Map Unit Description (MN)

Cottonwood County, Minnesota

[Data apply to the entire extent of the map unit within the survey area. Map unit and soil properties for a specific parcel of land may vary somewhat and should be determined by onsite investigation]

1007--Udorthents, shallow (sanitary landfill)

Udorthents, shallow, sanitary landfill

Extent: 100 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 20 percent
Parent material: variable soil material
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class: well drained

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil: no
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

1010--Pits, quarry

Pits, quarry

Extent: 100 percent of the unit
Landform(s): moraines
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

1024A--Havelock clay loam, 0 to 2 percent slopes, occasionally flooded

Havelock, occasionally flooded

Extent: 75 to 85 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 32 in	clay loam	moderate	5.42 to 7.33 in	7.4 to 8.4
Cg -- 32 to 60 in	clay loam	moderate	4.75 to 5.59 in	7.4 to 8.4

1055--Aquents (distrubed land), ponded-Udorthents, loamy complex

Aquents, ponded

Extent: 50 to 70 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: variable soil material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor):
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	*Permeability*	*Available water capacity*	*pH*

Udorthents, loamy (cut and fill land)

Extent: 30 to 50 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil: no
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	*Permeability*	*Available water capacity*	*pH*

GP--Pits, gravel-Udipsamments complex

Pits, gravel

Extent: 50 to 100 percent of the unit
Landform(s): outwash plains, stream terraces
Slope gradient:
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

Udipsamments

Extent: 15 to 30 percent of the unit
Landform(s): outwash plains, stream terraces
Slope gradient:
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

L5A--Delft, overwash-Delft complex, 1 to 4 percent slopes

Delft, overwash

Extent: 40 to 60 percent of the unit
Landform(s): drainageways on moraines, swales on moraines
Slope gradient: 1 to 4 percent
Parent material: colluvium over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained
Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated 2w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 12 in	loam	moderately slow	2.13 to 2.36 in	5.6 to 7.8
A -- 12 to 37 in	loam	moderately slow	4.54 to 5.04 in	5.6 to 7.8
Bg -- 37 to 47 in	clay loam	moderate	1.87 to 2.17 in	6.6 to 7.8
Cg -- 47 to 80 in	loam	moderate	4.96 to 6.28 in	7.4 to 8.4

Delft

Extent: 30 to 55 percent of the unit
Landform(s): drainageways on moraines, swales on moraines
Slope gradient: 1 to 3 percent
Parent material: colluvium over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained
Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 37 in	loam	moderately slow	6.66 to 7.40 in	5.6 to 7.8
Bg -- 37 to 50 in	clay loam	moderate	2.47 to 2.86 in	6.6 to 7.8
Cg -- 50 to 60 in	loam	moderate	1.48 to 1.87 in	7.4 to 8.4

L6A--Biscay loam, 0 to 2 percent slopes

Biscay

Extent: 80 to 100 percent of the unit
Landform(s): swales on outwash plains, swales on stream terraces
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap,A1,A2	0 to 20 in	loam	moderate	4.02 to 4.42 in	6.1 to 7.8
Bg	20 to 28 in	loam	moderate	1.34 to 1.50 in	6.6 to 7.8
2BCg	28 to 36 in	gravelly loam	moderately rapid	0.87 to 1.34 in	6.6 to 7.8
2Cg	36 to 60 in	stratified very gravelly coarse sand to loamy sand	rapid	0.48 to 0.96 in	7.4 to 8.4

L7A--Biscay loam, depressional, 0 to 1 percent slopes

Biscay, depressional

Extent: 80 to 100 percent of the unit
Landform(s): depressions on outwash plains, stream terraces
Slope gradient: 0 to 1 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 23 in	loam	moderate	4.57 to 5.02 in	6.1 to 7.8
Bg -- 23 to 28 in	loam	moderate	0.87 to 0.97 in	6.6 to 7.8
2BCg -- 28 to 36 in	gravelly loam	moderately rapid	0.87 to 1.34 in	6.6 to 7.8
2Cg -- 36 to 60 in	stratified gravelly coarse sand to loamy sand	rapid	0.48 to 0.96 in	7.4 to 8.4

L16A--Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes

Houghton, ponded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer)
Land capability, nonirrigated 8w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 80 in	muck	moderately rapid	27.97 to 35.96 in	

Muskego, ponded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over coprogenous earth
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated 8w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa1 -- 0 to 9 in	muck	moderately rapid	3.17 to 4.07 in	
Oa2 -- 9 to 36 in	muck	moderately rapid	9.37 to 12.05 in	
Lco -- 36 to 60 in	coprogenous earth	slow	4.32 to 5.76 in	

L16A--Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes

Blue Earth, ponded

Extent: 0 to 100 percent of the unit
Landform(s): marshes on moraines
Slope gradient: 0 to 1 percent
Parent material: coprogenous earth
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .37
Land capability, nonirrigated 8w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 50 in	silt loam	moderate	9.00 to 12.00 in	7.4 to 8.4
Cg -- 50 to 60 in	silt loam	moderate	1.77 to 2.36 in	7.4 to 8.4

L46B--Tomall loam, 2 to 6 percent slopes

Tomall

Extent: 75 to 90 percent of the unit
Landform(s): hills, outwash plains, stream terraces
Slope gradient: 2 to 6 percent
Parent material: colluvium over outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .32
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 33 in	loam	moderate	6.61 to 7.94 in	6.1 to 7.3
Bw -- 33 to 42 in	sandy loam	moderate	1.36 to 1.72 in	6.1 to 7.3
2Bw -- 42 to 47 in	loamy coarse sand	very rapid	0.09 to 0.24 in	6.1 to 7.3
2C -- 47 to 80 in	gravelly loamy coarse sand	very rapid	0.66 to 1.65 in	7.4 to 7.8

L65B--Augusta Lake fine sandy loam, 1 to 6 percent slopes

Augusta Lake

Extent: 85 to 90 percent of the unit
Landform(s): hills on moraines
Slope gradient: 1 to 6 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .10
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 15 in	fine sandy loam	moderately rapid	1.80 to 2.24 in	5.6 to 7.3
Bw1,Bw2 -- 15 to 28 in	fine sandy loam	moderately rapid	1.56 to 1.95 in	5.1 to 6.5
Bw3 -- 28 to 46 in	loamy fine sand	rapid	0.36 to 0.72 in	5.6 to 7.8
2C -- 46 to 80 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4

L66B--Bechyn-Germantown-Rock outcrop complex, 2 to 6 percent slopes

Bechyn

Extent: 30 to 60 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: till over bedrock
Restrictive feature(s): lithic bedrock at 4 to 18 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 6s
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 10 in	clay loam	moderate	1.77 to 2.17 in	5.6 to 6.5
Bw -- 10 to 18 in	clay loam	moderately slow	1.32 to 1.57 in	5.1 to 6.5
2R -- 18 to 80 in	unweathered bedrock	very slow		

Rock outcrop

Extent: 30 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

L66B--Bechyn-Germantown-Rock outcrop complex, 2 to 6 percent slopes

Germantown

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: till over bedrock
Restrictive feature(s): lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 14 in	clay loam	moderate	2.55 to 3.12 in	5.6 to 6.5
Bw -- 14 to 19 in	clay loam	moderately slow	0.76 to 0.90 in	5.1 to 8.4
Bk -- 19 to 27 in	loam	moderate	1.24 to 1.57 in	7.4 to 8.4
C -- 27 to 36 in	loam	moderate	1.30 to 1.65 in	7.4 to 8.4
2R -- 36 to 80 in		very slow		

L66C--Bechyn-Germantown-Rock outcrop complex, 6 to 12 percent slopes

Bechyn

Extent: 30 to 60 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till over bedrock
Restrictive feature(s): lithic bedrock at 4 to 18 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 7s
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 10 in	clay loam	moderate	1.77 to 2.17 in	5.6 to 6.5
Bw -- 10 to 18 in	clay loam	moderately slow	1.32 to 1.57 in	5.1 to 6.5
2R -- 18 to 80 in	unweathered bedrock	very slow		

Germantown

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till over bedrock
Restrictive feature(s): lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 14 in	clay loam	moderate	2.55 to 3.12 in	5.6 to 6.5
Bw -- 14 to 19 in	clay loam	moderately slow	0.76 to 0.90 in	5.1 to 8.4
Bk -- 19 to 27 in	loam	moderate	1.24 to 1.57 in	7.4 to 8.4
C -- 27 to 36 in	loam	moderate	1.30 to 1.65 in	7.4 to 8.4
2R -- 36 to 80 in		very slow		

