink-swell	0.52	Too clayey	0.03
993F2: Gara, moderately eroded-----	65	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength	0.00	Slope	0.00
		Too acid	0.68	Slope	0.18	Too clayey	0.55
		Too clayey	0.95	Shrink-swell	0.87		
Armstrong, moderately eroded--	25	Fair		Poor		Poor	
		Too clayey	0.05	Wetness	0.00	Slope	0.00
		Organic matter content	0.12	Low strength	0.00	Wetness	0.00
		Too acid	0.68	Slope	0.18	Too clayey	0.03
1160: Walford, terrace----	95	Fair		Poor		Poor	
		Organic matter content	0.50	Wetness	0.00	Wetness	0.00
		Too acid	0.74	Low strength	0.00	Too clayey	0.64
		Water erosion	0.90	Shrink-swell	0.49		
1220: Nodaway, frequently flooded, channeled	75	Fair		Poor		Good	
		Organic matter content	0.12	Low strength	0.00		
		Water erosion	0.90	Shrink-swell	0.87		
1291: Atterberry, terrace	95	Fair		Poor		Poor	
		Organic matter content	0.18	Wetness	0.00	Wetness	0.00
		Water erosion	0.90	Low strength	0.00		
		Too acid	0.97	Shrink-swell	0.99		

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1354: Aquents, ponded-----	100	Not rated		Not rated		Not rated	
1442B: Tama-----	40	Fair Too acid Water erosion Too clayey	0.84 0.90 0.98	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.86
Sparta-----	35	Poor Too sandy Wind erosion Organic matter content	0.00 0.00 0.12	Good		Poor Too sandy	0.00
Pillot-----	20	Fair Organic matter content Water erosion Too clayey	0.12 0.90 0.98	Good		Fair Too clayey	0.86
1442C: Tama-----	40	Fair Too acid Water erosion Too clayey	0.84 0.90 0.98	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.86
Sparta-----	35	Poor Too sandy Wind erosion Organic matter content	0.00 0.00 0.12	Good		Poor Too sandy	0.00
Pillot-----	20	Fair Organic matter content Water erosion Too clayey	0.12 0.90 0.98	Good		Fair Too clayey	0.86
1442C2: Tama, moderately eroded-----	40	Fair Organic matter content Too acid Water erosion	0.12 0.84 0.90	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.86
Sparta, moderately eroded-----	35	Poor Too sandy Wind erosion Organic matter content	0.00 0.00 0.60	Good		Poor Too sandy	0.00

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1442C2: Pillot, moderately eroded-----	20	Fair		Good		Fair	
		Organic matter content	0.12			Too clayey	0.70
		Water erosion	0.90				
		Too acid	0.97				
1442D2: Tama, moderately eroded-----	40	Fair		Poor		Fair	
		Organic matter content	0.12	Low strength	0.00	Slope	0.37
		Too acid	0.84	Shrink-swell	0.87	Too clayey	0.86
		Water erosion	0.90				
Sparta, moderately eroded-----	35	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Wind erosion	0.00			Slope	0.37
		Organic matter content	0.60				
Pillot, moderately eroded-----	20	Fair		Good		Fair	
		Organic matter content	0.12			Slope	0.37
		Water erosion	0.90			Too clayey	0.70
		Too acid	0.97				
1442E2: Tama, moderately eroded-----	40	Fair		Poor		Poor	
		Organic matter content	0.12	Low strength	0.00	Slope	0.00
		Too acid	0.84	Shrink-swell	0.87	Too clayey	0.86
		Water erosion	0.90	Slope	0.98		
Sparta, moderately eroded-----	35	Poor		Fair		Poor	
		Too sandy	0.00	Slope	0.98	Too sandy	0.00
		Wind erosion	0.00			Slope	0.00
		Organic matter content	0.60				
Pillot, moderately eroded-----	20	Fair		Fair		Poor	
		Organic matter content	0.12	Slope	0.98	Slope	0.00
		Water erosion	0.90			Too clayey	0.70
		Too acid	0.97				
1540: Quiver, frequently flooded-----	40	Fair		Poor		Poor	
		Organic matter content	0.50	Wetness	0.00	Wetness	0.00
		Too clayey	0.98	Low strength	0.00	Too clayey	0.64
				Shrink-swell	0.87		

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1540: Zook, frequently flooded-----	30	Fair Too clayey Water erosion	0.12 0.99	Poor Wetness Low strength Shrink-swell	0.00 0.00 0.12	Poor Wetness Too clayey	0.00 0.12
Klum, frequently flooded-----	15	Fair Organic matter content	0.12	Good		Good	
2219: Ella, rarely flooded	70	Fair Too acid Water erosion	0.84 0.99	Poor Low strength Shrink-swell	0.00 0.87	Good	
2219B: Ella, rarely flooded	75	Fair Too acid Water erosion	0.84 0.99	Poor Low strength Shrink-swell	0.00 0.87	Good	
2219C2: Ella, moderately eroded-----	80	Fair Too acid Organic matter content Water erosion	0.84 0.88 0.99	Poor Low strength Shrink-swell	0.00 0.87	Good	
2422: Amana, occasionally flooded-----	50	Fair Organic matter content Too acid Water erosion	0.50 0.84 0.99	Poor Wetness Low strength	0.00 0.00	Poor Wetness	0.00
Nodaway, occasionally flooded-----	30	Fair Organic matter content Water erosion	0.12 0.90	Poor Low strength Shrink-swell	0.00 0.87	Good	
Lawson, occasionally flooded-----	20	Fair Water erosion	0.90	Poor Wetness Shrink-swell	0.00 0.99	Poor Wetness	0.00
4946: Udorthents-----	65	Not rated		Not rated		Not rated	
Interstate highway--	30	Not rated		Not rated		Not rated	
5010: Pits, sand and gravel-----	100	Not rated		Not rated		Not rated	

Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential as source of reclamation material		Potential as source of roadfill		Potential as source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5040: Udorthents-----	100	Not rated		Not rated		Not rated	
6220: Nodaway, frequently flooded-----	85	Fair Organic matter content Water erosion	0.12 0.90	Poor Low strength Shrink-swell	0.00 0.87	Good	
6422: Amana, frequently flooded-----	90	Fair Organic matter content Too acid Water erosion	0.50 0.84 0.99	Poor Wetness Low strength	0.00 0.00	Poor Wetness	0.00
AW: Animal waste lagoon	100	Not rated		Not rated		Not rated	
SL: Sewage lagoon-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Water Management

The table “Ponds and Embankments” 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 high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Ponds and Embankments

(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
5B: Ackmore-----	45	Somewhat limited Seepage Slope	0.70 0.08	Very limited Depth to saturated zone Piping	1.00 0.02	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
Colo-----	35	Somewhat limited Seepage Slope	0.72 0.08	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
7: Wiota, rarely flooded-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.16	Very limited Depth to water	1.00
7B: Wiota, rarely flooded-----	100	Somewhat limited Seepage Slope	0.70 0.08	Somewhat limited Piping	0.16	Very limited Depth to water	1.00
8B: Judson-----	95	Somewhat limited Seepage Slope	0.72 0.08	Somewhat limited Piping	0.07	Very limited Depth to water	1.00
24C2: Shelby, moderately eroded-----	85	Somewhat limited Slope Seepage	0.92 0.04	Not limited		Very limited Depth to water	1.00
24D2: Shelby, moderately eroded-----	70	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
24D3: Shelby, severely eroded-----	90	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
24E2: Shelby, moderately eroded-----	85	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00

Ponds and Embankments--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
24E3: Shelby, severely eroded-----	95	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
41: Sparta-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.35	Very limited Depth to water	1.00
41B: Sparta-----	100	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.35	Very limited Depth to water	1.00
41C: Sparta-----	85	Very limited Seepage Slope	1.00 0.92	Somewhat limited Seepage	0.35	Very limited Depth to water	1.00
41D: Sparta-----	75	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.35	Very limited Depth to water	1.00
43: Bremer, rarely flooded-----	100	Somewhat limited Seepage	0.05	Very limited Depth to saturated zone Hard to pack	1.00 0.55	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
51: Vesser, occasionally flooded-----	95	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.14	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
54: Zook, occasionally flooded-----	100	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Hard to pack	1.00 0.67	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
54+: Zook, occasionally flooded, overwash--	100	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Hard to pack	1.00 0.40	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
63C: Chelsea-----	90	Very limited Seepage Slope	1.00 0.92	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00

Ponds and Embankments--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
63E: Chelsea-----	95	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
63G: Chelsea-----	95	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
65D2: Lindley, moderately eroded-----	85	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.61	Very limited Depth to water	1.00
65D3: Lindley, severely eroded-----	85	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.67	Very limited Depth to water	1.00
65E2: Lindley, moderately eroded-----	85	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.61	Very limited Depth to water	1.00
65E3: Lindley, severely eroded-----	85	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.67	Very limited Depth to water	1.00
65F: Lindley-----	100	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.54	Very limited Depth to water	1.00
65F2: Lindley, moderately eroded-----	80	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.61	Very limited Depth to water	1.00
65F3: Lindley, severely eroded-----	90	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.67	Very limited Depth to water	1.00
65G: Lindley-----	100	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.54	Very limited Depth to water	1.00

Ponds and Embankments--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
75: Givin-----	95	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
76B: Ladoga-----	95	Somewhat limited Seepage Slope	0.72 0.08	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
76C: Ladoga-----	85	Somewhat limited Slope Seepage	0.92 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
76C2: Ladoga, moderately eroded-----	95	Somewhat limited Slope Seepage	0.92 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
76D: Ladoga-----	90	Very limited Slope Seepage	1.00 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
76D2: Ladoga, moderately eroded-----	90	Very limited Slope Seepage	1.00 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
76D3: Ladoga, severely eroded-----	85	Very limited Slope Seepage	1.00 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
76E2: Ladoga, moderately eroded-----	70	Very limited Slope Seepage	1.00 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10

Ponds and Embankments--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
76E3: Ladoga, severely eroded-----	85	Very limited Slope Seepage	1.00 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
80B: Clinton-----	100	Somewhat limited Slope Seepage	0.08 0.04	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
80C: Clinton-----	95	Somewhat limited Slope Seepage	0.92 0.04	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
80C2: Clinton, moderately eroded-----	85	Somewhat limited Slope Seepage	0.92 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
80D: Clinton-----	90	Very limited Slope Seepage	1.00 0.04	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
80D2: Clinton, moderately eroded-----	85	Very limited Slope Seepage	1.00 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
80D3: Clinton, severely eroded-----	75	Very limited Slope Seepage	1.00 0.70	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10

Ponds and Embankments--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
80E2: Clinton, moderately eroded-----	90	Very limited Slope Seepage	1.00 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
80E3: Clinton, severely eroded-----	70	Very limited Slope Seepage	1.00 0.70	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
80F2: Clinton, moderately eroded-----	90	Very limited Slope Seepage	1.00 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
83B: Kenyon-----	75	Somewhat limited Seepage Slope	0.70 0.08	Somewhat limited Piping	0.46	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
83C: Kenyon-----	80	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.46	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
83C2: Kenyon, moderately eroded-----	85	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.45	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
83D2: Kenyon, moderately eroded-----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.45	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
88: Nevin, rarely flooded-----	90	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10

Ponds and Embankments--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
93D2: Shelby, moderately eroded-----	50	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
Adair, moderately eroded-----	35	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
93D3: Shelby, severely eroded-----	50	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
Adair, severely eroded-----	30	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
93E2: Shelby, moderately eroded-----	60	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
Adair, moderately eroded-----	35	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
119: Muscatine-----	95	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
120B: Tama-----	95	Somewhat limited Seepage Slope	0.70 0.08	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
120C: Tama-----	85	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
120C2: Tama, moderately eroded-----	75	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
120D2: Tama, moderately eroded-----	85	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.01	Very limited Depth to water	1.00

Ponds and Embankments--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
120D3: Tama, severely eroded-----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
120E2: Tama, moderately eroded-----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
122: Sperry-----	95	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Ponding	1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
133: Colo, occasionally flooded-----	90	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
133+: Colo, occasionally flooded, overwash--	90	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
162B: Downs-----	95	Somewhat limited Seepage Slope	0.70 0.08	Somewhat limited Piping	0.42	Very limited Depth to water	1.00
162C: Downs-----	85	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.42	Very limited Depth to water	1.00
162C2: Downs, moderately eroded-----	85	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.25	Very limited Depth to water	1.00
162D2: Downs, moderately eroded-----	85	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.25	Very limited Depth to water	1.00
162D3: Downs, severely eroded-----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.33	Very limited Depth to water	1.00

Ponds and Embankments--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
162E2: Downs, moderately eroded-----	75	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.25	Very limited Depth to water	1.00
162E3: Downs, severely eroded-----	75	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.33	Very limited Depth to water	1.00
163B: Fayette-----	95	Somewhat limited Seepage Slope	0.70 0.08	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
163C: Fayette-----	90	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
163C2: Fayette, moderately eroded-----	85	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.34	Very limited Depth to water	1.00
163D: Fayette-----	85	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
163D2: Fayette, moderately eroded-----	65	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.34	Very limited Depth to water	1.00
163D3: Fayette, severely eroded-----	60	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.42	Very limited Depth to water	1.00
163E: Fayette-----	75	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
163E2: Fayette, moderately eroded-----	70	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.34	Very limited Depth to water	1.00

Ponds and Embankments--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
163E3: Fayette, severely eroded-----	70	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.42	Very limited Depth to water	1.00
163F: Fayette-----	75	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
163F2: Fayette, moderately eroded-----	70	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.34	Very limited Depth to water	1.00
163F3: Fayette, severely eroded-----	70	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.42	Very limited Depth to water	1.00
163G: Fayette-----	85	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
165: Stronghurst-----	95	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
171C2: Bassett, moderately eroded-----	85	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.52	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
171D2: Bassett, moderately eroded-----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.52	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
171D3: Bassett, severely eroded-----	75	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.52	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10

Ponds and Embankments--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
171E2: Bassett, moderately eroded-----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.52	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
171E3: Bassett, severely eroded-----	75	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.52	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
172: Wabash, occasionally flooded-----	100	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 1.00	Very limited Slow refill Cutbanks cave	1.00 0.10
175: Dickinson-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.36	Very limited Depth to water	1.00
175B: Dickinson-----	95	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.36	Very limited Depth to water	1.00
175C: Dickinson-----	85	Very limited Seepage Slope	1.00 0.92	Somewhat limited Seepage	0.36	Very limited Depth to water	1.00
178: Waukeee-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.20	Very limited Depth to water	1.00
178B: Waukeee-----	100	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.20	Very limited Depth to water	1.00
178C: Waukeee-----	100	Very limited Seepage Slope	1.00 0.92	Somewhat limited Seepage	0.20	Very limited Depth to water	1.00
179D2: Gara, moderately eroded-----	80	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00

Ponds and Embankments--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
179D3: Gara, severely eroded-----	70	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
179E2: Gara, moderately eroded-----	85	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
179E3: Gara, severely eroded-----	75	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
179F2: Gara, moderately eroded-----	85	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
179F3: Gara, severely eroded-----	90	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
180: Keomah-----	95	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
192D2: Adair, moderately eroded-----	75	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
192D3: Adair, severely eroded-----	70	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
220: Nodaway, occasionally flooded-----	85	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10

Ponds and Embankments--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
279: Taintor-----	90	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Hard to pack	1.00 0.09	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
280: Mahaska-----	95	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
281B: Otley-----	100	Somewhat limited Seepage Slope	0.72 0.08	Very limited Depth to saturated zone	0.99	Somewhat limited Slow refill Cutbanks cave Depth to saturated zone	0.28 0.10 0.01
281C: Otley-----	90	Somewhat limited Slope Seepage	0.92 0.72	Very limited Depth to saturated zone	0.99	Somewhat limited Slow refill Cutbanks cave Depth to saturated zone	0.28 0.10 0.01
281C2: Otley, moderately eroded-----	85	Somewhat limited Slope Seepage	0.92 0.72	Very limited Depth to saturated zone	0.99	Somewhat limited Slow refill Cutbanks cave Depth to saturated zone	0.28 0.10 0.01
281D2: Otley, moderately eroded-----	80	Very limited Slope Seepage	1.00 0.72	Very limited Depth to saturated zone	0.99	Somewhat limited Slow refill Cutbanks cave Depth to saturated zone	0.28 0.10 0.01
281D3: Otley, severely eroded-----	80	Very limited Slope Seepage	1.00 0.72	Very limited Depth to saturated zone	0.99	Somewhat limited Slow refill Cutbanks cave Depth to saturated zone	0.28 0.10 0.01
281E2: Otley, moderately eroded-----	85	Very limited Slope Seepage	1.00 0.72	Very limited Depth to saturated zone	0.99	Somewhat limited Slow refill Cutbanks cave Depth to saturated zone	0.28 0.10 0.01

Ponds and Embankments--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
291: Atterberry-----	90	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.13	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
293C: Fayette-----	45	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
Chelsea-----	35	Very limited Seepage Slope	1.00 0.92	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
Tell-----	20	Very limited Seepage Slope	1.00 0.92	Very limited Piping Seepage	1.00 0.64	Very limited Depth to water	1.00
293D: Fayette-----	45	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
Chelsea-----	35	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
Tell-----	20	Very limited Seepage Slope	1.00 1.00	Very limited Piping Seepage	1.00 0.64	Very limited Depth to water	1.00
293D2: Fayette, moderately eroded-----	45	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.34	Very limited Depth to water	1.00
Chelsea, moderately eroded-----	35	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
Tell, moderately eroded-----	20	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.64	Very limited Depth to water	1.00
293E: Fayette-----	40	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
Chelsea-----	35	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
Tell-----	25	Very limited Seepage Slope	1.00 1.00	Very limited Piping Seepage	1.00 0.64	Very limited Depth to water	1.00

Ponds and Embankments--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
293E2: Fayette, moderately eroded-----	40	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.34	Very limited Depth to water	1.00
Chelsea, moderately eroded-----	35	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
Tell, moderately eroded-----	25	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.64	Very limited Depth to water	1.00
293G: Fayette-----	40	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
Chelsea-----	35	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
Tell-----	25	Very limited Seepage Slope	1.00 1.00	Very limited Piping Seepage	1.00 0.64	Very limited Depth to water	1.00
353B: Tell-----	85	Very limited Seepage Slope	1.00 0.08	Very limited Piping Seepage	1.00 0.64	Very limited Depth to water	1.00
353C: Tell-----	90	Very limited Seepage Slope	1.00 0.92	Very limited Piping Seepage	1.00 0.64	Very limited Depth to water	1.00
353C2: Tell, moderately eroded-----	90	Very limited Seepage Slope	1.00 0.92	Somewhat limited Seepage	0.64	Very limited Depth to water	1.00
353D2: Tell, moderately eroded-----	90	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.64	Very limited Depth to water	1.00
377B: Dinsdale-----	100	Somewhat limited Seepage Slope	0.70 0.08	Somewhat limited Piping	0.26	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10

Ponds and Embankments--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
377C: Dinsdale-----	85	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.26	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
420: Tama, terrace-----	100	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
420B: Tama, terrace-----	100	Somewhat limited Seepage Slope	0.70 0.08	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
422: Amana, occasionally flooded-----	90	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.17	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
424D2: Lindley, moderately eroded-----	50	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.61	Very limited Depth to water	1.00
Keswick, moderately eroded-----	35	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
424E2: Lindley, moderately eroded-----	45	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.61	Very limited Depth to water	1.00
Keswick, moderately eroded-----	40	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
424E3: Lindley, severely eroded-----	45	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.67	Very limited Depth to water	1.00
Keswick, severely eroded-----	40	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00

Ponds and Embankments--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
424F2: Lindley, moderately eroded-----	65	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.61	Very limited Depth to water	1.00
Keswick, moderately eroded-----	25	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
425D2: Keswick, moderately eroded-----	90	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
425D3: Keswick, severely eroded-----	60	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone	1.00	Very limited Depth to water	1.00
428B: Ely-----	95	Somewhat limited Seepage Slope	0.72 0.08	Very limited Depth to saturated zone Piping	1.00 0.25	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
430: Ackmore, occasionally flooded-----	100	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.02	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
450: Pillot-----	100	Very limited Seepage	1.00	Very limited Piping Seepage	0.99 0.10	Very limited Depth to water	1.00
450B: Pillot-----	90	Very limited Seepage Slope	1.00 0.08	Very limited Piping Seepage	0.99 0.10	Very limited Depth to water	1.00
450C: Pillot-----	85	Very limited Seepage Slope	1.00 0.92	Very limited Piping Seepage	0.99 0.10	Very limited Depth to water	1.00
453: Tuskeego, rarely flooded-----	75	Not limited		Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.30 0.10

Ponds and Embankments--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
462B: Downs, terrace-----	90	Somewhat limited Seepage Slope	0.70 0.08	Somewhat limited Piping	0.42	Very limited Depth to water	1.00
463B: Fayette, terrace----	100	Somewhat limited Seepage Slope	0.70 0.08	Somewhat limited Piping	0.43	Very limited Depth to water	1.00
463C2: Fayette, moderately eroded, terrace----	90	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.34	Very limited Depth to water	1.00
463D2: Fayette, moderately eroded, terrace----	90	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.34	Very limited Depth to water	1.00
463D3: Fayette, severely eroded, terrace----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.42	Very limited Depth to water	1.00
463E2: Fayette, moderately eroded, terrace----	90	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.34	Very limited Depth to water	1.00
463E3: Fayette, severely eroded, terrace----	90	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.42	Very limited Depth to water	1.00
463F2: Fayette, moderately eroded, terrace----	85	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.34	Very limited Depth to water	1.00
463F3: Fayette, severely eroded, terrace----	90	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.42	Very limited Depth to water	1.00
484: Lawson, occasionally flooded-----	80	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.99	Somewhat limited Slow refill Cutbanks cave	0.30 0.10

Ponds and Embankments--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
587: Chequest, occasionally flooded-----	95	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Hard to pack	1.00 0.08	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
587+: Chequest, occasionally flooded, overwash--	95	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
626: Hayfield-----	90	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.10	Very limited Cutbanks cave	1.00
663D2: Seaton, moderately eroded-----	85	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.90	Very limited Depth to water	1.00
663E2: Seaton, moderately eroded-----	85	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.90	Very limited Depth to water	1.00
663E3: Seaton, severely eroded-----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.90	Very limited Depth to water	1.00
663F2: Seaton, moderately eroded-----	80	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.90	Very limited Depth to water	1.00
687: Watkins, rarely flooded-----	90	Somewhat limited Seepage	0.70	Somewhat limited Piping	0.59	Very limited Depth to water	1.00
687B: Watkins, rarely flooded-----	100	Somewhat limited Seepage Slope	0.70 0.08	Somewhat limited Piping	0.59	Very limited Depth to water	1.00

Ponds and Embankments--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
688: Koszta, rarely flooded-----	95	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
771B: Waubeeek-----	90	Somewhat limited Seepage Slope	0.70 0.08	Somewhat limited Piping	0.46	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
771C2: Waubeeek, moderately eroded-----	90	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.41	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
792D2: Armstrong, moderately eroded--	75	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone Piping	1.00 0.01	Very limited Depth to water	1.00
876B: Ladoga, terrace----	90	Somewhat limited Seepage	0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
876C: Ladoga, terrace----	80	Somewhat limited Slope Seepage	0.92 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
876C2: Ladoga, moderately eroded, terrace----	85	Somewhat limited Slope Seepage	0.92 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
876D2: Ladoga, moderately eroded, terrace----	90	Very limited Slope Seepage	1.00 0.72	Not limited		Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10

Ponds and Embankments--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
881B: Otley, terrace-----	95	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone	0.99	Somewhat limited Slow refill Cutbanks cave Depth to saturated zone	0.28 0.10 0.01
911B: Colo-----	55	Somewhat limited Seepage Slope	0.72 0.08	Very limited Depth to saturated zone	1.00	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Ely-----	35	Somewhat limited Seepage Slope	0.72 0.08	Very limited Depth to saturated zone Piping	1.00 0.25	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
993D2: Gara, moderately eroded-----	45	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
Armstrong, moderately eroded--	35	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone Piping	1.00 0.01	Very limited Depth to water	1.00
993E2: Gara, moderately eroded-----	45	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
Armstrong, moderately eroded--	40	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone Piping	1.00 0.01	Very limited Depth to water	1.00
993F2: Gara, moderately eroded-----	65	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
Armstrong, moderately eroded--	25	Very limited Slope Seepage	1.00 0.04	Very limited Depth to saturated zone Piping	1.00 0.01	Very limited Depth to water	1.00
1160: Walford, terrace----	95	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.01	Somewhat limited Slow refill Cutbanks cave	0.30 0.10

Ponds and Embankments--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
1220: Nodaway, frequently flooded, channeled	75	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
1291: Atterberry, terrace	95	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.13	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
1354: Aquents, ponded----	100	Not limited		Not rated		Not rated	
1442B: Tama-----	40	Somewhat limited Seepage Slope	0.70 0.08	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
Sparta-----	35	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.35	Very limited Depth to water	1.00
Pillot-----	20	Very limited Seepage Slope	1.00 0.08	Very limited Piping Seepage	0.99 0.10	Very limited Depth to water	1.00
1442C: Tama-----	40	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.03	Very limited Depth to water	1.00
Sparta-----	35	Very limited Seepage Slope	1.00 0.92	Somewhat limited Seepage	0.35	Very limited Depth to water	1.00
Pillot-----	20	Very limited Seepage Slope	1.00 0.92	Very limited Piping Seepage	0.99 0.10	Very limited Depth to water	1.00
1442C2: Tama, moderately eroded-----	40	Somewhat limited Slope Seepage	0.92 0.70	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
Sparta, moderately eroded-----	35	Very limited Seepage Slope	1.00 0.92	Somewhat limited Seepage	0.34	Very limited Depth to water	1.00
Pillot, moderately eroded-----	20	Very limited Seepage Slope	1.00 0.92	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00

Ponds and Embankments--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
1442D2:							
Tama, moderately eroded-----	40	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
Sparta, moderately eroded-----	35	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.34	Very limited Depth to water	1.00
Pillot, moderately eroded-----	20	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
1442E2:							
Tama, moderately eroded-----	40	Very limited Slope Seepage	1.00 0.70	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
Sparta, moderately eroded-----	35	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.34	Very limited Depth to water	1.00
Pillot, moderately eroded-----	20	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
1540:							
Quiver, frequently flooded-----	40	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Piping	1.00 0.10	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
Zook, frequently flooded-----	30	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Hard to pack	1.00 0.67	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
Klum, frequently flooded-----	15	Very limited Seepage	1.00	Not limited		Somewhat limited Depth to saturated zone Cutbanks cave	0.81 0.10
2219:							
Ella, rarely flooded	70	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.98	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10

Ponds and Embankments--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
2219B: Ella, rarely flooded	75	Somewhat limited Seepage Slope	0.72 0.08	Somewhat limited Piping	0.98	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
2219C2: Ella, moderately eroded-----	80	Somewhat limited Slope Seepage	0.92 0.72	Very limited Piping	0.99	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.28 0.10
2422: Amana, occasionally flooded-----	50	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.17	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
Nodaway, occasionally flooded-----	30	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10
Lawson, occasionally flooded-----	20	Somewhat limited Seepage	0.70	Very limited Depth to saturated zone Piping	1.00 0.97	Somewhat limited Slow refill Cutbanks cave	0.30 0.10
4946: Udorthents-----	65	Not limited		Not rated		Not rated	
Interstate highway--	30	Not limited		Not rated		Not rated	
5010: Pits, sand and gravel-----	100	Not rated		Not rated		Not rated	
5040: Udorthents-----	100	Not rated		Not rated		Not rated	
6220: Nodaway, frequently flooded-----	85	Somewhat limited Seepage	0.70	Very limited Piping	1.00	Somewhat limited Depth to saturated zone Slow refill Cutbanks cave	0.81 0.30 0.10

Ponds and Embankments--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
6422: Amana, frequently flooded-----	90	Somewhat limited Seepage	0.72	Very limited Depth to saturated zone Piping	1.00 0.17	Somewhat limited Slow refill Cutbanks cave	0.28 0.10
AW: Animal waste lagoon	100	Not rated		Not rated		Not rated	
SL: Sewage lagoon-----	100	Not rated		Not rated		Not rated	
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.

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 particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Properties

The table described in this section gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary in Part I.

Classification of the soils is determined according to the Unified soil classification system (ASTM) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

References:

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487–00.

Engineering Properties

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
5B:												
Ackmore-----	0-8	Silt loam	ML, CL	A-4, A-7, A-6	0	0	100	100	95-100	85-100	25-50	8-20
	8-25	Silt loam	CL, ML	A-6, A-7, A-4	0	0	100	100	95-100	85-100	25-50	8-20
	25-60	Silty clay loam, silt loam	CL, CH	A-6, A-7	0	0	100	100	95-100	85-100	35-60	15-30
Colo-----	0-8	Silty clay loam	CH, CL	A-7	0	0	100	100	90-100	90-100	40-60	15-30
	8-40	Silty clay loam	CH, CL	A-7	0	0	100	100	90-100	90-100	40-55	20-30
	40-46	Silty clay loam	CH, CL	A-7	0	0	100	100	90-100	90-100	40-55	20-30
	46-60	Silty clay loam, clay loam, silt loam	CH, CL	A-7	0	0	100	100	95-100	80-100	40-55	15-30
7:												
Wiota, rarely flooded-----	0-8	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-95	25-35	5-15
	8-22	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-95	25-35	5-15
	22-48	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-95	40-50	15-25
	48-64	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	90-95	30-50	15-30
7B:												
Wiota, rarely flooded-----	0-8	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-95	25-35	5-15
	8-22	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-95	25-35	5-15
	22-48	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-95	40-50	15-25
	48-64	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	95-100	90-95	30-50	15-30
8B:												
Judson-----	0-8	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-25
	8-28	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-25
	28-52	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	30-50	15-25
	52-60	Silty clay loam, silt loam	CL, CL-ML	A-4, A-6, A-7	0	0	100	100	100	95-100	25-50	5-25

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
24C2: Shelby, moderately eroded-----	0-8	Loam, clay loam	CL	A-6, A-7	0	0	90-95	85-95	75-90	55-70	35-45	15-25
	8-11	Clay loam	CL	A-6, A-7	0	0	90-95	85-95	75-90	55-70	35-45	15-25
	11-42	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
	42-72	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
24D2: Shelby, moderately eroded-----	0-8	Loam, clay loam	CL	A-6, A-7	0	0	90-95	85-95	75-90	55-70	35-45	15-25
	8-11	Clay loam	CL	A-6, A-7	0	0	90-95	85-95	75-90	55-70	35-45	15-25
	11-42	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
	42-72	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
24D3: Shelby, severely eroded-----	0-8	Clay loam	CL	A-6, A-7	0	0	90-95	85-95	75-90	55-70	35-45	15-25
	8-36	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
	36-72	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
24E2: Shelby, moderately eroded-----	0-8	Loam, clay loam	CL	A-6, A-7	0	0	90-95	85-95	75-90	55-70	35-45	15-25
	8-11	Clay loam	CL	A-6, A-7	0	0	90-95	85-95	75-90	55-70	35-45	15-25
	11-42	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
	42-72	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
24E3: Shelby, severely eroded-----	0-8	Clay loam	CL	A-6, A-7	0	0	90-95	85-95	75-90	55-70	35-45	15-25
	8-36	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
	36-72	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
41: Sparta-----	0-8	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SP-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-25	NP-6
	8-15	Sand, fine sand, loamy sand, loamy fine sand	SP-SM, SC-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-22	NP-6
	15-72	Sand, loamy sand, loamy fine sand, fine sand	SP-SM, SC-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-20	NP-4
	72-80	Sand, fine sand	SP-SM, SM, SP	A-2-4, A-1-b	0	0	95-100	90-100	50-95	2-20	0-17	NP-2

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number --				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
41B: Sparta-----	0-8	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SP-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-25	NP-6
	8-15	Sand, fine sand, loamy sand, loamy fine sand	SP-SM, SC-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-22	NP-6
	15-72	Sand, loamy sand, loamy fine sand, fine sand	SP-SM, SC-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-20	NP-4
	72-80	Sand, fine sand	SP-SM, SM, SP	A-2-4, A-1-b	0	0	95-100	90-100	50-95	2-20	0-17	NP-2
41C: Sparta-----	0-8	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SP-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-25	NP-6
	8-15	Sand, fine sand, loamy sand, loamy fine sand	SP-SM, SC-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-22	NP-6
	15-72	Sand, loamy sand, loamy fine sand, fine sand	SP-SM, SC-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-20	NP-4
	72-80	Sand, fine sand	SP-SM, SM, SP	A-2-4, A-1-b	0	0	95-100	90-100	50-95	2-20	0-17	NP-2
41D: Sparta-----	0-8	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SP-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-25	NP-6
	8-15	Sand, fine sand, loamy sand, loamy fine sand	SP-SM, SC-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-22	NP-6
	15-72	Sand, loamy sand, loamy fine sand, fine sand	SP-SM, SC-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-20	NP-4
	72-80	Sand, fine sand	SP-SM, SM, SP	A-2-4, A-1-b	0	0	95-100	90-100	50-95	2-20	0-17	NP-2
43: Bremer, rarely flooded-----	0-8	Silty clay loam	CH, CL	A-7	0	0	100	100	100	95-100	45-60	25-40
	8-19	Silty clay loam	CH, CL	A-7	0	0	100	100	100	95-100	45-60	25-40
	19-42	Silty clay loam, silty clay	CH, MH	A-7	0	0	100	100	100	95-100	50-65	20-35
	42-60	Silty clay loam	CH, CL	A-7	0	0	100	100	95-100	95-100	40-60	25-40
51: Vesser, occasionally flooded-----	0-8	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-40	10-20
	8-12	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-40	10-20
	12-31	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-40	10-20
	31-60	Silty clay loam	CL	A-7	0	0	100	100	98-100	95-100	40-50	15-25

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
54: Zook, occasionally flooded-----	0-8	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	95-100	45-65	20-35
	8-38	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	95-100	45-65	20-35
	38-52	Silty clay, silty clay loam	CH	A-7	0	0	100	100	95-100	95-100	60-85	35-55
	52-60	Silty clay loam, silty clay, silt loam	CH, CL, MH, ML	A-6, A-7	0	0	100	100	95-100	95-100	35-80	10-50
54+: Zook, occasionally flooded, overwash-----	0-8	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-40	10-20
	8-14	Silt loam	CL	A-6	0	0	100	100	98-100	95-100	30-40	10-20
	14-38	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	95-100	45-65	20-35
	38-52	Silty clay, silty clay loam	CH	A-7	0	0	100	100	95-100	95-100	60-85	35-55
	52-60	Silty clay loam, silty clay, silt loam	CH, CL, MH, ML	A-6, A-7	0	0	100	100	95-100	95-100	35-80	10-50
63C: Chelsea-----	0-4	Fine sand, loamy fine sand	SM, SP-SM	A-2-4	0	0	100	100	65-80	10-35	0-14	NP
	4-36	Loamy fine sand, fine sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
	36-70	Fine sand, loamy fine sand, fine sandy loam, loamy sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
63E: Chelsea-----	0-4	Fine sand, loamy fine sand	SM, SP-SM	A-2-4	0	0	100	100	65-80	10-35	0-14	NP
	4-36	Loamy fine sand, fine sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
	36-70	Fine sand, loamy fine sand, fine sandy loam, loamy sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
63G: Chelsea-----	0-4	Fine sand, loamy fine sand	SM, SP-SM	A-2-4	0	0	100	100	65-80	10-35	0-14	NP
	4-36	Loamy fine sand, fine sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
	36-70	Fine sand, loamy fine sand, fine sandy loam, loamy sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
65D2: Lindley, moderately eroded-----	0-8	Loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	8-40	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	55-75	30-45	12-20
	40-60	Loam, clay loam	CL	A-6	0	0	95-100	90-100	85-95	50-70	25-35	10-15
65D3: Lindley, severely eroded	0-8	Clay loam, loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	8-34	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	55-75	30-45	12-20
	34-60	Clay loam, loam	CL	A-6	0	0	95-100	90-100	85-95	50-70	25-35	10-15
65E2: Lindley, moderately eroded-----	0-8	Loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	8-40	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	55-75	30-45	12-20
	40-60	Loam, clay loam	CL	A-6	0	0	95-100	90-100	85-95	50-70	25-35	10-15
65E3: Lindley, severely eroded	0-8	Clay loam, loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	8-34	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	55-75	30-45	12-20
	34-60	Clay loam, loam	CL	A-6	0	0	95-100	90-100	85-95	50-70	25-35	10-15
65F: Lindley-----	0-3	Loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	3-7	Loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	7-46	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	55-75	30-45	12-20
	46-60	Loam, clay loam	CL	A-6	0	0	95-100	90-100	85-95	50-70	25-35	10-15
65F2: Lindley, moderately eroded-----	0-8	Loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	8-40	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	55-75	30-45	12-20
	40-60	Loam, clay loam	CL	A-6	0	0	95-100	90-100	85-95	50-70	25-35	10-15

