

Soil Descriptions - Non Technical

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8B--Sparta Loamy Fine Sand, 1 To 6 Percent Slopes

Component Description

Sparta and similar soils

Extent: 90 percent of the unit  
Slope range: 1 to 6 percent  
Surface layer texture: Loamy fine sand  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Excessively drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 4.6 inches  
Content of organic matter in the upper 10 inches: 1.5 percent  
Typical profile:  
    H1--0 to 14 inches; loamy fine sand  
    H2--14 to 30 inches; loamy fine sand  
    H3--30 to 60 inches; fine sand

Hanska

Extent: 5 percent of the unit  
Geomorphic description:  
    Drainageway

27B--Dickinson Fine Sandy Loam, 1 To 6 Percent Slopes

Component Description

Dickinson and similar soils

Extent: 90 percent of the unit  
Slope range: 1 to 5 percent  
Surface layer texture: Fine sandy loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 7.1 inches  
Content of organic matter in the upper 10 inches: 1.5 percent  
Typical profile:  
    H1--0 to 19 inches; fine sandy loam  
    H2--19 to 34 inches; sandy loam  
    H3--34 to 60 inches; fine sand

Hanska

Extent: 5 percent of the unit  
Geomorphic description:  
    Drainageway

35--Blue Earth Mucky Silty Clay Loam

Component Description

Blue earth and similar soils

Extent: 100 percent of the unit  
Geomorphic description:  
    Relict lakebed  
Slope range: 0 to 1 percent  
Surface layer texture: Mucky silty clay loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Very poorly drained

Flooding does not occur (months):  
January February May June July August September October  
November December  
Flooding is most likely (frequency, months):  
Rare March April  
Wet soil moisture status is highest (depth, months):  
At the surface March April  
Wet soil moisture status is lowest (depth, months):  
2.0 feet February August  
Ponding is shallowest (depth, months):  
0.0 foot July August September October  
November December  
Ponding is deepest (depth, months):  
1.0 foot April  
Available water capacity to a depth of 60 inches: 12.6 inches  
Content of organic matter in the upper 10 inches: 17.5 percent  
Typical profile:  
H1--0 to 10 inches; mucky silty clay loam  
H2--10 to 60 inches; mucky silty clay loam

### 37B--Farrar Fine Sandy Loam, 1 To 6 Percent Slopes

#### Component Description

##### Farrar and similar soils

Extent: 90 percent of the unit  
Slope range: 1 to 6 percent  
Surface layer texture: Fine sandy loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
3.6 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet January February July August  
September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.6 inches  
Content of organic matter in the upper 10 inches: 1.5 percent  
Typical profile:  
H1--0 to 20 inches; fine sandy loam  
H2--20 to 60 inches; loam

##### Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

##### Webster

Extent: 5 percent of the unit  
Geomorphic description:  
Drainageway

### 39B--Wadena Loam, 1 To 6 Percent Slopes

#### Component Description

##### Wadena and similar soils

Extent: 90 percent of the unit  
Slope range: 1 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 7.9 inches  
Content of organic matter in the upper 10 inches: 4.5 percent  
Typical profile:  
Ap,A--0 to 20 inches; loam

Bw,BC--20 to 38 inches; loam  
2C--38 to 60 inches; sand

**Biscay**

Extent: 5 percent of the unit  
Geomorphic description:  
Drainageway

**41B--Estherville Sandy Loam, 1 To 6 Percent Slopes**

**Component Description**

**Estherville and similar soils**

Extent: 90 percent of the unit  
Slope range: 1 to 6 percent  
Surface layer texture: Sandy loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat excessively drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 4.1 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
H1--0 to 13 inches; sandy loam  
H2--13 to 18 inches; sandy loam  
H3--18 to 60 inches; gravelly coarse sand

**Biscay**

Extent: 5 percent of the unit  
Geomorphic description:  
Drainageway

**41C--Estherville Sandy Loam, 6 To 12 Percent Slopes**

**Component Description**

**Estherville and similar soils**

Extent: 90 percent of the unit  
Slope range: 6 to 12 percent  
Surface layer texture: Sandy loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat excessively drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 4.1 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
H1--0 to 13 inches; sandy loam  
H2--13 to 18 inches; sandy loam  
H3--18 to 60 inches; gravelly coarse sand

**Biscay**

Extent: 5 percent of the unit  
Geomorphic description:  
Drainageway

**84--Brownton Silty Clay**

**Component Description**

**Brownton and similar soils**

Extent: 90 percent of the unit  
Geomorphic description:  
Flat  
Slope range: 0 to 1 percent  
Surface layer texture: Silty clay  
Depth to restrictive feature:

Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April May  
Wet soil moisture status is lowest (depth, months):  
2.6 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.0 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 20 inches; silty clay  
H2--20 to 60 inches; clay

Okoboji

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

86--Canisteo Clay Loam

Component Description

Canisteo and similar soils

Extent: 90 percent of the unit  
Geomorphic description:  
Flat  
Slope range: 0 to 2 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 9.7 inches  
Content of organic matter in the upper 10 inches: 5.8 percent  
Typical profile:  
H1--0 to 9 inches; clay loam  
H2--9 to 23 inches; clay loam  
H3--23 to 36 inches; clay loam  
H4--36 to 60 inches; loam

Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

94B--Terril Loam, 2 To 6 Percent Slopes

Component Description

Terril and similar soils

Extent: 90 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Moderately well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
2.5 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.0 inches  
Content of organic matter in the upper 10 inches: 4.0 percent  
Typical profile:  
H1--0 to 15 inches; loam

H2--15 to 36 inches; clay loam  
H3--36 to 60 inches; loam

Delft

Extent: 5 percent of the unit  
Geomorphic description:  
Drainageway

96--Collinwood Silty Clay

Component Description

Collinwood and similar soils

Extent: 90 percent of the unit  
Slope range: 0 to 3 percent  
Surface layer texture: Silty clay  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat poorly drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 8.6 inches  
Content of organic matter in the upper 10 inches: 6.5 percent  
Typical profile:  
H1--0 to 15 inches; silty clay  
H2--15 to 35 inches; clay  
H3--35 to 60 inches; silty clay

Okoboji

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

Waldorf

Extent: 5 percent of the unit  
Geomorphic description:  
Flat

101B--Truman Silt Loam, 1 To 6 Percent Slopes

Component Description

Truman and similar soils

Extent: 90 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Silt loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
3.6 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet January February July August  
September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 12.0 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 13 inches; silt loam  
H2--13 to 33 inches; silt loam  
H3--33 to 60 inches; silt loam

Madelia

Extent: 5 percent of the unit  
Geomorphic description:  
Drainageway

Okoboji

Extent: 5 percent of the unit  
Geomorphic description:

Depression

102B--Clarion Loam, 1 To 6 Percent Slopes

Component Description

Clarion and similar soils

Extent: 90 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    3.6 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          January February July August  
                                    September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.2 inches  
Content of organic matter in the upper 10 inches: 4.5 percent  
Typical profile:  
    H1--0 to 14 inches; loam  
    H2--14 to 33 inches; loam  
    H3--33 to 60 inches; loam

Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
    Depression

Webster

Extent: 5 percent of the unit  
Geomorphic description:  
    Drainageway

106B--Lester Loam, 2 To 6 Percent Slopes

Component Description

Lester and similar soils

Extent: 90 percent of the unit  
Slope range: 2 to 5 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    3.6 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          January February July August  
                                    September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.3 inches  
Content of organic matter in the upper 10 inches: 3.8 percent  
Typical profile:  
    H1--0 to 9 inches; loam  
    H2--9 to 41 inches; clay loam  
    H3--41 to 60 inches; loam

Cordova

Extent: 5 percent of the unit  
Geomorphic description:  
    Drainageway

Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
    Depression



Surface layer texture: Clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.7 inches  
Content of organic matter in the upper 10 inches: 5.5 percent  
Typical profile:  
H1--0 to 19 inches; clay loam  
H2--19 to 34 inches; clay loam  
H3--34 to 60 inches; loam

#### Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

#### 114--Glencoe Clay Loam

##### Component Description

##### Glencoe and similar soils

Extent: 100 percent of the unit  
Geomorphic description:  
Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding does not occur (months):  
January February May June July August September October  
November December  
Flooding is most likely (frequency, months):  
Rare March April  
Wet soil moisture status is highest (depth, months):  
At the surface March April  
Wet soil moisture status is lowest (depth, months):  
2.0 feet February August  
Ponding does not occur (months):  
July August September  
Ponding is deepest (depth, months):  
1.0 foot April  
Available water capacity to a depth of 60 inches: 11.8 inches  
Content of organic matter in the upper 10 inches: 7.5 percent  
Typical profile:  
H1--0 to 41 inches; clay loam  
H2--41 to 53 inches; silty clay loam  
H3--53 to 60 inches; silty clay loam

#### 118--Crippin Loam

##### Component Description

##### Crippin and similar soils

Extent: 90 percent of the unit  
Slope range: 0 to 3 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
1.5 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet February August  
Ponding: None

Available water capacity to a depth of 60 inches: 11.2 inches  
Content of organic matter in the upper 10 inches: 5.5 percent  
Typical profile:

H1--0 to 15 inches; loam  
H2--15 to 27 inches; loam  
H3--27 to 60 inches; loam

Canisteco

Extent: 5 percent of the unit  
Geomorphic description:  
Flat

Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

128B--Grogan Silt Loam, 1 To 6 Percent Slopes

Component Description

Grogan and similar soils

Extent: 90 percent of the unit  
Slope range: 1 to 6 percent  
Surface layer texture: Silt loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
3.6 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet January February July August  
September October December

Ponding: None

Available water capacity to a depth of 60 inches: 11.7 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:

H1--0 to 18 inches; silt loam  
H2--18 to 38 inches; silt loam  
H3--38 to 60 inches; stratified very fine sandy loam to silt loam

Madelia

Extent: 5 percent of the unit  
Geomorphic description:  
Drainageway

Okoboji

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

130--Nicollet Clay Loam

Component Description

Nicollet and similar soils

Extent: 90 percent of the unit  
Slope range: 1 to 3 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
1.5 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet February August

Ponding: None

Available water capacity to a depth of 60 inches: 10.7 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:

H1--0 to 17 inches; clay loam  
H2--17 to 36 inches; clay loam  
H3--36 to 60 inches; loam

Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

Webster

Extent: 5 percent of the unit  
Geomorphic description:  
Flat

134--Okoboji Silty Clay Loam

Component Description

Okoboji and similar soils

Extent: 100 percent of the unit  
Geomorphic description:  
Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Silty clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
At the surface March April  
Wet soil moisture status is lowest (depth, months):  
2.0 feet February August  
Ponding does not occur (months):  
August September October  
Ponding is deepest (depth, months):  
1.0 foot April  
Available water capacity to a depth of 60 inches: 12.2 inches  
Content of organic matter in the upper 10 inches: 8.5 percent  
Typical profile:  
H1--0 to 28 inches; silty clay loam  
H2--28 to 42 inches; silty clay loam  
H3--42 to 60 inches; clay loam

136--Madelia Silty Clay Loam

Component Description

Madelia and similar soils

Extent: 90 percent of the unit  
Geomorphic description:  
Flat  
Slope range: 0 to 2 percent  
Surface layer texture: Silty clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.8 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 22 inches; silty clay loam  
H2--22 to 37 inches; silty clay loam  
H3--37 to 60 inches; silt loam

Okoboji

Extent: 5 percent of the unit  
Geomorphic description:

Depression

140--Spicer Silty Clay Loam

Component Description

Spicer and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Flat

Slope range: 0 to 2 percent

Surface layer texture: Silty clay loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot April

Wet soil moisture status is lowest (depth, months):

3.3 feet February August

Ponding: None

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

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

H1--0 to 24 inches; silty clay loam

H2--24 to 34 inches; silty clay loam

H3--34 to 60 inches; silty clay loam

Okoboji

Extent: 5 percent of the unit

Geomorphic description:

Depression

181--Litchfield Sandy Loam

Component Description

Litchfield and similar soils

Extent: 90 percent of the unit

Slope range: 0 to 3 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Moderately well drained

Flooding: None

Wet soil moisture status is highest (depth, months):

2.5 feet April

Wet soil moisture status is lowest (depth, months):

More than 5.0 feet August

Ponding: None

Available water capacity to a depth of 60 inches: 6.8 inches

Content of organic matter in the upper 10 inches: 3.0 percent

Typical profile:

H1--0 to 16 inches; sandy loam

H2--16 to 37 inches; stratified loamy sand to fine sandy loam

H3--37 to 60 inches; sand

Hanksa

Extent: 5 percent of the unit

Geomorphic description:

Flat

197--Kingston Silt Loam

Component Description

Kingston and similar soils

Extent: 90 percent of the unit

Slope range: 0 to 3 percent

Surface layer texture: Silt loam

Depth to restrictive feature:

Very deep (more than 60 inches)  
Drainage class: Moderately well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
2.5 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.1 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 11 inches; silt loam  
H2--11 to 29 inches; silty clay loam  
H3--29 to 60 inches; silt loam

#### Madelia

Extent: 5 percent of the unit  
Geomorphic description:  
Flat

#### Okoboji

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

### 227--Lemond Sandy Loam

#### Component Description

##### Lemond and similar soils

Extent: 90 percent of the unit  
Geomorphic description:  
Flat  
Slope range: 0 to 2 percent  
Surface layer texture: Sandy loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
2.0 feet August  
Ponding: None  
Available water capacity to a depth of 60 inches: 6.4 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 20 inches; sandy loam  
H2--20 to 30 inches; sandy loam  
H3--30 to 60 inches; sand

#### Hanska

Extent: 5 percent of the unit  
Geomorphic description:  
Flat

### 229--Waldorf Silty Clay Loam

#### Component Description

##### Waldorf and similar soils

Extent: 90 percent of the unit  
Geomorphic description:  
Flat  
Slope range: 0 to 2 percent  
Surface layer texture: Silty clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April May

Wet soil moisture status is lowest (depth, months):  
2.6 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 12.1 inches  
Content of organic matter in the upper 10 inches: 7.0 percent  
Typical profile:  
H1--0 to 24 inches; silty clay loam  
H2--24 to 36 inches; silty clay  
H3--36 to 60 inches; silty clay loam

Okoboji  
Extent: 5 percent of the unit  
Geomorphic description:  
Depression

#### 247--Linder Loam

##### Component Description

Linder and similar soils  
Extent: 90 percent of the unit  
Slope range: 0 to 2 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
1.3 feet April  
Wet soil moisture status is lowest (depth, months):  
3.0 feet August  
Ponding: None  
Available water capacity to a depth of 60 inches: 6.3 inches  
Content of organic matter in the upper 10 inches: 3.5 percent  
Typical profile:  
H1--0 to 15 inches; loam  
H2--15 to 29 inches; sandy loam  
H3--29 to 60 inches; coarse sand

Biscay  
Extent: 5 percent of the unit  
Geomorphic description:  
Flat

Mayer  
Extent: 5 percent of the unit  
Geomorphic description:  
Flat

#### 255--Mayer Loam

##### Component Description

Mayer and similar soils  
Extent: 90 percent of the unit  
Geomorphic description:  
Flat  
Slope range: 0 to 2 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
2.0 feet August  
Ponding: None  
Available water capacity to a depth of 60 inches: 6.8 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 16 inches; loam