L66C--Bechyn-Germantown-Rock outcrop complex, 6 to 12 percent slopes

Rock outcrop

Extent: 30 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

L67B--Crooksford silt loam, 1 to 5 percent slopes

Crooksford

Extent: 70 to 85 percent of the unit
Landform(s): hills on moraines
Slope gradient: 1 to 5 percent
Parent material: lacustrine/loess sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 14 in	silt loam	moderate	2.83 to 3.40 in	6.1 to 7.3
Bw -- 14 to 26 in	silt loam	moderate	2.13 to 2.83 in	6.6 to 7.8
Bk -- 26 to 36 in	silt loam	moderate	1.77 to 1.97 in	7.4 to 8.4
2Bk -- 36 to 70 in	loam	moderate	5.82 to 8.22 in	7.4 to 8.4
2C -- 70 to 80 in	loam	moderate	1.48 to 1.87 in	7.4 to 8.4

L68B--Germantown clay loam, 1 to 8 percent slopes

Germantown

Extent: 75 to 90 percent of the unit
Landform(s): hills on moraines
Slope gradient: 1 to 8 percent
Parent material: till over bedrock
Restrictive feature(s): lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 14 in	clay loam	moderate	2.55 to 3.12 in	5.6 to 6.5
Bw -- 14 to 19 in	clay loam	moderately slow	0.76 to 0.90 in	5.1 to 8.4
Bk -- 19 to 27 in	loam	moderate	1.24 to 1.57 in	7.4 to 8.4
C -- 27 to 36 in	loam	moderate	1.30 to 1.65 in	7.4 to 8.4
2R -- 36 to 80 in		very slow		

L69B--Grogan silt loam, 1 to 6 percent slopes

Grogan

Extent: 85 to 95 percent of the unit
Landform(s): hills on deltas, lake plains, hills on moraines
Slope gradient: 1 to 6 percent
Parent material: lacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .43
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 13 in	silt loam	moderately rapid	2.86 to 3.12 in	5.6 to 7.3
Bw -- 13 to 31 in	loam	moderately rapid	3.08 to 3.44 in	6.1 to 7.8
BC1 -- 31 to 36 in	very fine sandy loam	moderately rapid	0.80 to 0.90 in	7.4 to 8.4
BC2 -- 36 to 60 in	very fine sandy loam	moderately rapid	4.08 to 4.56 in	7.4 to 8.4

L73A--Blue Earth mucky silty clay loam, depressional, 0 to 1 percent slopes

Blue Earth, depressional

Extent: 70 to 90 percent of the unit
Landform(s): depressions on lake plains, depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: coprogenous earth
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	silty clay loam	moderate	1.77 to 2.36 in	7.4 to 8.4
Cg -- 10 to 68 in	silty clay loam	moderate	10.42 to 13.89 in	7.4 to 8.4
2Cg -- 68 to 80 in	loam	moderate	1.83 to 2.32 in	7.4 to 8.4

L74A--Estherville sandy loam, 0 to 2 percent slopes

Estherville, terrace

Extent: 80 to 90 percent of the unit
Landform(s): flats on stream terraces, rises on stream terraces
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 13 in	sandy loam	moderately rapid	1.69 to 2.34 in	5.6 to 7.3
Bw1 -- 13 to 18 in	sandy loam	moderately rapid	0.61 to 0.85 in	5.6 to 7.3
2Bw2 -- 18 to 23 in	loamy coarse sand	rapid	0.10 to 0.20 in	5.6 to 7.3
2C -- 23 to 60 in	gravelly coarse sand	rapid	0.74 to 1.48 in	6.6 to 8.4

L76E--Dickinson fine sandy loam, 18 to 30 percent slopes

Dickinson

Extent: 75 to 90 percent of the unit
Landform(s): hills on outwash plains, stream terraces
Slope gradient: 18 to 30 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .10
Land capability, nonirrigated 7e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 10 in	fine sandy loam	moderately rapid	1.18 to 1.48 in	5.6 to 7.3
AB -- 10 to 18 in	sandy loam	moderately rapid	0.99 to 1.24 in	5.6 to 7.3
Bw1 -- 18 to 35 in	fine sandy loam	moderately rapid	2.03 to 2.54 in	5.1 to 6.5
Bw2 -- 35 to 42 in	loamy fine sand	rapid	0.14 to 0.28 in	5.6 to 7.3
C -- 42 to 80 in	loamy fine sand	rapid	0.76 to 1.51 in	5.6 to 7.3

L78A--Canisteo clay loam, 0 to 2 percent slopes

Canisteo

Extent: 55 to 85 percent of the unit
Landform(s): rims on depressions on moraines, flats on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 18 in	clay loam	moderate	3.26 to 3.98 in	7.4 to 8.4
Bkg -- 18 to 39 in	loam	moderate	3.13 to 3.96 in	7.4 to 8.4
Cg -- 39 to 80 in	loam	moderate	6.14 to 7.78 in	7.4 to 8.4

L79B--Clarion loam, 2 to 5 percent slopes

Clarion

Extent: 50 to 80 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 5 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 14 in	loam	moderate	2.83 to 3.12 in	5.6 to 7.3
Bw -- 14 to 33 in	loam	moderate	3.21 to 3.59 in	5.6 to 7.3
Bk -- 33 to 60 in	loam	moderate	4.02 to 5.09 in	7.4 to 8.4

L82A--Marna silty clay loam, 0 to 2 percent slopes

Marna

Extent: 70 to 90 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: lacustrine sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 20 in	silty clay loam	slow	3.61 to 4.42 in	6.1 to 7.3
Bg -- 20 to 32 in	clay	slow	1.54 to 1.89 in	6.1 to 7.3
2Bg -- 32 to 41 in	clay loam	moderately slow	1.36 to 1.72 in	6.6 to 7.4
2Bkg -- 41 to 60 in	loam	moderate	2.83 to 3.59 in	7.4 to 8.4

L83A--Webster clay loam, 0 to 2 percent slopes

Webster

Extent: 50 to 85 percent of the unit
Landform(s): flats on moraines, swales on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 19 in	clay loam	moderate	3.59 to 3.97 in	6.6 to 7.3
Bg -- 19 to 26 in	clay loam	moderate	1.13 to 1.28 in	6.6 to 7.8
BCg,Cg -- 26 to 60 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4

L84A--Glencoe clay loam, depressional, 0 to 1 percent slopes

Glencoe, depressional

Extent: 75 to 100 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 24 in	clay loam	moderate	4.32 to 5.28 in	6.1 to 7.8
ABg -- 24 to 35 in	clay loam	moderate	1.98 to 2.43 in	6.1 to 7.8
Bg -- 35 to 48 in	loam	moderate	1.95 to 2.47 in	6.6 to 7.8
Cg -- 48 to 60 in	loam	moderate	1.77 to 2.24 in	7.4 to 8.4

L85A--Nicollet clay loam, 1 to 3 percent slopes

Nicollet

Extent: 70 to 95 percent of the unit
Landform(s): flats on moraines, rises on moraines
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 17 in	clay loam	moderate	2.88 to 3.72 in	5.6 to 7.3
Bw,Bg -- 17 to 33 in	clay loam	moderate	2.42 to 3.07 in	5.6 to 7.3
Bg -- 33 to 36 in	clay loam	moderate	0.41 to 0.52 in	7.4 to 8.4
Cg -- 36 to 60 in	loam	moderate	3.60 to 4.56 in	7.4 to 8.4

L86A--Madelia silty clay loam, 0 to 2 percent slopes

Madelia

Extent: 80 to 95 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: lacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 19 in	silty clay loam	moderate	3.40 to 4.54 in	6.1 to 7.3
Bg -- 19 to 37 in	silty clay loam	moderate	2.90 to 3.98 in	6.6 to 7.8
Cg -- 37 to 60 in	silt loam	moderate	3.65 to 5.02 in	7.4 to 8.4

L87A--Kingston silty clay loam, 1 to 3 percent slopes

Kingston

Extent: 70 to 90 percent of the unit
Landform(s): rises on lake plains
Slope gradient: 1 to 3 percent
Parent material: lacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 16 in	silty clay loam	moderate	2.91 to 3.87 in	5.6 to 7.3
Bg1,Bg2 -- 16 to 25 in	silty clay loam	moderate	1.45 to 1.81 in	5.6 to 7.3
C -- 25 to 60 in	silt loam	moderate	5.54 to 6.93 in	7.4 to 8.4

L88A--Lura silty clay, depressional, 0 to 1 percent slopes

Lura, depressional

Extent: 75 to 95 percent of the unit
Landform(s): depressions on lake plains
Slope gradient: 0 to 1 percent
Parent material: lacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	silty clay	slow	1.38 to 1.67 in	6.1 to 7.8
A -- 10 to 58 in	clay	slow	6.72 to 8.17 in	6.1 to 7.3
Bg -- 58 to 72 in	silty clay	moderately slow	1.56 to 2.69 in	6.6 to 7.8

L89A--Guckeen silty clay loam, 0 to 3 percent slopes

Guckeen

Extent: 70 to 90 percent of the unit
Landform(s): rises on lake plains, moraines
Slope gradient: 0 to 3 percent
Parent material: lacustrine sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 15 in	silty clay loam	moderately slow	2.39 to 2.84 in	5.6 to 7.3
Bw -- 15 to 24 in	silty clay	moderately slow	1.18 to 1.45 in	5.6 to 7.3
2Bw -- 24 to 30 in	clay loam	moderately slow	0.89 to 1.00 in	6.1 to 7.3
2Cg -- 30 to 60 in	loam	moderate	4.49 to 5.69 in	7.4 to 8.4