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
65F3: Lindley, severely eroded	0-8	Clay loam, loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	8-34	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	55-75	30-45	12-20
	34-60	Clay loam, loam	CL	A-6	0	0	95-100	90-100	85-95	50-70	25-35	10-15
65G: Lindley-----	0-3	Loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	3-7	Loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	7-46	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	55-75	30-45	12-20
	46-60	Loam, clay loam	CL	A-6	0	0	95-100	90-100	85-95	50-70	25-35	10-15
75: Givin-----	0-8	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	30-40	5-15
	8-16	Silt loam	CL, ML	A-4, A-6	0	0	100	100	100	95-100	30-40	5-15
	16-42	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	45-60	25-35
	42-80	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-50	20-30
76B: Ladoga-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	8-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	14-45	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	45-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	15-20
76C: Ladoga-----	0-8	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	95-100	25-40	5-15
	8-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	14-45	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	45-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	15-20
76C2: Ladoga, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	95-100	25-40	5-15
	8-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	10-39	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	39-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	15-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
76D:												
Ladoga-----	0-8	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	95-100	25-40	5-15
	8-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	14-45	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	45-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	15-20
76D2:												
Ladoga, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	95-100	25-40	5-15
	8-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	10-39	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	39-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	15-20
76D3:												
Ladoga, severely eroded-----	0-8	Silty clay loam, silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	95-100	25-40	5-15
	8-33	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	33-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	15-20
76E2:												
Ladoga, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	95-100	25-40	5-15
	8-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	10-39	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	39-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	15-20
76E3:												
Ladoga, severely eroded-----	0-8	Silty clay loam, silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	95-100	25-40	5-15
	8-33	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	33-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	15-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
80B:												
Clinton-----	0-8	Silt loam	ML	A-4	0	0	100	100	100	95-100	30-40	5-10
	8-15	Silt loam	ML	A-4	0	0	100	100	100	95-100	30-40	5-10
	15-72	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	72-80	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
80C:												
Clinton-----	0-8	Silt loam	ML	A-4	0	0	100	100	100	95-100	30-40	5-10
	8-15	Silt loam	ML	A-4	0	0	100	100	100	95-100	30-40	5-10
	15-72	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	72-80	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
80C2:												
Clinton, moderately eroded-----	0-8	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	8-10	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	10-66	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	66-80	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
80D:												
Clinton-----	0-8	Silt loam	ML	A-4	0	0	100	100	100	95-100	30-40	5-10
	8-15	Silt loam	ML	A-4	0	0	100	100	100	95-100	30-40	5-10
	15-72	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	72-80	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
80D2:												
Clinton, moderately eroded-----	0-8	Silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	8-10	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	10-66	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	66-80	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
80D3: Clinton, severely eroded	0-8	Silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	8-60	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	60-80	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
80E2: Clinton, moderately eroded-----	0-8	Silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	8-10	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	10-66	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	66-80	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
80E3: Clinton, severely eroded	0-8	Silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	8-60	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	60-80	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
80F2: Clinton, moderately eroded-----	0-8	Silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	8-10	Silty clay loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	10-66	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	66-80	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
83B: Kenyon-----	0-8	Loam, silt loam	CL	A-6	0	0-5	95-100	95-100	85-95	65-75	30-40	10-20
	8-14	Loam, silt loam	CL	A-6	0	0-5	95-100	95-100	85-95	65-75	30-40	10-20
	14-19	Loam, sandy clay loam, silt loam	CL	A-6	0	0-5	95-100	95-100	85-95	65-75	30-40	10-20
	19-47	Loam, clay loam, sandy clay loam	CL	A-6	0	0-5	90-95	85-95	80-90	50-65	30-40	10-20
	47-76	Loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
83C: Kenyon-----	0-8	Loam, silt loam	CL	A-6	0	0-5	95-100	95-100	85-95	65-75	30-40	10-20
	8-14	Loam, silt loam	CL	A-6	0	0-5	95-100	95-100	85-95	65-75	30-40	10-20
	14-19	Loam, sandy clay loam, silt loam	CL	A-6	0	0-5	95-100	95-100	85-95	65-75	30-40	10-20
	19-47	Loam, clay loam, sandy clay loam	CL	A-6	0	0-5	90-95	85-95	80-90	50-65	30-40	10-20
	47-76	Loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20
83C2: Kenyon, moderately eroded-----	0-8	Loam	CL	A-6	0	0-5	95-100	95-100	85-95	65-75	30-40	10-20
	8-14	Sandy clay loam, loam	CL	A-6	0	0-5	95-100	95-100	85-95	65-75	30-40	10-20
	14-35	Clay loam, sandy clay loam, loam	CL	A-6	0	0-5	90-95	85-95	80-90	50-65	30-40	10-20
	35-41	Loam	CL	A-6	0	0-5	90-95	85-95	80-90	50-65	25-35	10-20
	41-76	Loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20
83D2: Kenyon, moderately eroded-----	0-8	Loam	CL	A-6	0	0-5	95-100	95-100	85-95	65-75	30-40	10-20
	8-14	Sandy clay loam, loam	CL	A-6	0	0-5	95-100	95-100	85-95	65-75	30-40	10-20
	14-35	Clay loam, sandy clay loam, loam	CL	A-6	0	0-5	90-95	85-95	80-90	50-65	30-40	10-20
	35-41	Loam	CL	A-6	0	0-5	90-95	85-95	80-90	50-65	25-35	10-20
	41-76	Loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20
88: Nevin, rarely flooded-----	0-8	Silty clay loam	CL, OL	A-7, A-6	0	0	100	100	100	90-95	35-45	10-20
	8-30	Silty clay loam	CL, OL	A-7, A-6	0	0	100	100	100	90-95	35-45	10-20
	30-46	Silty clay loam	CL	A-7	0	0	100	100	95-100	90-95	40-50	20-30
	46-62	Silty clay loam, silt loam	CL	A-7	0	0	100	100	95-100	90-95	40-50	20-30
93D2: Shelby, moderately eroded-----	0-8	Loam, clay loam	CL	A-6, A-7	0	0	90-95	85-95	75-90	55-70	35-45	15-25
	8-11	Clay loam	CL	A-6, A-7	0	0	90-95	85-95	75-90	55-70	35-45	15-25
	11-42	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
	42-72	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
93D2: Adair, moderately eroded-----	0-8	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	8-16	Clay, silty clay, clay loam	CH, CL	A-7	0	0	95-100	80-95	70-90	55-80	40-55	20-30
	16-41	Clay loam	CL	A-6, A-7	0	0	95-100	80-95	70-90	55-80	35-50	15-25
	41-80	Clay loam	CL	A-6, A-7	0	0	95-100	80-95	70-90	55-80	35-50	15-25
93D3: Shelby, severely eroded-----	0-8	Clay loam	CL	A-6, A-7	0	0	90-95	85-95	75-90	55-70	35-45	15-25
	8-36	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
	36-72	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
Adair, severely eroded-----	0-8	Clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	8-16	Clay, silty clay, clay loam	CH, CL	A-7	0	0	95-100	80-95	70-90	55-80	40-55	20-30
	16-35	Clay loam	CL	A-6, A-7	0	0	95-100	80-95	70-90	55-80	35-50	15-25
	35-80	Clay loam	CL	A-6, A-7	0	0	95-100	80-95	70-90	55-80	35-50	15-25
93E2: Shelby, moderately eroded-----	0-8	Loam, clay loam	CL	A-6, A-7	0	0	90-95	85-95	75-90	55-70	35-45	15-25
	8-11	Clay loam	CL	A-6, A-7	0	0	90-95	85-95	75-90	55-70	35-45	15-25
	11-42	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
	42-72	Clay loam	CL	A-6, A-7	0	0-5	90-95	85-95	75-90	55-70	30-45	15-25
Adair, moderately eroded-----	0-8	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	8-16	Clay, silty clay, clay loam	CH, CL	A-7	0	0	95-100	80-95	70-90	55-80	40-55	20-30
	16-41	Clay loam	CL	A-6, A-7	0	0	95-100	80-95	70-90	55-80	35-50	15-25
	41-80	Clay loam	CL	A-6, A-7	0	0	95-100	80-95	70-90	55-80	35-50	15-25
119: Muscatine-----	0-8	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	8-20	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	20-42	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	20-30
	42-64	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
120B: Tama-----	0-8	Silt loam, silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	8-18	Silt loam, silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	18-45	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	45-80	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
120C: Tama-----	0-8	Silt loam, silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	8-18	Silt loam, silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	18-45	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	45-80	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
120C2: Tama, moderately eroded-----	0-8	Silt loam, silty clay loam	ML	A-7, A-6	0	0	100	100	100	95-100	35-50	10-20
	8-26	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	26-60	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
120D2: Tama, moderately eroded-----	0-8	Silt loam, silty clay loam	ML	A-7, A-6	0	0	100	100	100	95-100	35-50	10-20
	8-26	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	26-60	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
120D3: Tama, severely eroded-----	0-8	Silt loam, silty clay loam	ML	A-7, A-6	0	0	100	100	100	95-100	35-50	10-20
	8-20	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	20-60	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
120E2: Tama, moderately eroded-----	0-8	Silt loam, silty clay loam	ML	A-7, A-6	0	0	100	100	100	95-100	35-50	10-20
	8-26	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	26-60	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
122: Sperry-----	0-8	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
	8-10	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
	10-17	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
	17-28	Silty clay, silty clay loam	CH	A-7	0	0	100	100	100	95-100	50-65	25-35
	28-47	Silty clay loam, silt loam	CL	A-7	0	0	100	100	100	95-100	40-50	20-30
	47-80	Silty clay loam, silt loam	CL	A-7	0	0	100	100	100	95-100	40-50	20-30
133: Colo, occasionally flooded-----	0-8	Silty clay loam	CH, CL	A-7	0	0	100	100	90-100	90-100	40-60	15-30
	8-40	Silty clay loam	CH, CL	A-7	0	0	100	100	90-100	90-100	40-55	20-30
	40-46	Silty clay loam	CH, CL	A-7	0	0	100	100	90-100	90-100	40-55	20-30
	46-60	Silty clay loam, clay loam, silt loam	CH, CL	A-7	0	0	100	100	95-100	80-100	40-55	15-30
133+: Colo, occasionally flooded, overwash-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	8-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	14-40	Silty clay loam	CH, CL	A-7	0	0	100	100	90-100	90-100	40-55	20-30
	40-46	Silty clay loam	CH, CL	A-7	0	0	100	100	90-100	90-100	40-55	20-30
	46-60	Silty clay loam, clay loam, silt loam	CH, CL	A-7	0	0	100	100	95-100	80-100	40-55	15-30
162B: Downs-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-17	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
	17-39	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	39-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
162C:												
Downs-----	0-8	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
	8-17	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
	17-39	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	39-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
162C2:												
Downs, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-33	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	33-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
162D2:												
Downs, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-33	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	33-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
162D3:												
Downs, severely eroded-----	0-8	Silty clay loam, silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-27	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	27-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
162E2:												
Downs, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-33	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	33-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
162E3:												
Downs, severely eroded-----	0-8	Silty clay loam, silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-27	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	27-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
163B:												
Fayette-----	0-3	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	3-14	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	34-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
163C:												
Fayette-----	0-3	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	3-14	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	34-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
163C2:												
Fayette, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-29	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	29-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
163D:												
Fayette-----	0-3	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	3-14	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	34-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
163D2:												
Fayette, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-29	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	29-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
163D3:												
Fayette, severely eroded	0-8	Silty clay loam, silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-22	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	22-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
163E:												
Fayette-----	0-3	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	3-14	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	34-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
163E2:												
Fayette, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-29	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	29-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
163E3:												
Fayette, severely eroded	0-8	Silty clay loam, silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-22	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	22-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
163F:												
Fayette-----	0-3	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	3-14	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	34-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
163F2:												
Fayette, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-29	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	29-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
163F3:												
Fayette, severely eroded	0-8	Silty clay loam, silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-22	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	22-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
163G:												
Fayette-----	0-3	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	3-14	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	34-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
165:												
Stronghurst-----	0-8	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-35	5-15
	8-11	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-35	5-15
	11-15	Silty clay loam, silt loam	CH, CL	A-7	0	0	100	100	100	98-100	40-55	20-35
	15-47	Silty clay loam, silt loam	CH, CL	A-7	0	0	100	100	100	98-100	40-55	20-35
	47-60	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-35	5-15
171C2:												
Bassett, moderately eroded-----	0-8	Loam	CL, CL-ML	A-6, A-4	0	0	100	95-100	85-95	65-85	20-30	5-15
	8-53	Loam, clay loam, sandy clay loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20
	53-73	Loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20
171D2:												
Bassett, moderately eroded-----	0-8	Loam	CL, CL-ML	A-6, A-4	0	0	100	95-100	85-95	65-85	20-30	5-15
	8-53	Loam, clay loam, sandy clay loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20
	53-73	Loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20
171D3:												
Bassett, severely eroded	0-8	Loam	CL, CL-ML	A-6, A-4	0	0	100	95-100	85-95	65-85	20-30	5-15
	8-47	Loam, clay loam, sandy clay loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20
	47-73	Loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20
171E2:												
Bassett, moderately eroded-----	0-8	Loam	CL, CL-ML	A-6, A-4	0	0	100	95-100	85-95	65-85	20-30	5-15
	8-53	Loam, clay loam, sandy clay loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20
	53-73	Loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In											
171E3: Bassett, severely eroded	0-8	Loam	CL, CL-ML	A-6, A-4	0	0	100	95-100	85-95	65-85	20-30	5-15
	8-47	Loam, clay loam, sandy clay loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20
	47-73	Loam	CL	A-6	0	2-5	90-95	85-95	80-90	50-65	30-40	11-20
172: Wabash, occasionally flooded-----	0-8	Silty clay	CH	A-7	0	0	100	100	100	95-100	50-75	30-50
	8-19	Silty clay, clay	CH	A-7	0	0	100	100	100	95-100	52-78	30-55
	19-60	Silty clay, clay	CH	A-7	0	0	100	100	100	95-100	52-78	30-55
175: Dickinson-----	0-9	Fine sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	100	100	85-95	30-50	15-30	NP-10
	9-18	Fine sandy loam, sandy loam	SM, SC-SM, SC	A-4, A-2	0	0	100	100	85-95	30-50	15-30	NP-10
	18-30	Fine sandy loam, sandy loam	SM, SC-SM, SC	A-4, A-2	0	0	100	100	85-95	30-50	15-30	NP-10
	30-36	Loamy sand, fine sandy loam, sandy loam	SC-SM, SM, SC	A-4	0	0	100	100	85-95	35-50	15-30	NP-10
	36-60	Sand, loamy fine sand, loamy sand	SM	A-2, A-3	0	0	100	100	70-90	5-20	0-14	NP
175B: Dickinson-----	0-9	Fine sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	100	100	85-95	30-50	15-30	NP-10
	9-18	Fine sandy loam, sandy loam	SM, SC-SM, SC	A-4, A-2	0	0	100	100	85-95	30-50	15-30	NP-10
	18-30	Fine sandy loam, sandy loam	SM, SC-SM, SC	A-4, A-2	0	0	100	100	85-95	30-50	15-30	NP-10
	30-36	Loamy sand, fine sandy loam, sandy loam	SC-SM, SM, SC	A-4	0	0	100	100	85-95	35-50	15-30	NP-10
	36-60	Sand, loamy fine sand, loamy sand	SM	A-2, A-3	0	0	100	100	70-90	5-20	0-14	NP
175C: Dickinson-----	0-9	Fine sandy loam	SM, SC-SM, SC	A-2, A-4	0	0	100	100	85-95	30-50	15-30	NP-10
	9-18	Fine sandy loam, sandy loam	SM, SC-SM, SC	A-4, A-2	0	0	100	100	85-95	30-50	15-30	NP-10
	18-30	Fine sandy loam, sandy loam	SM, SC-SM, SC	A-4, A-2	0	0	100	100	85-95	30-50	15-30	NP-10
	30-36	Loamy sand, fine sandy loam, sandy loam	SC-SM, SM, SC	A-4	0	0	100	100	85-95	35-50	15-30	NP-10
	36-60	Sand, loamy fine sand, loamy sand	SM	A-2, A-3	0	0	100	100	70-90	5-20	0-14	NP

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
178:												
Waukee-----	0-8	Silt loam, loam	CL	A-6	0	0	100	90-100	70-90	50-75	30-40	10-20
	8-16	Silt loam, loam	CL	A-6	0	0	100	90-100	70-90	50-75	30-40	10-20
	16-20	Loam, sandy clay loam	CL, SC-SM, SC, CL-ML	A-6, A-4	0	0-3	90-95	90-95	65-85	40-60	20-35	5-15
	20-35	Sandy clay loam, loam	CL, SC-SM, SC, CL-ML	A-6, A-4	0	0-3	90-95	90-95	65-85	40-60	20-35	5-15
	35-44	Gravelly loamy coarse sand	SW, SM, SP- SM, SP	A-1-b	0-5	0-10	60-90	60-85	20-40	3-25	0-14	NP
	44-66	Very gravelly loamy coarse sand, gravelly sand	SW, SM, SP- SM, SP	A-1-b	0-5	0-10	60-90	60-85	20-40	3-25	0-14	NP
178B:												
Waukee-----	0-8	Silt loam, loam	CL	A-6	0	0	100	90-100	70-90	50-75	30-40	10-20
	8-16	Silt loam, loam	CL	A-6	0	0	100	90-100	70-90	50-75	30-40	10-20
	16-20	Loam, sandy clay loam	CL, SC-SM, SC, CL-ML	A-6, A-4	0	0-3	90-95	90-95	65-85	40-60	20-35	5-15
	20-35	Sandy clay loam, loam	CL, SC-SM, SC, CL-ML	A-6, A-4	0	0-3	90-95	90-95	65-85	40-60	20-35	5-15
	35-44	Gravelly loamy coarse sand	SW, SM, SP- SM, SP	A-1-b	0-5	0-10	60-90	60-85	20-40	3-25	0-14	NP
	44-66	Very gravelly loamy coarse sand, gravelly sand	SW, SM, SP- SM, SP	A-1-b	0-5	0-10	60-90	60-85	20-40	3-25	0-14	NP
178C:												
Waukee-----	0-8	Silt loam, loam	CL	A-6	0	0	100	90-100	70-90	50-75	30-40	10-20
	8-16	Silt loam, loam	CL	A-6	0	0	100	90-100	70-90	50-75	30-40	10-20
	16-20	Loam, sandy clay loam	CL, SC-SM, SC, CL-ML	A-6, A-4	0	0-3	90-95	90-95	65-85	40-60	20-35	5-15
	20-35	Sandy clay loam, loam	CL, SC-SM, SC, CL-ML	A-6, A-4	0	0-3	90-95	90-95	65-85	40-60	20-35	5-15
	35-44	Gravelly loamy coarse sand	SW, SM, SP- SM, SP	A-1-b	0-5	0-10	60-90	60-85	20-40	3-25	0-14	NP
	44-66	Very gravelly loamy coarse sand, gravelly sand	SW, SM, SP- SM, SP	A-1-b	0-5	0-10	60-90	60-85	20-40	3-25	0-14	NP
179D2:												
Gara, moderately eroded-----	0-8	Clay loam, loam	CL	A-6, A-7	0	0	90-95	85-95	70-85	55-75	35-45	15-25
	8-27	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
	27-60	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In											
179D3: Gara, severely eroded-----	0-8	Clay loam	CL	A-6, A-7	0	0	90-95	85-95	70-85	55-75	35-45	15-25
	8-21	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
	21-60	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
179E2: Gara, moderately eroded-----	0-8	Clay loam, loam	CL	A-6, A-7	0	0	90-95	85-95	70-85	55-75	35-45	15-25
	8-27	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
	27-60	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
179E3: Gara, severely eroded-----	0-8	Clay loam	CL	A-6, A-7	0	0	90-95	85-95	70-85	55-75	35-45	15-25
	8-21	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
	21-60	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
179F2: Gara, moderately eroded-----	0-8	Clay loam, loam	CL	A-6, A-7	0	0	90-95	85-95	70-85	55-75	35-45	15-25
	8-27	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
	27-60	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
179F3: Gara, severely eroded-----	0-8	Clay loam	CL	A-6, A-7	0	0	90-95	85-95	70-85	55-75	35-45	15-25
	8-21	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
	21-60	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
180: Keomah-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-18	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	4-15
	18-53	Silty clay loam, silty clay	CH	A-7	0	0	100	100	100	95-100	45-60	30-45
	53-80	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-50	15-30
192D2: Adair, moderately eroded-----	0-8	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	8-16	Clay, silty clay, clay loam	CH, CL	A-7	0	0	95-100	80-95	70-90	55-80	40-55	20-30
	16-41	Clay loam	CL	A-6, A-7	0	0	95-100	80-95	70-90	55-80	35-50	15-25
	41-80	Clay loam	CL	A-6, A-7	0	0	95-100	80-95	70-90	55-80	35-50	15-25

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number --				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
192D3: Adair, severely eroded-----	0-8	Clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	8-16	Clay, silty clay, clay loam	CH, CL	A-7	0	0	95-100	80-95	70-90	55-80	40-55	20-30
	16-35	Clay loam	CL	A-6, A-7	0	0	95-100	80-95	70-90	55-80	35-50	15-25
	35-80	Clay loam	CL	A-6, A-7	0	0	95-100	80-95	70-90	55-80	35-50	15-25
220: Nodaway, occasionally flooded-----	0-7	Silt loam	CL	A-6, A-4	0	0	100	94-100	90-100	86-100	25-35	5-15
	7-31	Stratified silt loam to silty clay loam, silt loam, silty clay loam	CL	A-6, A-4	0	0	100	94-100	88-100	84-99	25-40	5-15
	31-42	Stratified silt loam to silty clay loam, silt loam, silty clay loam	CL	A-6, A-4	0	0	100	94-100	88-100	84-100	25-40	5-15
	42-80	Stratified silt loam to silty clay loam, silt loam, silty clay loam	CL	A-6, A-4	0	0	100	94-100	88-100	84-99	25-40	5-15
279: Taintor-----	0-9	Silty clay loam	CH, CL	A-7	0	0	100	100	100	95-100	45-60	20-30
	9-20	Silty clay loam	CH, CL	A-7	0	0	100	100	100	95-100	45-60	20-30
	20-28	Silty clay, silty clay loam	CH	A-7	0	0	100	100	100	95-100	50-65	25-35
	28-36	Silty clay loam, silty clay	CH	A-7	0	0	100	100	100	95-100	50-65	25-35
	36-60	Silty clay loam, silt loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
280: Mahaska-----	0-8	Silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-50	15-25
	8-24	Silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-50	15-25
	24-30	Silty clay loam, silty clay	CH, MH	A-7	0	0	100	100	100	95-100	50-60	20-30
	30-61	Silty clay loam, silty clay	CH, MH	A-7	0	0	100	100	100	95-100	50-60	20-30
	61-80	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
281B:												
Otley-----	0-8	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	8-17	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	17-61	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	61-73	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	20-30
281C:												
Otley-----	0-8	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	8-17	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	17-61	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	61-73	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	20-30
281C2:												
Otley, moderately eroded-----	0-8	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	8-55	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	55-73	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	20-30
281D2:												
Otley, moderately eroded-----	0-8	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	8-55	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	55-73	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	20-30
281D3:												
Otley, severely eroded-----	0-8	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	8-49	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	49-73	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	20-30

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
281E2: Otley, moderately eroded-----	0-8	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	8-55	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	55-73	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	20-30
291: Atterberry-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	8-17	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	17-48	Silty clay loam, silt loam	CH, CL	A-6, A-7	0	0	100	100	95-100	95-100	35-55	15-30
	48-60	Silt loam, loam	CL	A-6	0	0	100	100	95-100	95-100	30-40	10-20
293C: Fayette-----	0-3	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	3-14	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	34-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
Chelsea-----	0-4	Fine sand, loamy fine sand	SM, SP-SM	A-2-4	0	0	100	100	65-80	10-35	0-14	NP
	4-36	Loamy fine sand, fine sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
	36-70	Fine sand, loamy fine sand, fine sandy loam, loamy sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
Tell-----	0-9	Silt loam	CL	A-4	0	0	100	100	90-100	85-95	25-30	7-10
	9-18	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	18-28	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	28-32	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	32-60	Stratified sand, loamy sand	SP, SP-SM, SM	A-1, A-3, A-2	0	0	100	90-100	45-75	0-30	0-14	NP

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
293D:												
Fayette-----	0-3	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	3-14	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	34-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
Chelsea-----	0-4	Fine sand, loamy fine sand	SM, SP-SM	A-2-4	0	0	100	100	65-80	10-35	0-14	NP
	4-36	Loamy fine sand, fine sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
	36-70	Fine sand, loamy fine sand, fine sandy loam, loamy sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
Tell-----	0-9	Silt loam	CL	A-4	0	0	100	100	90-100	85-95	25-30	7-10
	9-18	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	18-28	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	28-32	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	32-60	Stratified sand, loamy sand	SP, SP-SM, SM	A-1, A-3, A-2	0	0	100	90-100	45-75	0-30	0-14	NP
293D2:												
Fayette, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-29	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	29-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
Chelsea, moderately eroded-----	0-4	Fine sand, loamy fine sand	SM, SP-SM	A-2-4	0	0	100	100	65-80	10-35	0-14	NP
	4-30	Loamy fine sand, fine sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
	30-70	Fine sand, loamy fine sand, fine sandy loam, loamy sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
293D2: Tell, moderately eroded-----	0-8	Silt loam	CL	A-4	0	0	100	100	90-100	85-95	25-30	7-10
	8-12	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	12-22	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	22-26	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	26-60	Stratified sand, loamy sand	SP, SP-SM, SM	A-1, A-3, A-2	0	0	100	90-100	45-75	0-30	0-14	NP
293E: Fayette-----	0-3	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	3-14	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	34-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
Chelsea-----	0-4	Fine sand, loamy fine sand	SM, SP-SM	A-2-4	0	0	100	100	65-80	10-35	0-14	NP
	4-36	Loamy fine sand, fine sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
	36-70	Fine sand, loamy fine sand, fine sandy loam, loamy sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
Tell-----	0-9	Silt loam	CL	A-4	0	0	100	100	90-100	85-95	25-30	7-10
	9-18	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	18-28	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	28-32	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	32-60	Stratified sand, loamy sand	SP, SP-SM, SM	A-1, A-3, A-2	0	0	100	90-100	45-75	0-30	0-14	NP
293E2: Fayette, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-29	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	29-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
293E2: Chelsea, moderately eroded-----	0-4	Fine sand, loamy fine sand	SM, SP-SM	A-2-4	0	0	100	100	65-80	10-35	0-14	NP
	4-30	Loamy fine sand, fine sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
	30-70	Fine sand, loamy fine sand, fine sandy loam, loamy sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
Tell, moderately eroded-----	0-8	Silt loam	CL	A-4	0	0	100	100	90-100	85-95	25-30	7-10
	8-12	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	12-22	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	22-26	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	26-60	Stratified sand, loamy sand	SP, SP-SM, SM	A-1, A-3, A-2	0	0	100	90-100	45-75	0-30	0-14	NP
293G: Fayette-----	0-3	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	3-14	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	34-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
Chelsea-----	0-4	Fine sand, loamy fine sand	SM, SP-SM	A-2-4	0	0	100	100	65-80	10-35	0-14	NP
	4-36	Loamy fine sand, fine sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
	36-70	Fine sand, loamy fine sand, fine sandy loam, loamy sand	SM, SP, SP-SM	A-3, A-2-4	0	0	100	100	65-85	3-15	0-14	NP
Tell-----	0-9	Silt loam	CL	A-4	0	0	100	100	90-100	85-95	25-30	7-10
	9-18	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	18-28	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	28-32	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	32-60	Stratified sand, loamy sand	SP, SP-SM, SM	A-1, A-3, A-2	0	0	100	90-100	45-75	0-30	0-14	NP

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
353B: Tell-----	0-9	Silt loam	CL	A-4	0	0	100	100	90-100	85-95	25-30	7-10
	9-18	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	18-28	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	28-32	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	32-60	Stratified sand, loamy sand	SP, SP-SM, SM	A-1, A-3, A-2	0	0	100	90-100	45-75	0-30	0-14	NP
353C: Tell-----	0-9	Silt loam	CL	A-4	0	0	100	100	90-100	85-95	25-30	7-10
	9-18	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	18-28	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	28-32	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	32-60	Stratified sand, loamy sand	SP, SP-SM, SM	A-1, A-3, A-2	0	0	100	90-100	45-75	0-30	0-14	NP
353C2: Tell, moderately eroded-----	0-8	Silt loam	CL	A-4	0	0	100	100	90-100	85-95	25-30	7-10
	8-12	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	12-22	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	22-26	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	26-60	Stratified sand, loamy sand	SP, SP-SM, SM	A-1, A-3, A-2	0	0	100	90-100	45-75	0-30	0-14	NP
353D2: Tell, moderately eroded-----	0-8	Silt loam	CL	A-4	0	0	100	100	90-100	85-95	25-30	7-10
	8-12	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	12-22	Silty clay loam, silt loam	CL	A-6	0	0	100	100	90-100	85-95	30-40	10-16
	22-26	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	26-60	Stratified sand, loamy sand	SP, SP-SM, SM	A-1, A-3, A-2	0	0	100	90-100	45-75	0-30	0-14	NP

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
377B: Dinsdale-----	0-8	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	35-50	12-23
	8-19	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	35-50	12-23
	19-34	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	40-50	15-25
	34-46	Clay loam, loam	CL	A-6	0	0-5	90-95	90-95	75-85	55-65	25-35	10-20
	46-80	Clay loam, loam	CL	A-6	0	0-5	90-95	90-95	75-85	55-65	25-35	10-20
377C: Dinsdale-----	0-8	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	35-50	12-23
	8-19	Silt loam, silty clay loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	35-50	12-23
	19-34	Silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	40-50	15-25
	34-46	Clay loam, loam	CL	A-6	0	0-5	90-95	90-95	75-85	55-65	25-35	10-20
	46-80	Clay loam, loam	CL	A-6	0	0-5	90-95	90-95	75-85	55-65	25-35	10-20
420: Tama, terrace---	0-8	Silt loam, silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	8-18	Silt loam, silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	18-45	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	45-80	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
420B: Tama, terrace---	0-8	Silt loam, silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	8-18	Silt loam, silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	18-45	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	45-80	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
422: Amana, occasionally flooded-----	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	90-95	25-40	10-20
	8-15	Silt loam	CL	A-6	0	0	100	100	95-100	90-95	25-40	10-20
	15-37	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-95	35-45	15-25
	37-48	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	90-95	35-45	15-25
	48-80	Silt loam	CL	A-6	0	0	100	100	95-100	75-95	30-40	10-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
424D2: Lindley, moderately eroded-----	0-8	Loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	8-40	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	55-75	30-45	12-20
	40-60	Loam, clay loam	CL	A-6	0	0	95-100	90-100	85-95	50-70	25-35	10-15
Keswick, moderately eroded-----	0-8	Clay loam, loam, silty clay loam, silt loam	CL	A-6, A-7	0	0-5	90-100	80-100	75-90	60-80	35-50	15-25
	8-12	Clay loam	CL	A-6, A-7	0	0-5	90-100	80-100	75-90	60-80	35-50	15-25
	12-26	Clay loam, clay	CH, CL	A-7	0	0-5	90-100	80-100	70-90	55-80	40-70	20-40
	26-60	Clay loam	CL	A-6	0	0-5	90-100	80-100	70-90	55-80	30-40	15-25
424E2: Lindley, moderately eroded-----	0-8	Loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	8-40	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	55-75	30-45	12-20
	40-60	Loam, clay loam	CL	A-6	0	0	95-100	90-100	85-95	50-70	25-35	10-15
Keswick, moderately eroded-----	0-8	Clay loam, loam, silt loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	80-100	75-90	60-80	35-50	15-25
	8-12	Clay loam	CL	A-6, A-7	0	0-5	90-100	80-100	75-90	60-80	35-50	15-25
	12-26	Clay loam, clay	CH, CL	A-7	0	0-5	90-100	80-100	70-90	55-80	40-70	20-40
	26-60	Clay loam	CL	A-6	0	0-5	90-100	80-100	70-90	55-80	30-40	15-25
424E3: Lindley, severely eroded	0-8	Clay loam, loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	8-34	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	55-75	30-45	12-20
	34-60	Clay loam, loam	CL	A-6	0	0	95-100	90-100	85-95	50-70	25-35	10-15
Keswick, severely eroded	0-8	Clay loam, loam	CL	A-6, A-7	0	0-5	90-100	80-100	75-90	60-80	35-50	15-25
	8-13	Clay loam	CL	A-6, A-7	0	0-5	90-100	80-100	75-90	60-80	35-50	15-25
	13-20	Clay loam, clay	CH, CL	A-7	0	0-5	90-100	80-100	70-90	55-80	40-70	20-40
	20-60	Clay loam	CL	A-6	0	0-5	90-100	80-100	70-90	55-80	30-40	15-25

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches					Pct	Pct
	In											
424F2: Lindley, moderately eroded-----	0-8	Loam	CL	A-6	0	0	95-100	90-100	85-95	50-65	25-35	10-15
	8-40	Clay loam, loam	CL	A-6, A-7	0	0	95-100	90-100	85-95	55-75	30-45	12-20
	40-60	Loam, clay loam	CL	A-6	0	0	95-100	90-100	85-95	50-70	25-35	10-15
Keswick, moderately eroded-----	0-8	Clay loam, loam, silt loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	80-100	75-90	60-80	35-50	15-25
	8-12	Clay loam	CL	A-6, A-7	0	0-5	90-100	80-100	75-90	60-80	35-50	15-25
	12-26	Clay loam, clay	CH, CL	A-7	0	0-5	90-100	80-100	70-90	55-80	40-70	20-40
	26-60	Clay loam	CL	A-6	0	0-5	90-100	80-100	70-90	55-80	30-40	15-25
425D2: Keswick, moderately eroded-----	0-8	Clay loam, loam, silt loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	80-100	75-90	60-80	35-50	15-25
	8-12	Clay loam	CL	A-6, A-7	0	0-5	90-100	80-100	75-90	60-80	35-50	15-25
	12-26	Clay loam, clay	CH, CL	A-7	0	0-5	90-100	80-100	70-90	55-80	40-70	20-40
	26-60	Clay loam	CL	A-6	0	0-5	90-100	80-100	70-90	55-80	30-40	15-25
425D3: Keswick, severely eroded	0-8	Clay loam, loam	CL	A-6, A-7	0	0-5	90-100	80-100	75-90	60-80	35-50	15-25
	8-13	Clay loam	CL	A-6, A-7	0	0-5	90-100	80-100	75-90	60-80	35-50	15-25
	13-20	Clay loam, clay	CH, CL	A-7	0	0-5	90-100	80-100	70-90	55-80	40-70	20-40
	20-60	Clay loam	CL	A-6	0	0-5	90-100	80-100	70-90	55-80	30-40	15-25
428B: Ely-----	0-8	Silty clay loam	CL, MH, ML	A-6, A-7	0	0	100	100	95-100	95-100	30-55	10-25
	8-32	Silty clay loam	CL, MH, ML	A-6, A-7	0	0	100	100	95-100	95-100	30-55	10-25
	32-47	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	95-100	35-50	10-25
	47-80	Silt loam, silty clay loam, loam	CL	A-6	0	0	100	100	90-100	85-100	25-40	10-20
430: Ackmore, occasionally flooded-----	0-8	Silt loam	ML, CL	A-4, A-7, A-6	0	0	100	100	95-100	85-100	25-50	8-20
	8-25	Silt loam	CL, ML	A-6, A-7, A-4	0	0	100	100	95-100	85-100	25-50	8-20
	25-60	Silty clay loam, silt loam	CL, CH	A-6, A-7	0	0	100	100	95-100	85-100	35-60	15-30