H2--16 to 30 inches; loam  
H3--30 to 60 inches; sand

**Biscay**

Extent: 5 percent of the unit  
Geomorphic description:  
Flat

**269--Millington Clay Loam, Occasionally Flooded**

**Component Description**

**Millington and similar soils**

Extent: 90 percent of the unit  
Geomorphic description:  
Flood plain  
Slope range: 0 to 2 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding does not occur (months):  
January February September October November December  
Flooding is most likely (frequency, months):  
Occasional March April May June July August  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.2 inches  
Content of organic matter in the upper 10 inches: 5.0 percent  
Typical profile:  
H1--0 to 28 inches; clay loam  
H2--28 to 39 inches; clay loam  
H3--39 to 60 inches; stratified loam to clay loam

**Coland**

Extent: 5 percent of the unit  
Geomorphic description:  
Flood plain

**275B--Ocheyedan Loam, 1 To 5 Percent Slopes**

**Component Description**

**Ocheyedan and similar soils**

Extent: 90 percent of the unit  
Slope range: 1 to 5 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
3.6 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet January February July August  
September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.9 inches  
Content of organic matter in the upper 10 inches: 3.5 percent  
Typical profile:  
H1--0 to 15 inches; loam  
H2--15 to 22 inches; loam  
H3--22 to 60 inches; silt loam

**Glencoe**

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

Webster

Extent: 5 percent of the unit  
Geomorphic description:  
Drainageway

282--Hanska Loam

Component Description

Hanska and similar soils

Extent: 90 percent of the unit  
Geomorphic description:  
Flat  
Slope range: 0 to 1 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
2.0 feet August  
Ponding: None  
Available water capacity to a depth of 60 inches: 7.0 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 21 inches; loam  
H2--21 to 34 inches; sandy loam  
H3--34 to 60 inches; sand

Lemond

Extent: 5 percent of the unit  
Geomorphic description:  
Flat

313--Spillville Loam, Occasionally Flooded

Component Description

Spillville and similar soils

Extent: 90 percent of the unit  
Slope range: 0 to 2 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Moderately well drained  
Flooding does not occur (months):  
January February September October November December  
Flooding is most likely (frequency, months):  
Occasional March April May June July August  
Wet soil moisture status is highest (depth, months):  
1.5 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.1 inches  
Content of organic matter in the upper 10 inches: 5.0 percent  
Typical profile:  
H1--0 to 32 inches; loam  
H2--32 to 60 inches; loam

Coland

Extent: 5 percent of the unit  
Geomorphic description:  
Flood plain

Millington

Extent: 5 percent of the unit  
Geomorphic description:  
Flood plain

336--Delft Loam

Component Description

Delft and similar soils

Extent: 90 percent of the unit  
Geomorphic description:  
  Drainageway  
Slope range: 1 to 3 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
  Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
  0.5 foot                   April  
Wet soil moisture status is lowest (depth, months):  
  3.3 feet                   February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.6 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
  H1--0 to 36 inches; loam  
  H2--36 to 44 inches; loam  
  H3--44 to 54 inches; loam  
  H4--54 to 60 inches; loam

Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
  Depression

350--Canisteo Clay Loam, Depressional

Component Description

Canisteo and similar soils

Extent: 90 percent of the unit  
Geomorphic description:  
  Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
  Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding does not occur (months):  
  January February May June July August September October  
  November December  
Flooding is most likely (frequency, months):  
  Rare                   March April  
Wet soil moisture status is highest (depth, months):  
  At the surface           March April  
Wet soil moisture status is lowest (depth, months):  
  2.0 feet                February August  
Ponding is shallowest (depth, months):  
  0.0 foot                June July August September  
                          October November December  
Ponding is deepest (depth, months):  
  1.0 foot                April  
Available water capacity to a depth of 60 inches: 9.8 inches  
Content of organic matter in the upper 10 inches: 5.8 percent  
Typical profile:  
  H1--0 to 9 inches; clay loam  
  H2--9 to 27 inches; clay loam  
  H3--27 to 60 inches; loam

Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
  Depression

392--Biscay Sandy Clay Loam

Component Description

Biscay and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Flat

Slope range: 0 to 2 percent

Surface layer texture: Sandy clay loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot April

Wet soil moisture status is lowest (depth, months):

2.0 feet August

Ponding: None

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

Content of organic matter in the upper 10 inches: 5.0 percent

Typical profile:

H1--0 to 22 inches; sandy clay loam

H2--22 to 32 inches; sandy clay loam

H3--32 to 60 inches; stratified sand to loamy sand

Glencoe

Extent: 5 percent of the unit

Geomorphic description:

Depression

Mayer

Extent: 5 percent of the unit

Geomorphic description:

Flat

499--Hanska Loam, Depressional

Component Description

Hanska and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Depression

Slope range: 0 to 1 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Very poorly drained

Flooding: None

Wet soil moisture status is highest (depth, months):

At the surface March April

Wet soil moisture status is lowest (depth, months):

2.0 feet February August

Ponding does not occur (months):

July August September October

Ponding is deepest (depth, months):

1.0 foot April

Available water capacity to a depth of 60 inches: 8.0 inches

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

H1--0 to 24 inches; loam

H2--24 to 37 inches; sandy loam

H3--37 to 60 inches; sand

Glencoe

Extent: 5 percent of the unit

Geomorphic description:

Depression

Lemond

Extent: 5 percent of the unit

Geomorphic description:

Rim

539--Palms Muck

Component Description

Palms and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Depression

Slope range: 0 to 2 percent

Surface layer texture: Muck

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Very poorly drained

Flooding: None

Wet soil moisture status is highest (depth, months):

At the surface March April

Wet soil moisture status is lowest (depth, months):

2.0 feet February August

Ponding does not occur (months):

June July August September October

Ponding is deepest (depth, months):

1.0 foot April

Available water capacity to a depth of 60 inches: 14.9 inches

Content of organic matter in the upper 10 inches: 42.5 percent

Typical profile:

H1--0 to 11 inches; muck

H2--11 to 33 inches; muck

H3--33 to 47 inches; silty clay loam

H4--47 to 60 inches; clay loam

Okoboji

Extent: 5 percent of the unit

Geomorphic description:

Depression

548--Palms Muck, Sandy Substratum

Component Description

Palms and similar soils

Extent: 100 percent of the unit

Geomorphic description:

Depression

Slope range: 0 to 2 percent

Surface layer texture: Muck

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Very poorly drained

Flooding does not occur (months):

January February May June July August September October

November December

Flooding is most likely (frequency, months):

Frequent March April

Wet soil moisture status is highest (depth, months):

At the surface March April

Wet soil moisture status is lowest (depth, months):

2.0 feet February August

Ponding does not occur (months):

June July August September October

Ponding is deepest (depth, months):

1.0 foot April

Available water capacity to a depth of 60 inches: 9.8 inches

Content of organic matter in the upper 10 inches: 35.0 percent

Typical profile:

H1--0 to 10 inches; muck

H2--10 to 21 inches; muck

H3--21 to 34 inches; silty clay loam

H4--34 to 60 inches; stratified loamy sand to sand

664--Zook Silty Clay Loam, Occasionally Flooded

Component Description

Zook and similar soils

Extent: 90 percent of the unit

Geomorphic description:

Flood plain

Slope range: 0 to 2 percent

Surface layer texture: Silty clay loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Flooding does not occur (months):

January February September October November December

Flooding is most likely (frequency, months):

Occasional March April May June July August

Wet soil moisture status is highest (depth, months):

0.5 foot April May

Wet soil moisture status is lowest (depth, months):

2.6 feet February August

Ponding: None

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

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

H1--0 to 24 inches; silty clay loam

H2--24 to 38 inches; silty clay

H3--38 to 60 inches; silty clay loam

Millington

Extent: 5 percent of the unit

Geomorphic description:

Flood plain

818--Lemond-Linder Complex

Component Description

Lemond and similar soils

Extent: 35 percent of the unit

Geomorphic description:

Flat

Slope range: 0 to 2 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Poorly drained

Flooding: None

Wet soil moisture status is highest (depth, months):

0.5 foot April

Wet soil moisture status is lowest (depth, months):

2.0 feet August

Ponding: None

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

Content of organic matter in the upper 10 inches: 6.0 percent

Typical profile:

H1--0 to 24 inches; sandy loam

H2--24 to 30 inches; sandy loam

H3--30 to 60 inches; loamy sand

Linder and similar soils

Extent: 25 percent of the unit

Slope range: 0 to 2 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Somewhat poorly drained

Flooding: None

Wet soil moisture status is highest (depth, months):

1.3 feet April

Wet soil moisture status is lowest (depth, months):

3.0 feet August

Ponding: None

Available water capacity to a depth of 60 inches: 6.1 inches  
Content of organic matter in the upper 10 inches: 3.5 percent

Typical profile:

H1--0 to 20 inches; sandy loam  
H2--20 to 30 inches; sandy loam  
H3--30 to 60 inches; loamy coarse sand

#### Hanska

Extent: 5 percent of the unit  
Geomorphic description:  
Flat

### 886--Nicollet-Crippin Complex

#### Component Description

##### Nicollet and similar soils

Extent: 50 percent of the unit  
Slope range: 1 to 3 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
1.5 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.3 inches  
Content of organic matter in the upper 10 inches: 5.5 percent  
Typical profile:  
H1--0 to 17 inches; clay loam  
H2--17 to 36 inches; clay loam  
H3--36 to 60 inches; loam

##### Crippin and similar soils

Extent: 35 percent of the unit  
Slope range: 0 to 3 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
1.5 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.9 inches  
Content of organic matter in the upper 10 inches: 5.5 percent  
Typical profile:  
H1--0 to 15 inches; loam  
H2--15 to 27 inches; clay loam  
H3--27 to 60 inches; loam

#### Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

### 887B--Clarion-Swanlake Loams, 2 To 6 Percent Slopes

#### Component Description

##### Clarion and similar soils

Extent: 60 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained

Flooding: None  
Wet soil moisture status is highest (depth, months):  
3.6 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet January February July August  
September October December

Ponding: None  
Available water capacity to a depth of 60 inches: 11.2 inches  
Content of organic matter in the upper 10 inches: 4.5 percent  
Typical profile:  
H1--0 to 14 inches; loam  
H2--14 to 33 inches; loam  
H3--33 to 60 inches; loam

#### Swanlake and similar soils

Extent: 25 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
3.6 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet January February July August  
September October December

Ponding: None  
Available water capacity to a depth of 60 inches: 11.6 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
H1--0 to 21 inches; loam  
H2--21 to 28 inches; loam  
H3--28 to 60 inches; loam

#### Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

#### Webster

Extent: 5 percent of the unit  
Geomorphic description:  
Drainageway

### 909C--Truman-Bold Silt Loams, 6 To 12 Percent Slopes

#### Component Description

##### Truman and similar soils

Extent: 40 percent of the unit  
Slope range: 6 to 12 percent  
Surface layer texture: Silt loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 12.0 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 18 inches; silt loam  
H2--18 to 30 inches; silt loam  
H3--30 to 60 inches; silt loam

##### Bold and similar soils

Extent: 30 percent of the unit  
Slope range: 6 to 12 percent  
Surface layer texture: Silt loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained

Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 13.3 inches  
Content of organic matter in the upper 10 inches: 1.2 percent  
Typical profile:  
H1--0 to 10 inches; silt loam  
H2--10 to 60 inches; silt loam

**Madelia**

Extent: 5 percent of the unit  
Geomorphic description:  
Drainageway

**Okoboji**

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

**909D2--Bold-Truman Silt Loams, 12 To 18 Percent Slopes, Eroded**

**Component Description**

**Bold and similar soils**

Extent: 40 percent of the unit  
Slope range: 12 to 18 percent  
Surface layer texture: Silt loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 13.2 inches  
Content of organic matter in the upper 10 inches: 1.1 percent  
Typical profile:  
H1--0 to 8 inches; silt loam  
H2--8 to 60 inches; silt loam

**Truman and similar soils**

Extent: 35 percent of the unit  
Slope range: 12 to 18 percent  
Surface layer texture: Silt loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 12.1 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 15 inches; silt loam  
H2--15 to 40 inches; silt loam  
H3--40 to 60 inches; silt loam

**Madelia**

Extent: 10 percent of the unit  
Geomorphic description:  
Drainageway

**920B--Clarion-Estherville Complex, 2 To 6 Percent Slopes**

**Component Description**

**Clarion and similar soils**

Extent: 50 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained

Flooding: None  
Wet soil moisture status is highest (depth, months):  
3.6 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet January February July August  
September October December

Ponding: None  
Available water capacity to a depth of 60 inches: 11.2 inches  
Content of organic matter in the upper 10 inches: 4.5 percent  
Typical profile:  
H1--0 to 14 inches; loam  
H2--14 to 33 inches; loam  
H3--33 to 60 inches; loam

#### Estherville and similar soils

Extent: 25 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Sandy loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat excessively drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 4.1 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
H1--0 to 13 inches; sandy loam  
H2--13 to 18 inches; sandy loam  
H3--18 to 60 inches; gravelly loamy sand

#### Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

#### Webster

Extent: 5 percent of the unit  
Geomorphic description:  
Drainageway

### 920C2--Clarion-Estherville-Storden Complex, 6 To 12 Percent Slopes, Eroded

#### Component Description

##### Clarion and similar soils

Extent: 30 percent of the unit  
Slope range: 6 to 10 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.1 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
H1--0 to 10 inches; loam  
H2--10 to 36 inches; loam  
H3--36 to 60 inches; loam

##### Estherville and similar soils

Extent: 20 percent of the unit  
Slope range: 6 to 12 percent  
Surface layer texture: Sandy loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat excessively drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 5.7 inches

Content of organic matter in the upper 10 inches: 3.0 percent

Typical profile:

H1--0 to 10 inches; sandy loam

H2--10 to 30 inches; sandy loam

H3--30 to 60 inches; coarse sand

Storden and similar soils

Extent: 20 percent of the unit

Slope range: 6 to 12 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Flooding: None

Depth to wet soil moisture status: More than 5.0 feet all year

Ponding: None

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

Content of organic matter in the upper 10 inches: 1.4 percent

Typical profile:

H1--0 to 9 inches; loam

H2--9 to 60 inches; loam

Delft

Extent: 5 percent of the unit

Geomorphic description:

Drainageway

Glencoe

Extent: 5 percent of the unit

Geomorphic description:

Depression

920D2--Clarion-Estherville-Storden Complex, 12 To 18 Percent Slopes, Eroded

Component Description

Clarion and similar soils

Extent: 25 percent of the unit

Slope range: 12 to 18 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Flooding: None

Depth to wet soil moisture status: More than 5.0 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 11.0 inches

Content of organic matter in the upper 10 inches: 2.9 percent

Typical profile:

H1--0 to 9 inches; loam

H2--9 to 18 inches; loam

H3--18 to 60 inches; loam

Estherville and similar soils

Extent: 20 percent of the unit

Slope range: 12 to 18 percent

Surface layer texture: Sandy loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Somewhat excessively drained

Flooding: None

Depth to wet soil moisture status: More than 5.0 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 3.9 inches

Content of organic matter in the upper 10 inches: 2.8 percent

Typical profile:

H1--0 to 9 inches; sandy loam

H2--9 to 16 inches; sandy loam

H3--16 to 60 inches; gravelly coarse sand

Storden and similar soils

Extent: 20 percent of the unit

Slope range: 12 to 18 percent

Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 1.4 percent  
Typical profile:  
    H1--0 to 9 inches; loam  
    H2--9 to 60 inches; loam