L94A--Lowlein fine sandy loam, terrace, 0 to 3 percent slopes

Lowlein, terrace

Extent: 60 to 85 percent of the unit
Landform(s): flats on stream terraces, rises on stream terraces
Slope gradient: 0 to 3 percent
Parent material: outwash over lacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained
Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 18 in	fine sandy loam	moderately rapid	2.35 to 2.72 in	6.1 to 7.3
Bw1 -- 18 to 27 in	fine sandy loam	moderately rapid	1.09 to 1.27 in	6.1 to 7.3
Bw2 -- 27 to 46 in	stratified loamy sand to fine sandy loam	moderately rapid	2.27 to 2.65 in	6.1 to 7.3
2Bw -- 46 to 72 in	silt loam	moderate	3.90 to 4.94 in	6.1 to 7.3
2C -- 72 to 80 in	silt loam	moderate	1.18 to 1.50 in	7.4 to 8.4

L95E--Hawick gravelly coarse sandy loam, 12 to 25 percent slopes

Hawick

Extent: 70 to 90 percent of the unit
Landform(s): hills on outwash plains, stream terraces
Slope gradient: 12 to 25 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .10
Land capability, nonirrigated 7s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	gravelly coarse sandy loam	rapid	0.21 to 0.92 in	6.1 to 7.8
AC -- 7 to 10 in	gravelly loamy coarse sand	rapid	0.08 to 0.28 in	6.1 to 7.8
C -- 10 to 60 in	gravelly coarse sand	very rapid	1.00 to 3.00 in	7.4 to 8.4

L96B--Estherville-Hawick complex, 2 to 6 percent slopes

Estherville

Extent: 40 to 65 percent of the unit
Landform(s): outwash plains, hills on stream terraces
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 13 in	sandy loam	moderately rapid	1.69 to 2.34 in	5.6 to 7.3
Bw1 -- 13 to 18 in	sandy loam	moderately rapid	0.61 to 0.85 in	5.6 to 7.3
2Bw2 -- 18 to 23 in	loamy coarse sand	rapid	0.10 to 0.20 in	5.6 to 7.3
2C -- 23 to 60 in	gravelly coarse sand	rapid	0.74 to 1.48 in	6.6 to 8.4

Hawick

Extent: 25 to 40 percent of the unit
Landform(s): outwash plains, hills on stream terraces
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	sandy loam	rapid	0.21 to 0.92 in	6.1 to 7.8
Bw,C -- 7 to 80 in	gravelly coarse sand	very rapid	1.46 to 4.37 in	7.4 to 8.4

L97C--Hawick-Estherville complex, 6 to 12 percent slopes

Hawick

Extent: 45 to 70 percent of the unit
Landform(s): outwash plains, hills on stream terraces
Slope gradient: 6 to 12 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .17
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	gravelly sandy loam	rapid	0.21 to 0.92 in	6.1 to 7.8
Bw,C -- 7 to 80 in	gravelly coarse sand	very rapid	1.46 to 4.37 in	7.4 to 8.4

Estherville

Extent: 25 to 40 percent of the unit
Landform(s): hills on outwash plains, hills on stream terraces
Slope gradient: 6 to 12 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 13 in	sandy loam	moderately rapid	1.69 to 2.34 in	5.6 to 7.3
Bw1 -- 13 to 18 in	sandy loam	moderately rapid	0.61 to 0.85 in	5.6 to 7.3
2Bw2 -- 18 to 23 in	loamy coarse sand	rapid	0.10 to 0.20 in	5.6 to 7.3
2C -- 23 to 60 in	gravelly coarse sand	rapid	0.74 to 1.48 in	6.6 to 8.4

L98A--Crippin-Nicollet complex, 1 to 3 percent slopes

Crippin

Extent: 40 to 60 percent of the unit
Landform(s): flats on moraines, rises on moraines
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 15 in	loam	moderate	2.99 to 3.29 in	6.6 to 8.4
Bw -- 15 to 27 in	loam	moderate	2.07 to 2.32 in	7.4 to 8.4
C -- 27 to 60 in	loam	moderate	4.90 to 6.21 in	7.4 to 8.4

Nicollet

Extent: 30 to 45 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 17 in	clay loam	moderate	2.88 to 3.72 in	5.6 to 7.3
Bw -- 17 to 21 in	clay loam	moderate	0.59 to 0.75 in	5.6 to 7.3
Bg -- 21 to 36 in	clay loam	moderate	2.24 to 2.84 in	7.4 to 8.4
Cg -- 36 to 60 in	loam	moderate	3.60 to 4.56 in	7.4 to 8.4

L99B--Clarion-Swanlake complex, 2 to 6 percent slopes

Clarion

Extent: 50 to 70 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 5 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 14 in	loam	moderate	2.83 to 3.12 in	5.6 to 7.3
Bw -- 14 to 33 in	loam	moderate	3.21 to 3.59 in	5.6 to 7.3
Bk -- 33 to 60 in	loam	moderate	4.02 to 5.09 in	7.4 to 8.4

Swanlake

Extent: 15 to 30 percent of the unit
Landform(s): hills on moraines
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 2.17 in	7.4 to 8.4
Bk -- 9 to 43 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4
C -- 43 to 60 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4

L102C2--Omsrud-Storden complex, 6 to 12 percent slopes, moderately eroded

Omsrud, moderately eroded

Extent: 40 to 70 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bw -- 9 to 19 in	clay loam	moderate	1.67 to 1.87 in	5.6 to 7.3
Bk -- 19 to 36 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4
C -- 36 to 80 in	loam	moderate	6.61 to 8.38 in	7.4 to 8.4

Storden, moderately eroded

Extent: 20 to 30 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	7.4 to 8.4
Bk -- 7 to 55 in	loam	moderate	7.20 to 9.13 in	7.4 to 8.4
C -- 55 to 80 in	loam	moderate	3.72 to 4.71 in	7.4 to 8.4

L102D2--Omsrud-Storden complex, 12 to 18 percent slopes, moderately eroded

Omsrud, moderately eroded

Extent: 40 to 75 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bw -- 9 to 19 in	clay loam	moderate	1.67 to 1.87 in	5.6 to 7.3
Bk -- 19 to 36 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4
C -- 36 to 80 in	loam	moderate	6.61 to 8.38 in	7.4 to 8.4

Storden, moderately eroded

Extent: 15 to 25 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	7.4 to 8.4
Bk -- 7 to 55 in	loam	moderate	7.20 to 9.13 in	7.4 to 8.4
C -- 55 to 80 in	loam	moderate	3.72 to 4.71 in	7.4 to 8.4

L104A--Jeffers-Canisteo complex, 0 to 2 percent slopes

Jeffers, friable till substratum

Extent: 40 to 65 percent of the unit
Landform(s): rims on depressions on moraines, flats on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 16 in	clay loam	moderate	2.74 to 3.07 in	7.4 to 8.4
Bg -- 16 to 20 in	clay loam	moderate	0.59 to 0.75 in	7.9 to 8.4
Bkg -- 20 to 38 in	clay loam	moderate	2.72 to 3.44 in	7.9 to 8.4
Cg -- 38 to 80 in	loam	moderate	6.26 to 7.93 in	7.4 to 8.4

Canisteo

Extent: 20 to 45 percent of the unit
Landform(s): rims on depressions on moraines, flats on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 18 in	clay loam	moderate	3.26 to 3.98 in	7.4 to 8.4
Bkg -- 18 to 39 in	loam	moderate	2.50 to 3.76 in	7.4 to 8.4
Cg -- 39 to 80 in	loam	moderate	6.14 to 7.78 in	7.4 to 8.4

L107A--Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes

Canisteo

Extent: 30 to 70 percent of the unit
Landform(s): rims on depressions on moraines, flats on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 18 in	clay loam	moderate	3.26 to 3.98 in	7.4 to 8.4
Bkg -- 18 to 39 in	loam	moderate	3.13 to 3.96 in	7.4 to 8.4
Cg -- 39 to 80 in	loam	moderate	6.14 to 7.78 in	7.4 to 8.4

Glencoe, depressional

Extent: 15 to 55 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	clay loam	moderate	1.77 to 2.17 in	6.1 to 7.8
A,ABg -- 10 to 35 in	clay loam	moderate	4.54 to 5.54 in	6.1 to 7.8
Bg -- 35 to 48 in	loam	moderate	1.95 to 2.47 in	6.6 to 7.8
Cg -- 48 to 60 in	loam	moderate	1.77 to 2.24 in	7.4 to 8.4