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
450:												
Pillot-----	0-8	Silt loam	CL	A-6	0	0	100	90-100	85-100	85-100	25-40	10-20
	8-15	Silt loam	CL	A-6	0	0	100	90-100	85-100	85-100	25-40	10-20
	15-32	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	90-100	70-100	50-100	30-45	10-25
	32-36	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	36-60	Loamy sand, sand, sandy loam	SC-SM, SM, SP-SM	A-1, A-3, A-2	0	0-5	75-100	75-100	25-70	5-25	15-25	NP-5
450B:												
Pillot-----	0-8	Silt loam	CL	A-6	0	0	100	90-100	85-100	85-100	25-40	10-20
	8-15	Silt loam	CL	A-6	0	0	100	90-100	85-100	85-100	25-40	10-20
	15-32	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	90-100	70-100	50-100	30-45	10-25
	32-36	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	36-60	Loamy sand, sand, sandy loam	SC-SM, SM, SP-SM	A-1, A-3, A-2	0	0-5	75-100	75-100	25-70	5-25	15-25	NP-5
450C:												
Pillot-----	0-8	Silt loam	CL	A-6	0	0	100	90-100	85-100	85-100	25-40	10-20
	8-15	Silt loam	CL	A-6	0	0	100	90-100	85-100	85-100	25-40	10-20
	15-32	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	90-100	70-100	50-100	30-45	10-25
	32-36	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	36-60	Loamy sand, sand, sandy loam	SC-SM, SM, SP-SM	A-1, A-3, A-2	0	0-5	75-100	75-100	25-70	5-25	15-25	NP-5
453:												
Tuskeego, rarely flooded-----	0-8	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-35	5-15
	8-19	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	95-100	95-100	25-35	5-15
	19-24	Silty clay loam, silty clay	CH	A-7	0	0	100	100	95-100	95-100	50-60	25-35
	24-60	Silty clay loam	CH, CL	A-7	0	0	100	100	95-100	95-100	45-55	25-35
462B:												
Downs, terrace--	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-17	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
	17-39	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
	39-60	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
463B:												
Fayette, terrace	0-3	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	3-14	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	14-34	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	34-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
463C2:												
Fayette, moderately eroded, terrace	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-29	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	29-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
463D2:												
Fayette, moderately eroded, terrace	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-29	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	29-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
463D3:												
Fayette, severely eroded, terrace	0-8	Silty clay loam, silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-22	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	22-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
463E2:												
Fayette, moderately eroded, terrace	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-29	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	29-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
463E3: Fayette, severely eroded, terrace	0-8	Silty clay loam, silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-22	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	22-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
463F2: Fayette, moderately eroded, terrace	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-29	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	29-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
463F3: Fayette, severely eroded, terrace	0-8	Silty clay loam, silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	8-22	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	15-25
	22-73	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	10-20
484: Lawson, occasionally flooded-----	0-8	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	90-100	85-100	20-40	5-20
	8-30	Silt loam, silty clay loam	CL, CL-ML	A-4	0	0	100	100	90-100	85-100	20-30	5-10
	30-60	Silty clay loam, silt loam	SC, CL-ML, SC-SM, CL	A-4, A-6	0	0	100	100	60-100	35-85	20-35	5-20
587: Chequest, occasionally flooded-----	0-8	Silty clay loam	CL	A-7	0	0	100	100	95-100	95-100	40-50	15-25
	8-12	Silty clay loam	CL	A-7	0	0	100	100	95-100	95-100	40-50	15-25
	12-60	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	45-60	20-30

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
587+: Chequest, occasionally flooded, overwash-----												
	0-8	Silt loam	CL	A-6	0	0	100	100	90-100	85-100	30-40	10-20
	8-12	Silt loam	CL	A-6	0	0	100	100	90-100	85-100	30-40	10-20
	12-24	Silt loam	CL	A-6	0	0	100	100	90-100	85-100	30-40	10-20
	24-60	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	45-60	20-30
626: Hayfield-----												
	0-8	Silt loam, loam	CL-ML, CL	A-6, A-4	0	0	100	100	90-98	70-90	25-40	6-15
	8-13	Silt loam, loam	CL-ML, CL	A-6, A-4	0	0	100	100	90-98	70-90	25-40	6-15
	13-29	Silt loam, sandy clay loam, clay loam, loam	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	70-90	40-75	25-40	6-15
	29-80	Loamy sand, sand, loamy coarse sand, coarse sand	SP, SP-SM	A-1-b	0	0-3	85-100	80-95	25-50	0-15	0-14	NP
663D2: Seaton, moderately eroded-----												
	0-8	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	20-35	5-15
	8-38	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
	38-80	Silt, silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
663E2: Seaton, moderately eroded-----												
	0-8	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	20-35	5-15
	8-38	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
	38-80	Silt, silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
663E3: Seaton, severely eroded-----												
	0-8	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	20-35	5-15
	8-32	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
	32-80	Silt, silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
663F2: Seaton, moderately eroded-----												
	0-8	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	95-100	20-35	5-15
	8-38	Silt loam	CL, CL-ML	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20
	38-80	Silt, silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	90-100	25-40	5-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
687: Watkins, rarely flooded-----	0-8	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	95-100	85-95	25-35	5-15
	8-18	Silt loam	CL, ML	A-7, A-6	0	0	100	100	95-100	85-95	35-45	10-20
	18-52	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
	52-80	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
687B: Watkins, rarely flooded-----	0-8	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	95-100	85-95	25-35	5-15
	8-18	Silt loam	CL, ML	A-7, A-6	0	0	100	100	95-100	85-95	35-45	10-20
	18-52	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
	52-80	Silty clay loam, silt loam	CL	A-6	0	0	100	100	95-100	85-95	30-40	10-20
688: Koszta, rarely flooded-----	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	30-40	10-20
	8-13	Silt loam	CL	A-6	0	0	100	100	95-100	95-100	30-40	10-20
	13-21	Silty clay loam	CL	A-7	0	0	100	100	95-100	95-100	40-50	20-30
	21-48	Silty clay loam	CL	A-7	0	0	100	100	95-100	95-100	40-50	20-30
	48-60	Silty clay loam	CL	A-7	0	0	100	100	95-100	95-100	40-50	20-30
771B: Waubeeek-----	0-8	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
	8-13	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	13-29	Silt loam, silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	40-50	15-25
	29-45	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	75-85	50-65	25-35	10-20
	45-80	Loam, clay loam	CL	A-6	0	0-5	90-95	85-95	75-85	50-65	25-35	10-20
771C2: Waubeeek, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	95-100	25-35	5-15
	8-23	Silt loam, silty clay loam	CL	A-7-6	0	0	100	100	100	95-100	40-50	15-25
	23-28	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	75-85	50-65	25-35	10-20
	28-80	Loam, clay loam	CL	A-6	0	0-5	90-95	85-95	75-85	50-65	25-35	10-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
792D2: Armstrong, moderately eroded-----	In											
	0-8	Silty clay loam, clay loam	CL	A-6, A-7	0	0-5	90-100	80-95	75-90	55-80	35-45	15-25
	8-18	Clay loam	CL	A-6, A-7	0	0-5	90-100	80-95	75-90	55-80	35-45	15-25
	18-28	Clay loam, clay, silty clay loam	CH, CL, MH, ML	A-7	0	0-5	90-100	80-95	70-90	55-80	45-70	20-35
	28-35	Clay loam	CL	A-6	0	0-5	90-100	80-95	70-90	55-80	30-40	15-20
	35-60	Clay loam	CL	A-6	0	0-5	90-100	80-95	70-90	55-80	30-40	15-20
876B: Ladoga, terrace-	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	8-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	14-45	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	45-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	15-20
876C: Ladoga, terrace-	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	8-14	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	14-45	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	45-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	15-20
876C2: Ladoga, moderately eroded, terrace	0-8	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	95-100	25-40	5-15
	8-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	10-39	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	39-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	15-20
876D2: Ladoga, moderately eroded, terrace	0-8	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	100	95-100	25-40	5-15
	8-10	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-40	5-15
	10-39	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	39-60	Silty clay loam, silt loam	CL	A-6	0	0	100	100	100	95-100	30-40	15-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
881B:												
Otley, terrace--	0-8	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	8-17	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	17-61	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	100	95-100	40-55	25-35
	61-73	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	100	95-100	35-45	20-30
911B:												
Colo-----	0-8	Silty clay loam	CH, CL	A-7	0	0	100	100	90-100	90-100	40-60	15-30
	8-40	Silty clay loam	CH, CL	A-7	0	0	100	100	90-100	90-100	40-55	20-30
	40-46	Silty clay loam	CH, CL	A-7	0	0	100	100	90-100	90-100	40-55	20-30
	46-60	Silty clay loam, clay loam, silt loam	CH, CL	A-7	0	0	100	100	95-100	80-100	40-55	15-30
Ely-----	0-8	Silty clay loam	CL, MH, ML	A-6, A-7	0	0	100	100	95-100	95-100	30-55	10-25
	8-32	Silty clay loam	CL, MH, ML	A-6, A-7	0	0	100	100	95-100	95-100	30-55	10-25
	32-47	Silty clay loam	CL, ML	A-6, A-7	0	0	100	100	95-100	95-100	35-50	10-25
	47-80	Silt loam, silty clay loam, loam	CL	A-6	0	0	100	100	90-100	85-100	25-40	10-20
993D2:												
Gara, moderately eroded-----	0-8	Clay loam, loam	CL	A-6, A-7	0	0	90-95	85-95	70-85	55-75	35-45	15-25
	8-27	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
	27-60	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
Armstrong, moderately eroded-----	0-8	Clay loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	80-95	75-90	55-80	35-45	15-25
	8-18	Clay loam	CL	A-6, A-7	0	0-5	90-100	80-95	75-90	55-80	35-45	15-25
	18-28	Clay loam, clay, silty clay loam	CH, CL, MH, ML	A-7	0	0-5	90-100	80-95	70-90	55-80	45-70	20-35
	28-35	Clay loam	CL	A-6	0	0-5	90-100	80-95	70-90	55-80	30-40	15-20
	35-60	Clay loam	CL	A-6	0	0-5	90-100	80-95	70-90	55-80	30-40	15-20
993E2:												
Gara, moderately eroded-----	0-8	Clay loam, loam	CL	A-6, A-7	0	0	90-95	85-95	70-85	55-75	35-45	15-25
	8-27	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
	27-60	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
993E2: Armstrong, moderately eroded-----	0-8	Clay loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	80-95	75-90	55-80	35-45	15-25
	8-18	Clay loam	CL	A-6, A-7	0	0-5	90-100	80-95	75-90	55-80	35-45	15-25
	18-28	Clay loam, clay, silty clay loam	CH, CL, MH, ML	A-7	0	0-5	90-100	80-95	70-90	55-80	45-70	20-35
	28-35	Clay loam	CL	A-6	0	0-5	90-100	80-95	70-90	55-80	30-40	15-20
	35-60	Clay loam	CL	A-6	0	0-5	90-100	80-95	70-90	55-80	30-40	15-20
993F2: Gara, moderately eroded-----	0-8	Clay loam, loam	CL	A-6, A-7	0	0	90-95	85-95	70-85	55-75	35-45	15-25
	8-27	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
	27-60	Clay loam, loam	CL	A-6	0	0-5	90-95	85-95	70-85	55-75	30-40	15-25
Armstrong, moderately eroded-----	0-8	Clay loam, silty clay loam	CL	A-6, A-7	0	0-5	90-100	80-95	75-90	55-80	35-45	15-25
	8-18	Clay loam	CL	A-6, A-7	0	0-5	90-100	80-95	75-90	55-80	35-45	15-25
	18-28	Clay loam, clay, silty clay loam	CH, CL, MH, ML	A-7	0	0-5	90-100	80-95	70-90	55-80	45-70	20-35
	28-35	Clay loam	CL	A-6	0	0-5	90-100	80-95	70-90	55-80	30-40	15-20
	35-60	Clay loam	CL	A-6	0	0-5	90-100	80-95	70-90	55-80	30-40	15-20
1160: Walford, terrace	0-8	Silt loam	CL	A-6	0	0	100	100	100	95-100	30-35	10-15
	8-22	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	95-100	25-35	5-15
	22-50	Silty clay loam	CH, CL	A-7	0	0	100	100	100	95-100	45-55	20-30
	50-63	Silty clay loam	CH, CL	A-7	0	0	100	100	100	95-100	45-55	20-30
	63-80	Silt loam	CL	A-6	0	0	100	100	100	95-100	35-40	15-20

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
1220: Nodaway, frequently flooded, channeled-----	0-7	Silt loam	CL	A-6, A-4	0	0	100	94-100	90-100	86-100	25-35	5-15
	7-31	Stratified silt loam to silty clay loam, silt loam, silty clay loam	CL	A-6, A-4	0	0	100	94-100	88-100	84-99	25-40	5-15
	31-42	Stratified silt loam to silty clay loam, silt loam, silty clay loam	CL	A-6, A-4	0	0	100	94-100	88-100	84-100	25-40	5-15
	42-80	Stratified silt loam to silty clay loam, silt loam, silty clay loam	CL	A-6, A-4	0	0	100	94-100	88-100	84-99	25-40	5-15
1291: Atterberry, terrace-----	0-8	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	95-100	25-40	5-15
	8-17	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	95-100	95-100	25-35	5-15
	17-48	Silty clay loam, silt loam	CH, CL	A-6, A-7	0	0	100	100	95-100	95-100	35-55	15-30
	48-60	Silt loam, loam	CL	A-6	0	0	100	100	95-100	95-100	30-40	10-20
1354. Aquents, ponded												
1442B: Tama-----	0-8	Silt loam, silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	8-18	Silt loam, silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	18-45	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	45-80	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
Sparta-----	0-8	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SP-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-25	NP-6
	8-15	Sand, fine sand, loamy sand, loamy fine sand	SP-SM, SC-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-22	NP-6
	15-72	Sand, loamy sand, loamy fine sand, fine sand	SP-SM, SC-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-20	NP-4
	72-80	Sand, fine sand	SP-SM, SM, SP	A-2-4, A-1-b	0	0	95-100	90-100	50-95	2-20	0-17	NP-2

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
1442B:												
Pillot-----	0-8	Silt loam	CL	A-6	0	0	100	90-100	85-100	85-100	25-40	10-20
	8-15	Silt loam	CL	A-6	0	0	100	90-100	85-100	85-100	25-40	10-20
	15-32	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	90-100	70-100	50-100	30-45	10-25
	32-36	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	36-60	Loamy sand, sand, sandy loam	SC-SM, SM, SP-SM	A-1, A-3, A-2	0	0-5	75-100	75-100	25-70	5-25	15-25	NP-5
1442C:												
Tama-----	0-8	Silt loam, silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	8-18	Silt loam, silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	18-45	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	45-80	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
Sparta-----	0-8	Sand, fine sand, loamy sand, loamy fine sand	SC-SM, SP-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-25	NP-6
	8-15	Sand, fine sand, loamy sand, loamy fine sand	SP-SM, SC-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-22	NP-6
	15-72	Sand, loamy sand, loamy fine sand, fine sand	SP-SM, SC-SM, SM	A-2-4, A-1-b	0	0	95-100	90-100	50-95	5-35	0-20	NP-4
	72-80	Sand, fine sand	SP-SM, SM, SP	A-2-4, A-1-b	0	0	95-100	90-100	50-95	2-20	0-17	NP-2
Pillot-----	0-8	Silt loam	CL	A-6	0	0	100	90-100	85-100	85-100	25-40	10-20
	8-15	Silt loam	CL	A-6	0	0	100	90-100	85-100	85-100	25-40	10-20
	15-32	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	90-100	70-100	50-100	30-45	10-25
	32-36	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	36-60	Loamy sand, sand, sandy loam	SC-SM, SM, SP-SM	A-1, A-3, A-2	0	0-5	75-100	75-100	25-70	5-25	15-25	NP-5
1442C2:												
Tama, moderately eroded-----	0-8	Silt loam, silty clay loam	ML	A-7, A-6	0	0	100	100	100	95-100	35-50	10-20
	8-26	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	26-60	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
1442C2: Sparta, moderately eroded-----	0-8	Loamy fine sand	SM	A-4, A-2	0	0	85-100	85-100	50-95	15-50	0-14	NP
	8-66	Loamy fine sand, fine sand, sand	SP-SM, SM	A-3, A-2, A-4	0	0	85-100	85-100	50-95	5-50	0-14	NP
	66-80	Fine sand, sand, loamy fine sand	SM, SP, SP-SM	A-2, A-3	0	0	85-100	85-100	50-95	2-30	0-14	NP
Pillot, moderately eroded-----	0-8	Silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	8-26	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	90-100	70-100	50-100	30-45	10-25
	26-30	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	30-60	Loamy sand, sand, sandy loam	SC-SM, SM, SP-SM	A-1, A-3, A-2	0	0-5	75-100	75-100	25-70	5-25	15-25	NP-5
1442D2: Tama, moderately eroded-----	0-8	Silt loam, silty clay loam	ML	A-7, A-6	0	0	100	100	100	95-100	35-50	10-20
	8-26	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	26-60	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
Sparta, moderately eroded-----	0-8	Loamy fine sand	SM	A-4, A-2	0	0	85-100	85-100	50-95	15-50	0-14	NP
	8-66	Loamy fine sand, fine sand, sand	SP-SM, SM	A-3, A-2, A-4	0	0	85-100	85-100	50-95	5-50	0-14	NP
	66-80	Fine sand, sand, loamy fine sand	SM, SP, SP-SM	A-2, A-3	0	0	85-100	85-100	50-95	2-30	0-14	NP
Pillot, moderately eroded-----	0-8	Silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	8-26	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	90-100	70-100	50-100	30-45	10-25
	26-30	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	30-60	Loamy sand, sand, sandy loam	SC-SM, SM, SP-SM	A-1, A-3, A-2	0	0-5	75-100	75-100	25-70	5-25	15-25	NP-5

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
1442E2: Tama, moderately eroded-----	0-8	Silt loam, silty clay loam	ML	A-7, A-6	0	0	100	100	100	95-100	35-50	10-20
	8-26	Silty clay loam	CL	A-7	0	0	100	100	100	95-100	40-50	15-25
	26-60	Silt loam, silty clay loam	CL	A-7, A-6	0	0	100	100	100	95-100	35-45	15-25
Sparta, moderately eroded-----	0-8	Loamy fine sand	SM	A-4, A-2	0	0	85-100	85-100	50-95	15-50	0-14	NP
	8-66	Loamy fine sand, fine sand, sand	SP-SM, SM	A-3, A-2, A-4	0	0	85-100	85-100	50-95	5-50	0-14	NP
	66-80	Fine sand, sand, loamy fine sand	SM, SP, SP-SM	A-2, A-3	0	0	85-100	85-100	50-95	2-30	0-14	NP
Pillot, moderately eroded-----	0-8	Silty clay loam	ML	A-6, A-7	0	0	100	100	100	95-100	35-50	10-20
	8-26	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	90-100	70-100	50-100	30-45	10-25
	26-30	Loam, sandy loam, sandy clay loam	SC-SM, CL-ML, SC, CL	A-4, A-2, A-6	0	0	100	90-100	55-95	25-75	20-35	4-14
	30-60	Loamy sand, sand, sandy loam	SC-SM, SM, SP-SM	A-1, A-3, A-2	0	0-5	75-100	75-100	25-70	5-25	15-25	NP-5
1540: Quiver, frequently flooded-----	0-9	Silty clay loam	CL	A-7, A-6	0	0	100	100	90-100	85-100	20-45	15-25
	9-65	Silty clay loam, silt loam	CL	A-7, A-6	0	0	100	100	90-100	60-100	20-45	10-25
Zook, frequently flooded-----	0-8	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	95-100	45-65	20-35
	8-38	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	95-100	45-65	20-35
	38-52	Silty clay, silty clay loam	CH	A-7	0	0	100	100	95-100	95-100	60-85	35-55
	52-60	Silty clay loam, silty clay, silt loam	CH, CL, MH, ML	A-6, A-7	0	0	100	100	95-100	95-100	35-80	10-50

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
1540: Klum, frequently flooded-----	0-8	Fine sandy loam, loam	CL-ML, SC-SM, SM	A-4	0	0	100	95-100	70-90	40-55	20-35	3-10
	8-60	Stratified sandy loam to loam	CL-ML, SC-SM, SP-SM, SC	A-2, A-4	0	0	100	95-100	70-95	10-70	15-30	NP-10
2219: Ella, rarely flooded-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	85-90	25-35	6-15
	8-55	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	90-100	85-95	25-40	7-20
	55-72	Stratified silty clay loam to sandy loam	CL, CL-ML, SC, SC-SM	A-4	0	0	100	100	65-100	35-75	20-28	4-9
	72-80	Stratified silty clay loam to sandy loam	CL, CL-ML, SC, SC-SM	A-4	0	0	100	100	65-100	35-75	20-28	4-9
2219B: Ella, rarely flooded-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	85-90	25-35	6-15
	8-55	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	90-100	85-95	25-40	7-20
	55-72	Stratified silty clay loam to sandy loam	CL, CL-ML, SC, SC-SM	A-4	0	0	100	100	65-100	35-75	20-28	4-9
	72-80	Stratified silty clay loam to sandy loam	CL, CL-ML, SC, SC-SM	A-4	0	0	100	100	65-100	35-75	20-28	4-9
2219C2: Ella, moderately eroded-----	0-8	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	90-100	85-90	25-35	6-15
	8-46	Silt loam, silty clay loam	CL	A-4, A-6	0	0	100	100	90-100	85-95	25-40	7-20
	46-72	Stratified silty clay loam to sandy loam	CL, CL-ML, SC, SC-SM	A-4	0	0	100	100	65-100	35-75	20-28	4-9
	72-80	Stratified silty clay loam to sandy loam	CL, CL-ML, SC, SC-SM	A-4	0	0	100	100	65-100	35-75	20-28	4-9

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
2422: Amana, occasionally flooded-----	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	90-95	25-40	10-20
	8-15	Silt loam	CL	A-6	0	0	100	100	95-100	90-95	25-40	10-20
	15-37	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-95	35-45	15-25
	37-48	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	90-95	35-45	15-25
	48-80	Silt loam	CL	A-6	0	0	100	100	95-100	75-95	30-40	10-20
Nodaway, occasionally flooded-----	0-7	Silt loam	CL	A-6, A-4	0	0	100	94-100	90-100	86-100	25-35	5-15
	7-31	Stratified silt loam to silty clay loam, silt loam, silty clay loam	CL	A-6, A-4	0	0	100	94-100	88-100	84-99	25-40	5-15
	31-42	Stratified silt loam to silty clay loam, silt loam, silty clay loam	CL	A-6, A-4	0	0	100	94-100	88-100	84-100	25-40	5-15
	42-80	Stratified silt loam to silty clay loam, silt loam, silty clay loam	CL	A-6, A-4	0	0	100	94-100	88-100	84-99	25-40	5-15
Lawson, occasionally flooded-----	0-8	Silt loam	CL-ML, CL	A-6, A-4	0	0	100	100	90-100	85-100	20-40	5-20
	8-30	Silt loam, silty clay loam	CL, CL-ML	A-4	0	0	100	100	90-100	85-100	20-30	5-10
	30-80	Silty clay loam, silt loam	SC, CL-ML, SC-SM, CL	A-4, A-6	0	0	100	100	60-100	35-85	20-35	5-20
4946: Udorthents.												
Interstate highway.												
5010. Pits, sand and gravel												
5040. Udorthents												

Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
6220: Nodaway, frequently flooded-----	0-7	Silt loam	CL	A-6, A-4	0	0	100	94-100	90-100	86-100	25-35	5-15
	7-31	Stratified silt loam to silty clay loam, silt loam, silty clay loam	CL	A-6, A-4	0	0	100	94-100	88-100	84-99	25-40	5-15
	31-42	Stratified silt loam to silty clay loam, silt loam, silty clay loam	CL	A-6, A-4	0	0	100	94-100	88-100	84-100	25-40	5-15
	42-80	Stratified silt loam to silty clay loam, silt loam, silty clay loam	CL	A-6, A-4	0	0	100	94-100	88-100	84-99	25-40	5-15
6422: Amana, frequently flooded-----	0-8	Silt loam	CL	A-6	0	0	100	100	95-100	90-95	25-40	10-20
	8-15	Silt loam	CL	A-6	0	0	100	100	95-100	90-95	25-40	10-20
	15-37	Silty clay loam, silt loam	CL	A-6, A-7	0	0	100	100	95-100	90-95	35-45	15-25
	37-48	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	90-95	35-45	15-25
	48-80	Silt loam	CL	A-6	0	0	100	100	95-100	75-95	30-40	10-20
AW. Animal waste lagoon												
SL. Sewage lagoon												
W. Water												

Physical Properties

The table described in this section shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $1/3$ - or $1/10$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (Ksat). The estimates in the table indicate the rate of water movement, in micrometers per second, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $1/3$ - or $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (K_w and K_f) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor K_w indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor K_f indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

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.

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	Permeability	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
5B: Ackmore-----	45	0-8	18-27	1.25-1.30	0.6-2	0.21-0.23	3.0-5.9	2.0-4.0	.32	.32	5	6	48
		8-25	18-27	1.25-1.30	0.6-2	0.21-0.23	3.0-5.9	1.0-3.0	.32	.32			
		25-60	26-38	1.30-1.40	0.6-2	0.18-0.20	6.0-8.9	3.0-5.0	.32	.32			
Colo-----	35	0-8	27-36	1.28-1.32	0.6-2	0.21-0.23	3.0-5.9	5.0-7.0	.28	.28	5	6	38
		8-40	30-35	1.25-1.35	0.6-2	0.18-0.20	3.0-5.9	3.0-4.0	.28	.28			
		40-46	30-35	1.25-1.35	0.6-2	0.18-0.20	3.0-5.9	3.0-4.0	.28	.28			
		46-60	25-35	1.35-1.45	0.6-2	0.18-0.20	2.6-5.8	1.0-2.0	.32	.32			
7: Wiota, rarely flooded	100	0-8	24-32	1.30-1.35	0.6-2	0.21-0.23	0.0-2.9	3.0-4.0	.28	.28	5	7	48
		8-22	24-35	1.30-1.35	0.6-2	0.21-0.23	0.0-2.9	3.0-4.0	.28	.28			
		22-48	30-36	1.30-1.40	0.6-2	0.18-0.20	3.0-5.9	2.0-3.0	.43	.43			
		48-64	25-34	1.40-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
7B: Wiota, rarely flooded	100	0-8	24-32	1.30-1.35	0.6-2	0.21-0.23	0.0-2.9	3.0-4.0	.28	.28	5	7	48
		8-22	24-35	1.30-1.35	0.6-2	0.21-0.23	0.0-2.9	3.0-4.0	.28	.28			
		22-48	30-36	1.30-1.40	0.6-2	0.18-0.20	3.0-5.9	2.0-3.0	.43	.43			
		48-64	25-34	1.40-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
8B: Judson-----	95	0-8	27-32	1.30-1.35	0.6-2	0.21-0.23	3.0-5.9	4.0-5.0	.28	.28	5	7	38
		8-28	27-32	1.30-1.35	0.6-2	0.21-0.23	3.0-5.9	3.0-4.0	.28	.28			
		28-52	30-35	1.35-1.45	0.6-2	0.21-0.23	3.0-5.9	2.0-3.0	.43	.43			
		52-60	25-32	1.35-1.45	0.6-2	0.21-0.23	3.0-5.9	0.0-1.0	.43	.43			
24C2: Shelby, moderately eroded-----	85	0-8	18-27	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	2.0-3.0	.32	.32	5	6	48
		8-11	30-35	1.50-1.55	0.2-0.6	0.16-0.18	3.0-5.9	1.0-2.0	.28	.28			
		11-42	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-1.0	.28	.28			
		42-72	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
24D2: Shelby, moderately eroded-----	70	0-8	18-27	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	2.0-3.0	.32	.32	5	6	48
		8-11	30-35	1.50-1.55	0.2-0.6	0.16-0.18	3.0-5.9	1.0-2.0	.28	.28			
		11-42	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-1.0	.28	.28			
		42-72	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			

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			Wind	Wind	
									Kw	Kf	T	erodi- bility group	erodi- bility index	
24D3: Shelby, severely eroded-----	90	In	Pct	g/cc	In/hr	In/in	Pct	Pct						
		0-8	27-35	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	1.0-2.0	.32	.32	5	6	48	
		8-36	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-1.0	.28	.28				
		36-72	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37				
24E2: Shelby, moderately eroded-----	85	0-8	18-27	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	2.0-3.0	.32	.32	5	6	48	
		8-11	30-35	1.50-1.55	0.2-0.6	0.16-0.18	3.0-5.9	1.0-2.0	.28	.28				
		11-42	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-1.0	.28	.28				
		42-72	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37				
24E3: Shelby, severely eroded-----	95	0-8	27-35	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	1.0-2.0	.32	.32	5	6	48	
		8-36	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-1.0	.28	.28				
		36-72	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37				
41: Sparta-----	100	0-8	3-10	1.20-1.40	2-6	0.09-0.12	0.0-0.0	1.0-2.0	.17	.17	5	2	134	
		8-15	3-10	1.20-1.40	2-6	0.09-0.12	0.0-0.0	1.0-2.0	.17	.17				
		15-72	1-8	1.40-1.60	6-20	0.05-0.11	0.0-0.0	0.0-0.5	.15	.15				
		72-80	0-5	1.50-1.70	6-20	0.04-0.07	0.0-0.0	0.0-0.5	.15	.15				
41B: Sparta-----	100	0-8	3-10	1.20-1.40	2-6	0.09-0.12	0.0-0.0	1.0-2.0	.17	.17	5	2	134	
		8-15	3-10	1.20-1.40	2-6	0.09-0.12	0.0-0.0	1.0-2.0	.17	.17				
		15-72	1-8	1.40-1.60	6-20	0.05-0.11	0.0-0.0	0.0-0.5	.15	.15				
		72-80	0-5	1.50-1.70	6-20	0.04-0.07	0.0-0.0	0.0-0.5	.15	.15				
41C: Sparta-----	85	0-8	3-10	1.20-1.40	2-6	0.09-0.12	0.0-0.0	1.0-2.0	.17	.17	5	2	134	
		8-15	3-10	1.20-1.40	2-6	0.09-0.12	0.0-0.0	1.0-2.0	.17	.17				
		15-72	1-8	1.40-1.60	6-20	0.05-0.11	0.0-0.0	0.0-0.5	.15	.15				
		72-80	0-5	1.50-1.70	6-20	0.04-0.07	0.0-0.0	0.0-0.5	.15	.15				
41D: Sparta-----	75	0-8	3-10	1.20-1.40	2-6	0.09-0.12	0.0-0.0	1.0-2.0	.17	.17	5	2	134	
		8-15	3-10	1.20-1.40	2-6	0.09-0.12	0.0-0.0	1.0-2.0	.17	.17				
		15-72	1-8	1.40-1.60	6-20	0.05-0.11	0.0-0.0	0.0-0.5	.15	.15				
		72-80	0-5	1.50-1.70	6-20	0.04-0.07	0.0-0.0	0.0-0.5	.15	.15				

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
43: Bremer, rarely flooded	100	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
		0-8	27-36	1.25-1.30	0.6-2	0.21-0.23	3.0-5.9	5.0-7.0	.32	.32	5	7	38
		8-19	27-36	1.25-1.30	0.6-2	0.21-0.23	3.0-5.9	5.0-7.0	.32	.32			
		19-42	35-42	1.30-1.40	0.2-0.6	0.15-0.17	6.0-8.9	1.0-2.0	.43	.43			
		42-60	32-38	1.40-1.45	0.2-0.6	0.18-0.20	6.0-8.9	0.5-1.0	.43	.43			
51: Vesser, occasionally flooded-----	95	0-8	20-26	1.30-1.35	0.6-2	0.20-0.24	1.0-2.9	2.0-3.0	.28	.28	5	6	48
		8-12	20-26	1.30-1.35	0.6-2	0.20-0.24	1.0-2.9	2.0-3.0	.28	.28			
		12-31	18-22	1.35-1.40	0.6-2	0.18-0.22	0.4-1.6	1.0-2.0	.43	.43			
		31-60	30-35	1.40-1.45	0.6-2	0.17-0.21	3.0-5.9	0.0-1.0	.43	.43			
54: Zook, occasionally flooded-----	100	0-8	35-40	1.30-1.35	0.2-0.6	0.21-0.23	6.0-8.9	5.0-7.0	.37	.37	5	7	38
		8-38	35-40	1.30-1.35	0.2-0.6	0.21-0.23	6.0-8.9	5.0-7.0	.37	.37			
		38-52	36-45	1.30-1.45	0.06-0.2	0.11-0.13	6.0-8.9	2.0-4.0	.28	.28			
		52-60	20-45	1.30-1.45	0.06-0.6	0.11-0.22	6.0-8.9	0.0-1.0	.28	.28			
54+: Zook, occasionally flooded, overwash----	100	0-8	20-26	1.30-1.35	0.6-2	0.20-0.24	1.0-2.9	3.0-4.0	.28	.28	5	6	48
		8-14	20-26	1.30-1.35	0.6-2	0.20-0.24	1.0-2.9	3.0-4.0	.28	.28			
		14-38	35-40	1.30-1.35	0.2-0.6	0.21-0.23	6.0-8.9	5.0-7.0	.37	.37			
		38-52	36-45	1.30-1.45	0.06-0.2	0.11-0.13	6.0-8.9	2.0-4.0	.28	.28			
		52-60	20-45	1.30-1.45	0.06-0.6	0.11-0.22	6.0-8.9	0.0-1.0	.28	.28			
63C: Chelsea-----	90	0-4	8-15	1.50-1.55	6-20	0.10-0.15	0.0-0.0	0.5-1.0	.17	.17	5	2	134
		4-36	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
		36-70	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
63E: Chelsea-----	95	0-4	8-15	1.50-1.55	6-20	0.10-0.15	0.0-0.0	0.5-1.0	.17	.17	5	2	134
		4-36	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
		36-70	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
63G: Chelsea-----	95	0-4	8-15	1.50-1.55	6-20	0.10-0.15	0.0-0.0	0.5-1.0	.17	.17	5	2	134
		4-36	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
		36-70	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			

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			Wind	Wind	
									Kw	Kf	T	erodi- bility group	erodi- bility index	
65D2: Lindley, moderately eroded-----	85	In	Pct	g/cc	In/hr	In/in	Pct	Pct						
		0-8	18-27	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		8-40	25-35	1.40-1.60	0.2-0.6	0.14-0.18	2.6-5.8	0.0-0.5	.32	.32				
		40-60	18-32	1.45-1.65	0.2-0.6	0.12-0.16	0.4-4.8	0.0-0.5	.32	.32				
65D3: Lindley, severely eroded-----	85	0-8	25-35	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		8-34	25-35	1.40-1.60	0.2-0.6	0.14-0.18	2.6-5.8	0.0-0.5	.32	.32				
		34-60	18-32	1.45-1.65	0.2-0.6	0.12-0.16	0.4-4.8	0.0-0.5	.32	.32				
65E2: Lindley, moderately eroded-----	85	0-8	18-27	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		8-40	25-35	1.40-1.60	0.2-0.6	0.14-0.18	2.6-5.8	0.0-0.5	.32	.32				
		40-60	18-32	1.45-1.65	0.2-0.6	0.12-0.16	0.4-4.8	0.0-0.5	.32	.32				
65E3: Lindley, severely eroded-----	85	0-8	25-35	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		8-34	25-35	1.40-1.60	0.2-0.6	0.14-0.18	2.6-5.8	0.0-0.5	.32	.32				
		34-60	18-32	1.45-1.65	0.2-0.6	0.12-0.16	0.4-4.8	0.0-0.5	.32	.32				
65F: Lindley-----	100	0-3	18-27	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		3-7	18-27	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32				
		7-46	25-35	1.40-1.60	0.2-0.6	0.14-0.18	2.6-5.8	0.0-1.0	.32	.32				
		46-60	18-32	1.45-1.65	0.2-0.6	0.12-0.16	0.4-4.8	0.0-0.5	.32	.32				
65F2: Lindley, moderately eroded-----	80	0-8	18-27	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		8-40	25-35	1.40-1.60	0.2-0.6	0.14-0.18	2.6-5.8	0.0-0.5	.32	.32				
		40-60	18-32	1.45-1.65	0.2-0.6	0.12-0.16	0.4-4.8	0.0-0.5	.32	.32				
65F3: Lindley, severely eroded-----	90	0-8	25-35	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		8-34	25-35	1.40-1.60	0.2-0.6	0.14-0.18	2.6-5.8	0.0-0.5	.32	.32				
		34-60	18-32	1.45-1.65	0.2-0.6	0.12-0.16	0.4-4.8	0.0-0.5	.32	.32				

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
65G: Lindley-----	100	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
		0-3	18-27	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32	5	6	48
		3-7	18-27	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32			
		7-46	25-35	1.40-1.60	0.2-0.6	0.14-0.18	2.6-5.8	0.0-1.0	.32	.32			
		46-60	18-32	1.45-1.65	0.2-0.6	0.12-0.16	0.4-4.8	0.0-0.5	.32	.32			
75: Givin-----	95	0-8	18-26	1.30-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		8-16	18-26	1.30-1.40	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.32	.32			
		16-42	36-42	1.30-1.45	0.2-0.6	0.18-0.20	6.1-8.0	0.5-1.0	.43	.43			
		42-80	27-34	1.40-1.50	0.2-0.6	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
76B: Ladoga-----	95	0-8	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		8-14	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.32	.32			
		14-45	36-42	1.30-1.40	0.2-0.6	0.18-0.20	6.1-8.0	0.5-1.0	.43	.43			
		45-60	24-32	1.35-1.45	0.6-2	0.18-0.20	0.4-4.8	0.0-0.5	.43	.43			
76C: Ladoga-----	85	0-8	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		8-14	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.32	.32			
		14-45	36-42	1.30-1.40	0.2-0.6	0.18-0.20	6.1-8.0	0.5-1.0	.43	.43			
		45-60	24-32	1.35-1.45	0.6-2	0.18-0.20	0.4-4.8	0.0-0.5	.43	.43			
76C2: Ladoga, moderately eroded-----	95	0-8	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	5	7	38
		8-10	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.32	.32			
		10-39	36-42	1.30-1.40	0.2-0.6	0.18-0.20	6.1-8.0	0.5-1.0	.43	.43			
		39-60	24-32	1.35-1.45	0.6-2	0.18-0.20	0.4-4.8	0.0-0.5	.43	.43			
76D: Ladoga-----	90	0-8	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		8-14	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.32	.32			
		14-45	36-42	1.30-1.40	0.2-0.6	0.18-0.20	6.1-8.0	0.5-1.0	.43	.43			
		45-60	24-32	1.35-1.45	0.6-2	0.18-0.20	0.4-4.8	0.0-0.5	.43	.43			
76D2: Ladoga, moderately eroded-----	90	0-8	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	5	7	38
		8-10	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.32	.32			
		10-39	36-42	1.30-1.40	0.2-0.6	0.18-0.20	6.1-8.0	0.5-1.0	.43	.43			
		39-60	24-32	1.35-1.45	0.6-2	0.18-0.20	0.4-4.8	0.0-0.5	.43	.43			