Delft

Extent: 10 percent of the unit  
Geomorphic description:  
    Drainageway

921B--Clarion-Storden Loams, 2 To 6 Percent Slopes

Component Description

Clarion and similar soils

Extent: 45 percent of the unit  
Slope range: 2 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    3.6 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          January February July August  
                                    September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.0 inches  
Content of organic matter in the upper 10 inches: 4.2 percent  
Typical profile:  
    H1--0 to 9 inches; loam  
    H2--9 to 19 inches; loam  
    H3--19 to 60 inches; loam

Storden and similar soils

Extent: 35 percent of the unit  
Slope range: 4 to 6 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    3.6 feet                      April  
Wet soil moisture status is lowest (depth, months):  
    More than 5.0 feet          January February July August  
                                    September October December  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 1.4 percent  
Typical profile:  
    H1--0 to 9 inches; loam  
    H3--9 to 60 inches; loam

Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
    Depression

Webster

Extent: 5 percent of the unit  
Geomorphic description:  
    Drainageway

921C2--Clarion-Storden Loams, 6 To 12 Percent Slopes, Eroded

Component Description

Clarion and similar soils

Extent: 35 percent of the unit  
Slope range: 6 to 12 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.1 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
    H1--0 to 10 inches; loam  
    H2--10 to 23 inches; loam  
    H3--23 to 60 inches; loam

Storden and similar soils

Extent: 30 percent of the unit  
Slope range: 6 to 12 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.6 inches  
Content of organic matter in the upper 10 inches: 1.5 percent  
Typical profile:  
    H1--0 to 10 inches; loam  
    H2--10 to 60 inches; loam

Delft

Extent: 5 percent of the unit  
Geomorphic description:  
    Drainageway

Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
    Depression

956--Canisteo-Glencoe Clay Loams

Component Description

Canisteo and similar soils

Extent: 60 percent of the unit  
Geomorphic description:  
    Rim  
Slope range: 0 to 2 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
    Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
    0.5 foot                      April  
Wet soil moisture status is lowest (depth, months):  
    3.3 feet                      February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 9.7 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
    H1--0 to 11 inches; clay loam  
    H2--11 to 22 inches; clay loam  
    H3--22 to 28 inches; clay loam

H4--28 to 60 inches; loam

Glencoe and similar soils

Extent: 30 percent of the unit

Geomorphic description:

Depression

Slope range: 0 to 1 percent

Surface layer texture: Clay loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Very poorly drained

Flooding does not occur (months):

January February May June July August September October

November December

Flooding is most likely (frequency, months):

Rare March April

Wet soil moisture status is highest (depth, months):

At the surface March April

Wet soil moisture status is lowest (depth, months):

2.0 feet February August

Ponding does not occur (months):

July August September

Ponding is deepest (depth, months):

1.0 foot April

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

Content of organic matter in the upper 10 inches: 7.5 percent

Typical profile:

H1--0 to 26 inches; clay loam

H2--26 to 38 inches; clay loam

H3--38 to 60 inches; loam

Webster

Extent: 5 percent of the unit

Geomorphic description:

Flat

960D2--Storden-Clarion Loams, 12 To 18 Percent Slopes, Eroded

Component Description

Storden and similar soils

Extent: 40 percent of the unit

Slope range: 12 to 18 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Flooding: None

Depth to wet soil moisture status: More than 5.0 feet all year

Ponding: None

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

Content of organic matter in the upper 10 inches: 1.2 percent

Typical profile:

H1--0 to 8 inches; loam

H3--8 to 60 inches; loam

Clarion and similar soils

Extent: 30 percent of the unit

Slope range: 12 to 18 percent

Surface layer texture: Loam

Depth to restrictive feature:

Very deep (more than 60 inches)

Drainage class: Well drained

Flooding: None

Depth to wet soil moisture status: More than 5.0 feet all year

Ponding: None

Available water capacity to a depth of 60 inches: 11.0 inches

Content of organic matter in the upper 10 inches: 2.6 percent

Typical profile:

H1--0 to 8 inches; loam

H2--8 to 22 inches; loam

H3--22 to 60 inches; loam

Delft

Extent: 10 percent of the unit  
Geomorphic description:  
Drainageway

960E--Storden-Clarion Loams, 18 To 25 Percent Slopes

Component Description

Storden and similar soils

Extent: 45 percent of the unit  
Slope range: 18 to 25 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.5 inches  
Content of organic matter in the upper 10 inches: 1.4 percent  
Typical profile:  
H1--0 to 9 inches; loam  
H2--9 to 60 inches; loam

Clarion and similar soils

Extent: 30 percent of the unit  
Slope range: 18 to 25 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.2 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:  
H1--0 to 15 inches; loam  
H2--15 to 30 inches; loam  
H3--30 to 60 inches; loam

Delft

Extent: 10 percent of the unit  
Geomorphic description:  
Drainageway

1029--Pits, Gravel

Component Description

Pits

Extent: 90 percent of the unit  
Ponding: None

Biscay

Extent: 5 percent of the unit  
Geomorphic description:  
Flat

1052--Palms And Okoboji Soils, Ponded

Component Description

Okoboji and similar soils

Extent: 50 percent of the unit  
Geomorphic description:  
Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Silty clay loam  
Depth to restrictive feature:

Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status: At the surface all year  
Ponding: At 1.5 feet all year  
Available water capacity to a depth of 60 inches: 11.4 inches  
Content of organic matter in the upper 10 inches: 7.5 percent  
Typical profile:  
H1--0 to 35 inches; silty clay loam  
H2--35 to 46 inches; silty clay loam  
H3--46 to 60 inches; clay loam