L111A--Nicollet silty clay loam, 1 to 3 percent slopes

Nicollet

Extent: 70 to 90 percent of the unit
Landform(s): flats on moraines, rises on moraines
Slope gradient: 1 to 3 percent
Parent material: lacustrine sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	silty clay loam	moderate	1.67 to 2.17 in	5.6 to 7.3
Bw -- 10 to 31 in	clay loam	moderate	3.13 to 3.96 in	5.6 to 7.8
Bk -- 31 to 42 in	loam	moderate	1.65 to 2.09 in	7.4 to 8.4
C -- 42 to 80 in	loam	moderate	5.73 to 7.26 in	7.4 to 8.4

L112A--Webster silty clay loam, 0 to 2 percent slopes

Webster

Extent: 75 to 90 percent of the unit
Landform(s): flats on moraines, swales on moraines
Slope gradient: 0 to 2 percent
Parent material: lacustrine sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 24 in	silty clay loam	moderate	4.56 to 5.04 in	6.6 to 7.3
Bg -- 24 to 45 in	clay loam	moderate	3.40 to 3.83 in	6.6 to 7.8
Cg -- 45 to 80 in	loam	moderate	5.20 to 6.58 in	7.4 to 8.4

L129B--Terril loam, 2 to 6 percent slopes

Terril

Extent: 80 to 95 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: colluvium over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1 -- 0 to 27 in	loam	moderate	5.43 to 5.98 in	6.1 to 7.3
A2,BA -- 27 to 40 in	loam	moderate	2.21 to 2.47 in	6.1 to 7.3
Bw -- 40 to 63 in	loam	moderate	3.65 to 4.11 in	6.1 to 7.3
C -- 63 to 80 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4

L135A--Okabena silty clay loam, 1 to 3 percent slopes

Okabena

Extent: 70 to 90 percent of the unit
Landform(s): flats on lake plains, rises on lake plains, flats on moraines, rises on moraines
Slope gradient: 1 to 3 percent
Parent material: lacustrine sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 15 in	silty clay loam	moderate	2.69 to 3.59 in	5.6 to 7.3
Bw -- 15 to 22 in	silty clay loam	moderate	1.13 to 1.42 in	5.6 to 7.3
Bk -- 22 to 43 in	silt loam	moderate	3.34 to 4.59 in	7.4 to 8.4
Cg -- 43 to 48 in	silt loam	moderate	0.82 to 1.02 in	7.4 to 8.4
2Cg -- 48 to 80 in	clay loam	moderate	4.78 to 6.06 in	7.4 to 8.4

L141A--Spillville loam, 0 to 2 percent slopes, occasionally flooded

Spillville, occasionally flooded

Extent: 80 to 90 percent of the unit
Landform(s): flats on flood plains, rises on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 51 in	loam	moderate	9.72 to 10.75 in	5.6 to 7.3
C -- 51 to 60 in	loam	moderately rapid	1.30 to 1.56 in	5.6 to 7.3

L142A--Jeffers clay loam, 0 to 2 percent slopes

Jeffers

Extent: 80 to 95 percent of the unit
Landform(s): rims on depressions on moraines, flats on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 18 in	clay loam	moderate	3.08 to 3.44 in	7.4 to 8.4
Bg -- 18 to 22 in	clay loam	moderate	0.59 to 0.75 in	7.9 to 8.4
Bkg,Bk -- 22 to 35 in	clay loam	moderate	1.95 to 2.47 in	7.9 to 8.4
BC1,BC2 -- 35 to 60 in	clay loam	moderately slow	3.47 to 3.97 in	7.4 to 8.4

L143A--Linder loam, 0 to 2 percent slopes

Linder

Extent: 70 to 95 percent of the unit
Landform(s): outwash plains, flats on stream terraces, rises on stream terraces
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .32
Land capability, nonirrigated 2s
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 15 in	loam	moderate	2.99 to 3.29 in	6.1 to 7.3
Bw,BC -- 15 to 29 in	sandy loam	moderately rapid	2.13 to 2.41 in	6.1 to 7.3
2C -- 29 to 60 in	stratified gravelly coarse sand to loamy coarse sand	very rapid	0.61 to 1.23 in	7.4 to 8.4

L144A--Chetomba silty clay loam, 0 to 2 percent slopes

Chetomba

Extent: 65 to 85 percent of the unit
Landform(s): flats on lake plains, swales on lake plains, flats on moraines, swales on moraines
Slope gradient: 0 to 2 percent
Parent material: lacustrine sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 23 in	silty clay loam	moderate	4.11 to 5.48 in	6.1 to 7.3
Bg -- 23 to 31 in	silty clay loam	moderate	1.32 to 1.82 in	6.6 to 7.8
Cg -- 31 to 43 in	silt loam	moderate	1.89 to 2.60 in	7.4 to 8.4
2Cg -- 43 to 60 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4

L147A--Little Cottonwood clay loam, 0 to 3 percent slopes

Little Cottonwood

Extent: 80 to 90 percent of the unit
Landform(s): drainageways on moraines, flats on moraines, swales on moraines
Slope gradient: 0 to 3 percent
Parent material: till over bedrock
Restrictive feature(s): lithic bedrock at 10 to 20 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .17
Land capability, nonirrigated 5w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 9 in	clay loam	moderate	1.72 to 1.90 in	5.1 to 7.3
Bg1,Bg2 -- 9 to 19 in	clay loam	moderate	1.57 to 1.77 in	5.0 to 6.5
2R -- 19 to 80 in		very slow		

L148A--Lowlein sandy loam, 1 to 3 percent slopes

Lowlein

Extent: 75 to 85 percent of the unit
Landform(s): flats, moraines, rises, stream terraces
Slope gradient: 1 to 3 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .10
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 14 in	sandy loam	moderately rapid	1.84 to 2.13 in	6.1 to 7.3
Bw1 -- 14 to 24 in	loam	moderately rapid	1.18 to 1.38 in	6.1 to 7.3
2Bw2 -- 24 to 31 in	loamy sand	rapid	0.43 to 0.78 in	6.1 to 7.3
3C -- 31 to 60 in	loam	moderate	4.31 to 5.46 in	7.4 to 8.4

L149A--Romnell clay loam, 0 to 3 percent slopes

Romnell

Extent: 80 to 95 percent of the unit
Landform(s): drainageways on moraines, swales on moraines
Slope gradient: 0 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 18 in	clay loam	moderate	3.08 to 4.35 in	6.6 to 7.8
Bg -- 18 to 27 in	clay loam	moderate	1.54 to 2.17 in	6.6 to 7.8
Btyg -- 27 to 33 in	clay loam	moderately slow	0.89 to 1.12 in	6.6 to 7.8
Bkg -- 33 to 43 in	clay loam	moderately slow	1.38 to 1.57 in	7.4 to 8.4
BCkg -- 43 to 80 in	clay loam	moderately slow	5.18 to 5.92 in	7.4 to 8.4

L150A--Prinsburg silty clay loam, 0 to 2 percent slopes

Prinsburg

Extent: 65 to 80 percent of the unit
Landform(s): rims on depressions on lake plains, flats on lake plains, rims on depressions on moraines, flats on moraines
Slope gradient: 0 to 2 percent
Parent material: lacustrine sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 19 in	silty clay loam	moderate	3.40 to 4.54 in	7.4 to 8.4
Bkg -- 19 to 29 in	silt loam	moderate	1.64 to 2.25 in	7.4 to 8.4
Bg,Cg -- 29 to 46 in	silt loam	moderate	2.71 to 3.72 in	7.4 to 8.4
2Cg -- 46 to 60 in	loam	moderate	2.07 to 2.62 in	7.4 to 8.4

L151A--Glencoe mucky silty clay loam, ponded, 0 to 1 percent slopes

Glencoe, ponded

Extent: 75 to 90 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .32
Land capability, nonirrigated 8w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 42 in	mucky silty clay loam	moderate	7.58 to 9.27 in	6.1 to 7.8
Bg -- 42 to 50 in	clay loam	moderate	1.18 to 1.50 in	6.6 to 7.8
Cg -- 50 to 60 in	loam	moderate	1.48 to 1.87 in	7.4 to 8.4

L152B--Lowlein-Round Lake complex, 1 to 6 percent slopes

Lowlein

Extent: 35 to 70 percent of the unit
Landform(s): hills on moraines, stream terraces
Slope gradient: 1 to 5 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .20
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 14 in	loam	moderately rapid	1.84 to 2.13 in	6.1 to 7.3
Bw1 -- 14 to 24 in	loam	moderately rapid	1.18 to 1.38 in	6.1 to 7.3
Bw2 -- 24 to 31 in	loamy sand	rapid	0.43 to 0.78 in	6.1 to 7.3
2C -- 31 to 60 in	loam	moderate	4.31 to 5.46 in	7.4 to 8.4