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
76D3: Ladoga, severely eroded-----	85	0-8	24-32	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.32	.32	5	6	48
		8-33	36-42	1.30-1.40	0.2-0.6	0.18-0.20	6.1-8.0	0.5-1.0	.43	.43			
		33-60	24-32	1.35-1.45	0.6-2	0.18-0.20	0.4-4.8	0.0-0.5	.43	.43			
76E2: Ladoga, moderately eroded-----	70	0-8	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		8-10	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.32	.32			
		10-39	36-42	1.30-1.40	0.2-0.6	0.18-0.20	6.1-8.0	0.5-1.0	.43	.43			
		39-60	24-32	1.35-1.45	0.6-2	0.18-0.20	0.4-4.8	0.0-0.5	.43	.43			
76E3: Ladoga, severely eroded-----	85	0-8	24-32	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.32	.32	5	6	48
		8-33	36-42	1.30-1.40	0.2-0.6	0.18-0.20	6.1-8.0	0.5-1.0	.43	.43			
		33-60	24-32	1.35-1.45	0.6-2	0.18-0.20	0.4-4.8	0.0-0.5	.43	.43			
80B: Clinton-----	100	0-8	16-26	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.37	.37	5	6	48
		8-15	16-26	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.37	.37			
		15-72	36-42	1.35-1.45	0.2-0.6	0.16-0.20	6.1-8.0	0.0-1.0	.37	.37			
		72-80	24-35	1.40-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
80C: Clinton-----	95	0-8	16-26	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.37	.37	5	6	48
		8-15	16-26	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.37	.37			
		15-72	36-42	1.35-1.45	0.2-0.6	0.16-0.20	6.1-8.0	0.0-1.0	.37	.37			
		72-80	24-35	1.40-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
80C2: Clinton, moderately eroded-----	85	0-8	27-34	1.30-1.40	0.6-2	0.18-0.20	0.0-2.9	1.0-2.0	.37	.37	5	7	38
		8-10	27-34	1.30-1.40	0.6-2	0.18-0.20	0.0-2.9	0.0-0.5	.37	.37			
		10-66	36-42	1.35-1.45	0.2-0.6	0.16-0.20	6.1-8.0	0.0-0.5	.37	.37			
		66-80	24-35	1.40-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
80D: Clinton-----	90	0-8	16-26	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.37	.37	5	6	48
		8-15	16-26	1.30-1.40	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.37	.37			
		15-72	36-42	1.35-1.45	0.2-0.6	0.16-0.20	6.1-8.0	0.0-1.0	.37	.37			
		72-80	24-35	1.40-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			

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			Wind	Wind	
									Kw	Kf	T	erodi- bility group	erodi- bility index	
		In	Pct	g/cc	In/hr	In/in	Pct	Pct						
80D2: Clinton, moderately eroded-----	85	0-8	27-34	1.30-1.40	0.6-2	0.18-0.20	0.0-2.9	1.0-2.0	.37	.37	5	7	38	
		8-10	27-34	1.30-1.40	0.6-2	0.18-0.20	0.0-2.9	0.2-0.5	.37	.37				
		10-66	36-42	1.35-1.45	0.2-0.6	0.16-0.20	6.1-8.0	0.0-0.5	.37	.37				
		66-80	24-35	1.40-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37				
80D3: Clinton, severely eroded-----	75	0-8	27-34	1.30-1.40	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.43	.43	4	7	38	
		8-60	36-42	1.35-1.45	0.2-0.6	0.16-0.20	6.1-8.0	0.0-0.5	.37	.37				
		60-80	24-35	1.40-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37				
80E2: Clinton, moderately eroded-----	90	0-8	27-34	1.30-1.40	0.6-2	0.18-0.20	0.0-2.9	1.0-2.0	.37	.37	5	6	48	
		8-10	27-34	1.30-1.40	0.6-2	0.18-0.20	0.0-2.9	0.0-0.5	.37	.37				
		10-66	36-42	1.35-1.45	0.2-0.6	0.16-0.20	6.1-8.0	0.0-0.5	.37	.37				
		66-80	24-35	1.40-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37				
80E3: Clinton, severely eroded-----	70	0-8	27-34	1.30-1.40	0.6-2	0.18-0.20	3.0-5.9	0.5-2.0	.43	.43	5	6	48	
		8-60	36-42	1.35-1.45	0.2-0.6	0.16-0.20	6.1-8.0	0.0-0.5	.37	.37				
		60-80	24-35	1.40-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37				
80F2: Clinton, moderately eroded-----	90	0-8	27-34	1.30-1.40	0.6-2	0.18-0.20	0.0-2.9	1.0-2.0	.37	.37	5	6	48	
		8-10	27-34	1.30-1.40	0.6-2	0.18-0.20	0.0-2.9	0.0-0.5	.37	.37				
		10-66	36-42	1.35-1.45	0.2-0.6	0.16-0.20	6.1-8.0	0.0-0.5	.37	.37				
		66-80	24-35	1.40-1.55	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37				
83B: Kenyon-----	75	0-8	18-26	1.40-1.45	0.6-2	0.20-0.22	0.4-2.9	3.0-4.0	.24	.24	5	6	48	
		8-14	18-26	1.40-1.45	0.6-2	0.20-0.22	0.4-2.9	3.0-4.0	.24	.24				
		14-19	18-26	1.40-1.45	0.6-2	0.20-0.22	0.4-2.9	1.0-3.0	.24	.24				
		19-47	20-30	1.45-1.65	0.6-2	0.17-0.19	1.0-4.2	0.0-1.0	.28	.28				
		47-76	20-24	1.75-1.90	0.6-2	0.17-0.19	0.0-2.9	0.0-0.5	.37	.37				
83C: Kenyon-----	80	0-8	18-26	1.40-1.45	0.6-2	0.20-0.22	0.4-2.9	3.0-4.0	.24	.24	5	6	48	
		8-14	18-26	1.40-1.45	0.6-2	0.20-0.22	0.4-2.9	3.0-4.0	.24	.24				
		14-19	18-26	1.40-1.45	0.6-2	0.20-0.22	0.4-2.9	1.0-3.0	.24	.24				
		19-47	20-30	1.45-1.65	0.6-2	0.17-0.19	1.0-4.2	0.0-1.0	.28	.28				
		47-76	20-24	1.75-1.90	0.6-2	0.17-0.19	0.0-2.9	0.0-0.5	.37	.37				

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
83C2: Kenyon, moderately eroded-----	85	0-8	18-26	1.40-1.45	0.6-2	0.20-0.22	0.4-2.9	2.0-3.0	.24	.24	5	6	48
		8-14	18-26	1.40-1.45	0.6-2	0.20-0.22	0.4-2.9	0.0-1.0	.24	.24			
		14-35	20-30	1.45-1.65	0.6-2	0.17-0.19	1.0-4.2	0.0-1.0	.28	.28			
		35-41	20-24	1.65-1.75	0.6-2	0.17-0.19	1.0-2.3	0.0-0.5	.37	.37			
		41-76	20-24	1.75-1.90	0.6-2	0.17-0.19	0.0-2.9	0.0-0.5	.37	.37			
83D2: Kenyon, moderately eroded-----	80	0-8	18-26	1.40-1.45	0.6-2	0.20-0.22	0.4-2.9	2.0-3.0	.24	.24	5	6	48
		8-14	18-26	1.40-1.45	0.6-2	0.20-0.22	0.4-2.9	0.0-1.0	.24	.24			
		14-35	20-30	1.45-1.65	0.6-2	0.17-0.19	1.0-4.2	0.0-1.0	.28	.28			
		35-41	20-24	1.65-1.75	0.6-2	0.17-0.19	1.0-2.3	0.0-0.5	.37	.37			
		41-76	20-24	1.75-1.90	0.6-2	0.17-0.19	0.0-2.9	0.0-0.5	.37	.37			
88: Nevin, rarely flooded	90	0-8	27-29	1.30-1.35	0.6-2	0.21-0.23	3.0-5.9	4.0-6.0	.28	.28	5	7	38
		8-30	27-29	1.30-1.35	0.6-2	0.21-0.23	3.0-5.9	4.0-6.0	.28	.28			
		30-46	30-35	1.30-1.40	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43			
		46-62	25-36	1.40-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
93D2: Shelby, moderately eroded-----	50	0-8	18-28	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	2.0-3.0	.32	.32	5	6	48
		8-11	30-35	1.50-1.55	0.2-0.6	0.16-0.18	3.0-5.9	1.0-2.0	.28	.28			
		11-42	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-1.0	.28	.28			
		42-72	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
Adair, moderately eroded-----	35	0-8	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	2.0-3.0	.28	.28	3	4	86
		8-16	38-60	1.55-1.60	0.06-0.2	0.13-0.16	6.7-13.7	0.5-1.0	.32	.32			
		16-41	30-38	1.60-1.70	0.2-0.6	0.14-0.16	4.2-6.7	0.0-0.5	.32	.32			
		41-80	30-38	1.60-1.70	0.2-0.6	0.14-0.16	4.2-6.7	0.0-0.5	.32	.32			
93D3: Shelby, severely eroded-----	50	0-8	27-35	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	1.0-2.0	.32	.32	4	6	48
		8-36	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-1.0	.28	.28			
		36-72	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
Adair, severely eroded	30	0-8	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	1.0-2.0	.28	.28	2	4	86
		8-16	38-60	1.55-1.60	0.06-0.2	0.13-0.16	6.7-13.7	0.0-0.5	.32	.32			
		16-35	30-38	1.60-1.70	0.2-0.6	0.14-0.16	4.2-6.7	0.0-0.5	.32	.32			
		35-80	30-38	1.60-1.70	0.2-0.6	0.14-0.16	4.2-6.7	0.0-0.5	.32	.32			

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
93E2: Shelby, moderately eroded-----	60	0-8	18-28	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	2.0-3.0	.32	.32	5	6	48
		8-11	30-35	1.50-1.55	0.2-0.6	0.16-0.18	3.0-5.9	1.0-2.0	.28	.28			
		11-42	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-1.0	.28	.28			
		42-72	30-35	1.55-1.65	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
Adair, moderately eroded-----	35	0-8	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	2.0-3.0	.28	.28	3	6	86
		8-16	38-60	1.55-1.60	0.06-0.2	0.13-0.16	6.7-13.7	0.5-1.0	.32	.32			
		16-41	30-38	1.60-1.70	0.2-0.6	0.14-0.16	4.2-6.7	0.0-0.5	.32	.32			
		41-80	30-38	1.60-1.70	0.2-0.6	0.14-0.16	4.2-6.7	0.0-0.5	.32	.32			
119: Muscatine-----	95	0-8	28-30	1.30-1.35	0.6-2	0.22-0.24	4.1-5.5	4.0-6.0	.28	.28	5	7	38
		8-20	28-30	1.30-1.35	0.6-2	0.22-0.24	5.0-5.5	4.0-6.0	.28	.28			
		20-42	30-35	1.28-1.35	0.6-2	0.18-0.20	5.5-6.8	1.0-2.0	.43	.43			
		42-64	22-30	1.35-1.40	0.6-2	0.18-0.20	3.5-5.5	0.5-1.0	.43	.43			
120B: Tama-----	95	0-8	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	7	38
		8-18	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28			
		18-45	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43			
		45-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
120C: Tama-----	85	0-8	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	7	38
		8-18	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28			
		18-45	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43			
		45-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
120C2: Tama, moderately eroded-----	75	0-8	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.28	.28	5	7	38
		8-26	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43			
		26-60	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
120D2: Tama, moderately eroded-----	85	0-8	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.28	.28	5	7	38
		8-26	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43			
		26-60	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			

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			Wind	Wind
									Kw	Kf	T	erodi- bility group	erodi- bility index
120D3: Tama, severely eroded	80	0-8	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	1.0-2.0	.28	.28	4	7	38
		8-20	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
		20-60	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
120E2: Tama, moderately eroded-----	80	0-8	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.28	.28	5	7	38
		8-26	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43			
		26-60	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
122: Sperry-----	95	0-8	18-22	1.35-1.40	0.6-2	0.22-0.24	0.4-1.6	3.0-4.0	.37	.37	3	6	48
		8-10	18-22	1.35-1.40	0.6-2	0.22-0.24	0.4-1.6	3.0-4.0	.37	.37			
		10-17	18-22	1.35-1.40	0.6-2	0.22-0.24	0.4-1.6	0.5-1.0	.43	.43			
		17-28	38-45	1.40-1.45	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.43	.43			
		28-47	26-34	1.45-1.50	0.2-0.6	0.19-0.21	2.6-5.8	0.0-1.0	.43	.43			
		47-80	26-34	1.45-1.50	0.2-0.6	0.19-0.21	2.6-5.8	0.0-0.5	.43	.43			
133: Colo, occasionally flooded-----	90	0-8	27-36	1.28-1.32	0.6-2	0.21-0.23	3.0-5.9	5.0-7.0	.28	.28	5	7	38
		8-40	30-35	1.25-1.35	0.6-2	0.18-0.20	3.0-5.9	3.0-4.0	.28	.28			
		40-46	30-35	1.25-1.35	0.6-2	0.18-0.20	3.0-5.9	3.0-4.0	.28	.28			
		46-60	25-35	1.35-1.45	0.6-2	0.18-0.20	2.6-5.8	1.0-2.0	.32	.32			
133+: Colo, occasionally flooded, overwash---	90	0-8	20-26	1.25-1.30	0.6-2	0.22-0.24	1.0-2.9	3.0-5.0	.28	.28	5	6	48
		8-14	20-26	1.25-1.30	0.6-2	0.22-0.24	1.0-2.9	3.0-5.0	.28	.28			
		14-40	30-35	1.25-1.35	0.6-2	0.18-0.20	3.0-5.9	4.0-6.0	.28	.28			
		40-46	30-35	1.25-1.35	0.6-2	0.18-0.20	3.0-5.9	3.0-4.0	.28	.28			
		46-60	25-35	1.35-1.45	0.6-2	0.18-0.20	2.6-5.8	1.0-2.0	.32	.32			
162B: Downs-----	95	0-8	18-26	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		8-17	18-26	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	0.5-1.5	.32	.32			
		17-39	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.43	.43			
		39-60	22-26	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
162C: Downs-----	85	0-8	18-26	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		8-17	18-26	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	0.5-1.5	.32	.32			
		17-39	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.43	.43			
		39-60	22-26	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
162C2: Downs, moderately eroded-----	85	0-8	18-26	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		8-33	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.43	.43			
		33-60	22-26	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
162D2: Downs, moderately eroded-----	85	0-8	18-26	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		8-33	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.43	.43			
		33-60	22-26	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
162D3: Downs, severely eroded	80	0-8	18-30	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	1.0-2.0	.32	.32	4	7	38
		8-27	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
		27-60	22-26	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
162E2: Downs, moderately eroded-----	75	0-8	18-26	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		8-33	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.43	.43			
		33-60	22-26	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
162E3: Downs, severely eroded	75	0-8	18-30	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	1.0-2.0	.32	.32	4	7	38
		8-27	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
		27-60	22-26	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
163B: Fayette-----	95	0-3	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		3-14	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.32	.32			
		14-34	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
		34-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
163C: Fayette-----	90	0-3	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		3-14	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.32	.32			
		14-34	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
		34-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
163C2: Fayette, moderately eroded-----	85	0-8	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48
		8-29	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
		29-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			

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			Wind	Wind	
									Kw	Kf	T	erodi- bility group	erodi- bility index	
163D: Fayette-----	85	In	Pct	g/cc	In/hr	In/in	Pct	Pct						
		0-3	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.32	.32	5	6	48	
		3-14	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.32	.32				
		14-34	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43				
		34-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
163D2: Fayette, moderately eroded-----	65	0-8	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		8-29	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
		29-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
163D3: Fayette, severely eroded-----	60	0-8	18-30	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.32	.32	4	7	38	
		8-22	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
		22-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
163E: Fayette-----	75	0-3	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.32	.32	5	6	48	
		3-14	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.32	.32				
		14-34	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43				
		34-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
163E2: Fayette, moderately eroded-----	70	0-8	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		8-29	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
		29-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
163E3: Fayette, severely eroded-----	70	0-8	18-30	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.32	.32	4	6	48	
		8-22	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
		22-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
163F: Fayette-----	75	0-3	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.32	.32	5	6	48	
		3-14	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.32	.32				
		14-34	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43				
		34-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				

Physical Properties of the Soils--Continued

Map symbol and soil name	Pct. of map unit	Depth In	Clay Pct	Moist bulk density g/cc	Permea- bility In/hr	Available water capacity In/in	Linear extensi- bility Pct	Organic matter Pct	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
163F2: Fayette, moderately eroded-----	70	0-8	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48
		8-29	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
		29-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
163F3: Fayette, severely eroded-----	70	0-8	18-30	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.32	.32	4	7	38
		8-22	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
		22-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
163G: Fayette-----	85	0-3	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		3-14	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.32	.32			
		14-34	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
		34-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
165: Stronghurst-----	95	0-8	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.37	.37	5	6	48
		8-11	20-27	1.25-1.45	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.37	.37			
		11-15	24-35	1.30-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
		15-47	24-35	1.30-1.55	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.37	.37			
		47-60	20-27	1.30-1.50	0.6-2	0.20-0.22	0.0-2.9	0.5-1.0	.37	.37			
171C2: Bassett, moderately eroded-----	85	0-8	18-25	1.45-1.50	0.6-2	0.19-0.21	0.0-2.9	2.0-4.0	.28	.28	5	6	48
		8-53	20-28	1.55-1.65	0.6-2	0.17-0.19	0.0-2.9	0.5-1.0	.28	.28			
		53-73	20-24	1.75-1.90	0.6-2	0.17-0.19	0.0-2.9	0.0-0.5	.37	.37			
171D2: Bassett, moderately eroded-----	80	0-8	18-25	1.45-1.50	0.6-2	0.19-0.21	0.0-2.9	2.0-4.0	.28	.28	5	6	48
		8-53	20-28	1.55-1.65	0.6-2	0.17-0.19	0.0-2.9	0.5-1.0	.28	.28			
		53-73	20-24	1.75-1.90	0.6-2	0.17-0.19	0.0-2.9	0.0-0.5	.37	.37			
171D3: Bassett, severely eroded-----	75	0-8	18-25	1.45-1.50	0.6-2	0.19-0.21	0.0-2.9	1.0-2.0	.28	.28	5	6	48
		8-47	20-28	1.55-1.65	0.6-2	0.17-0.19	0.0-2.9	0.5-1.0	.28	.28			
		47-73	20-24	1.75-1.90	0.6-2	0.17-0.19	0.0-2.9	0.0-0.5	.37	.37			

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			Wind	Wind	
									Kw	Kf	T	erodi- bility group	erodi- bility index	
171E2: Bassett, moderately eroded-----	80	In	Pct	g/cc	In/hr	In/in	Pct	Pct						
		0-8	18-25	1.45-1.50	0.6-2	0.19-0.21	0.0-2.9	2.0-4.0	.28	.28	5	6	48	
		8-53	20-28	1.55-1.65	0.6-2	0.17-0.19	0.0-2.9	0.5-1.0	.28	.28				
		53-73	20-24	1.75-1.90	0.6-2	0.17-0.19	0.0-2.9	0.0-0.5	.37	.37				
171E3: Bassett, severely eroded-----	75													
		0-8	18-25	1.45-1.50	0.6-2	0.19-0.21	0.0-2.9	1.0-2.0	.28	.28	5	6	48	
		8-47	20-28	1.55-1.65	0.6-2	0.17-0.19	0.0-2.9	0.5-1.0	.28	.28				
		47-73	20-24	1.75-1.90	0.6-2	0.17-0.19	0.0-2.9	0.0-0.5	.37	.37				
172: Wabash, occasionally flooded-----	100													
		0-8	40-46	1.25-1.45	0.0015-0.06	0.12-0.14	6.7-10.5	2.0-4.0	.28	.28	5	4	86	
		8-19	40-60	1.20-1.45	0.0015-0.06	0.08-0.12	9.0-25.0	2.0-4.0	.28	.28				
		19-60	40-60	1.20-1.45	0.0015-0.06	0.08-0.12	9.0-25.0	1.0-2.0	.28	.28				
175: Dickinson-----	100													
		0-9	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	1.0-2.0	.20	.20	4	3	86	
		9-18	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.20	.20				
		18-30	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.20	.20				
		30-36	10-15	1.45-1.55	2-6	0.12-0.15	0.0-2.9	0.0-0.5	.24	.24				
		36-60	4-10	1.60-1.70	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.15	.15				
175B: Dickinson-----	95													
		0-9	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	1.0-2.0	.20	.20	4	3	86	
		9-18	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.20	.20				
		18-30	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.20	.20				
		30-36	10-15	1.45-1.55	2-6	0.12-0.15	0.0-2.9	0.0-0.5	.24	.24				
		36-60	4-10	1.60-1.70	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.15	.15				
175C: Dickinson-----	85													
		0-9	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	1.0-2.0	.20	.20	4	3	86	
		9-18	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.20	.20				
		18-30	10-18	1.50-1.55	2-6	0.12-0.15	0.0-2.9	0.5-1.0	.20	.20				
		30-36	10-15	1.45-1.55	2-6	0.12-0.15	0.0-2.9	0.0-0.5	.24	.24				
		36-60	4-10	1.60-1.70	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.15	.15				
178: Waukee-----	90													
		0-8	18-24	1.40-1.45	0.6-2	0.20-0.22	0.4-2.3	3.0-4.0	.24	.24	4	6	48	
		8-16	18-24	1.40-1.45	0.6-2	0.20-0.22	0.4-2.3	3.0-4.0	.24	.24				
		16-20	18-27	1.40-1.45	0.6-2	0.15-0.19	0.4-3.2	1.0-2.0	.28	.28				
		20-35	18-27	1.40-1.50	0.6-2	0.15-0.19	0.4-3.2	1.0-2.0	.28	.28				
		35-44	2-8	1.50-1.75	6-20	0.02-0.06	0.0-0.0	0.0-1.0	.10	.17				
		44-66	2-8	1.50-1.75	6-20	0.02-0.06	0.0-0.0	0.0-1.0	.10	.17				

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
178B: Waukee-----	100	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
		0-8	18-24	1.40-1.45	0.6-2	0.20-0.22	0.4-2.3	3.0-4.0	.24	.24	4	6	48
		8-16	18-24	1.40-1.45	0.6-2	0.20-0.22	0.4-2.3	3.0-4.0	.24	.24			
		16-20	18-27	1.40-1.45	0.6-2	0.15-0.19	0.4-3.2	1.0-2.0	.28	.28			
		20-35	18-27	1.40-1.50	0.6-2	0.15-0.19	0.4-3.2	1.0-2.0	.28	.28			
		35-44	2-8	1.50-1.75	6-20	0.02-0.06	0.0-0.0	0.0-1.0	.10	.17			
		44-66	2-8	1.50-1.75	6-20	0.02-0.06	0.0-0.0	0.0-1.0	.10	.17			
178C: Waukee-----	100	0-8	18-24	1.40-1.45	0.6-2	0.20-0.22	0.4-2.3	3.0-4.0	.24	.24	4	6	48
		8-16	18-24	1.40-1.45	0.6-2	0.20-0.22	0.4-2.3	3.0-4.0	.24	.24			
		16-20	18-27	1.40-1.45	0.6-2	0.15-0.19	0.4-3.2	1.0-2.0	.28	.28			
		20-35	18-27	1.40-1.50	0.6-2	0.15-0.19	0.4-3.2	1.0-2.0	.28	.28			
		35-44	2-8	1.50-1.75	6-20	0.02-0.06	0.0-0.0	0.0-1.0	.10	.17			
		44-66	2-8	1.50-1.75	6-20	0.02-0.06	0.0-0.0	0.0-1.0	.10	.17			
179D2: Gara, moderately eroded-----	80	0-8	18-27	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	2.0-3.0	.32	.32	5	6	48
		8-27	25-38	1.55-1.75	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.32	.32			
		27-60	24-38	1.65-1.75	0.2-0.6	0.16-0.18	3.2-5.8	0.0-0.5	.37	.37			
179D3: Gara, severely eroded	70	0-8	27-35	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	1.0-2.0	.32	.32	4	6	48
		8-21	25-38	1.55-1.75	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.32	.32			
		21-60	24-38	1.65-1.75	0.2-0.6	0.16-0.18	3.2-5.8	0.0-0.5	.37	.37			
179E2: Gara, moderately eroded-----	85	0-8	18-27	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	2.0-3.0	.32	.32	5	6	48
		8-27	25-38	1.55-1.75	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.32	.32			
		27-60	24-38	1.65-1.75	0.2-0.6	0.16-0.18	3.2-5.8	0.0-0.5	.37	.37			
179E3: Gara, severely eroded	75	0-8	27-35	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	1.0-2.0	.32	.32	4	6	48
		8-21	25-38	1.55-1.75	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.32	.32			
		21-60	24-38	1.65-1.75	0.2-0.6	0.16-0.18	3.2-5.8	0.0-0.5	.37	.37			
179F2: Gara, moderately eroded-----	85	0-8	18-27	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	2.0-3.0	.32	.32	5	6	48
		8-27	25-38	1.55-1.75	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.32	.32			
		27-60	24-38	1.65-1.75	0.2-0.6	0.16-0.18	3.2-5.8	0.0-0.5	.37	.37			

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			Wind	Wind
									Kw	Kf	T	erodi- bility group	erodi- bility index
179F3: Gara, severely eroded	90	0-8	27-35	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	1.0-2.0	.32	.32	4	6	48
		8-21	25-38	1.55-1.75	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.32	.32			
		21-60	24-38	1.65-1.75	0.2-0.6	0.16-0.18	3.2-5.8	0.0-0.5	.37	.37			
180: Keomah-----	95	0-8	16-26	1.30-1.40	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.37	.37	3	6	48
		8-18	16-26	1.35-1.45	0.2-0.6	0.18-0.20	0.0-2.9	1.0-3.0	.37	.37			
		18-53	35-42	1.30-1.45	0.06-0.6	0.18-0.20	6.0-8.9	0.5-1.0	.37	.37			
		53-80	24-38	1.40-1.55	0.2-0.6	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			
192D2: Adair, moderately eroded-----	75	0-8	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	2.0-3.0	.28	.28	3	4	86
		8-16	38-60	1.55-1.60	0.06-0.2	0.13-0.16	6.7-13.7	0.5-1.0	.32	.32			
		16-41	30-38	1.60-1.70	0.2-0.6	0.14-0.16	4.2-6.7	0.0-0.5	.32	.32			
		41-80	30-38	1.60-1.70	0.2-0.6	0.14-0.16	4.2-6.7	0.0-0.5	.32	.32			
192D3: Adair, severely eroded	70	0-8	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	1.0-2.0	.28	.28	2	4	86
		8-16	38-60	1.55-1.60	0.06-0.2	0.13-0.16	6.7-13.7	0.0-0.5	.32	.32			
		16-35	30-38	1.60-1.70	0.2-0.6	0.14-0.16	4.2-6.7	0.0-0.5	.32	.32			
		35-80	30-38	1.60-1.70	0.2-0.6	0.14-0.16	4.2-6.7	0.0-0.5	.32	.32			
220: Nodaway, occasionally flooded-----	85	0-7	18-27	1.25-1.35	0.6-2	0.20-0.23	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		7-31	18-28	1.25-1.35	0.6-2	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43			
		31-42	18-30	1.25-1.35	0.6-2	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43			
		42-80	18-28	1.25-1.35	0.6-2	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43			
279: Taintor-----	90	0-9	27-36	1.30-1.40	0.2-0.6	0.21-0.23	3.0-5.9	5.0-6.0	.28	.28	5	7	38
		9-20	30-36	1.30-1.40	0.2-0.6	0.21-0.23	4.2-6.1	2.0-3.0	.32	.32			
		20-28	35-44	1.30-1.45	0.2-0.6	0.14-0.18	6.0-8.9	0.0-1.0	.43	.43			
		28-36	35-44	1.30-1.45	0.2-0.6	0.14-0.18	6.0-8.9	0.0-1.0	.43	.43			
		36-60	24-34	1.40-1.50	0.6-2	0.18-0.20	2.3-5.4	0.0-1.0	.43	.43			
280: Mahaska-----	95	0-8	27-32	1.30-1.40	0.6-2	0.21-0.23	3.0-5.9	4.0-6.0	.28	.28	5	7	38
		8-24	27-32	1.30-1.40	0.6-2	0.21-0.23	3.0-5.9	3.0-5.0	.28	.28			
		24-30	36-42	1.30-1.45	0.6-2	0.14-0.18	6.1-8.0	1.0-2.0	.43	.43			
		30-61	36-42	1.30-1.45	0.6-2	0.14-0.18	6.1-8.0	1.0-2.0	.43	.43			
		61-80	24-32	1.40-1.45	0.6-2	0.18-0.20	0.4-4.8	0.0-1.0	.43	.43			

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
281B: Otley-----	100	0-8	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	3.0-4.0	.28	.28	5	7	38
		8-17	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	2.0-4.0	.28	.28			
		17-61	36-42	1.30-1.40	0.6-2	0.18-0.20	6.1-8.0	1.0-2.0	.43	.43			
		61-73	24-35	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
281C: Otley-----	90	0-8	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	3.0-4.0	.28	.28	5	7	38
		8-17	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	3.0-4.0	.28	.28			
		17-61	36-42	1.30-1.40	0.6-2	0.18-0.20	6.1-8.0	1.0-2.0	.43	.43			
		61-73	24-35	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
281C2: Otley, moderately eroded-----	85	0-8	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	2.0-3.0	.28	.28	5	7	38
		8-55	36-42	1.30-1.40	0.6-2	0.18-0.20	6.1-8.0	0.0-1.0	.43	.43			
		55-73	24-35	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
281D2: Otley, moderately eroded-----	80	0-8	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	2.0-3.0	.28	.28	5	7	38
		8-55	36-42	1.30-1.40	0.6-2	0.18-0.20	6.1-8.0	0.0-1.0	.43	.43			
		55-73	24-35	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
281D3: Otley, severely eroded	80	0-8	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	1.0-2.0	.28	.28	4	7	38
		8-49	36-42	1.30-1.40	0.6-2	0.18-0.20	6.1-8.0	0.0-1.0	.43	.43			
		49-73	24-35	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
281E2: Otley, moderately eroded-----	85	0-8	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	2.0-3.0	.28	.28	5	7	38
		8-55	36-42	1.30-1.40	0.6-2	0.18-0.20	6.1-8.0	0.0-1.0	.43	.43			
		55-73	24-35	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
291: Atterberry-----	90	0-8	20-26	1.35-1.55	0.6-2	0.22-0.25	0.0-2.9	2.0-4.0	.32	.32	5	6	48
		8-17	15-26	1.40-1.60	0.6-2	0.21-0.24	0.0-2.9	0.5-1.0	.32	.32			
		17-48	25-35	1.40-1.60	0.6-2	0.14-0.24	3.0-5.9	0.1-0.5	.43	.43			
		48-60	18-27	1.40-1.65	0.6-2	0.14-0.24	0.0-2.9	0.1-0.5	.43	.43			

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			Wind	Wind
									Kw	Kf	T	erodi- bility group	erodi- bility index
293C:													
Fayette-----	45	0-3	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		3-14	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.32	.32			
		14-34	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
		34-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
Chelsea-----	35	0-4	8-15	1.50-1.55	6-20	0.10-0.15	0.0-0.0	0.5-1.0	.17	.17	5	2	134
		4-36	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
		36-70	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
Tell-----	20	0-9	14-18	1.35-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.37	.37	4	5	56
		9-18	20-28	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
		18-28	20-30	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
		28-32	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37			
		32-60	2-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15			
293D:													
Fayette-----	45	0-3	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		3-14	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.32	.32			
		14-34	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
		34-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
Chelsea-----	35	0-4	8-15	1.50-1.55	6-20	0.10-0.15	0.0-0.0	0.5-1.0	.17	.17	5	2	134
		4-36	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
		36-70	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
Tell-----	20	0-9	14-18	1.35-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.37	.37	4	5	56
		9-18	20-28	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
		18-28	20-30	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
		28-32	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37			
		32-60	2-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15			
293D2:													
Fayette, moderately eroded-----	45	0-8	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	2	48
		8-29	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
		29-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
Chelsea, moderately eroded-----	35	0-4	8-15	1.50-1.55	6-20	0.10-0.15	0.0-0.0	0.2-1.0	.17	.17	5	2	134
		4-30	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
		30-70	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			

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			Wind	Wind
									Kw	Kf	T	erodi- bility group	erodi- bility index
293D2: Tell, moderately eroded-----	20	In 0-8	Pct 14-18	g/cc 1.35-1.45	In/hr 0.6-2	In/in 0.22-0.24	Pct 0.0-2.9	Pct 1.0-2.0	.37	.37	4	5	56
		8-12	20-28	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
		12-22	20-30	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
		22-26	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37			
		26-60	2-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15			
293E: Fayette-----	40	0-3	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		3-14	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.32	.32			
		14-34	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43			
		34-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
Chelsea-----	35	0-4	8-15	1.50-1.55	6-20	0.10-0.15	0.0-0.0	0.5-1.0	.17	.17	5	2	134
		4-36	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
		36-70	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
Tell-----	25	0-9	14-18	1.35-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.37	.37	4	5	56
		9-18	20-28	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
		18-28	20-30	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
		28-32	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37			
		32-60	2-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15			
293E2: Fayette, moderately eroded-----	40	0-8	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	2	48
		8-29	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
		29-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
Chelsea, moderately eroded-----	35	0-4	8-15	1.50-1.55	6-20	0.10-0.15	0.0-0.0	0.2-1.0	.17	.17	5	2	134
		4-30	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
		30-70	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17			
Tell, moderately eroded-----	25	0-8	14-18	1.35-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.37	.37	4	5	56
		8-12	20-28	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
		12-22	20-30	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37			
		22-26	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37			
		26-60	2-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15			

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			Wind	Wind	
									Kw	Kf	T	erodi- bility group	erodi- bility index	
293G:		In	Pct	g/cc	In/hr	In/in	Pct	Pct						
Fayette-----	40	0-3	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.32	.32	5	2	48	
		3-14	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.32	.32				
		14-34	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43				
		34-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
Chelsea-----	35	0-4	8-15	1.50-1.55	6-20	0.10-0.15	0.0-0.0	0.5-1.0	.17	.17	5	2	134	
		4-36	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17				
		36-70	5-10	1.55-1.70	6-20	0.06-0.08	0.0-0.0	0.0-0.5	.17	.17				
Tell-----	25	0-9	14-18	1.35-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.37	.37	4	5	56	
		9-18	20-28	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37				
		18-28	20-30	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37				
		28-32	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37				
		32-60	2-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15				
353B:														
Tell-----	85	0-9	14-18	1.35-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.37	.37	4	5	56	
		9-18	20-28	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37				
		18-28	20-30	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37				
		28-32	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37				
		32-60	2-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15				
353C:														
Tell-----	90	0-9	14-18	1.35-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-3.0	.37	.37	4	5	56	
		9-18	20-28	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37				
		18-28	20-30	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37				
		28-32	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37				
		32-60	2-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15				
353C2:														
Tell, moderately eroded-----	90	0-8	14-18	1.35-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.37	.37	4	5	56	
		8-12	20-28	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37				
		12-22	20-30	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37				
		22-26	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37				
		26-60	2-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15				
353D2:														
Tell, moderately eroded-----	90	0-8	14-18	1.35-1.45	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.37	.37	4	5	56	
		8-12	20-28	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37				
		12-22	20-30	1.50-1.60	0.6-2	0.18-0.22	3.0-5.9	0.0-0.5	.37	.37				
		22-26	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37				
		26-60	2-8	1.55-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15				