#### Palms and similar soils

Extent: 50 percent of the unit  
Geomorphic description:  
Depression  
Slope range: 0 to 1 percent  
Surface layer texture: Muck  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Very poorly drained  
Flooding: None  
Wet soil moisture status: At the surface all year  
Ponding: At 1.5 feet all year  
Available water capacity to a depth of 60 inches: 16.5 inches  
Content of organic matter in the upper 10 inches: 42.5 percent  
Typical profile:  
H1--0 to 26 inches; muck  
H2--26 to 60 inches; clay loam

#### 1090--Blue Earth Silt Loam

##### Component Description

##### Blue earth and similar soils

Extent: 100 percent of the unit  
Geomorphic description:  
Flat  
Slope range: 0 to 2 percent  
Surface layer texture: Silt loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
1.0 foot                      March April May  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet              August  
Ponding: None  
Available water capacity to a depth of 60 inches: 10.4 inches  
Content of organic matter in the upper 10 inches: 9.2 percent  
Typical profile:  
H1--0 to 9 inches; silt loam  
H2--9 to 60 inches; silt loam

#### 1356--Water, Miscellaneous

##### Component Description

Water, miscellaneous  
Extent: 100 percent of the unit

#### 1833--Coland Loam, Occasionally Flooded

##### Component Description

Coland and similar soils  
Extent: 90 percent of the unit  
Geomorphic description:  
Flood plain  
Slope range: 0 to 2 percent

Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding does not occur (months):  
January February September October November December  
Flooding is most likely (frequency, months):  
Occasional March April May June July August  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 12.6 inches  
Content of organic matter in the upper 10 inches: 5.6 percent  
Typical profile:  
H1--0 to 8 inches; loam  
H2--8 to 60 inches; clay loam

#### Millington

Extent: 5 percent of the unit  
Geomorphic description:  
Flood plain

#### 1834--Coland Loam, Frequently Flooded

##### Component Description

##### Coland and similar soils

Extent: 90 percent of the unit  
Geomorphic description:  
Flood plain  
Slope range: 0 to 2 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Poorly drained  
Flooding does not occur (months):  
January February September October November December  
Flooding is most likely (frequency, months):  
Frequent March April May June  
Wet soil moisture status is highest (depth, months):  
0.5 foot April  
Wet soil moisture status is lowest (depth, months):  
3.3 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.6 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 16 inches; loam  
H2--16 to 44 inches; clay loam  
H3--44 to 60 inches; clay loam

#### Millington

Extent: 5 percent of the unit  
Geomorphic description:  
Flood plain

#### 1852F--Terril-Swanlake Loams, 18 To 40 Percent Slopes

##### Component Description

##### Terril and similar soils

Extent: 45 percent of the unit  
Slope range: 18 to 40 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Moderately well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None

Available water capacity to a depth of 60 inches: 11.0 inches  
Content of organic matter in the upper 10 inches: 4.0 percent  
Typical profile:

H1--0 to 15 inches; loam  
H2--15 to 40 inches; loam  
H3--40 to 60 inches; loam

Swanlake and similar soils

Extent: 25 percent of the unit  
Slope range: 18 to 40 percent  
Surface layer texture: Loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Well drained  
Flooding: None  
Depth to wet soil moisture status: More than 5.0 feet all year  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.3 inches  
Content of organic matter in the upper 10 inches: 3.0 percent  
Typical profile:

H1--0 to 14 inches; loam  
H2--14 to 30 inches; loam  
H3--30 to 60 inches; loam

Delft

Extent: 10 percent of the unit  
Geomorphic description:  
Drainageway

1877--Fostoria Clay Loam

Component Description

Fostoria and similar soils

Extent: 90 percent of the unit  
Slope range: 0 to 2 percent  
Surface layer texture: Clay loam  
Depth to restrictive feature:  
Very deep (more than 60 inches)  
Drainage class: Somewhat poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
1.5 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 12.6 inches  
Content of organic matter in the upper 10 inches: 5.5 percent  
Typical profile:

H1--0 to 19 inches; clay loam  
H2--19 to 25 inches; clay loam  
H3--25 to 60 inches; silt loam

Glencoe

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

Webster

Extent: 5 percent of the unit  
Geomorphic description:  
Flat

1907--Lakefield Silt Loam

Component Description

Lakefield and similar soils

Extent: 90 percent of the unit  
Slope range: 0 to 3 percent  
Surface layer texture: Silt loam  
Depth to restrictive feature:

Very deep (more than 60 inches)  
Drainage class: Somewhat poorly drained  
Flooding: None  
Wet soil moisture status is highest (depth, months):  
2.5 feet April  
Wet soil moisture status is lowest (depth, months):  
More than 5.0 feet February August  
Ponding: None  
Available water capacity to a depth of 60 inches: 11.4 inches  
Content of organic matter in the upper 10 inches: 6.0 percent  
Typical profile:  
H1--0 to 20 inches; silt loam  
H2--20 to 60 inches; silt loam

**Madelia**

Extent: 5 percent of the unit  
Geomorphic description:  
Flat

**Okoboji**

Extent: 5 percent of the unit  
Geomorphic description:  
Depression

**W--Water**

**Component Description**

**Water**

Extent: 95 percent of the unit