Round Lake

Extent: 15 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: outwash over lacustrine silty sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.98 in	5.6 to 7.3
Bw -- 11 to 14 in	sandy loam	moderately rapid	0.41 to 0.57 in	5.6 to 7.3
2Bw -- 14 to 26 in	loamy coarse sand	rapid	0.24 to 0.47 in	5.6 to 7.3
2Bk -- 26 to 35 in	gravelly coarse sand	rapid	0.18 to 0.36 in	6.6 to 8.4
2C -- 35 to 48 in	coarse sand	rapid	0.26 to 0.52 in	6.6 to 8.4
3Cg -- 48 to 80 in	silt loam	moderate	5.10 to 7.02 in	7.4 to 8.4

L153A--Essexville sandy loam, 0 to 2 percent slopes

Essexville

Extent: 75 to 90 percent of the unit
Landform(s): beaches on moraines, rims on depressions on moraines, flats on moraines
Slope gradient: 0 to 2 percent
Parent material: glaciolacustrine sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .17
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	sandy loam	moderately rapid	1.02 to 1.42 in	7.4 to 8.4
A -- 8 to 13 in	loamy sand	rapid	0.20 to 0.61 in	7.4 to 8.4
Bg -- 13 to 22 in	sand	rapid	0.36 to 1.09 in	7.4 to 8.4
2Cg -- 22 to 60 in	loam	moderate	5.67 to 7.18 in	7.4 to 8.4

L154E--Belview-Ridgeton complex, 15 to 45 percent slopes

Belview

Extent: 30 to 70 percent of the unit
Landform(s): escarpments on moraines
Slope gradient: 18 to 45 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	7.4 to 8.4
Bk -- 9 to 50 in	loam	moderate	6.14 to 7.78 in	7.4 to 8.4
C -- 50 to 60 in	loam	moderate	1.48 to 1.87 in	7.4 to 8.4

Ridgeton

Extent: 15 to 50 percent of the unit
Landform(s): escarpments on moraines
Slope gradient: 15 to 40 percent
Parent material: colluvium over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2,A3 -- 0 to 32 in	loam	moderate	6.38 to 7.02 in	6.1 to 7.3
Bw -- 32 to 40 in	loam	moderate	1.32 to 1.49 in	6.1 to 7.3
C1,C2 -- 40 to 80 in	loam	moderate	5.96 to 7.56 in	7.4 to 8.4

L156C2--Omsrud-Storden-Pilot Grove complex, 6 to 12 percent slopes, moderately eroded

Omsrud, moderately eroded

Extent: 30 to 50 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bw -- 9 to 19 in	clay loam	moderate	1.67 to 1.87 in	5.6 to 7.3
Bk -- 19 to 36 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4
C -- 36 to 80 in	loam	moderate	6.61 to 8.38 in	7.4 to 8.4

Storden, moderately eroded

Extent: 15 to 50 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	7.4 to 8.4
Bk -- 7 to 55 in	loam	moderate	7.20 to 9.13 in	7.4 to 8.4
C -- 55 to 80 in	loam	moderate	3.72 to 4.71 in	7.4 to 8.4

L156C2--Omsrud-Storden-Pilot Grove complex, 6 to 12 percent slopes, moderately eroded

Pilot Grove

Extent: 15 to 25 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap --	0 to 9 in	sandy loam	moderately rapid	1.18 to 1.63 in	5.6 to 7.3
Bw --	9 to 17 in	sandy loam	moderately rapid	1.02 to 1.42 in	5.6 to 7.3
2BC --	17 to 22 in	loamy coarse sand	rapid	0.10 to 0.20 in	5.6 to 7.3
2C1 --	22 to 39 in	gravelly coarse sand	rapid	0.34 to 0.68 in	6.6 to 8.4
2C2 --	39 to 55 in	gravelly coarse sand	rapid	0.32 to 0.65 in	6.6 to 8.4
3C --	55 to 80 in	loam	moderate	3.97 to 5.46 in	7.4 to 8.4

L156D2--Omsrud-Storden-Pilot Grove complex, 12 to 18 percent slopes, moderately eroded

Omsrud, moderately eroded

Extent: 30 to 60 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	5.6 to 7.3
Bw -- 9 to 19 in	clay loam	moderate	1.67 to 1.87 in	5.6 to 7.3
Bk -- 19 to 36 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4
C -- 36 to 80 in	loam	moderate	6.61 to 8.38 in	7.4 to 8.4

Storden, moderately eroded

Extent: 15 to 30 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	7.4 to 8.4
Bk -- 7 to 55 in	loam	moderate	7.20 to 9.13 in	7.4 to 8.4
C -- 55 to 80 in	loam	moderate	3.72 to 4.71 in	7.4 to 8.4

L156D2--Omsrud-Storden-Pilot Grove complex, 12 to 18 percent slopes, moderately eroded

Pilot Grove

Extent: 15 to 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap --	0 to 9 in	sandy loam	moderately rapid	1.18 to 1.63 in	5.6 to 7.3
Bw --	9 to 17 in	sandy loam	moderately rapid	1.02 to 1.42 in	5.6 to 7.3
2BC --	17 to 22 in	loamy coarse sand	rapid	0.10 to 0.20 in	5.6 to 7.3
2C1 --	22 to 39 in	gravelly coarse sand	rapid	0.34 to 0.68 in	6.6 to 8.4
2C2 --	39 to 55 in	gravelly coarse sand	rapid	0.32 to 0.65 in	6.6 to 8.4
3C --	55 to 80 in	loam	moderate	3.97 to 5.46 in	7.4 to 8.4

L158B--Round Lake sandy loam, 1 to 6 percent slopes

Round Lake

Extent: 70 to 85 percent of the unit
Landform(s): hills on moraines
Slope gradient: 1 to 6 percent
Parent material: outwash over lacustrine silty sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.98 in	5.6 to 7.3
Bw -- 11 to 14 in	sandy loam	moderately rapid	0.41 to 0.57 in	5.6 to 7.3
2Bw -- 14 to 26 in	loamy coarse sand	rapid	0.24 to 0.47 in	5.6 to 7.3
2Bk -- 26 to 35 in	gravelly coarse sand	rapid	0.18 to 0.36 in	6.6 to 8.4
2C -- 35 to 48 in	coarse sand	rapid	0.26 to 0.52 in	6.6 to 8.4
3Cg -- 48 to 80 in	silt loam	moderate	5.10 to 7.02 in	7.4 to 8.4

L159A--Knoke mucky silty clay loam, depressional, 0 to 1 percent slopes

Knoke, depressional

Extent: 70 to 90 percent of the unit
Landform(s): depressions on lake plains, depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: lacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	mucky silty clay loam	moderately slow	2.07 to 2.26 in	7.4 to 8.4
A -- 10 to 42 in	silty clay loam	moderately slow	6.78 to 7.43 in	7.4 to 8.4
Cg -- 42 to 80 in	silty clay loam	moderately slow	6.80 to 7.56 in	7.4 to 8.4

L160B--Dickinson sandy loam, loamy substratum, 1 to 6 percent slopes

Dickinson, loamy substratum

Extent: 70 to 90 percent of the unit
Landform(s): hills on moraines, hills on outwash plains
Slope gradient: 1 to 6 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 16 in	sandy loam	moderately rapid	1.94 to 2.42 in	5.6 to 7.3
Bw -- 16 to 30 in	fine sandy loam	moderately rapid	1.65 to 2.07 in	5.1 to 6.5
C1 -- 30 to 47 in	loamy sand	rapid	0.34 to 0.68 in	5.6 to 7.8
C2 -- 47 to 76 in	sand	rapid	0.58 to 1.17 in	5.6 to 7.8
2C -- 76 to 80 in	loam	moderate	0.59 to 0.75 in	7.4 to 8.4

L161C--Estherville-Pilot Grove complex, 6 to 12 percent slopes

Estherville

Extent: 15 to 65 percent of the unit
Landform(s): moraines, hills on outwash plains, hills on stream terraces
Slope gradient: 6 to 12 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 13 in	sandy loam	moderately rapid	1.69 to 2.34 in	5.6 to 7.3
Bw1 -- 13 to 18 in	sandy loam	moderately rapid	0.61 to 0.85 in	5.6 to 7.3
2Bw2 -- 18 to 23 in	loamy coarse sand	rapid	0.10 to 0.20 in	5.6 to 7.3
2C -- 23 to 60 in	gravelly coarse sand	rapid	0.74 to 1.48 in	6.6 to 8.4

Pilot Grove

Extent: 15 to 65 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	sandy loam	moderately rapid	1.18 to 1.63 in	5.6 to 7.3
Bw -- 9 to 17 in	sandy loam	moderately rapid	1.02 to 1.42 in	5.6 to 7.3
2Bw -- 17 to 22 in	loamy coarse sand	rapid	0.10 to 0.20 in	5.6 to 7.3
2C1 -- 22 to 39 in	gravelly coarse sand	rapid	0.34 to 0.68 in	6.6 to 8.4
2C2 -- 39 to 55 in	gravelly coarse sand	rapid	0.32 to 0.65 in	6.6 to 8.4
3C -- 55 to 80 in	silt loam	moderate	3.97 to 5.46 in	7.4 to 8.4