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			Wind	Wind	
									Kw	Kf	T	erodi- bility group	erodi- bility index	
		In	Pct	g/cc	In/hr	In/in	Pct	Pct						
377B:														
Dinsdale-----	100	0-8	25-29	1.25-1.30	0.6-2	0.21-0.23	2.6-3.9	3.0-5.0	.28	.28	5	7	38	
		8-19	25-29	1.25-1.30	0.6-2	0.21-0.23	2.6-3.9	3.0-5.0	.28	.28				
		19-34	30-34	1.30-1.35	0.6-2	0.18-0.20	4.2-5.4	1.0-2.0	.43	.43				
		34-46	20-28	1.65-1.75	0.6-2	0.17-0.19	1.0-3.5	0.0-0.5	.43	.43				
		46-80	20-28	1.65-1.75	0.6-2	0.17-0.19	1.0-3.5	0.0-0.5	.43	.43				
377C:														
Dinsdale-----	85	0-8	25-29	1.25-1.30	0.6-2	0.21-0.23	2.6-3.9	3.0-5.0	.28	.28	5	7	38	
		8-19	25-29	1.25-1.30	0.6-2	0.21-0.23	2.6-3.9	3.0-5.0	.28	.28				
		19-34	30-34	1.30-1.35	0.6-2	0.18-0.20	4.2-5.4	1.0-2.0	.43	.43				
		34-46	20-28	1.65-1.75	0.6-2	0.17-0.19	1.0-3.5	0.0-0.5	.43	.43				
		46-80	20-28	1.65-1.75	0.6-2	0.17-0.19	1.0-3.5	0.0-0.5	.43	.43				
420:														
Tama, terrace-----	100	0-8	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	7	48	
		8-18	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28				
		18-45	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43				
		45-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
420B:														
Tama, terrace-----	100	0-8	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	6	48	
		8-18	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28				
		18-45	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43				
		45-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
422:														
Amana, occasionally flooded-----	90	0-8	18-27	1.20-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-4.0	.28	.28	5	6	48	
		8-15	18-27	1.20-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-4.0	.28	.28				
		15-37	18-30	1.25-1.40	0.6-2	0.20-0.22	1.6-2.9	1.0-2.0	.37	.37				
		37-48	18-30	1.25-1.40	0.6-2	0.20-0.22	1.6-2.9	1.0-2.0	.37	.37				
		48-80	18-26	1.25-1.40	0.6-2	0.20-0.22	0.0-2.9	0.0-1.0	.37	.37				
424D2:														
Lindley, moderately eroded-----	50	0-8	18-27	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		8-40	25-35	1.40-1.60	0.2-0.6	0.14-0.18	2.6-5.8	0.0-0.5	.32	.32				
		40-60	18-32	1.45-1.65	0.2-0.6	0.12-0.16	0.4-4.8	0.0-0.5	.32	.32				
Keswick, moderately eroded-----	35	0-8	24-35	1.45-1.50	0.2-0.6	0.17-0.19	3.0-5.9	1.0-2.0	.37	.37	3	4	86	
		8-12	27-40	1.45-1.50	0.2-0.6	0.17-0.19	3.0-5.9	0.0-0.5	.37	.37				
		12-26	35-60	1.55-1.60	0.06-0.2	0.11-0.15	6.0-8.9	0.0-0.5	.37	.37				
		26-60	30-40	1.60-1.75	0.2-0.6	0.12-0.16	4.2-7.3	0.0-0.5	.37	.37				

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			Wind	Wind
									Kw	Kf	T	erodi- bility group	erodi- bility index
424E2: Lindley, moderately eroded-----	45	0-8	18-27	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32	5	6	48
		8-40	25-35	1.40-1.60	0.2-0.6	0.14-0.18	2.6-5.8	0.0-0.5	.32	.32			
		40-60	18-32	1.45-1.65	0.2-0.6	0.12-0.16	0.4-4.8	0.0-0.5	.32	.32			
Keswick, moderately eroded-----	40	0-8	24-35	1.45-1.50	0.2-0.6	0.17-0.19	3.0-5.9	1.0-2.0	.37	.37	3	4	86
		8-12	27-40	1.45-1.50	0.2-0.6	0.17-0.19	3.0-5.9	0.0-0.5	.37	.37			
		12-26	35-60	1.55-1.60	0.06-0.2	0.11-0.15	6.0-8.9	0.0-0.5	.37	.37			
		26-60	30-40	1.60-1.75	0.2-0.6	0.12-0.16	4.2-7.3	0.0-0.5	.37	.37			
424E3: Lindley, severely eroded-----	45	0-8	25-35	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32	5	6	48
		8-34	25-35	1.40-1.60	0.2-0.6	0.14-0.18	2.6-5.8	0.0-0.5	.32	.32			
		34-60	18-32	1.45-1.65	0.2-0.6	0.12-0.16	0.4-4.8	0.0-0.5	.32	.32			
Keswick, severely eroded-----	40	0-8	24-35	1.45-1.50	0.2-0.6	0.17-0.19	3.0-5.9	1.0-2.0	.37	.37	3	4	86
		8-13	27-40	1.45-1.50	0.2-0.6	0.17-0.19	3.0-5.9	0.0-0.5	.37	.37			
		13-20	35-60	1.55-1.60	0.06-0.2	0.11-0.15	6.0-8.9	0.0-0.5	.37	.37			
		20-60	30-40	1.60-1.75	0.2-0.6	0.12-0.16	4.2-7.3	0.0-0.5	.37	.37			
424F2: Lindley, moderately eroded-----	65	0-8	18-27	1.20-1.40	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.32	.32	5	6	48
		8-40	25-35	1.40-1.60	0.2-0.6	0.14-0.18	2.6-5.8	0.0-0.5	.32	.32			
		40-60	18-32	1.45-1.65	0.2-0.6	0.12-0.16	0.4-4.8	0.0-0.5	.32	.32			
Keswick, moderately eroded-----	25	0-8	24-35	1.45-1.50	0.2-0.6	0.17-0.19	3.0-5.9	1.0-2.0	.37	.37	3	6	48
		8-12	27-40	1.45-1.50	0.2-0.6	0.17-0.19	3.0-5.9	0.0-0.5	.37	.37			
		12-26	35-60	1.55-1.60	0.06-0.2	0.11-0.15	6.0-8.9	0.0-0.5	.37	.37			
		26-60	30-40	1.60-1.75	0.2-0.6	0.12-0.16	4.2-7.3	0.0-0.5	.37	.37			
425D2: Keswick, moderately eroded-----	90	0-8	24-35	1.45-1.50	0.2-0.6	0.17-0.19	3.0-5.9	1.0-2.0	.37	.37	3	4	86
		8-12	27-40	1.45-1.50	0.2-0.6	0.17-0.19	3.0-5.9	0.0-0.5	.37	.37			
		12-26	35-60	1.55-1.60	0.06-0.2	0.11-0.15	6.0-8.9	0.0-0.5	.37	.37			
		26-60	30-40	1.60-1.75	0.2-0.6	0.12-0.16	4.2-7.3	0.0-0.5	.37	.37			

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
425D3: Keswick, severely eroded-----	60	0-8	24-35	1.45-1.50	0.2-0.6	0.17-0.19	3.0-5.9	1.0-2.0	.37	.37	2	4	86
		8-13	27-40	1.45-1.50	0.2-0.6	0.17-0.19	3.0-5.9	0.0-0.5	.37	.37			
		13-20	35-60	1.55-1.60	0.06-0.2	0.11-0.15	6.0-8.9	0.0-0.5	.37	.37			
		20-60	30-40	1.60-1.75	0.2-0.6	0.12-0.16	4.2-7.3	0.0-0.5	.37	.37			
428B: Ely-----	95	0-8	27-30	1.30-1.35	0.6-2	0.21-0.23	3.0-5.9	4.0-6.0	.28	.28	5	7	38
		8-32	27-30	1.30-1.35	0.6-2	0.21-0.23	3.0-5.9	4.0-6.0	.28	.28			
		32-47	28-35	1.30-1.40	0.6-2	0.18-0.20	3.0-5.9	1.0-3.0	.43	.43			
		47-80	20-30	1.40-1.45	0.6-2	0.18-0.20	1.0-4.2	0.5-1.0	.43	.43			
430: Ackmore, occasionally flooded-----	100	0-8	18-27	1.25-1.30	0.6-2	0.21-0.23	3.0-5.9	2.0-4.0	.32	.32	5	6	48
		8-25	18-27	1.25-1.30	0.6-2	0.21-0.23	3.0-5.9	1.0-3.0	.32	.32			
		25-60	26-38	1.30-1.40	0.6-2	0.18-0.20	6.0-8.9	3.0-5.0	.32	.32			
450: Pillot-----	100	0-8	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.32	.32	5	6	48
		8-15	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32			
		15-32	25-35	1.30-1.50	0.6-2	0.16-0.20	3.0-5.9	1.0-2.0	.43	.43			
		32-36	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37			
		36-60	2-10	1.60-1.70	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.17	.17			
450B: Pillot-----	90	0-8	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.32	.32	5	6	48
		8-15	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32			
		15-32	25-35	1.30-1.50	0.6-2	0.16-0.20	3.0-5.9	1.0-2.0	.43	.43			
		32-36	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37			
		36-60	2-10	1.60-1.70	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.17	.17			
450C: Pillot-----	85	0-8	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.32	.32	5	6	48
		8-15	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32			
		15-32	25-35	1.30-1.50	0.6-2	0.16-0.20	3.0-5.9	1.0-2.0	.43	.43			
		32-36	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37			
		36-60	2-10	1.60-1.70	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.17	.17			

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			Wind	Wind	
									Kw	Kf	T	erodi- bility group	erodi- bility index	
453: Tuskeego, rarely flooded-----	75	In	Pct	g/cc	In/hr	In/in	Pct	Pct						
		0-8	16-22	1.35-1.40	0.6-2	0.19-0.23	3.0-5.9	2.0-4.0	.37	.37	5	6	56	
		8-19	16-22	1.35-1.40	0.6-2	0.19-0.23	3.0-5.9	2.0-4.0	.37	.37				
		19-24	32-48	1.30-1.45	0.0015-0.06	0.13-0.17	6.0-8.9	0.0-2.0	.43	.43				
		24-60	28-40	1.40-1.50	0.06-0.2	0.16-0.19	3.0-5.9	0.0-1.0	.43	.43				
462B: Downs, terrace-----	90	0-8	18-26	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	2.0-3.0	.32	.32	5	6	48	
		8-17	18-26	1.25-1.30	0.6-2	0.21-0.23	0.0-2.9	0.5-1.5	.32	.32				
		17-39	26-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	0.5-1.0	.43	.43				
		39-60	22-26	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
463B: Fayette, terrace-----	100	0-3	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	2.0-3.0	.32	.32	5	6	48	
		3-14	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-1.5	.32	.32				
		14-34	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-1.0	.43	.43				
		34-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
463C2: Fayette, moderately eroded, terrace-----	90	0-8	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		8-29	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
		29-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
463D2: Fayette, moderately eroded, terrace-----	90	0-8	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		8-29	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
		29-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
463D3: Fayette, severely eroded, terrace-----	80	0-8	18-30	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.32	.32	5	6	48	
		8-22	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
		22-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
463E2: Fayette, moderately eroded, terrace-----	90	0-8	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		8-29	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
		29-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				

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			Wind	Wind	
									Kw	Kf	T	erodi- bility group	erodi- bility index	
		In	Pct	g/cc	In/hr	In/in	Pct	Pct						
463E3: Fayette, severely eroded, terrace-----	90	0-8	18-30	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.32	.32	5	6	48	
		8-22	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
		22-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
463F2: Fayette, moderately eroded, terrace-----	85	0-8	15-27	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.32	.32	5	6	48	
		8-29	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
		29-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
463F3: Fayette, severely eroded, terrace-----	90	0-8	18-30	1.30-1.35	0.6-2	0.20-0.22	0.0-2.9	0.5-2.0	.32	.32	5	6	48	
		8-22	25-35	1.30-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
		22-73	22-26	1.45-1.50	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
484: Lawson, occasionally flooded-----	80	0-8	10-27	1.20-1.55	0.6-2	0.22-0.24	0.0-2.9	3.0-7.0	.28	.28	5	6	56	
		8-30	10-30	1.20-1.55	0.6-2	0.18-0.22	0.0-2.9	3.0-7.0	.28	.28				
		30-60	18-30	1.50-1.70	0.6-2	0.11-0.15	3.0-5.9	1.0-4.0	.43	.43				
587: Chequest, occasionally flooded-----	95	0-8	30-35	1.30-1.35	0.2-0.6	0.18-0.20	6.0-8.9	3.0-4.0	.32	.32	5	7	38	
		8-12	30-35	1.30-1.35	0.2-0.6	0.18-0.20	6.0-8.9	3.0-4.0	.32	.32				
		12-60	35-42	1.35-1.45	0.2-0.6	0.14-0.18	6.0-8.9	0.0-1.0	.43	.43				
587+: Chequest, occasionally flooded, overwash----	95	0-8	20-26	1.20-1.25	0.6-2	0.20-0.22	1.0-2.9	1.0-3.0	.37	.37	5	6	48	
		8-12	20-26	1.20-1.25	0.6-2	0.20-0.22	1.0-2.9	1.0-3.0	.37	.37				
		12-24	20-26	1.20-1.25	0.6-2	0.20-0.22	1.0-2.9	3.0-4.0	.37	.37				
		24-60	35-42	1.35-1.45	0.2-0.6	0.14-0.18	6.0-8.9	0.0-1.0	.43	.43				
626: Hayfield-----	90	0-8	18-27	1.30-1.50	0.6-2	0.20-0.24	0.4-3.2	3.0-4.0	.32	.32	4	6	48	
		8-13	18-27	1.30-1.50	0.6-2	0.20-0.24	0.4-3.2	0.5-1.0	.32	.32				
		13-29	18-30	1.40-1.55	0.6-2	0.17-0.22	0.4-4.2	0.0-1.0	.32	.32				
		29-80	0-10	1.55-1.65	6-20	0.02-0.04	0.0-0.0	0.0-0.5	.15	.15				

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
663D2: Seaton, moderately eroded-----	85	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
		0-8	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.37	.37	5	6	56
		8-38	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
		38-80	10-25	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
663E2: Seaton, moderately eroded-----	85	0-8	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.37	.37	5	6	56
		8-38	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
		38-80	10-25	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
663E3: Seaton, severely eroded-----	80	0-8	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	0.5-1.5	.37	.37	4	6	56
		8-32	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
		32-80	10-25	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
663F2: Seaton, moderately eroded-----	80	0-8	15-22	1.10-1.20	0.6-2	0.22-0.24	0.0-2.9	1.0-2.0	.37	.37	5	6	56
		8-38	18-27	1.15-1.30	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
		38-80	10-25	1.20-1.40	0.6-2	0.20-0.22	0.0-2.9	0.0-0.5	.37	.37			
687: Watkins, rarely flooded-----	90	0-8	18-24	1.30-1.35	0.6-2	0.20-0.24	3.0-5.9	2.0-4.0	.28	.28	5	6	48
		8-18	18-24	1.35-1.40	0.6-2	0.15-0.19	3.0-5.9	1.0-2.0	.43	.43			
		18-52	25-32	1.40-1.45	0.6-2	0.14-0.18	3.0-5.9	1.0-2.0	.43	.43			
		52-80	25-32	1.40-1.45	0.6-2	0.14-0.18	3.0-5.9	0.0-1.0	.43	.43			
687B: Watkins, rarely flooded-----	100	0-8	18-24	1.30-1.35	0.6-2	0.20-0.24	3.0-5.9	2.0-4.0	.28	.28	5	6	48
		8-18	18-24	1.35-1.40	0.6-2	0.15-0.19	3.0-5.9	1.0-2.0	.43	.43			
		18-52	25-32	1.40-1.45	0.6-2	0.14-0.18	3.0-5.9	1.0-2.0	.43	.43			
		52-80	25-32	1.40-1.45	0.6-2	0.14-0.18	3.0-5.9	0.0-1.0	.43	.43			
688: Koszta, rarely flooded	95	0-8	18-24	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	3.0-4.0	.28	.28	5	6	48
		8-13	18-24	1.30-1.40	0.6-2	0.20-0.24	0.0-2.9	3.0-4.0	.28	.28			
		13-21	28-35	1.30-1.45	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.43	.43			
		21-48	28-35	1.30-1.45	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.43	.43			
		48-60	28-35	1.30-1.45	0.6-2	0.15-0.19	3.0-5.9	0.0-0.5	.43	.43			

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
771B: Waubee-----	90	0-8	18-26	1.25-1.30	0.6-2	0.21-0.23	0.4-2.9	2.0-4.0	.28	.28	5	6	48
		8-13	18-26	1.25-1.30	0.6-2	0.21-0.23	0.4-2.9	2.0-4.0	.28	.28			
		13-29	25-34	1.25-1.35	0.6-2	0.18-0.20	2.6-3.9	1.0-2.0	.37	.37			
		29-45	20-28	1.65-1.75	0.6-2	0.17-0.19	1.0-2.3	0.0-0.5	.37	.37			
		45-80	20-28	1.65-1.75	0.6-2	0.17-0.19	1.0-2.3	0.0-0.5	.37	.37			
771C2: Waubee, moderately eroded-----	90	0-8	18-26	1.25-1.30	0.6-2	0.21-0.23	0.4-2.9	2.0-3.0	.28	.28	5	6	48
		8-23	25-34	1.25-1.35	0.6-2	0.18-0.20	2.6-3.9	0.0-1.0	.37	.37			
		23-28	20-28	1.65-1.75	0.6-2	0.17-0.19	1.0-2.3	0.0-1.0	.37	.37			
		28-80	20-28	1.65-1.75	0.6-2	0.17-0.19	1.0-2.3	0.0-0.5	.37	.37			
792D2: Armstrong, moderately eroded-----	75	0-8	27-35	1.45-1.50	0.2-0.6	0.18-0.20	3.0-5.9	2.0-3.0	.32	.32	3	4	86
		8-18	35-42	1.45-1.50	0.2-0.6	0.18-0.20	3.0-5.9	0.0-1.0	.32	.32			
		18-28	36-60	1.55-1.60	0.06-0.2	0.11-0.16	6.1-13.7	0.0-1.0	.32	.32			
		28-35	30-36	1.55-1.70	0.2-0.6	0.14-0.16	4.2-6.1	0.0-1.0	.32	.32			
		35-60	30-36	1.55-1.70	0.2-0.6	0.14-0.16	4.2-6.1	0.0-0.5	.32	.32			
876B: Ladoga, terrace-----	90	0-8	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		8-14	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.32	.32			
		14-45	36-42	1.30-1.40	0.2-0.6	0.18-0.20	6.1-8.0	0.5-1.0	.43	.43			
		45-60	24-32	1.35-1.45	0.6-2	0.18-0.20	0.4-4.8	0.0-0.5	.43	.43			
876C: Ladoga, terrace-----	80	0-8	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		8-14	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.32	.32			
		14-45	36-42	1.30-1.40	0.2-0.6	0.18-0.20	6.1-8.0	0.5-1.0	.43	.43			
		45-60	24-32	1.35-1.45	0.6-2	0.18-0.20	0.4-4.8	0.0-0.5	.43	.43			
876C2: Ladoga, moderately eroded, terrace-----	85	0-8	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		8-10	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.32	.32			
		10-39	36-42	1.30-1.40	0.2-0.6	0.18-0.20	6.1-8.0	0.5-1.0	.43	.43			
		39-60	24-32	1.35-1.45	0.6-2	0.18-0.20	0.4-4.8	0.0-0.5	.43	.43			

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			Wind	Wind
									Kw	Kf	T	erodi- bility group	erodi- bility index
876D2: Ladoga, moderately eroded, terrace-----	90	In 0-8	Pct 18-27	g/cc 1.30-1.35	In/hr 0.6-2	In/in 0.22-0.24	Pct 0.0-2.9	Pct 2.0-3.0	.32	.32	5	7	38
		8-10	18-27	1.30-1.35	0.6-2	0.22-0.24	0.0-2.9	0.5-1.0	.32	.32			
		10-39	36-42	1.30-1.40	0.2-0.6	0.18-0.20	6.1-8.0	0.5-1.0	.43	.43			
		39-60	24-32	1.35-1.45	0.6-2	0.18-0.20	0.4-4.8	0.0-0.5	.43	.43			
881B: Otley, terrace-----	95	0-8	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	3.0-4.0	.28	.28	5	7	38
		8-17	28-34	1.25-1.35	0.6-2	0.21-0.23	3.2-5.8	3.0-4.0	.28	.28			
		17-61	36-42	1.30-1.40	0.6-2	0.18-0.20	6.1-8.0	1.0-2.0	.43	.43			
		61-73	24-35	1.35-1.45	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
911B: Colo-----	55	0-8	27-36	1.28-1.32	0.6-2	0.21-0.23	3.0-5.9	5.0-7.0	.28	.28	5	7	48
		8-40	30-35	1.25-1.35	0.6-2	0.18-0.20	3.0-5.9	3.0-4.0	.28	.28			
		40-46	30-35	1.25-1.35	0.6-2	0.18-0.20	3.0-5.9	3.0-4.0	.28	.28			
		46-60	25-35	1.35-1.45	0.6-2	0.18-0.20	2.6-5.8	1.0-2.0	.32	.32			
Ely-----	35	0-8	27-30	1.30-1.35	0.6-2	0.21-0.23	3.0-5.9	4.0-6.0	.28	.28	5	7	38
		8-32	27-30	1.30-1.35	0.6-2	0.21-0.23	3.0-5.9	4.0-6.0	.28	.28			
		32-47	28-35	1.30-1.40	0.6-2	0.18-0.20	3.0-5.9	1.0-3.0	.43	.43			
		47-80	20-30	1.40-1.45	0.6-2	0.18-0.20	1.0-4.2	0.5-1.0	.43	.43			
993D2: Gara, moderately eroded-----	45	0-8	18-27	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	2.0-3.0	.32	.32	5	6	48
		8-27	25-38	1.55-1.75	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.32	.32			
		27-60	24-38	1.65-1.75	0.2-0.6	0.16-0.18	3.2-5.8	0.0-0.5	.37	.37			
Armstrong, moderately eroded-----	35	0-8	27-36	1.45-1.50	0.2-0.6	0.18-0.20	3.0-5.9	2.0-3.0	.32	.32	3	4	86
		8-18	35-42	1.45-1.50	0.2-0.6	0.18-0.20	3.0-5.9	0.0-1.0	.32	.32			
		18-28	36-60	1.55-1.60	0.06-0.2	0.11-0.16	6.1-13.7	0.0-1.0	.32	.32			
		28-35	30-36	1.55-1.70	0.2-0.6	0.14-0.16	4.2-6.1	0.0-1.0	.32	.32			
		35-60	30-36	1.55-1.70	0.2-0.6	0.14-0.16	4.2-6.1	0.0-0.5	.32	.32			
993E2: Gara, moderately eroded-----	45	0-8	18-27	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	2.0-3.0	.32	.32	5	6	48
		8-27	25-38	1.55-1.75	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.32	.32			
		27-60	24-38	1.65-1.75	0.2-0.6	0.16-0.18	3.2-5.8	0.0-0.5	.37	.37			

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
993E2: Armstrong, moderately eroded-----	40	0-8	27-36	1.45-1.50	0.2-0.6	0.18-0.20	3.0-5.9	2.0-3.0	.32	.32	3	4	86
8-18		35-42	1.45-1.50	0.2-0.6	0.18-0.20	3.0-5.9	0.0-1.0	.32	.32				
18-28		36-60	1.55-1.60	0.06-0.2	0.11-0.16	6.1-13.7	0.0-1.0	.32	.32				
28-35		30-36	1.55-1.70	0.2-0.6	0.14-0.16	4.2-6.1	0.0-1.0	.32	.32				
35-60		30-36	1.55-1.70	0.2-0.6	0.14-0.16	4.2-6.1	0.0-0.5	.32	.32				
993F2: Gara, moderately eroded-----	65	0-8	18-30	1.50-1.55	0.2-0.6	0.16-0.18	3.2-5.8	2.0-3.0	.32	.32	5	6	48
8-27		25-38	1.55-1.75	0.2-0.6	0.16-0.18	3.0-5.9	0.0-0.5	.32	.32				
27-60		24-38	1.65-1.75	0.2-0.6	0.16-0.18	3.2-5.8	0.0-0.5	.37	.37				
Armstrong, moderately eroded-----	25	0-8	27-36	1.45-1.50	0.2-0.6	0.18-0.20	3.0-5.9	2.0-3.0	.32	.32	3	6	48
8-18		35-42	1.45-1.50	0.2-0.6	0.18-0.20	3.0-5.9	0.0-1.0	.32	.32				
18-28		36-60	1.55-1.60	0.06-0.2	0.11-0.16	6.1-13.7	0.0-1.0	.32	.32				
28-35		30-36	1.55-1.70	0.2-0.6	0.14-0.16	4.2-6.1	0.0-1.0	.32	.32				
35-60		30-36	1.55-1.70	0.2-0.6	0.14-0.16	4.2-6.1	0.0-0.5	.32	.32				
1160: Walford, terrace-----	95	0-8	20-26	1.35-1.40	0.6-2	0.21-0.23	3.0-5.9	2.0-3.0	.32	.32	5	6	48
8-22		18-26	1.40-1.50	0.6-2	0.20-0.22	0.0-2.9	1.0-2.0	.43	.43				
22-50		27-35	1.35-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.0-1.0	.43	.43				
50-63		27-35	1.35-1.40	0.2-0.6	0.18-0.20	6.0-8.9	0.0-1.0	.43	.43				
63-80		24-27	1.40-1.45	0.6-2	0.20-0.22	3.0-5.9	0.0-1.0	.43	.43				
1220: Nodaway, frequently flooded, channeled---	75	0-7	18-27	1.25-1.35	0.6-2	0.20-0.23	0.0-2.9	2.0-3.0	.32	.32	5	6	48
7-31		18-28	1.25-1.35	0.6-2	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43				
31-42		18-30	1.25-1.35	0.6-2	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43				
42-80		18-28	1.25-1.35	0.6-2	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43				
1291: Atterberry, terrace---	95	0-8	20-26	1.35-1.55	0.6-2	0.22-0.25	0.0-2.9	2.0-4.0	.32	.32	5	6	48
8-17		15-26	1.40-1.60	0.6-2	0.21-0.24	0.0-2.9	0.5-1.0	.32	.32				
17-48		25-35	1.40-1.60	0.6-2	0.14-0.24	3.0-5.9	0.1-0.5	.43	.43				
48-60		18-27	1.40-1.65	0.6-2	0.14-0.24	0.0-2.9	0.1-0.5	.43	.43				
1354. Aquents, ponded													

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			Wind	Wind	
									Kw	Kf	T	erodi- bility group	erodi- bility index	
		In	Pct	g/cc	In/hr	In/in	Pct	Pct						
1442B:														
Tama-----	40	0-8	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	3	48	
		8-18	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28				
		18-45	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43				
		45-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
Sparta-----	35	0-8	3-10	1.20-1.40	2-6	0.09-0.12	0.0-0.0	1.0-2.0	.17	.17	5	2	134	
		8-15	3-10	1.20-1.40	2-6	0.09-0.12	0.0-0.0	1.0-2.0	.17	.17				
		15-72	1-8	1.40-1.60	6-20	0.05-0.11	0.0-0.0	0.0-0.5	.15	.15				
		72-80	0-5	1.50-1.70	6-20	0.04-0.07	0.0-0.0	0.0-0.5	.15	.15				
Pillot-----	20	0-8	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.32	.32	5	6	48	
		8-15	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.32	.32				
		15-32	25-35	1.30-1.50	0.6-2	0.16-0.20	3.0-5.9	1.0-2.0	.43	.43				
		32-36	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37				
		36-60	2-10	1.60-1.70	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.17	.17				
1442C:														
Tama-----	40	0-8	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28	5	3	48	
		8-18	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	3.0-4.0	.28	.28				
		18-45	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43				
		45-80	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
Sparta-----	35	0-8	3-10	1.20-1.40	2-6	0.09-0.12	0.0-0.0	1.0-2.0	.17	.17	5	2	134	
		8-15	3-10	1.20-1.40	2-6	0.09-0.12	0.0-0.0	1.0-2.0	.17	.17				
		15-72	1-8	1.40-1.60	6-20	0.05-0.11	0.0-0.0	0.0-0.5	.15	.15				
		72-80	0-5	1.50-1.70	6-20	0.04-0.07	0.0-0.0	0.0-0.5	.15	.15				
Pillot-----	20	0-8	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.32	.32	5	6	48	
		8-15	20-27	1.20-1.40	0.6-2	0.22-0.24	0.0-2.9	3.0-4.0	.32	.32				
		15-32	25-35	1.30-1.50	0.6-2	0.16-0.20	3.0-5.9	1.0-2.0	.43	.43				
		32-36	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37				
		36-60	2-10	1.60-1.70	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.17	.17				
1442C2:														
Tama, moderately eroded-----	40	0-8	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.28	.28	5	3	48	
		8-26	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43				
		26-60	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43				
Sparta, moderately eroded-----	35	0-8	3-10	1.20-1.40	2-6	0.09-0.12	0.0-2.9	1.0-2.0	.17	.17	5	2	134	
		8-66	1-8	1.40-1.60	6-20	0.05-0.11	0.0-2.9	0.1-1.0	.17	.17				
		66-80	0-5	1.50-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.17	.17				

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
1442C2: Pillot, moderately eroded-----	20	0-8	27-29	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	1.0-2.0	.28	.28	5	6	48
		8-26	25-35	1.30-1.50	0.6-2	0.16-0.20	3.0-5.9	0.5-1.0	.43	.43			
		26-30	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37			
		30-60	2-10	1.60-1.70	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.17	.17			
1442D2: Tama, moderately eroded-----	40	0-8	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.28	.28	5	3	48
		8-26	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43			
		26-60	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
Sparta, moderately eroded-----	35	0-8	3-10	1.20-1.40	2-6	0.09-0.12	0.0-2.9	1.0-2.0	.17	.17	5	2	134
		8-66	1-8	1.40-1.60	6-20	0.05-0.11	0.0-2.9	0.1-1.0	.17	.17			
		66-80	0-5	1.50-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.17	.17			
Pillot, moderately eroded-----	20	0-8	27-29	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	1.0-2.0	.28	.28	5	6	48
		8-26	25-35	1.30-1.50	0.6-2	0.16-0.20	3.0-5.9	0.5-1.0	.43	.43			
		26-30	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37			
		30-60	2-10	1.60-1.70	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.17	.17			
1442E2: Tama, moderately eroded-----	40	0-8	22-30	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-3.0	.28	.28	5	3	48
		8-26	27-35	1.30-1.35	0.6-2	0.18-0.20	3.0-5.9	1.0-2.0	.43	.43			
		26-60	20-30	1.35-1.40	0.6-2	0.18-0.20	3.0-5.9	0.0-0.5	.43	.43			
Sparta, moderately eroded-----	35	0-8	3-10	1.20-1.40	2-6	0.09-0.12	0.0-2.9	1.0-2.0	.17	.17	5	2	134
		8-66	1-8	1.40-1.60	6-20	0.05-0.11	0.0-2.9	0.1-1.0	.17	.17			
		66-80	0-5	1.50-1.70	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.17	.17			
Pillot, moderately eroded-----	20	0-8	27-29	1.25-1.30	0.6-2	0.22-0.24	3.0-5.9	1.0-2.0	.28	.28	5	6	48
		8-26	25-35	1.30-1.50	0.6-2	0.16-0.20	3.0-5.9	0.5-1.0	.43	.43			
		26-30	10-25	1.50-1.60	0.6-2	0.11-0.19	0.0-2.9	0.0-0.5	.37	.37			
		30-60	2-10	1.60-1.70	2-20	0.05-0.13	0.0-2.9	0.0-0.5	.17	.17			

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			Wind	Wind
									Kw	Kf	T	erodi- bility group	erodi- bility index
1540: Quiver, frequently flooded-----	40	0-9 9-65	27-35 20-35	1.15-1.35 1.40-1.50	0.2-0.6 0.2-0.6	0.15-0.20 0.18-0.22	3.0-5.9 0.3-5.9	1.0-3.0 0.0-1.0	.28 .32	.28 .32	5	6	48
Zook, frequently flooded-----	30	0-8 8-38 38-52 52-60	35-40 35-40 36-45 20-45	1.30-1.35 1.30-1.35 1.30-1.45 1.30-1.45	0.2-0.6 0.2-0.6 0.06-0.2 0.06-0.6	0.21-0.23 0.21-0.23 0.11-0.13 0.11-0.22	6.0-8.9 6.0-8.9 6.0-8.9 6.0-8.9	5.0-7.0 5.0-7.0 2.0-4.0 0.0-1.0	.37 .37 .28 .28	.37 .37 .28 .28	5	7	38
Klum, frequently flooded-----	15	0-8 8-60	5-18 5-18	1.50-1.60 1.50-1.60	2-6 2-6	0.15-0.18 0.13-0.18	0.0-2.9 0.0-2.9	1.0-2.0 0.0-0.5	.20 .20	.20 .20	5	3	86
2219: Ella, rarely flooded--	70	0-8 8-55 55-72 72-80	15-22 18-30 10-30 10-30	1.35-1.60 1.55-1.65 1.55-1.70 1.55-1.70	0.6-2 0.6-2 0.6-2 0.6-2	0.22-0.24 0.18-0.22 0.10-0.18 0.10-0.18	0.0-2.9 3.0-5.9 3.0-5.9 3.0-5.9	2.0-3.0 0.5-1.5 0.0-0.5 0.0-0.5	.37 .37 .37 .15	.37 .37 .37 .15	4	5	56
2219B: Ella, rarely flooded--	75	0-8 8-55 55-72 72-80	15-22 18-30 10-30 10-30	1.35-1.60 1.55-1.65 1.55-1.70 1.55-1.70	0.6-2 0.6-2 0.6-2 0.6-2	0.22-0.24 0.18-0.22 0.10-0.18 0.10-0.18	0.0-2.9 3.0-5.9 3.0-5.9 3.0-5.9	2.0-3.0 0.5-1.5 0.0-0.5 0.0-0.5	.37 .37 .37 .15	.37 .37 .37 .15	4	5	56
2219C2: Ella, moderately eroded-----	80	0-8 8-46 46-72 72-80	15-22 18-30 10-30 10-30	1.35-1.60 1.55-1.65 1.55-1.70 1.55-1.70	0.6-2 0.6-2 0.6-2 0.6-2	0.22-0.24 0.18-0.22 0.10-0.18 0.10-0.18	0.0-2.9 3.0-5.9 3.0-5.9 3.0-5.9	1.0-2.0 0.5-1.0 0.0-0.5 0.0-0.5	.37 .37 .37 .15	.37 .37 .37 .15	4	5	56
2422: Amana, occasionally flooded-----	50	0-8 8-15 15-37 37-48 48-80	18-27 18-27 18-30 18-30 18-26	1.20-1.30 1.20-1.30 1.25-1.40 1.25-1.40 1.25-1.40	0.6-2 0.6-2 0.6-2 0.6-2 0.6-2	0.22-0.24 0.22-0.24 0.20-0.22 0.20-0.22 0.20-0.22	3.0-5.9 3.0-5.9 1.6-2.9 1.6-2.9 0.0-2.9	2.0-4.0 2.0-4.0 1.0-2.0 1.0-2.0 0.0-1.0	.28 .28 .37 .37 .37	.28 .28 .37 .37 .37	5	6	48

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			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
2422: Nodaway, occasionally flooded-----	30	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
		0-7	18-27	1.25-1.35	0.6-2	0.20-0.23	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		7-31	18-28	1.25-1.35	0.6-2	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43			
		31-42	18-30	1.25-1.35	0.6-2	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43			
		42-80	18-28	1.25-1.35	0.6-2	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43			
Lawson, occasionally flooded-----	20	0-8	10-27	1.20-1.55	0.6-2	0.22-0.24	0.0-2.9	3.0-7.0	.28	.28	5	6	56
		8-30	10-30	1.20-1.55	0.6-2	0.18-0.22	0.0-2.9	3.0-7.0	.28	.28			
		30-80	18-30	1.50-1.70	0.6-2	0.11-0.15	3.0-5.9	1.0-4.0	.43	.43			
4946: Udorthents. Interstate highway.													
5010. Pits, sand and gravel													
5040: Udorthents-----	100	0-60	12-32	1.45-1.65	0.0015-2	0.12-0.18	3.0-5.9	---	.32	---	-	---	---
		60-80	---	---	0.0015-2	---	---	---	---	---			
6220: Nodaway, frequently flooded-----	85	0-7	18-27	1.25-1.35	0.6-2	0.20-0.23	0.0-2.9	2.0-3.0	.32	.32	5	6	48
		7-31	18-28	1.25-1.35	0.6-2	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43			
		31-42	18-30	1.25-1.35	0.6-2	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43			
		42-80	18-28	1.25-1.35	0.6-2	0.20-0.23	3.0-5.9	0.0-0.5	.43	.43			
6422: Amana, frequently flooded-----	90	0-8	18-27	1.20-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-4.0	.28	.28	5	6	48
		8-15	18-27	1.20-1.30	0.6-2	0.22-0.24	3.0-5.9	2.0-4.0	.28	.28			
		15-37	18-30	1.25-1.40	0.6-2	0.20-0.22	1.6-2.9	1.0-2.0	.37	.37			
		37-48	18-30	1.25-1.40	0.6-2	0.20-0.22	1.6-2.9	1.0-2.0	.37	.37			
		48-80	18-26	1.25-1.40	0.6-2	0.20-0.22	0.0-2.9	0.0-1.0	.37	.37			
AW. Animal waste lagoon													