L162B--Clarion-Round Lake complex, 2 to 6 percent slopes

Clarion

Extent: 40 to 60 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 5 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 14 in	loam	moderate	2.83 to 3.12 in	5.6 to 7.3
Bw -- 14 to 33 in	loam	moderate	3.21 to 3.59 in	5.6 to 7.3
Bk -- 33 to 60 in	loam	moderate	4.02 to 5.09 in	7.4 to 8.4

Round Lake

Extent: 15 to 50 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: outwash over lacustrine silty sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.98 in	5.6 to 7.3
Bw -- 11 to 14 in	sandy loam	moderately rapid	0.41 to 0.57 in	5.6 to 7.3
2Bw -- 14 to 26 in	loamy coarse sand	rapid	0.24 to 0.47 in	5.6 to 7.3
2Bk -- 26 to 35 in	gravelly coarse sand	rapid	0.18 to 0.36 in	6.6 to 8.4
2C -- 35 to 48 in	coarse sand	rapid	0.26 to 0.52 in	6.6 to 8.4
3Cg -- 48 to 80 in	silt loam	moderate	5.10 to 7.02 in	7.4 to 8.4

L163A--Okoboji silty clay loam, depressional, 0 to 1 percent slopes

Okoboji, depressional

Extent: 70 to 95 percent of the unit
Landform(s): depressions on lake plains, depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: alluvium/lacustrine sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 26 in	silty clay loam	moderately slow	5.46 to 5.98 in	6.1 to 7.8
Bg -- 26 to 42 in	silty clay	moderately slow	2.91 to 3.23 in	6.6 to 7.8
Cg -- 42 to 60 in	silty clay loam	moderately slow	3.19 to 3.54 in	6.6 to 8.4

L165A--Mayer loam, 0 to 2 percent slopes

Mayer

Extent: 80 to 95 percent of the unit
Landform(s): rims on depressions on outwash plains, flats on outwash plains, rims on depressions on stream terraces, flats on stream terraces
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 18 in	loam	moderate	3.62 to 3.98 in	7.4 to 8.4
Bg -- 18 to 33 in	sandy clay loam	moderate	2.39 to 2.84 in	7.4 to 8.4
2C -- 33 to 80 in	gravelly coarse sand	rapid	0.94 to 1.87 in	7.4 to 8.4

L167A--Mayer clay loam, depressional , 0 to 1 perent slopes

Mayer, depressional

Extent: 70 to 90 percent of the unit
Landform(s): depressions on outwash plains, depressions on stream terraces
Slope gradient: 0 to 1 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderate	1.63 to 1.99 in	7.4 to 8.4
A,ABg -- 9 to 23 in	clay loam	moderate	2.34 to 2.76 in	7.4 to 8.4
Bg -- 23 to 28 in	sandy loam	moderately rapid	0.77 to 0.87 in	7.4 to 8.4
2BCg -- 28 to 80 in	stratified gravelly coarse sand to loamy sand	rapid	1.04 to 2.08 in	7.4 to 8.4

L168A--Minneopa sandy loam, 0 to 3 percent slopes

Minneopa

Extent: 80 to 95 percent of the unit
Landform(s): flats on outwash plains, stream terraces
Slope gradient: 0 to 3 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.98 in	5.6 to 7.3
Bw -- 11 to 19 in	sandy loam	moderately rapid	1.02 to 1.42 in	5.6 to 7.3
2Bw -- 19 to 32 in	coarse sand	rapid	0.26 to 0.52 in	5.6 to 7.3
2C1,2C2 -- 32 to 55 in	coarse sand	rapid	0.46 to 0.93 in	6.6 to 8.4
2C3 -- 55 to 80 in	gravelly coarse sand	rapid	0.50 to 0.99 in	6.6 to 8.4

L169A--Minneopa sandy loam, sandy substratum, 0 to 3 percent slopes

Minneopa, sandy substratum

Extent: 80 to 95 percent of the unit
Landform(s): flats on outwash plains, stream terraces
Slope gradient: 0 to 3 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.65 in	5.6 to 6.5
Bw1 -- 11 to 24 in	sandy loam	moderately rapid	1.56 to 1.82 in	5.6 to 7.3
Bw2 -- 24 to 34 in	loamy sand	rapid	0.49 to 0.69 in	5.6 to 7.3
2Bw -- 34 to 46 in	sand	rapid	0.61 to 0.85 in	5.6 to 7.3
2C -- 46 to 60 in	fine sand	rapid	0.69 to 0.96 in	5.6 to 7.8

L170B--Estherville-Round Lake complex, 2 to 6 percent slopes

Estherville

Extent: 35 to 70 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 13 in	sandy loam	moderately rapid	1.69 to 2.34 in	5.6 to 7.3
Bw1 -- 13 to 18 in	sandy loam	moderately rapid	0.61 to 0.85 in	5.6 to 7.3
2Bw2 -- 18 to 23 in	loamy coarse sand	rapid	0.10 to 0.20 in	5.6 to 7.3
2C -- 23 to 60 in	gravelly coarse sand	rapid	0.74 to 1.48 in	6.6 to 8.4

Round Lake

Extent: 15 to 50 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: outwash over lacustrine silty sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.98 in	5.6 to 7.3
Bw -- 11 to 14 in	sandy loam	moderately rapid	0.41 to 0.57 in	5.6 to 7.3
2Bw -- 14 to 26 in	loamy coarse sand	rapid	0.24 to 0.47 in	5.6 to 7.3
2Bk -- 26 to 35 in	gravelly coarse sand	rapid	0.18 to 0.36 in	6.6 to 8.4
2C -- 35 to 48 in	coarse sand	rapid	0.26 to 0.52 in	6.6 to 8.4
3Cg -- 48 to 80 in	silt loam	moderate	5.10 to 7.02 in	7.4 to 8.4

L172D2--Storden, firm till-Annton complex, 12 to 18 percent slopes, moderately eroded

Storden, moderately eroded, firm till

Extent: 40 to 60 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	7.4 to 8.4
Bk -- 8 to 20 in	loam	moderate	2.07 to 2.32 in	7.9 to 8.4
BC -- 20 to 80 in	clay loam	moderately slow	8.38 to 9.57 in	7.4 to 8.4

Annton, moderately, eroded

Extent: 20 to 45 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	clay loam	moderate	1.42 to 1.73 in	6.1 to 7.3
Bw -- 8 to 26 in	clay loam	moderate	3.08 to 3.44 in	6.1 to 7.3
Bk -- 26 to 60 in	loam	moderate	5.76 to 6.43 in	7.9 to 8.4
BC -- 60 to 80 in	clay loam	moderately slow	2.81 to 3.21 in	7.4 to 8.4

L173A--Moines clay loam, 1 to 3 percent slopes

Moines

Extent: 80 to 95 percent of the unit
Landform(s): flats on moraines, rises on moraines
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2s
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,ABy --	0 to 14 in	clay loam	moderate	2.41 to 2.69 in	7.4 to 8.4
Byg1,Byg2,Bk --	14 to 40 in	loam	moderate	4.42 to 4.94 in	7.9 to 8.4
BCg --	40 to 60 in	clay loam	moderately slow	2.76 to 3.15 in	7.4 to 8.4

L174A--Mound Creek clay loam, 0 to 2 percent slopes

Mound Creek

Extent: 80 to 90 percent of the unit
Landform(s): flats on moraines, swales on moraines
Slope gradient: 0 to 2 percent
Parent material: till over bedrock
Restrictive feature(s): lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A --	0 to 22 in	clay loam	moderate	4.19 to 4.63 in	6.1 to 7.3
Bg --	22 to 28 in	clay loam	moderate	0.94 to 1.06 in	5.6 to 7.3
2R --	28 to 80 in		very slow		

L175A--Rolfe silt loam, depressional, 0 to 1 percent slopes

Rolfe, depressional

Extent: 70 to 95 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: till derived sediments and glacial till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 10 in	silt loam	moderate	2.17 to 2.36 in	5.1 to 7.3
Eg1,Eg2 -- 10 to 21 in	silt loam	moderate	2.43 to 2.65 in	5.1 to 7.3
Btg1 -- 21 to 27 in	silty clay	slow	0.69 to 0.82 in	6.1 to 7.3
Btg2,Btg3,Bt -- 27 to 55 in	silty clay	slow	3.07 to 3.63 in	6.1 to 7.3
2BCg -- 55 to 71 in	clay loam	moderate	2.20 to 2.52 in	6.1 to 8.4
2Cg -- 71 to 80 in	clay loam	moderate	1.27 to 1.45 in	6.1 to 8.4

L176A--Shandep clay loam, 0 to 2 percent slopes, occasionally flooded

Shandep, occasionally flooded

Extent: 70 to 85 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 36 in	clay loam	moderate	7.17 to 8.24 in	6.1 to 7.3
Bg -- 36 to 43 in	clay loam	moderate	1.20 to 1.42 in	6.1 to 7.3
2Cg -- 43 to 80 in	coarse sand	rapid	0.74 to 1.48 in	6.1 to 8.4