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			Wind	Wind
									Kw	Kf	T	erodi- bility group	erodi- bility index
SL. Sewage lagoon		In	Pct	g/cc	In/hr	In/in	Pct	Pct					
W: Water													

Chemical Properties

The table described in this section shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated)

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
5B:					
Ackmore-----	0-8	25-30	---	5.6-7.3	0
	8-25	25-30	---	5.6-7.3	0
	25-60	25-30	---	5.6-7.8	5-10
Colo-----	0-8	36-41	---	5.6-7.3	0
	8-40	36-41	---	5.6-7.3	0
	40-46	36-41	---	5.6-7.3	0
	46-60	30-36	---	6.1-7.3	0
7:					
Wiota, rarely flooded	0-8	20-25	---	5.6-7.3	0
	8-22	20-25	---	5.6-7.3	0
	22-48	20-25	---	5.1-6.5	0
	48-64	20-25	---	6.1-6.5	0
7B:					
Wiota, rarely flooded	0-8	20-25	---	5.6-7.3	0
	8-22	20-25	---	5.6-7.3	0
	22-48	20-25	---	5.1-6.5	0
	48-64	20-25	---	6.1-6.5	0
8B:					
Judson-----	0-8	25-30	---	5.6-7.3	0
	8-28	25-30	---	5.6-7.3	0
	28-52	25-30	---	5.6-7.3	0
	52-60	25-30	---	6.1-7.8	0-15
24C2:					
Shelby, moderately eroded-----	0-8	20-25	---	5.1-7.3	0
	8-11	20-25	---	5.1-7.3	0
	11-42	20-25	---	5.1-7.3	0
	42-72	20-25	---	6.6-8.4	0-30
24D2:					
Shelby, moderately eroded-----	0-8	20-25	---	5.1-7.3	0
	8-11	20-25	---	5.1-7.3	0
	11-42	20-25	---	5.1-7.3	0
	42-72	20-25	---	6.6-8.4	0-30
24D3:					
Shelby, severely eroded-----	0-8	20-25	---	5.1-7.3	0
	8-36	20-25	---	5.1-7.3	0
	36-72	20-25	---	6.6-8.4	0-30
24E2:					
Shelby, moderately eroded-----	0-8	20-25	---	5.1-7.3	0
	8-11	20-25	---	5.1-7.3	0
	11-42	20-25	---	5.1-7.3	0
	42-72	20-25	---	6.6-8.4	0-30

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
24E3: Shelby, severely eroded-----	0-8	20-25	---	5.1-7.3	0
	8-36	20-25	---	5.1-7.3	0
	36-72	20-25	---	6.6-8.4	0-30
41: Sparta-----	0-8	3.6-10	---	5.1-7.3	0
	8-15	3.3-9.2	---	5.1-7.3	0
	15-72	0.8-5.8	---	5.1-6.5	0
	72-80	0.0-3.8	---	5.1-6.0	0
41B: Sparta-----	0-8	3.6-10	---	5.1-7.3	0
	8-15	3.3-9.2	---	5.1-7.3	0
	15-72	0.8-5.8	---	5.1-6.5	0
	72-80	0.0-3.8	---	5.1-6.0	0
41C: Sparta-----	0-8	3.6-10	---	5.1-7.3	0
	8-15	3.3-9.2	---	5.1-7.3	0
	15-72	0.8-5.8	---	5.1-6.5	0
	72-80	0.0-3.8	---	5.1-6.0	0
41D: Sparta-----	0-8	3.6-10	---	5.1-7.3	0
	8-15	3.3-9.2	---	5.1-7.3	0
	15-72	0.8-5.8	---	5.1-6.5	0
	72-80	0.0-3.8	---	5.1-6.0	0
43: Bremer, rarely flooded-----	0-8	36-41	---	5.6-7.3	0
	8-19	36-41	---	5.6-7.3	0
	19-42	36-41	---	5.6-6.5	0
	42-60	30-36	---	5.6-6.5	0
51: Vesser, occasionally flooded-----	0-8	25-30	---	5.6-7.3	0
	8-12	25-30	---	5.6-7.3	0
	12-31	20-25	---	5.1-6.0	0
	31-60	25-30	---	5.1-6.5	0
54: Zook, occasionally flooded-----	0-8	36-41	---	5.6-7.3	0
	8-38	36-41	---	5.6-7.3	0
	38-52	36-41	---	5.6-7.8	0
	52-60	30-36	---	5.6-7.8	0
54+: Zook, occasionally flooded, overwash---	0-8	25-30	---	5.6-7.3	0
	8-14	25-30	---	5.6-7.3	0
	14-38	36-41	---	5.6-7.3	0
	38-52	36-41	---	5.6-7.8	0
	52-60	30-36	---	5.6-7.8	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
63C:					
Chelsea-----	0-4	5.0-10	---	5.6-7.3	0
	4-36	5.0-10	---	5.1-6.5	0
	36-70	5.0-10	---	5.1-6.5	0
63E:					
Chelsea-----	0-4	5.0-10	---	5.6-7.3	0
	4-36	5.0-10	---	5.1-6.5	0
	36-70	5.0-10	---	5.1-6.5	0
63G:					
Chelsea-----	0-4	5.0-10	---	5.6-7.3	0
	4-36	5.0-10	---	5.1-6.5	0
	36-70	5.0-10	---	5.1-6.5	0
65D2:					
Lindley, moderately eroded-----	0-8	10-16	---	4.5-7.3	0
	8-40	15-20	---	4.5-6.5	0
	40-60	10-16	---	6.1-7.8	0
65D3:					
Lindley, severely eroded-----	0-8	10-16	---	4.5-7.3	0
	8-34	15-20	---	4.5-6.5	0
	34-60	10-16	---	6.1-7.8	0
65E2:					
Lindley, moderately eroded-----	0-8	10-16	---	4.5-7.3	0
	8-40	15-20	---	4.5-6.5	0
	40-60	10-16	---	6.1-7.8	0
65E3:					
Lindley, severely eroded-----	0-8	10-16	---	4.5-7.3	0
	8-34	15-20	---	4.5-6.5	0
	34-60	10-16	---	6.1-7.8	0
65F:					
Lindley-----	0-3	10-16	---	4.5-7.3	0
	3-7	10-16	---	4.5-7.3	0
	7-46	15-20	---	4.5-6.5	0
	46-60	10-16	---	6.1-7.8	0
65F2:					
Lindley, moderately eroded-----	0-8	10-16	---	4.5-7.3	0
	8-40	15-20	---	4.5-6.5	0
	40-60	10-16	---	6.1-7.8	0
65F3:					
Lindley, severely eroded-----	0-8	10-16	---	4.5-7.3	0
	8-34	15-20	---	4.5-6.5	0
	34-60	10-16	---	6.1-7.8	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
65G:					
Lindley-----	0-3	10-16	---	4.5-7.3	0
	3-7	10-16	---	4.5-7.3	0
	7-46	15-20	---	4.5-6.5	0
	46-60	10-16	---	6.1-7.8	0
75:					
Givin-----	0-8	20-25	---	5.6-7.3	0
	8-16	20-25	---	5.6-7.3	0
	16-42	---	20-25	5.1-5.5	0
	42-80	20-25	---	5.1-6.0	0
76B:					
Ladoga-----	0-8	20-25	---	6.1-7.3	0
	8-14	20-25	---	6.1-7.3	0
	14-45	20-25	---	5.1-6.0	0
	45-60	20-25	---	5.1-6.5	0
76C:					
Ladoga-----	0-8	20-25	---	6.1-7.3	0
	8-14	20-25	---	6.1-7.3	0
	14-45	20-25	---	5.1-6.0	0
	45-60	20-25	---	5.1-6.5	0
76C2:					
Ladoga, moderately eroded-----	0-8	20-25	---	6.1-7.3	0
	8-10	20-25	---	6.1-7.3	0
	10-39	20-25	---	5.1-6.0	0
	39-60	20-25	---	5.1-6.5	0
76D:					
Ladoga-----	0-8	20-25	---	6.1-7.3	0
	8-14	20-25	---	6.1-7.3	0
	14-45	20-25	---	5.1-6.0	0
	45-60	20-25	---	5.1-6.5	0
76D2:					
Ladoga, moderately eroded-----	0-8	20-25	---	6.1-7.3	0
	8-10	20-25	---	6.1-7.3	0
	10-39	20-25	---	5.1-6.0	0
	39-60	20-25	---	5.1-6.5	0
76D3:					
Ladoga, severely eroded-----	0-8	20-25	---	6.1-7.3	0
	8-33	20-25	---	5.1-6.0	0
	33-60	20-25	---	5.1-6.5	0
76E2:					
Ladoga, moderately eroded-----	0-8	20-25	---	6.1-7.3	0
	8-10	20-25	---	6.1-7.3	0
	10-39	20-25	---	5.1-6.0	0
	39-60	20-25	---	5.1-6.5	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
76E3: Ladoga, severely eroded-----	0-8	20-25	---	6.1-7.3	0
	8-33	20-25	---	5.1-6.0	0
	33-60	20-25	---	5.1-6.5	0
80B: Clinton-----	0-8	15-20	---	5.1-7.3	0
	8-15	15-20	---	5.1-7.3	0
	15-72	---	25-30	4.5-6.0	0
	72-80	20-25	---	6.1-6.5	0
80C: Clinton-----	0-8	15-20	---	5.1-7.3	0
	8-15	15-20	---	5.1-7.3	0
	15-72	---	25-30	4.5-6.0	0
	72-80	20-25	---	6.1-6.5	0
80C2: Clinton, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-10	25-30	---	5.1-7.3	0
	10-66	---	25-30	4.5-6.0	0
	66-80	20-25	---	6.1-6.5	0
80D: Clinton-----	0-8	15-20	---	5.1-7.3	0
	8-15	15-20	---	5.1-7.3	0
	15-72	---	25-30	4.5-6.0	0
	72-80	20-25	---	6.1-6.5	0
80D2: Clinton, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-10	25-30	---	5.1-7.3	0
	10-66	---	25-30	4.5-6.0	0
	66-80	20-25	---	6.1-6.5	0
80D3: Clinton, severely eroded-----	0-8	25-30	---	5.6-7.3	0
	8-60	---	25-30	4.5-6.0	0
	60-80	20-25	---	6.1-6.5	0
80E2: Clinton, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-10	25-30	---	5.1-7.3	0
	10-66	---	25-30	4.5-6.0	0
	66-80	20-25	---	6.1-6.5	0
80E3: Clinton, severely eroded-----	0-8	25-30	---	5.6-7.3	0
	8-60	---	25-30	4.5-6.0	0
	60-80	20-25	---	6.1-6.5	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
80F2: Clinton, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-10	25-30	---	5.1-7.3	0
	10-66	---	25-30	4.5-6.0	0
	66-80	20-25	---	6.1-6.5	0
83B: Kenyon-----	0-8	20-25	---	5.6-7.3	0
	8-14	20-25	---	5.6-7.3	0
	14-19	20-25	---	5.6-7.3	0
	19-47	20-25	---	5.1-7.3	0
	47-76	20-25	---	5.1-8.4	0-30
83C: Kenyon-----	0-8	20-25	---	5.6-7.3	0
	8-14	20-25	---	5.6-7.3	0
	14-19	20-25	---	5.6-7.3	0
	19-47	20-25	---	5.1-7.3	0
	47-76	20-25	---	5.1-8.4	0-30
83C2: Kenyon, moderately eroded-----	0-8	20-25	---	5.6-7.3	0
	8-14	20-25	---	5.6-7.3	0
	14-35	20-25	---	5.1-7.3	0
	35-41	20-25	---	6.6-8.4	0-25
	41-76	20-25	---	5.1-8.4	0-30
83D2: Kenyon, moderately eroded-----	0-8	20-25	---	5.6-7.3	0
	8-14	20-25	---	5.6-7.3	0
	14-35	20-25	---	5.1-7.3	0
	35-41	20-25	---	6.6-8.4	0-25
	41-76	20-25	---	5.1-8.4	0-30
88: Nevin, rarely flooded	0-8	30-36	---	5.6-7.3	0
	8-30	30-36	---	5.6-7.3	0
	30-46	30-36	---	6.1-6.5	0
	46-62	25-30	---	6.6-7.3	0
93D2: Shelby, moderately eroded-----	0-8	20-25	---	5.1-7.3	0
	8-11	20-25	---	5.1-7.3	0
	11-42	20-25	---	5.1-7.3	0
	42-72	20-25	---	6.6-8.4	0-30
Adair, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-16	41-50	---	5.1-6.5	0
	16-41	41-50	---	5.1-6.5	0
	41-80	25-30	---	5.6-7.8	5-10

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
93D3:					
Shelby, severely eroded-----	0-8	20-25	---	5.1-7.3	0
	8-36	20-25	---	5.1-7.3	0
	36-72	20-25	---	6.6-8.4	0-30
Adair, severely eroded-----	0-8	25-30	---	5.1-7.3	0
	8-16	41-50	---	5.1-6.5	0
	16-35	41-50	---	5.1-6.5	0
	35-80	25-30	---	5.6-7.8	5-10
93E2:					
Shelby, moderately eroded-----	0-8	20-25	---	5.1-7.3	0
	8-11	20-25	---	5.1-7.3	0
	11-42	20-25	---	5.1-7.3	0
	42-72	20-25	---	6.6-8.4	0-30
Adair, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-16	41-50	---	5.1-6.5	0
	16-41	41-50	---	5.1-6.5	0
	41-80	25-30	---	5.6-7.8	5-10
119:					
Muscatine-----	0-8	30-36	---	5.1-7.3	0
	8-20	30-36	---	5.1-7.3	0
	20-42	30-36	---	5.1-7.3	0
	42-64	30-36	---	6.6-7.8	0-15
120B:					
Tama-----	0-8	25-30	---	5.1-7.3	0
	8-18	25-30	---	5.1-7.3	0
	18-45	25-30	---	5.1-6.5	0
	45-80	25-30	---	5.6-7.3	0
120C:					
Tama-----	0-8	25-30	---	5.1-7.3	0
	8-18	25-30	---	5.1-7.3	0
	18-45	25-30	---	5.1-6.5	0
	45-80	25-30	---	5.6-7.3	0
120C2:					
Tama, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-26	25-30	---	5.1-6.5	0
	26-60	25-30	---	5.6-7.3	0
120D2:					
Tama, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-26	25-30	---	5.1-6.5	0
	26-60	25-30	---	5.6-7.3	0
120D3:					
Tama, severely eroded	0-8	25-30	---	5.1-7.3	0
	8-20	25-30	---	5.1-6.5	0
	20-60	25-30	---	5.6-7.3	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil	Calcium
		exchange capacity	cation- exchange capacity	reaction	carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
120E2:					
Tama, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-26	25-30	---	5.1-6.5	0
	26-60	25-30	---	5.6-7.3	0
122:					
Sperry-----	0-8	25-30	---	5.6-7.3	0
	8-10	25-30	---	5.6-7.3	0
	10-17	20-25	---	5.6-7.3	0
	17-28	30-36	---	5.1-6.5	0
	28-47	25-30	---	5.6-6.5	0
	47-80	25-30	---	5.6-6.5	0
133:					
Colo, occasionally flooded-----	0-8	36-41	---	5.6-7.3	0
	8-40	36-41	---	5.6-7.3	0
	40-46	36-41	---	5.6-7.3	0
	46-60	30-36	---	6.1-7.3	0
133+:					
Colo, occasionally flooded, overwash---	0-8	25-30	---	5.6-7.3	0
	8-14	25-30	---	5.6-7.3	0
	14-40	36-41	---	5.6-7.3	0
	40-46	36-41	---	5.6-7.3	0
	46-60	30-36	---	6.1-7.3	0
162B:					
Downs-----	0-8	20-25	---	5.1-7.3	0
	8-17	20-25	---	5.1-7.3	0
	17-39	20-25	---	4.5-7.3	0
	39-60	20-25	---	5.6-7.3	0
162C:					
Downs-----	0-8	20-25	---	5.1-7.3	0
	8-17	20-25	---	5.1-7.3	0
	17-39	20-25	---	4.5-7.3	0
	39-60	20-25	---	5.6-7.3	0
162C2:					
Downs, moderately eroded-----	0-8	20-25	---	5.1-7.3	0
	8-33	20-25	---	4.5-7.3	0
	33-60	20-25	---	5.6-7.3	0
162D2:					
Downs, moderately eroded-----	0-8	20-25	---	5.1-7.3	0
	8-33	20-25	---	4.5-7.3	0
	33-60	20-25	---	5.6-7.3	0
162D3:					
Downs, severely eroded-----	0-8	20-25	---	5.1-7.3	0
	8-27	20-25	---	4.5-7.3	0
	27-60	20-25	---	5.6-7.3	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
162E2: Downs, moderately eroded-----	0-8	20-25	---	5.1-7.3	0
	8-33	20-25	---	4.5-7.3	0
	33-60	20-25	---	5.6-7.3	0
162E3: Downs, severely eroded-----	0-8	20-25	---	5.1-7.3	0
	8-27	20-25	---	4.5-7.3	0
	27-60	20-25	---	5.6-7.3	0
163B: Fayette-----	0-3	15-20	---	5.1-7.3	0
	3-14	15-20	---	5.1-7.3	0
	14-34	15-20	---	4.5-6.5	0
	34-73	15-20	---	5.1-7.8	0-15
163C: Fayette-----	0-3	15-20	---	5.1-7.3	0
	3-14	15-20	---	5.1-7.3	0
	14-34	15-20	---	4.5-6.5	0
	34-73	15-20	---	5.1-7.8	0-15
163C2: Fayette, moderately eroded-----	0-8	15-20	---	5.1-7.3	0
	8-29	15-20	---	4.5-6.5	0
	29-73	15-20	---	5.1-7.8	0-15
163D: Fayette-----	0-3	15-20	---	5.1-7.3	0
	3-14	15-20	---	5.1-7.3	0
	14-34	15-20	---	4.5-6.5	0
	34-73	15-20	---	5.1-7.8	0-15
163D2: Fayette, moderately eroded-----	0-8	15-20	---	5.1-7.3	0
	8-29	15-20	---	4.5-6.5	0
	29-73	15-20	---	5.1-7.8	0-15
163D3: Fayette, severely eroded-----	0-8	15-20	---	5.1-7.3	0
	8-22	15-20	---	4.5-6.5	0
	22-73	15-20	---	5.1-7.8	0-15
163E: Fayette-----	0-3	15-20	---	5.1-7.3	0
	3-14	15-20	---	5.1-7.3	0
	14-34	15-20	---	4.5-6.5	0
	34-73	15-20	---	5.1-7.8	0-15
163E2: Fayette, moderately eroded-----	0-8	15-20	---	5.1-7.3	0
	8-29	15-20	---	4.5-6.5	0
	29-73	15-20	---	5.1-7.8	0-15

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
163E3: Fayette, severely eroded-----	0-8	15-20	---	5.1-7.3	0
	8-22	15-20	---	4.5-6.5	0
	22-73	15-20	---	5.1-7.8	0-15
163F: Fayette-----	0-3	15-20	---	5.1-7.3	0
	3-14	15-20	---	5.1-7.3	0
	14-34	15-20	---	4.5-6.5	0
	34-73	15-20	---	5.1-7.8	0-15
163F2: Fayette, moderately eroded-----	0-8	15-20	---	5.1-7.3	0
	8-29	15-20	---	4.5-6.5	0
	29-73	15-20	---	5.1-7.8	0-15
163F3: Fayette, severely eroded-----	0-8	15-20	---	5.1-7.3	0
	8-22	15-20	---	4.5-6.5	0
	22-73	15-20	---	5.1-7.8	0-15
163G: Fayette-----	0-3	15-20	---	5.1-7.3	0
	3-14	15-20	---	5.1-7.3	0
	14-34	15-20	---	4.5-6.5	0
	34-73	15-20	---	5.1-7.8	0-15
165: Stronghurst-----	0-8	15-20	---	5.1-7.3	0
	8-11	15-20	---	5.1-7.3	0
	11-15	17-23	---	5.1-7.3	0
	15-47	17-23	---	5.1-7.3	0
	47-60	13-18	---	5.1-7.3	0
171C2: Bassett, moderately eroded-----	0-8	20-25	---	5.1-7.3	0
	8-53	20-25	---	4.5-7.3	0
	53-73	20-25	---	5.1-8.4	0-30
171D2: Bassett, moderately eroded-----	0-8	20-25	---	5.1-7.3	0
	8-53	20-25	---	4.5-7.3	0
	53-73	20-25	---	5.1-8.4	0-30
171D3: Bassett, severely eroded-----	0-8	20-25	---	5.1-7.3	0
	8-47	20-25	---	4.5-7.3	0
	47-73	20-25	---	5.1-8.4	0-30
171E2: Bassett, moderately eroded-----	0-8	20-25	---	5.1-7.3	0
	8-53	20-25	---	4.5-7.3	0
	53-73	20-25	---	5.1-8.4	0-30

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
171E3: Bassett, severely eroded-----	0-8	20-25	---	5.1-7.3	0
	8-47	20-25	---	4.5-7.3	0
	47-73	20-25	---	5.1-8.4	0-30
172: Wabash, occasionally flooded-----	0-8	30-35	---	5.1-7.3	0
	8-19	28-42	---	5.1-7.8	0
	19-60	28-42	---	5.1-7.8	0
175: Dickinson-----	0-9	15-20	---	5.6-7.3	0
	9-18	15-20	---	5.6-7.3	0
	18-30	15-20	---	5.6-7.3	0
	30-36	15-20	---	5.1-6.5	0
	36-60	5.0-10	---	5.6-6.5	0
175B: Dickinson-----	0-9	15-20	---	5.6-7.3	0
	9-18	15-20	---	5.6-7.3	0
	18-30	15-20	---	5.6-7.3	0
	30-36	15-20	---	5.1-6.5	0
	36-60	5.0-10	---	5.6-6.5	0
175C: Dickinson-----	0-9	15-20	---	5.6-7.3	0
	9-18	15-20	---	5.6-7.3	0
	18-30	15-20	---	5.6-7.3	0
	30-36	15-20	---	5.1-6.5	0
	36-60	5.0-10	---	5.6-6.5	0
178: Waukee-----	0-8	20-25	---	5.6-6.5	0
	8-16	20-25	---	5.6-6.5	0
	16-20	20-25	---	5.1-6.0	0
	20-35	20-25	---	5.1-6.0	0
	35-44	5.0-10	---	5.6-6.5	0
	44-66	5.0-10	---	5.6-6.5	0
178B: Waukee-----	0-8	20-25	---	5.6-6.5	0
	8-16	20-25	---	5.6-6.5	0
	16-20	20-25	---	5.1-6.0	0
	20-35	20-25	---	5.1-6.0	0
	35-44	5.0-10	---	5.6-6.5	0
	44-66	5.0-10	---	5.6-6.5	0
178C: Waukee-----	0-8	20-25	---	5.6-6.5	0
	8-16	20-25	---	5.6-6.5	0
	16-20	20-25	---	5.1-6.0	0
	20-35	20-25	---	5.1-6.0	0
	35-44	5.0-10	---	5.6-6.5	0
	44-66	5.0-10	---	5.6-6.5	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
		meq/100 g	meq/100 g	pH	Pct
179D2: Gara, moderately eroded-----	0-8	25-30	---	5.6-7.3	0
	8-27	25-30	---	4.5-6.5	0
	27-60	25-30	---	5.6-8.4	0-25
179D3: Gara, severely eroded	0-8	25-30	---	5.6-7.3	0
	8-21	25-30	---	4.5-6.5	0
	21-60	25-30	---	5.6-8.4	0-25
179E2: Gara, moderately eroded-----	0-8	25-30	---	5.6-7.3	0
	8-27	25-30	---	4.5-6.5	0
	27-60	25-30	---	5.6-8.4	0-25
179E3: Gara, severely eroded	0-8	25-30	---	5.6-7.3	0
	8-21	25-30	---	4.5-6.5	0
	21-60	25-30	---	5.6-8.4	0-25
179F2: Gara, moderately eroded-----	0-8	25-30	---	5.6-7.3	0
	8-27	25-30	---	4.5-6.5	0
	27-60	25-30	---	5.6-8.4	0-25
179F3: Gara, severely eroded	0-8	25-30	---	5.6-7.3	0
	8-21	25-30	---	4.5-6.5	0
	21-60	25-30	---	5.6-8.4	0-25
180: Keomah-----	0-8	15-20	---	4.5-7.3	0
	8-18	15-20	---	4.5-7.3	0
	18-53	---	25-30	4.5-5.5	0
	53-80	15-20	---	5.1-7.3	0
192D2: Adair, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-16	41-50	---	5.1-6.5	0
	16-41	41-50	---	5.1-6.5	0
	41-80	25-30	---	5.6-7.8	5-10
192D3: Adair, severely eroded-----	0-8	25-30	---	5.1-7.3	0
	8-16	41-50	---	5.1-6.5	0
	16-35	41-50	---	5.1-6.5	0
	35-80	25-30	---	5.6-7.8	5-10
220: Nodaway, occasionally flooded-----	0-7	20-25	---	6.1-7.3	0
	7-31	20-25	---	6.1-7.3	0
	31-42	20-25	---	6.1-7.3	0
	42-80	20-25	---	6.1-7.3	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
279:					
Taintor-----	0-9	36-41	---	5.6-7.3	0
	9-20	36-41	---	5.6-7.3	0
	20-28	30-36	---	5.6-6.5	0
	28-36	30-36	---	5.6-6.5	0
	36-60	25-30	---	6.1-7.8	0-15
280:					
Mahaska-----	0-8	30-36	---	5.1-7.3	0
	8-24	30-36	---	5.1-7.3	0
	24-30	---	30-36	4.5-6.0	0
	30-61	---	30-36	4.5-6.0	0
	61-80	25-30	---	5.6-7.3	0
281B:					
Otley-----	0-8	25-30	---	5.1-7.3	0
	8-17	25-30	---	5.1-7.3	0
	17-61	---	25-30	5.1-5.5	0
	61-73	25-30	---	5.6-7.3	0
281C:					
Otley-----	0-8	25-30	---	5.1-7.3	0
	8-17	25-30	---	5.1-7.3	0
	17-61	---	25-30	5.1-5.5	0
	61-73	25-30	---	5.6-7.3	0
281C2:					
Otley, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-55	---	25-30	5.1-5.5	0
	55-73	25-30	---	5.6-7.3	0
281D2:					
Otley, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-55	---	25-30	5.1-5.5	0
	55-73	25-30	---	5.6-7.3	0
281D3:					
Otley, severely eroded-----	0-8	25-30	---	5.1-7.3	0
	8-49	---	25-30	5.1-5.5	0
	49-73	25-30	---	5.6-7.3	0
281E2:					
Otley, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-55	---	25-30	5.1-5.5	0
	55-73	25-30	---	5.6-7.3	0
291:					
Atterberry-----	0-8	20-25	---	5.6-7.3	0
	8-17	10-18	---	5.1-7.3	0
	17-48	15-22	---	5.1-7.3	0
	48-60	11-17	---	5.6-7.8	0-15

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
293C:					
Fayette-----	0-3	15-20	---	5.1-7.3	0
	3-14	15-20	---	5.1-7.3	0
	14-34	15-20	---	4.5-6.5	0
	34-73	15-20	---	5.1-7.8	0-15
Chelsea-----	0-4	5.0-10	---	5.6-7.3	0
	4-36	5.0-10	---	5.1-6.5	0
	36-70	5.0-10	---	5.1-6.5	0
Tell-----	0-9	15-20	---	5.1-7.3	0
	9-18	4.0-25	---	5.1-6.5	0
	18-28	4.0-25	---	5.1-6.5	0
	28-32	2.0-20	---	5.1-6.5	0
	32-60	0.0-7.0	---	5.1-6.5	0
293D:					
Fayette-----	0-3	15-20	---	5.1-7.3	0
	3-14	15-20	---	5.1-7.3	0
	14-34	15-20	---	4.5-6.5	0
	34-73	15-20	---	5.1-7.8	0-15
Chelsea-----	0-4	5.0-10	---	5.6-7.3	0
	4-36	5.0-10	---	5.1-6.5	0
	36-70	5.0-10	---	5.1-6.5	0
Tell-----	0-9	15-20	---	5.1-7.3	0
	9-18	4.0-25	---	5.1-6.5	0
	18-28	4.0-25	---	5.1-6.5	0
	28-32	2.0-20	---	5.1-6.5	0
	32-60	0.0-7.0	---	5.1-6.5	0
293D2:					
Fayette, moderately eroded-----	0-8	15-20	---	5.1-7.3	0
	8-29	15-20	---	4.5-6.5	0
	29-73	15-20	---	5.1-7.8	0-15
Chelsea, moderately eroded-----	0-4	5.0-10	---	5.6-7.3	0
	4-30	5.0-10	---	5.1-6.5	0
	30-70	5.0-10	---	5.1-6.5	0
Tell, moderately eroded-----	0-8	15-20	---	5.1-7.3	0
	8-12	4.0-25	---	5.1-6.5	0
	12-22	4.0-25	---	5.1-6.5	0
	22-26	2.0-20	---	5.1-6.5	0
	26-60	0.0-7.0	---	5.1-6.5	0
293E:					
Fayette-----	0-3	15-20	---	5.1-7.3	0
	3-14	15-20	---	5.1-7.3	0
	14-34	15-20	---	4.5-6.5	0
	34-73	15-20	---	5.1-7.8	0-15
Chelsea-----	0-4	5.0-10	---	5.6-7.3	0
	4-36	5.0-10	---	5.1-6.5	0
	36-70	5.0-10	---	5.1-6.5	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
293E:					
Tell-----	0-9	15-20	---	5.1-7.3	0
	9-18	4.0-25	---	5.1-6.5	0
	18-28	4.0-25	---	5.1-6.5	0
	28-32	2.0-20	---	5.1-6.5	0
	32-60	0.0-7.0	---	5.1-6.5	0
293E2:					
Fayette, moderately eroded-----	0-8	15-20	---	5.1-7.3	0
	8-29	15-20	---	4.5-6.5	0
	29-73	15-20	---	5.1-7.8	0-15
Chelsea, moderately eroded-----	0-4	5.0-10	---	5.6-7.3	0
	4-30	5.0-10	---	5.1-6.5	0
	30-70	5.0-10	---	5.1-6.5	0
Tell, moderately eroded-----	0-8	15-20	---	5.1-7.3	0
	8-12	4.0-25	---	5.1-6.5	0
	12-22	4.0-25	---	5.1-6.5	0
	22-26	2.0-20	---	5.1-6.5	0
	26-60	0.0-7.0	---	5.1-6.5	0
293G:					
Fayette-----	0-3	15-20	---	5.1-7.3	0
	3-14	15-20	---	5.1-7.3	0
	14-34	15-20	---	4.5-6.5	0
	34-73	15-20	---	5.1-7.8	0-15
Chelsea-----	0-4	5.0-10	---	5.6-7.3	0
	4-36	5.0-10	---	5.1-6.5	0
	36-70	5.0-10	---	5.1-6.5	0
Tell-----	0-9	15-20	---	5.1-7.3	0
	9-18	4.0-25	---	5.1-6.5	0
	18-28	4.0-25	---	5.1-6.5	0
	28-32	2.0-20	---	5.1-6.5	0
	32-60	0.0-7.0	---	5.1-6.5	0
353B:					
Tell-----	0-9	15-20	---	5.1-7.3	0
	9-18	4.0-25	---	5.1-6.5	0
	18-28	4.0-25	---	5.1-6.5	0
	28-32	2.0-20	---	5.1-6.5	0
	32-60	0.0-7.0	---	5.1-6.5	0
353C:					
Tell-----	0-9	15-20	---	5.1-7.3	0
	9-18	4.0-25	---	5.1-6.5	0
	18-28	4.0-25	---	5.1-6.5	0
	28-32	2.0-20	---	5.1-6.5	0
	32-60	0.0-7.0	---	5.1-6.5	0
353C2:					
Tell, moderately eroded-----	0-8	15-20	---	5.1-7.3	0
	8-12	4.0-25	---	5.1-6.5	0
	12-22	4.0-25	---	5.1-6.5	0
	22-26	2.0-20	---	5.1-6.5	0
	26-60	0.0-7.0	---	5.1-6.5	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
353D2: Tell, moderately eroded-----	0-8	15-20	---	5.1-7.3	0
	8-12	4.0-25	---	5.1-6.5	0
	12-22	4.0-25	---	5.1-6.5	0
	22-26	2.0-20	---	5.1-6.5	0
	26-60	0.0-7.0	---	5.1-6.5	0
377B: Dinsdale-----	0-8	25-30	---	5.1-7.3	0
	8-19	25-30	---	5.1-7.3	0
	19-34	25-30	---	5.1-7.3	0
	34-46	25-30	---	5.6-8.4	0-25
	46-80	25-30	---	5.6-8.4	0-25
377C: Dinsdale-----	0-8	25-30	---	5.1-7.3	0
	8-19	25-30	---	5.1-7.3	0
	19-34	25-30	---	5.1-7.3	0
	34-46	25-30	---	5.6-8.4	0-25
	46-80	25-30	---	5.6-8.4	0-25
420: Tama, terrace-----	0-8	25-30	---	5.1-7.3	0
	8-18	25-30	---	5.1-7.3	0
	18-45	25-30	---	5.1-6.5	0
	45-80	25-30	---	5.6-7.3	0
420B: Tama, terrace-----	0-8	25-30	---	5.1-7.3	0
	8-18	25-30	---	5.1-7.3	0
	18-45	25-30	---	5.1-6.5	0
	45-80	25-30	---	5.6-7.3	0
422: Amana, occasionally flooded-----	0-8	25-30	---	5.6-7.3	0
	8-15	25-30	---	5.6-7.3	0
	15-37	25-30	---	5.1-6.5	0
	37-48	25-30	---	5.1-6.5	0
	48-80	25-30	---	5.6-6.5	0
424D2: Lindley, moderately eroded-----	0-8	10-16	---	4.5-7.3	0
	8-40	15-20	---	4.5-6.5	0
	40-60	10-16	---	6.1-7.8	0
Keswick, moderately eroded-----	0-8	25-30	---	4.5-7.3	0
	8-12	25-30	---	4.5-7.3	0
	12-26	---	30-50	4.5-6.0	0
	26-60	30-36	---	4.5-7.8	0-15
424E2: Lindley, moderately eroded-----	0-8	10-16	---	4.5-7.3	0
	8-40	15-20	---	4.5-6.5	0
	40-60	10-16	---	6.1-7.8	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil	Calcium
		exchange capacity	cation- exchange capacity	reaction	carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
424E2:					
Keswick, moderately eroded-----	0-8	25-30	---	4.5-7.3	0
	8-12	25-30	---	4.5-7.3	0
	12-26	---	30-50	4.5-6.0	0
	26-60	30-36	---	4.5-7.8	0-15
424E3:					
Lindley, severely eroded-----	0-8	10-16	---	4.5-7.3	0
	8-34	15-20	---	4.5-6.5	0
	34-60	10-16	---	6.1-7.8	0
Keswick, severely eroded-----	0-8	25-30	---	4.5-7.3	0
	8-13	25-30	---	4.5-7.3	0
	13-20	---	30-50	4.5-6.0	0
	20-60	30-36	---	4.5-7.8	0-15
424F2:					
Lindley, moderately eroded-----	0-8	10-16	---	4.5-7.3	0
	8-40	15-20	---	4.5-6.5	0
	40-60	10-16	---	6.1-7.8	0
Keswick, moderately eroded-----	0-8	25-30	---	4.5-7.3	0
	8-12	25-30	---	4.5-7.3	0
	12-26	---	30-50	4.5-6.0	0
	26-60	30-36	---	4.5-7.8	0-15
425D2:					
Keswick, moderately eroded-----	0-8	25-30	---	4.5-7.3	0
	8-12	25-30	---	4.5-7.3	0
	12-26	---	30-50	4.5-6.0	0
	26-60	30-36	---	4.5-7.8	0-15
425D3:					
Keswick, severely eroded-----	0-8	25-30	---	4.5-7.3	0
	8-13	25-30	---	4.5-7.3	0
	13-20	---	30-50	4.5-6.0	0
	20-60	30-36	---	4.5-7.8	0-15
428B:					
Ely-----	0-8	30-36	---	5.6-7.3	0
	8-32	30-36	---	5.6-7.3	0
	32-47	30-36	---	6.1-7.3	0
	47-80	25-30	---	6.6-8.4	0-25
430:					
Ackmore, occasionally flooded-----	0-8	25-30	---	5.6-7.3	0
	8-25	25-30	---	5.6-7.3	0
	25-60	25-30	---	5.6-7.8	5-10

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
450:					
Pillot-----	0-8	25-30	---	5.6-7.3	0
	8-15	25-30	---	5.6-7.3	0
	15-32	25-30	---	5.6-7.3	0
	32-36	2.0-20	---	5.6-7.3	0
	36-60	5.0-10	---	5.6-7.3	0
450B:					
Pillot-----	0-8	25-30	---	5.6-7.3	0
	8-15	25-30	---	5.6-7.3	0
	15-32	25-30	---	5.6-7.3	0
	32-36	2.0-20	---	5.6-7.3	0
	36-60	5.0-10	---	5.6-7.3	0
450C:					
Pillot-----	0-8	25-30	---	5.6-7.3	0
	8-15	25-30	---	5.6-7.3	0
	15-32	25-30	---	5.6-7.3	0
	32-36	2.0-20	---	5.6-7.3	0
	36-60	5.0-10	---	5.6-7.3	0
453:					
Tuskeego, rarely flooded-----	0-8	20-25	---	5.1-7.3	0
	8-19	20-25	---	5.1-7.3	0
	19-24	30-36	---	5.1-6.5	0
	24-60	20-30	---	5.6-6.5	0
462B:					
Downs, terrace-----	0-8	20-25	---	5.1-7.3	0
	8-17	20-25	---	5.1-7.3	0
	17-39	20-25	---	4.5-7.3	0
	39-60	20-25	---	5.6-7.3	0
463B:					
Fayette, terrace-----	0-3	15-20	---	5.1-7.3	0
	3-14	15-20	---	5.1-7.3	0
	14-34	15-20	---	4.5-6.5	0
	34-73	15-20	---	5.1-7.8	0-15
463C2:					
Fayette, moderately eroded, terrace-----	0-8	15-20	---	5.1-7.3	0
	8-29	15-20	---	4.5-6.5	0
	29-73	15-20	---	5.1-7.8	0-15
463D2:					
Fayette, moderately eroded, terrace-----	0-8	15-20	---	5.1-7.3	0
	8-29	15-20	---	4.5-6.5	0
	29-73	15-20	---	5.1-7.8	0-15
463D3:					
Fayette, severely eroded, terrace-----	0-8	15-20	---	5.1-7.3	0
	8-22	15-20	---	4.5-6.5	0
	22-73	15-20	---	5.1-7.8	0-15

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
463E2: Fayette, moderately eroded, terrace-----	0-8	15-20	---	5.1-7.3	0
	8-29	15-20	---	4.5-6.5	0
	29-73	15-20	---	5.1-7.8	0-15
463E3: Fayette, severely eroded, terrace-----	0-8	15-20	---	5.1-7.3	0
	8-22	15-20	---	4.5-6.5	0
	22-73	15-20	---	5.1-7.8	0-15
463F2: Fayette, moderately eroded, terrace-----	0-8	15-20	---	5.1-7.3	0
	8-29	15-20	---	4.5-6.5	0
	29-73	15-20	---	5.1-7.8	0-15
463F3: Fayette, severely eroded, terrace-----	0-8	15-20	---	5.1-7.3	0
	8-22	15-20	---	4.5-6.5	0
	22-73	15-20	---	5.1-7.8	0-15
484: Lawson, occasionally flooded-----	0-8	25-30	---	6.1-7.3	0
	8-30	11-29	---	6.1-7.8	0
	30-60	9.0-17	---	6.1-7.8	0
587: Chequest, occasionally flooded	0-8	25-30	---	5.1-7.3	0
	8-12	25-30	---	5.1-7.3	0
	12-60	25-30	---	5.1-6.0	0
587+: Chequest, occasionally flooded, overwash---	0-8	20-25	---	5.1-7.3	0
	8-12	20-25	---	5.1-7.3	0
	12-24	20-25	---	5.1-7.3	0
	24-60	25-30	---	5.1-6.0	0
626: Hayfield-----	0-8	20-25	---	5.6-7.3	0
	8-13	15-20	---	5.6-7.3	0
	13-29	15-20	---	5.1-6.0	0
	29-80	5.0-10	---	5.6-7.8	0
663D2: Seaton, moderately eroded-----	0-8	15-20	---	5.6-7.3	0
	8-38	11-16	---	4.5-7.3	0
	38-80	9.0-15	---	5.6-8.4	0-25
663E2: Seaton, moderately eroded-----	0-8	15-20	---	5.6-7.3	0
	8-38	11-16	---	4.5-7.3	0
	38-80	9.0-15	---	5.6-8.4	0-25

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
663E3: Seaton, severely eroded-----	0-8	15-20	---	5.6-7.3	0
	8-32	11-16	---	4.5-7.3	0
	32-80	9.0-15	---	5.6-8.4	0-25
663F2: Seaton, moderately eroded-----	0-8	15-20	---	5.6-7.3	0
	8-38	11-16	---	4.5-7.3	0
	38-80	9.0-15	---	5.6-8.4	0-25
687: Watkins, rarely flooded-----	0-8	20-25	---	5.6-7.3	0
	8-18	20-25	---	5.1-6.5	0
	18-52	20-25	---	5.6-6.5	0
	52-80	20-25	---	5.6-6.5	0
687B: Watkins, rarely flooded-----	0-8	20-25	---	5.6-7.3	0
	8-18	20-25	---	5.1-6.5	0
	18-52	20-25	---	5.6-6.5	0
	52-80	20-25	---	5.6-6.5	0
688: Koszta, rarely flooded-----	0-8	20-25	---	5.1-7.3	0
	8-13	20-25	---	5.1-7.3	0
	13-21	20-25	---	5.1-7.3	0
	21-48	20-25	---	5.1-7.3	0
	48-60	20-25	---	5.1-7.3	0
771B: Waubeek-----	0-8	20-25	---	5.6-7.3	0
	8-13	20-25	---	5.6-7.3	0
	13-29	20-25	---	5.1-6.0	0
	29-45	20-25	---	5.1-7.3	0
	45-80	20-25	---	5.1-7.3	0
771C2: Waubeek, moderately eroded-----	0-8	20-25	---	5.6-7.3	0
	8-23	20-25	---	5.1-6.0	0
	23-28	20-25	---	5.1-7.3	0
	28-80	20-25	---	5.1-7.3	0
792D2: Armstrong, moderately eroded-----	0-8	30-35	---	5.6-7.3	0
	8-18	41-50	---	4.5-6.5	0
	18-28	41-50	---	4.5-6.5	0
	28-35	41-50	---	4.5-6.5	0
	35-60	30-35	---	5.1-7.8	0
876B: Ladoga, terrace-----	0-8	20-25	---	6.1-7.3	0
	8-14	20-25	---	6.1-7.3	0
	14-45	20-25	---	5.1-6.0	0
	45-60	20-25	---	5.1-6.5	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
876C:					
Ladoga, terrace-----	0-8	20-25	---	6.1-7.3	0
	8-14	20-25	---	6.1-7.3	0
	14-45	20-25	---	5.1-6.0	0
	45-60	20-25	---	5.1-6.5	0
876C2:					
Ladoga, moderately eroded, terrace-----	0-8	20-25	---	6.1-7.3	0
	8-10	20-25	---	6.1-7.3	0
	10-39	20-25	---	5.1-6.0	0
	39-60	20-25	---	5.1-6.5	0
876D2:					
Ladoga, moderately eroded, terrace-----	0-8	20-25	---	6.1-7.3	0
	8-10	20-25	---	6.1-7.3	0
	10-39	20-25	---	5.1-6.0	0
	39-60	20-25	---	5.1-6.5	0
881B:					
Otley, terrace-----	0-8	25-30	---	5.1-7.3	0
	8-17	25-30	---	5.1-7.3	0
	17-61	---	25-30	5.1-5.5	0
	61-73	25-30	---	5.6-7.3	0
911B:					
Colo-----	0-8	36-41	---	5.6-7.3	0
	8-40	36-41	---	5.6-7.3	0
	40-46	36-41	---	5.6-7.3	0
	46-60	30-36	---	6.1-7.3	0
Ely-----	0-8	30-36	---	5.6-7.3	0
	8-32	30-36	---	5.6-7.3	0
	32-47	30-36	---	6.1-7.3	0
	47-80	25-30	---	6.6-8.4	0-25
993D2:					
Gara, moderately eroded-----	0-8	25-30	---	5.6-7.3	0
	8-27	25-30	---	4.5-6.5	0
	27-60	25-30	---	5.6-8.4	0-25
Armstrong, moderately eroded-----	0-8	30-35	---	5.6-7.3	0
	8-18	41-50	---	4.5-6.5	0
	18-28	41-50	---	4.5-6.5	0
	28-35	41-50	---	4.5-6.5	0
	35-60	30-35	---	5.1-7.8	0
993E2:					
Gara, moderately eroded-----	0-8	25-30	---	5.6-7.3	0
	8-27	25-30	---	4.5-6.5	0
	27-60	25-30	---	5.6-8.4	0-25

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-	Effective	Soil	Calcium
		exchange capacity	cation- exchange capacity	reaction	carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
993E2:					
Armstrong, moderately eroded-----	0-8	30-35	---	5.6-7.3	0
	8-18	41-50	---	4.5-6.5	0
	18-28	41-50	---	4.5-6.5	0
	28-35	41-50	---	4.5-6.5	0
	35-60	30-35	---	5.1-7.8	0
993F2:					
Gara, moderately eroded-----	0-8	25-30	---	5.6-7.3	0
	8-27	25-30	---	4.5-6.5	0
	27-60	25-30	---	5.6-8.4	0-25
Armstrong, moderately eroded-----	0-8	30-35	---	5.6-7.3	0
	8-18	41-50	---	4.5-6.5	0
	18-28	41-50	---	4.5-6.5	0
	28-35	41-50	---	4.5-6.5	0
	35-60	30-35	---	5.1-7.8	0
1160:					
Walford, terrace----	0-8	20-25	---	5.6-7.3	0
	8-22	20-25	---	5.1-7.3	0
	22-50	20-25	---	5.1-6.0	0
	50-63	20-25	---	5.1-6.0	0
	63-80	20-25	---	5.6-7.8	0-15
1220:					
Nodaway, frequently flooded, channeled--	0-7	20-25	---	6.1-7.3	0
	7-31	20-25	---	6.1-7.3	0
	31-42	20-25	---	6.1-7.3	0
	42-80	20-25	---	6.1-7.3	0
1291:					
Atterberry, terrace--	0-8	20-25	---	5.6-7.3	0
	8-17	10-18	---	5.1-7.3	0
	17-48	15-22	---	5.1-7.3	0
	48-60	11-17	---	5.6-7.8	0-15
1354.					
Aquents, ponded					
1442B:					
Tama-----	0-8	25-30	---	5.1-7.3	0
	8-18	25-30	---	5.1-7.3	0
	18-45	25-30	---	5.1-6.5	0
	45-80	25-30	---	5.6-7.3	0
Sparta-----	0-8	3.6-10	---	5.1-7.3	0
	8-15	3.3-9.2	---	5.1-7.3	0
	15-72	0.8-5.8	---	5.1-6.5	0
	72-80	0.0-3.8	---	5.1-6.0	0
Pilot-----	0-8	25-30	---	5.6-7.3	0
	8-15	25-30	---	5.6-7.3	0
	15-32	25-30	---	5.6-7.3	0
	32-36	2.0-20	---	5.6-7.3	0
	36-60	5.0-10	---	5.6-7.3	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
1442C:					
Tama-----	0-8	25-30	---	5.1-7.3	0
	8-18	25-30	---	5.1-7.3	0
	18-45	25-30	---	5.1-6.5	0
	45-80	25-30	---	5.6-7.3	0
Sparta-----	0-8	3.6-10	---	5.1-7.3	0
	8-15	3.3-9.2	---	5.1-7.3	0
	15-72	0.8-5.8	---	5.1-6.5	0
	72-80	0.0-3.8	---	5.1-6.0	0
Pillot-----	0-8	25-30	---	5.6-7.3	0
	8-15	25-30	---	5.6-7.3	0
	15-32	25-30	---	5.6-7.3	0
	32-36	2.0-20	---	5.6-7.3	0
	36-60	5.0-10	---	5.6-7.3	0
1442C2:					
Tama, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-26	25-30	---	5.1-6.5	0
	26-60	25-30	---	5.6-7.3	0
Sparta, moderately eroded-----	0-8	10-15	---	5.1-7.3	0
	8-66	1.0-6.0	---	5.1-7.3	0
	66-80	1.0-4.0	---	5.1-7.8	0
Pillot, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-26	25-30	---	5.6-7.3	0
	26-30	2.0-20	---	5.6-7.3	0
	30-60	5.0-10	---	5.6-7.3	0
1442D2:					
Tama, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-26	25-30	---	5.1-6.5	0
	26-60	25-30	---	5.6-7.3	0
Sparta, moderately eroded-----	0-8	10-15	---	5.1-7.3	0
	8-66	1.0-6.0	---	5.1-7.3	0
	66-80	1.0-4.0	---	5.1-7.8	0
Pillot, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-26	25-30	---	5.6-7.3	0
	26-30	2.0-20	---	5.6-7.3	0
	30-60	5.0-10	---	5.6-7.3	0
1442E2:					
Tama, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-26	25-30	---	5.1-6.5	0
	26-60	25-30	---	5.6-7.3	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
1442E2:					
Sparta, moderately eroded-----	0-8	10-15	---	5.1-7.3	0
	8-66	1.0-6.0	---	5.1-7.3	0
	66-80	1.0-4.0	---	5.1-7.8	0
Pillot, moderately eroded-----	0-8	25-30	---	5.1-7.3	0
	8-26	25-30	---	5.6-7.3	0
	26-30	2.0-20	---	5.6-7.3	0
	30-60	5.0-10	---	5.6-7.3	0
1540:					
Quiver, frequently flooded-----	0-9	22-29	---	5.6-7.8	0
	9-65	12-23	---	6.6-8.4	0
Zook, frequently flooded-----	0-8	36-41	---	5.6-7.3	0
	8-38	36-41	---	5.6-7.3	0
	38-52	36-41	---	5.6-7.8	0
	52-60	30-36	---	5.6-7.8	0
Klum, frequently flooded-----	0-8	10-15	---	5.6-7.3	0
	8-60	10-15	---	5.6-7.3	0
2219:					
Ella, rarely flooded	0-8	15-20	---	5.6-7.3	0
	8-55	4.0-25	---	5.1-6.5	0
	55-72	2.0-15	---	5.1-7.3	0
	72-80	2.0-15	---	5.1-8.4	0-15
2219B:					
Ella, rarely flooded	0-8	15-20	---	5.6-7.3	0
	8-55	4.0-25	---	5.1-6.5	0
	55-72	2.0-15	---	5.1-7.3	0
	72-80	2.0-15	---	5.1-8.4	0-15
2219C2:					
Ella, moderately eroded-----	0-8	15-20	---	5.6-7.3	0
	8-46	4.0-25	---	5.1-6.5	0
	46-72	2.0-15	---	5.1-7.3	0
	72-80	2.0-15	---	5.1-8.4	0-15
2422:					
Amana, occasionally flooded-----	0-8	25-30	---	5.6-7.3	0
	8-15	25-30	---	5.6-7.3	0
	15-37	25-30	---	5.1-6.5	0
	37-48	25-30	---	5.1-6.5	0
	48-80	25-30	---	5.6-6.5	0
Nodaway, occasionally flooded-----	0-7	20-25	---	6.1-7.3	0
	7-31	20-25	---	6.1-7.3	0
	31-42	20-25	---	6.1-7.3	0
	42-80	20-25	---	6.1-7.3	0

Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate
	In	meq/100 g	meq/100 g	pH	Pct
2422: Lawson, occasionally flooded-----	0-8	25-30	---	6.1-7.3	0
	8-30	11-29	---	6.1-7.8	0
	30-80	9.0-17	---	6.1-7.8	0
4946: Udorthents. Interstate highway.					
5010. Pits, sand and gravel					
5040. Udorthents					
6220: Nodaway, frequently flooded-----	0-7	20-25	---	6.1-7.3	0
	7-31	20-25	---	6.1-7.3	0
	31-42	20-25	---	6.1-7.3	0
	42-80	20-25	---	6.1-7.3	0
6422: Amana, frequently flooded-----	0-8	25-30	---	5.6-7.3	0
	8-15	25-30	---	5.6-7.3	0
	15-37	25-30	---	5.1-6.5	0
	37-48	25-30	---	5.1-6.5	0
	48-80	25-30	---	5.6-6.5	0
AW. Animal waste lagoon					
SL. Sewage lagoon					
W. Water					

Water Features

The table described in this section gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are *negligible, very low, low, medium, high, and very high*.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall

or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Water Features

(See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Map symbol and soil name	Hydro-logic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
5B: Ackmore-----	B	Low								
			January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.0-3.5	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	2.0-4.5	>6.0	---	---	None	---	None
			July	3.0-5.5	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			September	4.0-6.5	>6.0	---	---	None	---	None
			October	3.5-6.0	>6.0	---	---	None	---	None
			November	2.5-5.0	>6.0	---	---	None	---	None
			December	3.0-5.5	>6.0	---	---	None	---	None
Colo-----	B/D	Low								
			January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	---	None
			March	0.5-2.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	0.5-1.5	>6.0	---	---	None	---	None
			June	1.0-2.0	>6.0	---	---	None	---	None
			July	2.0-3.0	>6.0	---	---	None	---	None
			August	2.5-3.5	>6.0	---	---	None	---	None
			September	3.0-4.0	>6.0	---	---	None	---	None
			October	2.5-3.5	>6.0	---	---	None	---	None
			November	1.5-3.0	>6.0	---	---	None	---	None
			December	2.0-3.5	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
7: Wiota, rarely flooded-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	Brief	Rare
			March	---	---	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	---	---	---	---	None	Brief	Rare
			December	---	---	---	---	None	---	None
7B: Wiota, rarely flooded-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	Brief	Rare
			March	---	---	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	---	---	---	---	None	Brief	Rare
			December	---	---	---	---	None	---	None
8B: Judson-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
24C2: Shelby, moderately eroded	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			24D2: Shelby, moderately eroded	C	High	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None
24D3: Shelby, severely eroded---	C	High				January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
24E2: Shelby, moderately eroded	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
24E3: Shelby, severely eroded---	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
41: Sparta-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
41B: Sparta-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
41C: Sparta-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
41D: Sparta-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
43: Bremer, rarely flooded----	C	Medium								
			January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	Brief	Rare
			March	0.5-2.0	>6.0	---	---	None	Brief	Rare
			April	0.0-1.0	>6.0	---	---	None	Brief	Rare
			May	0.5-2.0	>6.0	---	---	None	Brief	Rare
			June	1.0-2.0	>6.0	---	---	None	Brief	Rare
			July	2.0-3.5	>6.0	---	---	None	Brief	Rare
			August	2.5-3.5	>6.0	---	---	None	Brief	Rare
			September	3.0-4.0	>6.0	---	---	None	Brief	Rare
			October	2.5-3.5	>6.0	---	---	None	Brief	Rare
			November	1.5-3.0	>6.0	---	---	None	Brief	Rare
			December	2.0-3.0	>6.0	---	---	None	---	None
51: Vesser, occasionally flooded-----	C	Low								
			January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			March	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			April	0.0-1.0	>6.0	---	---	None	Brief	Occasional
			May	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			June	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			July	2.0-3.5	>6.0	---	---	None	Brief	Occasional
			August	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			September	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			October	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			November	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			December	2.0-3.0	>6.0	---	---	None	---	None
54: Zook, occasionally flooded	C/D	Medium								
			January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			March	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			April	0.0-1.0	>6.0	---	---	None	Brief	Occasional
			May	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			June	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			July	2.0-3.5	>6.0	---	---	None	Brief	Occasional
			August	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			September	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			October	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			November	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			December	2.0-3.5	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
54+: Zook, occasionally flooded, overwash-----	C/D	Medium	January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			March	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			April	0.0-1.0	>6.0	---	---	None	Brief	Occasional
			May	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			June	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			July	2.0-3.5	>6.0	---	---	None	Brief	Occasional
			August	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			September	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			October	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			November	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			December	2.0-3.5	>6.0	---	---	None	---	None
			63C: Chelsea-----	A	Very low	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None
63E: Chelsea-----	A	Very low				January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
63G: Chelsea-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
65D2: Lindley, moderately eroded	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
65D3: Lindley, severely eroded--	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
65E2: Lindley, moderately eroded	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
65E3: Lindley, severely eroded--	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
65F: Lindley-----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
65F2: Lindley, moderately eroded	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
65F3: Lindley, severely eroded--	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
65G: Lindley-----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Surface water depth	Ponding		Flooding	
				Upper limit	Lower limit		Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
75: Givin-----	C	Medium	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.0-3.5	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	2.0-4.5	>6.0	---	---	None	---	None
			July	3.0-5.5	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			September	4.0-6.5	>6.0	---	---	None	---	None
			October	3.5-6.0	>6.0	---	---	None	---	None
			November	2.5-5.0	>6.0	---	---	None	---	None
			December	3.0-5.5	>6.0	---	---	None	---	None
76B: Ladoga-----	B	Medium	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
76C: Ladoga-----	B	High	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
76C2: Ladoga, moderately eroded	B	High								
			January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
76D: Ladoga-----	B	High								
			January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
76D2: Ladoga, moderately eroded	B	High								
			January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
76D3: Ladoga, severely eroded---	B	High	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
76E2: Ladoga, moderately eroded	B	High	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
76E3: Ladoga, severely eroded---	B	High	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
80B: Clinton-----	B	Medium								
			January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
80C: Clinton-----	B	High								
			January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
80C2: Clinton, moderately eroded	B	High								
			January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Surface water depth	Ponding		Flooding	
				Upper limit	Lower limit		Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
80D: Clinton-----	B	High	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
80D2: Clinton, moderately eroded	B	High	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
80D3: Clinton, severely eroded--	B	High	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
80E2: Clinton, moderately eroded	B	High								
			January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
80E3: Clinton, severely eroded--	B	High								
			January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
80F2: Clinton, moderately eroded	B	High								
			January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
83B: Kenyon-----	B	Low	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
83C: Kenyon-----	B	Medium	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
83C2: Kenyon, moderately eroded	B	Medium	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
83D2: Kenyon, moderately eroded	B	Medium	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
88: Nevin, rarely flooded-----	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	Brief	Rare
			March	1.5-4.0	>6.0	---	---	None	Brief	Rare
			April	1.0-3.5	>6.0	---	---	None	Brief	Rare
			May	1.5-4.0	>6.0	---	---	None	Brief	Rare
			June	2.0-4.5	>6.0	---	---	None	Brief	Rare
			July	3.0-5.5	>6.0	---	---	None	Brief	Rare
			August	3.5-6.0	>6.0	---	---	None	Brief	Rare
			September	4.0-6.5	>6.0	---	---	None	Brief	Rare
			October	3.5-6.0	>6.0	---	---	None	Brief	Rare
			November	2.5-5.0	>6.0	---	---	None	Brief	Rare
			December	3.0-5.5	>6.0	---	---	None	---	None
93D2: Shelby, moderately eroded	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
93D2: Adair, moderately eroded--	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None
93D3: Shelby, severely eroded---	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Adair, severely eroded----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
93E2: Shelby, moderately eroded	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Adair, moderately eroded--	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None
119: Muscatine-----	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.0-3.5	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	2.0-4.5	>6.0	---	---	None	---	None
			July	3.0-5.5	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			September	4.0-6.5	>6.0	---	---	None	---	None
			October	3.5-6.0	>6.0	---	---	None	---	None
			November	2.5-5.0	>6.0	---	---	None	---	None
			December	3.0-5.5	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
120B: Tama-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
120C: Tama-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
120C2: Tama, moderately eroded---	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
120D2: Tama, moderately eroded---	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
120D3: Tama, severely eroded-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
120E2: Tama, moderately eroded---	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
122: Sperry-----	C/D	Medium	January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	0.0-1.0	Long	Frequent	---	None
			March	0.5-2.0	>6.0	0.0-1.0	Long	Frequent	---	None
			April	0.0-1.0	>6.0	0.0-1.0	Long	Frequent	---	None
			May	0.5-2.0	>6.0	0.0-1.0	Long	Frequent	---	None
			June	1.0-2.0	>6.0	0.0-1.0	Long	Frequent	---	None
			July	2.0-3.5	>6.0	0.0-1.0	Long	Frequent	---	None
			August	2.5-3.5	>6.0	0.0-1.0	Long	Frequent	---	None
			September	3.0-4.0	>6.0	0.0-1.0	Long	Frequent	---	None
			October	2.5-3.5	>6.0	0.0-1.0	Long	Frequent	---	None
			November	1.5-3.0	>6.0	0.0-1.0	Long	Frequent	---	None
			December	2.0-3.5	>6.0	---	---	None	---	None
133: Colo, occasionally flooded	B/D	Low	January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			March	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			April	0.0-1.0	>6.0	---	---	None	Brief	Occasional
			May	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			June	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			July	2.0-3.5	>6.0	---	---	None	Brief	Occasional
			August	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			September	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			October	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			November	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			December	2.0-3.5	>6.0	---	---	None	---	None
133+: Colo, occasionally flooded, overwash-----	B/D	Low	January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			March	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			April	0.0-1.0	>6.0	---	---	None	Brief	Occasional
			May	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			June	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			July	2.0-3.5	>6.0	---	---	None	Brief	Occasional
			August	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			September	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			October	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			November	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			December	2.0-3.5	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
162B: Downs-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
162C: Downs-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
162C2: Downs, moderately eroded--	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
162D2: Downs, moderately eroded--	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
162D3: Downs, severely eroded----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
162E2: Downs, moderately eroded--	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
162E3: Downs, severely eroded----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
163B: Fayette-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
163C: Fayette-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
163C2: Fayette, moderately eroded	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
163D: Fayette-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
163D2: Fayette, moderately eroded	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
163D3: Fayette, severely eroded--	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
163E: Fayette-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
163E2: Fayette, moderately eroded	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
163E3: Fayette, severely eroded--	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			163F: Fayette-----	B	High	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None
163F2: Fayette, moderately eroded	B	High				January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
163F3: Fayette, severely eroded--	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
163G: Fayette-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
165: Stronghurst-----	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.0-3.5	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	2.0-4.5	>6.0	---	---	None	---	None
			July	3.0-5.5	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			September	4.0-6.5	>6.0	---	---	None	---	None
			October	3.5-6.0	>6.0	---	---	None	---	None
			November	2.5-5.0	>6.0	---	---	None	---	None
			December	3.0-5.5	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
171C2: Bassett, moderately eroded	B	Medium	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
171D2: Bassett, moderately eroded	B	Medium	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
171D3: Bassett, severely eroded--	B	Medium	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
171E2: Bassett, moderately eroded	B	Medium	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
171E3: Bassett, severely eroded--	B	Medium	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
172: Wabash, occasionally flooded-----	D	Very high	January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			March	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			April	0.0-1.0	>6.0	---	---	None	Brief	Occasional
			May	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			June	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			July	2.0-3.5	>6.0	---	---	None	Brief	Occasional
			August	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			September	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			October	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			November	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			December	2.0-3.5	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
175: Dickinson-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
175B: Dickinson-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
175C: Dickinson-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
178: Waukee-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
178B: Waukee-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
178C: Waukee-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
179D2: Gara, moderately eroded---	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
179D3: Gara, severely eroded-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
179E2: Gara, moderately eroded---	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
179E3: Gara, severely eroded-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
179F2: Gara, moderately eroded---	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
179F3: Gara, severely eroded-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
180: Keomah-----	C	Medium	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.0-3.5	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	2.0-4.5	>6.0	---	---	None	---	None
			July	3.0-5.5	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			September	4.0-6.5	>6.0	---	---	None	---	None
			October	3.5-6.0	>6.0	---	---	None	---	None
			November	2.5-5.0	>6.0	---	---	None	---	None
			December	3.0-5.5	>6.0	---	---	None	---	None
192D2: Adair, moderately eroded--	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None
192D3: Adair, severely eroded----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
220: Nodaway, occasionally flooded-----	B	Low	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	Brief	Occasional
			March	4.5-6.5	>6.0	---	---	None	Brief	Occasional
			April	4.0-6.0	>6.0	---	---	None	Brief	Occasional
			May	4.5-6.5	>6.0	---	---	None	Brief	Occasional
			June	5.0-6.7	>6.0	---	---	None	Brief	Occasional
			July	6.0-6.7	>6.0	---	---	None	Brief	Occasional
			August	6.5-6.7	>6.0	---	---	None	Brief	Occasional
			September	6.5-6.7	>6.0	---	---	None	Brief	Occasional
			October	6.5-6.7	>6.0	---	---	None	Brief	Occasional
			November	5.5-6.7	>6.0	---	---	None	Brief	Occasional
			December	6.0-6.7	>6.0	---	---	None	---	None
279: Taintor-----	C/D	Medium	January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	---	None
			March	0.5-2.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	0.5-2.0	>6.0	---	---	None	---	None
			June	1.0-2.0	>6.0	---	---	None	---	None
			July	2.0-3.5	>6.0	---	---	None	---	None
			August	2.5-3.5	>6.0	---	---	None	---	None
			September	3.0-4.0	>6.0	---	---	None	---	None
			October	2.5-3.5	>6.0	---	---	None	---	None
			November	1.5-3.0	>6.0	---	---	None	---	None
			December	2.0-3.0	>6.0	---	---	None	---	None
280: Mahaska-----	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.0-3.5	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	2.0-4.5	>6.0	---	---	None	---	None
			July	3.0-5.5	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			September	4.0-6.5	>6.0	---	---	None	---	None
			October	3.5-6.0	>6.0	---	---	None	---	None
			November	2.5-5.0	>6.0	---	---	None	---	None
			December	3.0-5.5	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
281B: Otley-----	B	Low	January	4.0-6.0	>6.0	---	---	None	---	None
			February	3.5-5.5	>6.0	---	---	None	---	None
			March	2.5-4.5	>6.0	---	---	None	---	None
			April	2.0-4.0	>6.0	---	---	None	---	None
			May	2.5-4.5	>6.0	---	---	None	---	None
			June	3.0-5.0	>6.0	---	---	None	---	None
			July	4.0-6.0	>6.0	---	---	None	---	None
			August	4.5-6.5	>6.0	---	---	None	---	None
			September	5.0-6.7	>6.0	---	---	None	---	None
			October	4.5-6.5	>6.0	---	---	None	---	None
			November	3.5-5.5	>6.0	---	---	None	---	None
			December	4.0-6.0	>6.0	---	---	None	---	None
281C: Otley-----	B	Medium	January	4.0-6.0	>6.0	---	---	None	---	None
			February	3.5-5.5	>6.0	---	---	None	---	None
			March	2.5-4.5	>6.0	---	---	None	---	None
			April	2.0-4.0	>6.0	---	---	None	---	None
			May	2.5-4.5	>6.0	---	---	None	---	None
			June	3.0-5.0	>6.0	---	---	None	---	None
			July	4.0-6.0	>6.0	---	---	None	---	None
			August	4.5-6.5	>6.0	---	---	None	---	None
			September	5.0-6.7	>6.0	---	---	None	---	None
			October	4.5-6.5	>6.0	---	---	None	---	None
			November	3.5-5.5	>6.0	---	---	None	---	None
			December	4.0-6.0	>6.0	---	---	None	---	None
281C2: Otley, moderately eroded--	B	Medium	January	4.0-6.0	>6.0	---	---	None	---	None
			February	3.5-5.5	>6.0	---	---	None	---	None
			March	2.5-4.5	>6.0	---	---	None	---	None
			April	2.0-4.0	>6.0	---	---	None	---	None
			May	2.5-4.5	>6.0	---	---	None	---	None
			June	3.0-5.0	>6.0	---	---	None	---	None
			July	4.0-6.0	>6.0	---	---	None	---	None
			August	4.5-6.5	>6.0	---	---	None	---	None
			September	5.0-6.7	>6.0	---	---	None	---	None
			October	4.5-6.5	>6.0	---	---	None	---	None
			November	3.5-5.5	>6.0	---	---	None	---	None
			December	4.0-6.0	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Ponding		Flooding		
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
281D2: Otley, moderately eroded--	B	Medium	January	4.0-6.0	>6.0	---	---	None	---	None
			February	3.5-5.5	>6.0	---	---	None	---	None
			March	2.5-4.5	>6.0	---	---	None	---	None
			April	2.0-4.0	>6.0	---	---	None	---	None
			May	2.5-4.5	>6.0	---	---	None	---	None
			June	3.0-5.0	>6.0	---	---	None	---	None
			July	4.0-6.0	>6.0	---	---	None	---	None
			August	4.5-6.5	>6.0	---	---	None	---	None
			September	5.0-6.7	>6.0	---	---	None	---	None
			October	4.5-6.5	>6.0	---	---	None	---	None
			November	3.5-5.5	>6.0	---	---	None	---	None
			December	4.0-6.0	>6.0	---	---	None	---	None
281D3: Otley, severely eroded----	B	Medium	January	4.0-6.0	>6.0	---	---	None	---	None
			February	3.5-5.5	>6.0	---	---	None	---	None
			March	2.5-4.5	>6.0	---	---	None	---	None
			April	2.0-4.0	>6.0	---	---	None	---	None
			May	2.5-4.5	>6.0	---	---	None	---	None
			June	3.0-5.0	>6.0	---	---	None	---	None
			July	4.0-6.0	>6.0	---	---	None	---	None
			August	4.5-6.5	>6.0	---	---	None	---	None
			September	5.0-6.7	>6.0	---	---	None	---	None
			October	4.5-6.5	>6.0	---	---	None	---	None
			November	3.5-5.5	>6.0	---	---	None	---	None
			December	4.0-6.0	>6.0	---	---	None	---	None
281E2: Otley, moderately eroded--	B	Medium	January	4.0-6.0	>6.0	---	---	None	---	None
			February	3.5-5.5	>6.0	---	---	None	---	None
			March	2.5-4.5	>6.0	---	---	None	---	None
			April	2.0-4.0	>6.0	---	---	None	---	None
			May	2.5-4.5	>6.0	---	---	None	---	None
			June	3.0-5.0	>6.0	---	---	None	---	None
			July	4.0-6.0	>6.0	---	---	None	---	None
			August	4.5-6.5	>6.0	---	---	None	---	None
			September	5.0-6.7	>6.0	---	---	None	---	None
			October	4.5-6.5	>6.0	---	---	None	---	None
			November	3.5-5.5	>6.0	---	---	None	---	None
			December	4.0-6.0	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
291: Atterberry-----	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.0-3.5	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	2.0-4.5	>6.0	---	---	None	---	None
			July	3.0-5.5	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			September	4.0-6.5	>6.0	---	---	None	---	None
			October	3.5-6.0	>6.0	---	---	None	---	None
			November	2.5-5.0	>6.0	---	---	None	---	None
			December	3.0-5.5	>6.0	---	---	None	---	None
293C: Fayette-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Chelsea-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
293C: Tell-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
293D: Fayette-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Chelsea-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
293D: Tell-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
293D2: Fayette, moderately eroded	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Chelsea, moderately eroded	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
293D2: Tell, moderately eroded---	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
293E: Fayette-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Chelsea-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
293E: Tell-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
293E2: Fayette, moderately eroded	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Chelsea, moderately eroded	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
293E2: Tell, moderately eroded---	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
293G: Fayette-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Chelsea-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
293G: Tell-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
353B: Tell-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
353C: Tell-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
353C2: Tell, moderately eroded---	B	Medium		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
353D2: Tell, moderately eroded---	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			377B: Dinsdale-----	B	Low	January	6.0-6.7	>6.0	---	---
February	5.5-6.7	>6.0				---	---	None	---	None
March	4.5-6.5	>6.0				---	---	None	---	None
April	4.0-6.0	>6.0				---	---	None	---	None
May	4.5-6.5	>6.0				---	---	None	---	None
June	5.0-6.7	>6.0				---	---	None	---	None
July	6.0-6.7	>6.0				---	---	None	---	None
August	6.5-6.7	>6.0				---	---	None	---	None
September	6.5-6.7	>6.0				---	---	None	---	None
October	6.5-6.7	>6.0				---	---	None	---	None
November	5.5-6.7	>6.0				---	---	None	---	None
December	6.0-6.7	>6.0				---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
377C: Dinsdale-----	B	Medium	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
420: Tama, terrace-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
420B: Tama, terrace-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
422: Amana, occasionally flooded-----	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	Brief	Occasional
			March	1.5-4.0	>6.0	---	---	None	Brief	Occasional
			April	1.0-3.5	>6.0	---	---	None	Brief	Occasional
			May	1.5-4.0	>6.0	---	---	None	Brief	Occasional
			June	2.0-4.5	>6.0	---	---	None	Brief	Occasional
			July	3.0-5.5	>6.0	---	---	None	Brief	Occasional
			August	3.5-6.0	>6.0	---	---	None	Brief	Occasional
			September	4.0-6.5	>6.0	---	---	None	Brief	Occasional
			October	3.5-6.0	>6.0	---	---	None	Brief	Occasional
			November	2.5-5.0	>6.0	---	---	None	Brief	Occasional
			December	3.0-5.5	>6.0	---	---	None	---	None
424D2: Lindley, moderately eroded	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Keswick, moderately eroded	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
424E2: Lindley, moderately eroded	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Keswick, moderately eroded	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None
424E3: Lindley, severely eroded--	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
424E3: Keswick, severely eroded--	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None
424F2: Lindley, moderately eroded	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Keswick, moderately eroded	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
425D2: Keswick, moderately eroded	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None
425D3: Keswick, severely eroded--	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None
428B: Ely-----	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.0-3.5	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	2.0-4.5	>6.0	---	---	None	---	None
			July	3.0-5.5	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			September	4.0-6.5	>6.0	---	---	None	---	None
			October	3.5-6.0	>6.0	---	---	None	---	None
			November	2.5-5.0	>6.0	---	---	None	---	None
			December	3.0-5.5	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
430: Ackmore, occasionally flooded-----	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	Brief	Occasional
			March	1.5-4.0	>6.0	---	---	None	Brief	Occasional
			April	1.0-3.5	>6.0	---	---	None	Brief	Occasional
			May	1.5-4.0	>6.0	---	---	None	Brief	Occasional
			June	2.0-4.5	>6.0	---	---	None	Brief	Occasional
			July	3.0-5.5	>6.0	---	---	None	Brief	Occasional
			August	3.5-6.0	>6.0	---	---	None	Brief	Occasional
			September	4.0-6.5	>6.0	---	---	None	Brief	Occasional
			October	3.5-6.0	>6.0	---	---	None	Brief	Occasional
			November	2.5-5.0	>6.0	---	---	None	Brief	Occasional
			December	3.0-5.5	>6.0	---	---	None	---	None
450: Pillot-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
450B: Pillot-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
450C: Pillot-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
453: Tuskeego, rarely flooded--	C/D	Very high	January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	Brief	Rare
			March	0.5-2.0	>6.0	---	---	None	Brief	Rare
			April	0.0-1.0	>6.0	---	---	None	Brief	Rare
			May	0.5-2.0	>6.0	---	---	None	Brief	Rare
			June	1.0-2.0	>6.0	---	---	None	Brief	Rare
			July	2.0-3.5	>6.0	---	---	None	Brief	Rare
			August	2.5-3.5	>6.0	---	---	None	Brief	Rare
			September	3.0-4.0	>6.0	---	---	None	Brief	Rare
			October	2.5-3.5	>6.0	---	---	None	Brief	Rare
			November	1.5-3.0	>6.0	---	---	None	Brief	Rare
			December	2.0-3.5	>6.0	---	---	None	---	None
462B: Downs, terrace-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
463B: Fayette, terrace-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
463C2: Fayette, moderately eroded, terrace-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
463D2: Fayette, moderately eroded, terrace-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
463D3: Fayette, severely eroded, terrace-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			463E2: Fayette, moderately eroded, terrace-----	B	Medium	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
463E3: Fayette, severely eroded, terrace-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
463F2: Fayette, moderately eroded, terrace-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
463F3: Fayette, severely eroded, terrace-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			484: Lawson, occasionally flooded-----	B	Low	January	3.0-5.5	>6.0	---	---
February	2.5-5.0	>6.0				---	---	None	Brief	Occasional
March	1.5-4.0	>6.0				---	---	None	Brief	Occasional
April	1.0-3.5	>6.0				---	---	None	Brief	Occasional
May	1.5-4.0	>6.0				---	---	None	Brief	Occasional
June	2.0-4.5	>6.0				---	---	None	Brief	Occasional
July	3.0-5.5	>6.0				---	---	None	Brief	Occasional
August	3.5-6.0	>6.0				---	---	None	Brief	Occasional
September	4.0-6.5	>6.0				---	---	None	Brief	Occasional
October	3.5-6.0	>6.0				---	---	None	Brief	Occasional
November	2.5-5.0	>6.0				---	---	None	Brief	Occasional
December	3.0-5.5	>6.0				---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
587: Chequest, occasionally flooded-----	C	Low								
			January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			March	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			April	0.0-1.0	>6.0	---	---	None	Brief	Occasional
			May	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			June	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			July	2.0-3.5	>6.0	---	---	None	Brief	Occasional
			August	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			September	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			October	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			November	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			December	2.0-3.5	>6.0	---	---	None	---	None
587+: Chequest, occasionally flooded, overwash-----	C	Low								
			January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			March	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			April	0.0-1.0	>6.0	---	---	None	Brief	Occasional
			May	0.5-2.0	>6.0	---	---	None	Brief	Occasional
			June	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			July	2.0-3.5	>6.0	---	---	None	Brief	Occasional
			August	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			September	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			October	2.5-3.5	>6.0	---	---	None	Brief	Occasional
			November	1.5-3.0	>6.0	---	---	None	Brief	Occasional
			December	2.0-3.5	>6.0	---	---	None	---	None
626: Hayfield-----	B	Low								
			January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.0-3.5	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	3.0-5.5	>6.0	---	---	None	---	None
			July	3.0-5.5	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			September	4.0-6.5	>6.0	---	---	None	---	None
			October	3.5-6.0	>6.0	---	---	None	---	None
			November	2.5-5.0	>6.0	---	---	None	---	None
			December	3.0-5.5	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
663D2: Seaton, moderately eroded	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			663E2: Seaton, moderately eroded	B	Medium	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None
663E3: Seaton, severely eroded---	B	Medium				January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
663F2: Seaton, moderately eroded	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
687: Watkins, rarely flooded---	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	Brief	Rare
			March	---	---	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	---	---	---	---	None	Brief	Rare
			December	---	---	---	---	None	---	None
687B: Watkins, rarely flooded---	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	Brief	Rare
			March	---	---	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	---	---	---	---	None	Brief	Rare
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Surface water depth	Ponding		Flooding	
				Upper limit	Lower limit		Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
688: Koszta, rarely flooded----	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	Brief	Rare
			March	1.5-4.0	>6.0	---	---	None	Brief	Rare
			April	1.0-3.5	>6.0	---	---	None	Brief	Rare
			May	1.5-4.0	>6.0	---	---	None	Brief	Rare
			June	2.0-4.5	>6.0	---	---	None	Brief	Rare
			July	3.0-5.5	>6.0	---	---	None	Brief	Rare
			August	3.5-6.0	>6.0	---	---	None	Brief	Rare
			September	4.0-6.5	>6.0	---	---	None	Brief	Rare
			October	3.5-6.0	>6.0	---	---	None	Brief	Rare
			November	2.5-5.0	>6.0	---	---	None	Brief	Rare
			December	3.0-5.5	>6.0	---	---	None	---	None
771B: Waubeek-----	B	Low	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
771C2: Waubeek, moderately eroded	B	Medium	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
792D2: Armstrong, moderately eroded-----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None
876B: Ladoga, terrace-----	B	Medium	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
876C: Ladoga, terrace-----	B	High	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
876C2: Ladoga, moderately eroded, terrace-----	B	High	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
876D2: Ladoga, moderately eroded, terrace-----	B	High	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	---	None
			March	4.5-6.5	>6.0	---	---	None	---	None
			April	4.0-6.0	>6.0	---	---	None	---	None
			May	4.5-6.5	>6.0	---	---	None	---	None
			June	5.0-6.7	>6.0	---	---	None	---	None
			July	6.0-6.7	>6.0	---	---	None	---	None
			August	6.5-6.7	>6.0	---	---	None	---	None
			September	6.5-6.7	>6.0	---	---	None	---	None
			October	6.5-6.7	>6.0	---	---	None	---	None
			November	5.5-6.7	>6.0	---	---	None	---	None
			December	6.0-6.7	>6.0	---	---	None	---	None
881B: Otley, terrace-----	B	Low	January	4.0-6.0	>6.0	---	---	None	---	None
			February	3.5-5.5	>6.0	---	---	None	---	None
			March	2.5-4.5	>6.0	---	---	None	---	None
			April	2.0-4.0	>6.0	---	---	None	---	None
			May	2.5-4.5	>6.0	---	---	None	---	None
			June	3.0-5.0	>6.0	---	---	None	---	None
			July	4.0-6.0	>6.0	---	---	None	---	None
			August	4.5-6.5	>6.0	---	---	None	---	None
			September	5.0-6.7	>6.0	---	---	None	---	None
			October	4.5-6.5	>6.0	---	---	None	---	None
			November	3.5-5.5	>6.0	---	---	None	---	None
			December	4.0-6.0	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
911B: Colo-----	B/D	Low	January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	---	None
			March	0.5-2.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	0.5-1.5	>6.0	---	---	None	---	None
			June	1.0-2.0	>6.0	---	---	None	---	None
			July	2.0-3.0	>6.0	---	---	None	---	None
			August	2.5-3.5	>6.0	---	---	None	---	None
			September	3.0-4.0	>6.0	---	---	None	---	None
			October	2.5-3.5	>6.0	---	---	None	---	None
			November	1.5-3.0	>6.0	---	---	None	---	None
			December	2.0-3.5	>6.0	---	---	None	---	None
Ely-----	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.0-3.5	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	2.0-4.5	>6.0	---	---	None	---	None
			July	3.0-5.5	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			September	4.0-6.5	>6.0	---	---	None	---	None
			October	3.5-6.0	>6.0	---	---	None	---	None
			November	2.5-5.0	>6.0	---	---	None	---	None
			December	3.0-5.5	>6.0	---	---	None	---	None
993D2: Gara, moderately eroded---	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
993D2: Armstrong, moderately eroded-----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None
			993E2: Gara, moderately eroded---	C	High	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None
Armstrong, moderately eroded-----	C	Very high				January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
993F2: Gara, moderately eroded---	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Armstrong, moderately eroded-----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	1.5-2.0	2.5-2.5	---	---	None	---	None
			April	1.0-1.3	2.5-2.5	---	---	None	---	None
			May	1.3-1.5	2.5-2.5	---	---	None	---	None
			June	1.5-2.0	2.5-2.5	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	1.0-1.5	2.5-2.5	---	---	None	---	None
			November	1.5-2.0	2.5-2.5	---	---	None	---	None
			December	1.5-2.0	2.5-2.5	---	---	None	---	None
1160: Walford, terrace-----	B/D	Low	January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	---	None
			March	0.5-2.0	>6.0	---	---	None	---	None
			April	0.0-1.0	>6.0	---	---	None	---	None
			May	0.5-2.0	>6.0	---	---	None	---	None
			June	1.0-2.0	>6.0	---	---	None	---	None
			July	2.0-3.5	>6.0	---	---	None	---	None
			August	2.5-3.5	>6.0	---	---	None	---	None
			September	3.0-4.0	>6.0	---	---	None	---	None
			October	2.5-3.5	>6.0	---	---	None	---	None
			November	1.5-3.0	>6.0	---	---	None	---	None
			December	2.0-3.0	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
1220: Nodaway, frequently flooded, channeled-----	B	Low	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	Long	Frequent
			March	4.5-6.5	>6.0	---	---	None	Long	Frequent
			April	4.0-6.0	>6.0	---	---	None	Long	Frequent
			May	4.5-6.5	>6.0	---	---	None	Long	Frequent
			June	5.0-6.7	>6.0	---	---	None	Long	Frequent
			July	6.0-6.7	>6.0	---	---	None	Long	Frequent
			August	6.5-6.7	>6.0	---	---	None	Long	Frequent
			September	6.5-6.7	>6.0	---	---	None	Long	Frequent
			October	6.5-6.7	>6.0	---	---	None	Long	Frequent
			November	5.5-6.7	>6.0	---	---	None	Long	Frequent
			December	6.0-6.7	>6.0	---	---	None	---	---
1291: Atterberry, terrace-----	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.0-3.5	>6.0	---	---	None	---	None
			May	1.5-4.0	>6.0	---	---	None	---	None
			June	2.0-4.5	>6.0	---	---	None	---	None
			July	3.0-5.5	>6.0	---	---	None	---	None
			August	3.5-6.0	>6.0	---	---	None	---	None
			September	4.0-6.5	>6.0	---	---	None	---	None
			October	3.5-6.0	>6.0	---	---	None	---	None
			November	2.5-5.0	>6.0	---	---	None	---	None
			December	3.0-5.5	>6.0	---	---	None	---	---
1354: Aquents, ponded-----	---	---	January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	0.0-1.0	Very long	Frequent	Long	Frequent
			March	0.5-2.0	>6.0	0.0-1.0	Very long	Frequent	Long	Frequent
			April	0.0-1.0	>6.0	0.0-1.0	Very long	Frequent	Long	Frequent
			May	0.5-2.0	>6.0	0.0-1.0	Very long	Frequent	Long	Frequent
			June	1.0-2.0	>6.0	0.0-1.0	Very long	Frequent	Long	Frequent
			July	2.0-3.5	>6.0	0.0-1.0	Very long	Frequent	Long	Frequent
			August	2.5-3.5	>6.0	0.0-1.0	Very long	Frequent	Long	Frequent
			September	3.0-4.0	>6.0	0.0-1.0	Very long	Frequent	Long	Frequent
			October	2.5-3.5	>6.0	0.0-1.0	Very long	Frequent	Long	Frequent
			November	1.5-3.0	>6.0	0.0-1.0	Very long	Frequent	Long	Frequent
			December	2.0-3.5	>6.0	---	---	None	---	---