L178A--Mayer mucky clay loam, ponded, 0 to 1 percent slopes

Mayer, ponded

Extent: 70 to 90 percent of the unit
Landform(s): depressions on outwash plains, depressions on stream terraces
Slope gradient: 0 to 1 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .24
Land capability, nonirrigated 8w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 22 in	clay loam	moderate	4.41 to 4.85 in	7.4 to 8.4
Bg -- 22 to 36 in	loam	moderate	2.20 to 2.62 in	7.4 to 8.4
2C -- 36 to 80 in	gravelly coarse sand	rapid	0.88 to 1.76 in	7.4 to 8.4

L183A--Mayer, ponded-Mayer complex, 0 to 2 percent slopes, flooded

Mayer, frequently flooded, ponded

Extent: 40 to 70 percent of the unit
Landform(s): flood plains, depressions on outwash plains, depressions on stream terraces
Slope gradient: 0 to 1 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .24
Land capability, nonirrigated 7w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 22 in	clay loam	moderate	4.41 to 4.85 in	7.4 to 8.4
Bg -- 22 to 36 in	loam	moderate	2.20 to 2.62 in	7.4 to 8.4
2C -- 36 to 80 in	gravelly coarse sand	rapid	0.88 to 1.76 in	7.4 to 8.4

Mayer, occasionally flooded

Extent: 35 to 65 percent of the unit
Landform(s): flood plains, rims on depressions on outwash plains, flats on outwash plains, rims on depressions on stream terraces, flats on stream terraces
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 17 in	loam	moderate	3.39 to 3.72 in	7.4 to 8.4
Bg -- 17 to 24 in	sandy clay loam	moderate	1.13 to 1.35 in	7.4 to 8.4
2C -- 24 to 80 in	gravelly sand, fine sand	rapid	1.12 to 2.24 in	7.4 to 8.4

L188A--Romnell clay loam, depressional, 0 to 1 percent slopes

Romnell, depressional

Extent: 80 to 95 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,ABg -- 0 to 38 in	clay loam	moderate	6.49 to 9.17 in	6.6 to 7.8
Bg -- 38 to 46 in	clay loam	moderately slow	1.18 to 1.50 in	6.6 to 7.8
BCg -- 46 to 80 in	clay loam	moderately slow	4.74 to 5.42 in	7.4 to 8.4

L189A--Mayer clay loam, ponded, 0 to 1 percent slopes, frequently flooded

Mayer, frequently flooded, ponded

Extent: 70 to 90 percent of the unit
Landform(s): flood plains, depressions on outwash plains, depressions on stream terraces
Slope gradient: 0 to 1 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .24
Land capability, nonirrigated 8w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 22 in	clay loam	moderate	4.41 to 4.85 in	7.4 to 8.4
Bg -- 22 to 36 in	loam	moderate	2.20 to 2.62 in	7.4 to 8.4
2C -- 36 to 80 in	gravelly coarse sand	rapid	0.88 to 1.76 in	7.4 to 8.4

L193A--Shandep clay loam, 0 to 2 percent slopes, frequently flooded

Shandep, frequently flooded

Extent: 70 to 85 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 5w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2 -- 0 to 26 in	clay loam	moderate	5.20 to 5.98 in	6.1 to 7.3
ABg -- 26 to 48 in	loam	moderate	4.41 to 5.07 in	6.1 to 7.3
2Cg -- 48 to 80 in	coarse sand	rapid	0.64 to 1.28 in	6.1 to 8.4

L194A--Southbrook silty clay loam, 0 to 2 percent slopes, occasionally flooded

Southbrook, occasionally flooded

Extent: 80 to 95 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	silty clay loam	moderately slow	2.07 to 2.26 in	5.6 to 7.3
A1,A2 -- 10 to 41 in	silty clay	slow	3.42 to 4.04 in	5.6 to 7.8
Bg -- 41 to 44 in	sandy clay loam	moderate	0.54 to 0.60 in	6.6 to 7.8
2Cg -- 44 to 80 in	coarse sand	rapid	0.72 to 1.43 in	7.4 to 8.4

L196A--Spicer silty clay loam, 0 to 2 percent slopes

Spicer

Extent: 80 to 95 percent of the unit
Landform(s): rims on depressions on lake plains, flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: lacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 16 in	silty clay loam	moderate	2.91 to 3.87 in	7.4 to 8.4
Bg,BCg -- 16 to 40 in	silt loam	moderate	3.84 to 5.28 in	7.4 to 8.4
Cg -- 40 to 60 in	silt loam	moderate	3.15 to 4.33 in	7.4 to 8.4

L197A--Mayer-Mayer, depressional, complex, 0 to 2 percent slopes

Mayer

Extent: 30 to 70 percent of the unit
Landform(s): rims on depressions on outwash plains, flats on outwash plains, rims on depressions on stream terraces, flats on stream terraces
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 18 in	loam	moderate	3.62 to 3.98 in	7.4 to 8.4
Bg -- 18 to 33 in	sandy clay loam	moderate	2.39 to 2.84 in	7.4 to 8.4
2C -- 33 to 80 in	gravelly coarse sand	rapid	0.94 to 1.87 in	7.4 to 8.4

Mayer, depressional

Extent: 25 to 60 percent of the unit
Landform(s): depressions on outwash plains, depressions on stream terraces
Slope gradient: 0 to 1 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderate	1.63 to 1.99 in	7.4 to 8.4
A,ABg -- 9 to 23 in	clay loam	moderate	2.34 to 2.76 in	7.4 to 8.4
Bg -- 23 to 28 in	sandy loam	moderately rapid	0.77 to 0.87 in	7.4 to 8.4
2C -- 28 to 80 in	stratified gravelly coarse sand to loamy sand	rapid	1.04 to 2.08 in	7.4 to 8.4

L198A--North Twin-Walnut Grove complex, 0 to 2 percent slopes

North Twin

Extent: 60 to 80 percent of the unit
Landform(s): hills on moraines
Slope gradient: 1 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	clay loam	moderately slow	1.67 to 1.87 in	6.6 to 7.3
Bw -- 10 to 18 in	clay loam	moderately slow	1.16 to 1.49 in	6.1 to 7.3
Bk -- 18 to 31 in	clay loam	moderately slow	1.82 to 2.08 in	7.4 to 8.4
BCg,BC1,BC2 -- 31 to 80 in	clay loam	moderately slow	6.83 to 7.81 in	7.4 to 8.4

Walnut Grove

Extent: 15 to 25 percent of the unit
Landform(s): flats on moraines, rises on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 14 in	clay loam	moderately slow	2.41 to 2.69 in	6.6 to 7.3
Bw -- 14 to 28 in	clay loam	moderate	2.48 to 3.31 in	6.1 to 7.3
Bk -- 28 to 39 in	clay loam	moderately slow	1.54 to 1.76 in	7.4 to 8.4
BC1,BC2 -- 39 to 80 in	clay loam	moderately slow	5.73 to 6.55 in	7.4 to 8.4

L198B--North Twin-Walnut Grove complex, 1 to 4 percent slopes

North Twin

Extent: 50 to 70 percent of the unit
Landform(s): hills on moraines
Slope gradient: 1 to 4 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	clay loam	moderately slow	1.67 to 1.87 in	6.6 to 7.3
Bw -- 10 to 18 in	clay loam	moderately slow	1.16 to 1.49 in	6.1 to 7.3
Bk -- 18 to 31 in	clay loam	moderately slow	1.82 to 2.08 in	7.4 to 8.4
BCg,BC1,BC2 -- 31 to 80 in	clay loam	moderately slow	6.83 to 7.81 in	7.4 to 8.4

Walnut Grove

Extent: 15 to 35 percent of the unit
Landform(s): flats on moraines, rises on moraines
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 14 in	clay loam	moderately slow	2.41 to 2.69 in	6.6 to 7.3
Bw -- 14 to 28 in	clay loam	moderate	2.48 to 3.31 in	6.1 to 7.3
Bk -- 28 to 39 in	clay loam	moderately slow	1.54 to 1.76 in	7.4 to 8.4
BC1,BC2 -- 39 to 80 in	clay loam	moderately slow	5.73 to 6.55 in	7.4 to 8.4

L201A--Normania loam, 1 to 3 percent slopes

Normania

Extent: 75 to 90 percent of the unit
Landform(s): flats on moraines, rises on moraines
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 17 in	loam	moderate	3.39 to 3.72 in	6.1 to 7.3
Bw -- 17 to 26 in	loam	moderate	1.36 to 1.72 in	6.6 to 7.3
Bk -- 26 to 50 in	loam	moderate	3.60 to 4.56 in	7.4 to 8.4
Cg -- 50 to 60 in	loam	moderate	1.48 to 1.87 in	7.4 to 8.4