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
1442B: Tama-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Sparta-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Pillot-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Surface water depth	Ponding		Flooding	
				Upper limit	Lower limit		Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
1442C: Tama-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Sparta-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Pillot-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
1442C2: Tama, moderately eroded---	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Sparta, moderately eroded	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Pillot, moderately eroded	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
1442D2: Tama, moderately eroded---	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			Sparta, moderately eroded	A	Low	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None
Pillot, moderately eroded	B	Medium				January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
1442E2: Tama, moderately eroded---	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Sparta, moderately eroded	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Pillot, moderately eroded	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
1540: Quiver, frequently flooded	B/D	Low	January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	Long	Frequent
			March	0.5-2.0	>6.0	---	---	None	Long	Frequent
			April	0.0-1.0	>6.0	---	---	None	Long	Frequent
			May	0.5-2.0	>6.0	---	---	None	Long	Frequent
			June	1.0-2.0	>6.0	---	---	None	Long	Frequent
			July	2.0-3.5	>6.0	---	---	None	Long	Frequent
			August	2.5-3.5	>6.0	---	---	None	Long	Frequent
			September	3.0-4.0	>6.0	---	---	None	Long	Frequent
			October	2.5-3.5	>6.0	---	---	None	Long	Frequent
			November	1.5-3.0	>6.0	---	---	None	Long	Frequent
			December	2.0-3.5	>6.0	---	---	None	---	None
Zook, frequently flooded--	C/D	Medium	January	2.0-3.5	>6.0	---	---	None	---	None
			February	1.5-3.0	>6.0	---	---	None	Long	Frequent
			March	0.5-2.0	>6.0	---	---	None	Long	Frequent
			April	0.0-1.0	>6.0	---	---	None	Long	Frequent
			May	0.5-2.0	>6.0	---	---	None	Long	Frequent
			June	1.0-2.0	>6.0	---	---	None	Long	Frequent
			July	2.0-3.5	>6.0	---	---	None	Long	Frequent
			August	2.5-3.5	>6.0	---	---	None	Long	Frequent
			September	3.0-4.0	>6.0	---	---	None	Long	Frequent
			October	2.5-3.5	>6.0	---	---	None	Long	Frequent
			November	1.5-3.0	>6.0	---	---	None	Long	Frequent
			December	2.0-3.5	>6.0	---	---	None	---	None
Klum, frequently flooded--	A	Very low	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	Long	Frequent
			March	4.5-6.5	>6.0	---	---	None	Long	Frequent
			April	4.0-6.0	>6.0	---	---	None	Long	Frequent
			May	4.5-6.5	>6.0	---	---	None	Long	Frequent
			June	5.0-6.7	>6.0	---	---	None	Long	Frequent
			July	6.0-6.7	>6.0	---	---	None	Long	Frequent
			August	6.5-6.7	>6.0	---	---	None	Long	Frequent
			September	6.5-6.7	>6.0	---	---	None	Long	Frequent
			October	6.5-6.7	>6.0	---	---	None	Long	Frequent
			November	5.5-6.7	>6.0	---	---	None	Long	Frequent
			December	6.0-6.7	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
2219: Ella, rarely flooded-----	B	Low								
			January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	Brief	Rare
			March	4.5-6.5	>6.0	---	---	None	Brief	Rare
			April	4.0-6.0	>6.0	---	---	None	Brief	Rare
			May	4.5-6.5	>6.0	---	---	None	Brief	Rare
			June	5.0-6.7	>6.0	---	---	None	Brief	Rare
			July	6.0-6.7	>6.0	---	---	None	Brief	Rare
			August	6.5-6.7	>6.0	---	---	None	Brief	Rare
			September	6.5-6.7	>6.0	---	---	None	Brief	Rare
			October	6.5-6.7	>6.0	---	---	None	Brief	Rare
			November	5.5-6.7	>6.0	---	---	None	Brief	Rare
			December	6.0-6.7	>6.0	---	---	None	---	None
2219B: Ella, rarely flooded-----	B	Low								
			January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	Brief	Rare
			March	4.5-6.5	>6.0	---	---	None	Brief	Rare
			April	4.0-6.0	>6.0	---	---	None	Brief	Rare
			May	4.5-6.5	>6.0	---	---	None	Brief	Rare
			June	5.0-6.7	>6.0	---	---	None	Brief	Rare
			July	6.0-6.7	>6.0	---	---	None	Brief	Rare
			August	6.5-6.7	>6.0	---	---	None	Brief	Rare
			September	6.5-6.7	>6.0	---	---	None	Brief	Rare
			October	6.5-6.7	>6.0	---	---	None	Brief	Rare
			November	5.5-6.7	>6.0	---	---	None	Brief	Rare
			December	6.0-6.7	>6.0	---	---	None	---	None
2219C2: Ella, moderately eroded---	B	Medium								
			January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	Brief	Rare
			March	4.5-6.5	>6.0	---	---	None	Brief	Rare
			April	4.0-6.0	>6.0	---	---	None	Brief	Rare
			May	4.5-6.5	>6.0	---	---	None	Brief	Rare
			June	5.0-6.7	>6.0	---	---	None	Brief	Rare
			July	6.0-6.7	>6.0	---	---	None	Brief	Rare
			August	6.5-6.7	>6.0	---	---	None	Brief	Rare
			September	6.5-6.7	>6.0	---	---	None	Brief	Rare
			October	6.5-6.7	>6.0	---	---	None	Brief	Rare
			November	5.5-6.7	>6.0	---	---	None	Brief	Rare
			December	6.0-6.7	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
2422: Amana, occasionally flooded-----	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	Brief	Occasional
			March	1.5-4.0	>6.0	---	---	None	Brief	Occasional
			April	1.0-3.5	>6.0	---	---	None	Brief	Occasional
			May	1.5-4.0	>6.0	---	---	None	Brief	Occasional
			June	2.0-4.5	>6.0	---	---	None	Brief	Occasional
			July	3.0-5.5	>6.0	---	---	None	Brief	Occasional
			August	3.5-6.0	>6.0	---	---	None	Brief	Occasional
			September	4.0-6.5	>6.0	---	---	None	Brief	Occasional
			October	3.5-6.0	>6.0	---	---	None	Brief	Occasional
			November	2.5-5.0	>6.0	---	---	None	Brief	Occasional
			December	3.0-5.5	>6.0	---	---	None	---	None
Nodaway, occasionally flooded-----	B	Low	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	Brief	Occasional
			March	4.5-6.5	>6.0	---	---	None	Brief	Occasional
			April	4.0-6.0	>6.0	---	---	None	Brief	Occasional
			May	4.5-6.5	>6.0	---	---	None	Brief	Occasional
			June	5.0-6.7	>6.0	---	---	None	Brief	Occasional
			July	6.0-6.7	>6.0	---	---	None	Brief	Occasional
			August	6.5-6.7	>6.0	---	---	None	Brief	Occasional
			September	6.5-6.7	>6.0	---	---	None	Brief	Occasional
			October	6.5-6.7	>6.0	---	---	None	Brief	Occasional
			November	5.5-6.7	>6.0	---	---	None	Brief	Occasional
			December	6.0-6.7	>6.0	---	---	None	---	None
Lawson, occasionally flooded-----	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	Brief	Occasional
			March	1.5-4.0	>6.0	---	---	None	Brief	Occasional
			April	1.0-3.5	>6.0	---	---	None	Brief	Occasional
			May	1.5-4.0	>6.0	---	---	None	Brief	Occasional
			June	2.0-4.5	>6.0	---	---	None	Brief	Occasional
			July	3.0-5.5	>6.0	---	---	None	Brief	Occasional
			August	3.5-6.0	>6.0	---	---	None	Brief	Occasional
			September	4.0-6.5	>6.0	---	---	None	Brief	Occasional
			October	3.5-6.0	>6.0	---	---	None	Brief	Occasional
			November	2.5-5.0	>6.0	---	---	None	Brief	Occasional
			December	3.0-5.5	>6.0	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
4946.										
Udorthents-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Interstate highway-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
5010.										
Pits, sand and gravel										
5040:										
Udorthents-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Months	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
6220: Nodaway, frequently flooded-----	B	Low	January	6.0-6.7	>6.0	---	---	None	---	None
			February	5.5-6.7	>6.0	---	---	None	Long	Frequent
			March	4.5-6.5	>6.0	---	---	None	Long	Frequent
			April	4.0-6.0	>6.0	---	---	None	Long	Frequent
			May	4.5-6.5	>6.0	---	---	None	Long	Frequent
			June	5.0-6.7	>6.0	---	---	None	Long	Frequent
			July	6.0-6.7	>6.0	---	---	None	Long	Frequent
			August	6.5-6.7	>6.0	---	---	None	Long	Frequent
			September	6.5-6.7	>6.0	---	---	None	Long	Frequent
			October	6.5-6.7	>6.0	---	---	None	Long	Frequent
			November	5.5-6.7	>6.0	---	---	None	Long	Frequent
			December	6.0-6.7	>6.0	---	---	None	---	None
6422: Amana, frequently flooded	B	Low	January	3.0-5.5	>6.0	---	---	None	---	None
			February	2.5-5.0	>6.0	---	---	None	Long	Frequent
			March	1.5-4.0	>6.0	---	---	None	Long	Frequent
			April	1.0-3.5	>6.0	---	---	None	Long	Frequent
			May	1.5-4.0	>6.0	---	---	None	Long	Frequent
			June	2.0-4.5	>6.0	---	---	None	Long	Frequent
			July	3.0-5.5	>6.0	---	---	None	Long	Frequent
			August	3.5-6.0	>6.0	---	---	None	Long	Frequent
			September	4.0-6.5	>6.0	---	---	None	Long	Frequent
			October	3.5-6.0	>6.0	---	---	None	Long	Frequent
			November	2.5-5.0	>6.0	---	---	None	Long	Frequent
			December	3.0-5.5	>6.0	---	---	None	---	None
AW. Animal waste lagoon										
SL. Sewage lagoon										
W. Water										

Soil Features

The table described in this section gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

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	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
5B: Ackmore-----	High	High	Low
Colo-----	High	High	Moderate
7: Wiota, rarely flooded--	High	Moderate	Moderate
7B: Wiota, rarely flooded--	High	Moderate	Moderate
8B: Judson-----	High	Moderate	Low
24C2: Shelby, moderately eroded-----	Moderate	Moderate	Moderate
24D2: Shelby, moderately eroded-----	Moderate	Moderate	Moderate
24D3: Shelby, severely eroded	Moderate	Moderate	Moderate
24E2: Shelby, moderately eroded-----	Moderate	Moderate	Moderate
24E3: Shelby, severely eroded	Moderate	Moderate	Moderate
41: Sparta-----	Low	Low	Moderate
41B: Sparta-----	Low	Low	Moderate
41C: Sparta-----	Low	Low	Moderate
41D: Sparta-----	Low	Low	Moderate
43: Bremer, rarely flooded	High	Moderate	Moderate
51: Vesser, occasionally flooded-----	High	High	Moderate
54: Zook, occasionally flooded-----	High	High	Moderate
54+: Zook, occasionally flooded, overwash-----	High	High	Moderate

Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
63C: Chelsea-----	Low	Low	Low
63E: Chelsea-----	Low	Low	Low
63G: Chelsea-----	Low	Low	Low
65D2: Lindley, moderately eroded-----	Moderate	Moderate	Moderate
65D3: Lindley, severely eroded-----	Moderate	Moderate	Moderate
65E2: Lindley, moderately eroded-----	Moderate	Moderate	Moderate
65E3: Lindley, severely eroded-----	Moderate	Moderate	Moderate
65F: Lindley-----	Moderate	Moderate	Moderate
65F2: Lindley, moderately eroded-----	Moderate	Moderate	Moderate
65F3: Lindley, severely eroded-----	Moderate	Moderate	Moderate
65G: Lindley-----	Moderate	Moderate	Moderate
75: Givin-----	High	High	Moderate
76B: Ladoga-----	Moderate	Moderate	Moderate
76C: Ladoga-----	Moderate	Moderate	Moderate
76C2: Ladoga, moderately eroded-----	Moderate	Moderate	Moderate
76D: Ladoga-----	Moderate	Moderate	Moderate
76D2: Ladoga, moderately eroded-----	Moderate	Moderate	Moderate
76D3: Ladoga, severely eroded	Moderate	Moderate	Moderate

Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
76E2: Ladoga, moderately eroded-----	Moderate	Moderate	Moderate
76E3: Ladoga, severely eroded	Moderate	Moderate	Moderate
80B: Clinton-----	Moderate	Moderate	Moderate
80C: Clinton-----	Moderate	Moderate	Moderate
80C2: Clinton, moderately eroded-----	Moderate	Moderate	Moderate
80D: Clinton-----	Moderate	Moderate	Moderate
80D2: Clinton, moderately eroded-----	Moderate	Moderate	Moderate
80D3: Clinton, severely eroded-----	Moderate	Moderate	Moderate
80E2: Clinton, moderately eroded-----	Moderate	Moderate	Moderate
80E3: Clinton, severely eroded-----	Moderate	Moderate	Moderate
80F2: Clinton, moderately eroded-----	Moderate	Moderate	Moderate
83B: Kenyon-----	Moderate	Moderate	Moderate
83C: Kenyon-----	Moderate	Moderate	Moderate
83C2: Kenyon, moderately eroded-----	Moderate	Moderate	Moderate
83D2: Kenyon, moderately eroded-----	Moderate	Moderate	Moderate
88: Nevin, rarely flooded--	High	High	Low
93D2: Shelby, moderately eroded-----	Moderate	Moderate	Moderate
Adair, moderately eroded-----	High	High	Moderate

Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
93D3: Shelby, severely eroded	Moderate	Moderate	Moderate
Adair, severely eroded	High	High	Moderate
93E2: Shelby, moderately eroded-----	Moderate	Moderate	Moderate
Adair, moderately eroded-----	High	High	Moderate
119: Muscatine-----	High	High	Moderate
120B: Tama-----	High	Moderate	Moderate
120C: Tama-----	High	Moderate	Moderate
120C2: Tama, moderately eroded	High	Moderate	Moderate
120D2: Tama, moderately eroded	High	Moderate	Moderate
120D3: Tama, severely eroded--	High	Moderate	Moderate
120E2: Tama, moderately eroded	High	Moderate	Moderate
122: Sperry-----	High	High	Moderate
133: Colo, occasionally flooded-----	High	High	Moderate
133+: Colo, occasionally flooded, overwash-----	High	High	Moderate
162B: Downs-----	High	Moderate	Moderate
162C: Downs-----	High	Moderate	Moderate
162C2: Downs, moderately eroded-----	High	Moderate	Moderate
162D2: Downs, moderately eroded-----	High	Moderate	Moderate
162D3: Downs, severely eroded	High	Moderate	Moderate

Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
162E2: Downs, moderately eroded-----	High	Moderate	Moderate
162E3: Downs, severely eroded	High	Moderate	Moderate
163B: Fayette-----	High	Moderate	Moderate
163C: Fayette-----	High	Moderate	Moderate
163C2: Fayette, moderately eroded-----	High	Moderate	Moderate
163D: Fayette-----	High	Moderate	Moderate
163D2: Fayette, moderately eroded-----	High	Moderate	Moderate
163D3: Fayette, severely eroded-----	High	Moderate	Moderate
163E: Fayette-----	High	Moderate	Moderate
163E2: Fayette, moderately eroded-----	High	Moderate	Moderate
163E3: Fayette, severely eroded-----	High	Moderate	Moderate
163F: Fayette-----	High	Moderate	Moderate
163F2: Fayette, moderately eroded-----	High	Moderate	Moderate
163F3: Fayette, severely eroded-----	High	Moderate	Moderate
163G: Fayette-----	High	Moderate	Moderate
165: Stronghurst-----	High	High	Moderate
171C2: Bassett, moderately eroded-----	Moderate	Moderate	Moderate
171D2: Bassett, moderately eroded-----	Moderate	Moderate	Moderate

Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
171D3: Bassett, severely eroded-----	Moderate	Moderate	Moderate
171E2: Bassett, moderately eroded-----	Moderate	Moderate	Moderate
171E3: Bassett, severely eroded-----	Moderate	Moderate	Moderate
172: Wabash, occasionally flooded-----	Moderate	High	Moderate
175: Dickinson-----	Moderate	Low	Moderate
175B: Dickinson-----	Moderate	Low	Moderate
175C: Dickinson-----	Moderate	Low	Moderate
178: Waukee-----	Low	Low	Moderate
178B: Waukee-----	Low	Low	Moderate
178C: Waukee-----	Low	Low	Moderate
179D2: Gara, moderately eroded	Moderate	Moderate	Moderate
179D3: Gara, severely eroded--	Moderate	Moderate	Moderate
179E2: Gara, moderately eroded	Moderate	Moderate	Moderate
179E3: Gara, severely eroded--	Moderate	Moderate	Moderate
179F2: Gara, moderately eroded	Moderate	Moderate	Moderate
179F3: Gara, severely eroded--	Moderate	Moderate	Moderate
180: Keomah-----	High	High	Moderate
192D2: Adair, moderately eroded-----	High	High	Moderate
192D3: Adair, severely eroded	High	High	Moderate

Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
220: Nodaway, occasionally flooded-----	High	Moderate	Low
279: Taintor-----	High	High	Moderate
280: Mahaska-----	High	High	Moderate
281B: Otley-----	Moderate	Moderate	Moderate
281C: Otley-----	Moderate	Moderate	Moderate
281C2: Otley, moderately eroded-----	Moderate	Moderate	Moderate
281D2: Otley, moderately eroded-----	Moderate	Moderate	Moderate
281D3: Otley, severely eroded	Moderate	Moderate	Moderate
281E2: Otley, moderately eroded-----	Moderate	Moderate	Moderate
291: Atterberry-----	High	High	Moderate
293C: Fayette-----	High	Moderate	Moderate
Chelsea-----	Low	Low	Low
Tell-----	High	Moderate	Moderate
293D: Fayette-----	High	Moderate	Moderate
Chelsea-----	Low	Low	Low
Tell-----	High	Moderate	Moderate
293D2: Fayette, moderately eroded-----	High	Moderate	Moderate
Chelsea, moderately eroded-----	Low	Low	Low
Tell, moderately eroded	High	Moderate	Moderate
293E: Fayette-----	High	Moderate	Moderate
Chelsea-----	Low	Low	Low
Tell-----	High	Moderate	Moderate

Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
293E2: Fayette, moderately eroded-----	High	Moderate	Moderate
Chelsea, moderately eroded-----	Low	Low	Low
Tell, moderately eroded	High	Moderate	Moderate
293G: Fayette-----	High	Moderate	Moderate
Chelsea-----	Low	Low	Low
Tell-----	High	Moderate	Moderate
353B: Tell-----	High	Moderate	Moderate
353C: Tell-----	High	Moderate	Moderate
353C2: Tell, moderately eroded	High	Moderate	Moderate
353D2: Tell, moderately eroded	High	Moderate	Moderate
377B: Dinsdale-----	High	Moderate	Moderate
377C: Dinsdale-----	High	Moderate	Moderate
420: Tama, terrace-----	High	Moderate	Moderate
420B: Tama, terrace-----	High	Moderate	Moderate
422: Amana, occasionally flooded-----	High	High	Moderate
424D2: Lindley, moderately eroded-----	Moderate	Moderate	Moderate
Keswick, moderately eroded-----	High	High	Moderate
424E2: Lindley, moderately eroded-----	Moderate	Moderate	Moderate
Keswick, moderately eroded-----	High	High	Moderate

Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
424E3: Lindley, severely eroded-----	Moderate	Moderate	Moderate
Keswick, severely eroded-----	High	High	Moderate
424F2: Lindley, moderately eroded-----	Moderate	Moderate	Moderate
Keswick, moderately eroded-----	High	High	Moderate
425D2: Keswick, moderately eroded-----	High	High	Moderate
425D3: Keswick, severely eroded-----	High	High	Moderate
428B: Ely-----	High	High	Moderate
430: Ackmore, occasionally flooded-----	High	High	Low
450: Pillot-----	High	Moderate	Moderate
450B: Pillot-----	High	Moderate	Moderate
450C: Pillot-----	High	Moderate	Moderate
453: Tuskeego, rarely flooded-----	Moderate	High	Moderate
462B: Downs, terrace-----	High	Moderate	Moderate
463B: Fayette, terrace-----	High	Moderate	Moderate
463C2: Fayette, moderately eroded, terrace-----	High	Moderate	Moderate
463D2: Fayette, moderately eroded, terrace-----	High	Moderate	Moderate
463D3: Fayette, severely eroded, terrace-----	High	Moderate	Moderate
463E2: Fayette, moderately eroded, terrace-----	High	Moderate	Moderate

Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
463E3: Fayette, severely eroded, terrace-----	High	Moderate	Moderate
463F2: Fayette, moderately eroded, terrace-----	High	Moderate	Moderate
463F3: Fayette, severely eroded, terrace-----	High	Moderate	Moderate
484: Lawson, occasionally flooded-----	High	Moderate	Low
587: Chequest, occasionally flooded-----	High	High	Moderate
587+: Chequest, occasionally flooded, overwash----	High	High	Moderate
626: Hayfield-----	High	Low	Moderate
663D2: Seaton, moderately eroded-----	High	Low	Moderate
663E2: Seaton, moderately eroded-----	High	Low	Moderate
663E3: Seaton, severely eroded	High	Low	Moderate
663F2: Seaton, moderately eroded-----	High	Low	Moderate
687: Watkins, rarely flooded	High	Moderate	Moderate
687B: Watkins, rarely flooded	High	Moderate	Moderate
688: Koszta, rarely flooded	High	Moderate	Moderate
771B: Waubek-----	High	Moderate	Moderate
771C2: Waubek, moderately eroded-----	High	Moderate	Moderate
792D2: Armstrong, moderately eroded-----	High	High	Moderate

Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
876B: Ladoga, terrace-----	Moderate	Moderate	Moderate
876C: Ladoga, terrace-----	Moderate	Moderate	Moderate
876C2: Ladoga, moderately eroded, terrace-----	Moderate	Moderate	Moderate
876D2: Ladoga, moderately eroded, terrace-----	Moderate	Moderate	Moderate
881B: Otley, terrace-----	Moderate	Moderate	Moderate
911B: Colo-----	High	High	Moderate
Ely-----	High	High	Moderate
993D2: Gara, moderately eroded	Moderate	Moderate	Moderate
Armstrong, moderately eroded-----	High	High	Moderate
993E2: Gara, moderately eroded	Moderate	Moderate	Moderate
Armstrong, moderately eroded-----	High	High	Moderate
993F2: Gara, moderately eroded	Moderate	Moderate	Moderate
Armstrong, moderately eroded-----	High	High	Moderate
1160: Walford, terrace-----	High	High	Moderate
1220: Nodaway, frequently flooded, channeled---	High	Moderate	Low
1291: Atterberry, terrace----	High	High	Moderate
1354. Aquents, ponded			
1442B: Tama-----	High	Moderate	Moderate
Sparta-----	Low	Low	Moderate
Pillot-----	High	Moderate	Moderate

Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
1442C:			
Tama-----	High	Moderate	Moderate
Sparta-----	Low	Low	Moderate
Pillot-----	High	Moderate	Moderate
1442C2:			
Tama, moderately eroded	High	Moderate	Moderate
Sparta, moderately eroded-----	Low	Low	Moderate
Pillot, moderately eroded-----	High	Moderate	Moderate
1442D2:			
Tama, moderately eroded	High	Moderate	Moderate
Sparta, moderately eroded-----	Low	Low	Moderate
Pillot, moderately eroded-----	High	Moderate	Moderate
1442E2:			
Tama, moderately eroded	High	Moderate	Moderate
Sparta, moderately eroded-----	Low	Low	Moderate
Pillot, moderately eroded-----	High	Moderate	Moderate
1540:			
Quiver, frequently flooded-----	High	High	Low
Zook, frequently flooded-----	High	High	Moderate
Klum, frequently flooded-----	Moderate	Low	Low
2219:			
Ella, rarely flooded---	High	Low	Moderate
2219B:			
Ella, rarely flooded---	High	Low	Moderate
2219C2:			
Ella, moderately eroded	High	Low	Moderate
2422:			
Amana, occasionally flooded-----	High	High	Moderate
Nodaway, occasionally flooded-----	High	Moderate	Low
Lawson, occasionally flooded-----	High	Moderate	Low

Soil Features--Continued

Map symbol and soil name	Potential for frost action	Risk of corrosion	
		Uncoated steel	Concrete
4946: Udorthents. Interstate highway.			
5010. Pits, sand and gravel			
5040. Udorthents			
6220: Nodaway, frequently flooded-----	High	Moderate	Low
6422: Amana, frequently flooded-----	High	High	Moderate
AW. Animal waste lagoon			
SL. Sewage lagoon			
W. Water			

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