L202A--Pell Creek-Romnell complex, 0 to 2 percent slopes

Pell Creek

Extent: 35 to 70 percent of the unit
Landform(s): drainageways on moraines, flats on moraines, swales on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB --	0 to 20 in	clay loam	moderate	3.41 to 3.81 in	6.1 to 7.3
Bg --	20 to 34 in	clay loam	moderate	2.07 to 2.62 in	7.4 to 8.4
BCg,BC1,BC2 --	34 to 80 in	clay loam	moderately slow	6.45 to 7.37 in	7.4 to 8.4

Romnell

Extent: 15 to 45 percent of the unit
Landform(s): drainageways on moraines, swales on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A --	0 to 18 in	clay loam	moderate	3.08 to 4.35 in	6.6 to 7.8
Bg --	18 to 27 in	clay loam	moderate	1.54 to 2.17 in	6.6 to 7.8
Btyg --	27 to 33 in	clay loam	moderately slow	0.89 to 1.12 in	6.6 to 7.8
Bkg --	33 to 43 in	clay loam	moderately slow	1.38 to 1.57 in	7.4 to 8.4
BCkg --	43 to 60 in	clay loam	moderately slow	2.37 to 2.71 in	7.4 to 8.4

L203A--Seaforth loam, 1 to 3 percent slopes

Seaforth

Extent: 75 to 95 percent of the unit
Landform(s): flats on moraines, rises on moraines
Slope gradient: 1 to 3 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2s
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 15 in	loam	moderate	2.54 to 3.59 in	7.4 to 8.4
Bk -- 15 to 24 in	loam	moderate	1.36 to 1.72 in	7.4 to 8.4
BCg -- 24 to 36 in	loam	moderate	2.01 to 2.24 in	7.4 to 8.4
C -- 36 to 60 in	loam	moderate	4.08 to 4.56 in	7.4 to 8.4

L207F--Belview-Ridgeton complex, 18 to 40 percent slopes, firm till substratum

Belview, firm till substratum

Extent: 65 to 85 percent of the unit
Landform(s): escarpments on moraines
Slope gradient: 18 to 40 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	7.4 to 8.4
Bk -- 8 to 48 in	loam	moderate	6.02 to 7.63 in	7.4 to 8.4
BC1,BC2 -- 48 to 80 in	clay loam	moderately slow	4.46 to 5.10 in	7.4 to 8.4

Ridgeton, firm till substratum

Extent: 10 to 20 percent of the unit
Landform(s): escarpments on moraines
Slope gradient: 18 to 35 percent
Parent material: colluvium over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1,A2,AB -- 0 to 31 in	loam	moderate	6.22 to 6.84 in	6.1 to 7.3
BA -- 31 to 49 in	loam	moderate	3.54 to 3.90 in	6.1 to 7.3
Bw -- 49 to 64 in	clay loam	moderate	2.46 to 2.76 in	6.1 to 7.3
BC -- 64 to 80 in	clay loam	moderately slow	2.20 to 2.52 in	7.4 to 8.4

L208B--Swanlake-Round Lake complex, 2 to 6 percent slopes

Swanlake

Extent: 40 to 50 percent of the unit
Landform(s): hills on moraines
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 2.17 in	7.4 to 8.4
Bk -- 9 to 43 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4
C -- 43 to 60 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4

Round Lake

Extent: 30 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.98 in	5.6 to 7.3
Bw -- 11 to 14 in	sandy loam	moderately rapid	0.41 to 0.57 in	5.6 to 7.3
2Bw -- 14 to 26 in	loamy coarse sand	rapid	0.24 to 0.47 in	5.6 to 7.3
2Bk -- 26 to 35 in	gravelly coarse sand	rapid	0.18 to 0.36 in	6.6 to 8.4
2C -- 35 to 48 in	coarse sand	rapid	0.26 to 0.52 in	6.6 to 8.4
3Cg -- 48 to 80 in	loam	moderate	5.10 to 7.02 in	7.4 to 8.4

L209A--Walnut Grove-Pell Creek complex, 0 to 2 percent slopes

Walnut Grove

Extent: 60 to 80 percent of the unit
Landform(s): flats on moraines, rises on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 14 in	clay loam	moderately slow	2.41 to 2.69 in	6.6 to 7.3
Bw -- 14 to 28 in	clay loam	moderate	2.48 to 3.31 in	6.1 to 7.3
Bk -- 28 to 39 in	clay loam	moderately slow	1.54 to 1.76 in	7.4 to 8.4
BC1,BC2 -- 39 to 80 in	clay loam	moderately slow	5.73 to 6.55 in	7.4 to 8.4

Pell Creek

Extent: 15 to 30 percent of the unit
Landform(s): drainageways on moraines, flats on moraines, swales on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 20 in	clay loam	moderate	3.41 to 3.81 in	6.1 to 7.3
Bg -- 20 to 34 in	clay loam	moderate	2.07 to 2.62 in	7.4 to 8.4
BCg,BC1,BC2 -- 34 to 80 in	clay loam	moderately slow	6.45 to 7.37 in	7.4 to 8.4

L211B--Amiret-Swanlake-Round Lake complex, 2 to 6 percent slopes

Amiret

Extent: 20 to 45 percent of the unit
Landform(s): moraines on hills
Slope gradient: 2 to 5 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 12 in	loam	moderate	2.01 to 2.60 in	6.1 to 7.3
Bw -- 12 to 20 in	loam	moderate	1.24 to 1.57 in	6.1 to 7.3
Bk -- 20 to 50 in	loam	moderate	4.49 to 5.69 in	7.4 to 8.4
BC -- 50 to 67 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4
C -- 67 to 80 in	loam	moderate	1.95 to 2.47 in	7.4 to 8.4

Swanlake

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 2.17 in	7.4 to 8.4
Bk -- 9 to 43 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4
C -- 43 to 60 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4

L211B--Amiret-Swanlake-Round Lake complex, 2 to 6 percent slopes

Round Lake

Extent: 15 to 30 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.98 in	5.6 to 7.3
Bw -- 11 to 14 in	sandy loam	moderately rapid	0.41 to 0.57 in	5.6 to 7.3
2Bw -- 14 to 26 in	loamy coarse sand	rapid	0.24 to 0.47 in	5.6 to 7.3
2Bk -- 26 to 35 in	gravelly coarse sand	rapid	0.18 to 0.36 in	6.6 to 8.4
2C -- 35 to 48 in	coarse sand	rapid	0.26 to 0.52 in	6.6 to 8.4
3Cg -- 48 to 80 in	loam	moderate	5.10 to 7.02 in	7.4 to 8.4

L213A--Calco silty clay loam, 0 to 2 percent slopes, frequently flooded

Calco, frequently flooded

Extent: 75 to 90 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 5w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 22 in	silty clay loam	moderate	4.63 to 5.07 in	7.4 to 8.4
Bg -- 22 to 50 in	silty clay loam	moderate	5.87 to 6.43 in	7.4 to 8.4
Cg -- 50 to 80 in	silty clay loam	moderate	5.39 to 5.98 in	7.4 to 8.4

L215A--Dickman sandy loam, 0 to 2 percent slopes

Dickman

Extent: 80 to 90 percent of the unit
Landform(s): flats on outwash plains, rises on outwash plains, stream terraces
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 12 in	sandy loam	moderately rapid	1.54 to 1.77 in	6.1 to 6.5
Bw -- 12 to 19 in	sandy loam	moderately rapid	0.85 to 0.99 in	6.1 to 7.3
2Bw,C -- 19 to 80 in	coarse sand	rapid	3.05 to 4.27 in	6.1 to 7.8

L215B--Dickman sandy loam, 2 to 6 percent slopes

Dickman

Extent: 80 to 90 percent of the unit
Landform(s): outwash plains on hills, stream terraces
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 12 in	sandy loam	moderately rapid	1.54 to 1.77 in	6.1 to 6.5
Bw -- 12 to 19 in	sandy loam	moderately rapid	0.85 to 0.99 in	6.1 to 7.3
2Bw,C -- 19 to 80 in	coarse sand	rapid	3.05 to 4.27 in	6.1 to 7.8

L215C--Dickman sandy loam, 6 to 12 percent slopes

Dickman

Extent: 80 to 90 percent of the unit
Landform(s): outwash plains, stream terraces, -- error in exists on --
Slope gradient: 6 to 12 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.28 to 1.48 in	6.1 to 6.5
Bw -- 10 to 22 in	loamy sand	rapid	0.24 to 0.85 in	6.1 to 7.8
C -- 22 to 60 in	sand	rapid	0.76 to 2.65 in	6.1 to 7.8

L217C2--Ves-Storden complex, 6 to 12 percent slopes, moderately eroded

Ves, moderately eroded

Extent: 35 to 75 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	6.1 to 7.3
Bw1,Bw2 -- 8 to 22 in	loam	moderate	2.13 to 2.69 in	6.6 to 7.3
Bk -- 22 to 33 in	loam	moderate	1.87 to 2.09 in	7.4 to 8.4
C -- 33 to 60 in	loam	moderate	4.55 to 5.09 in	7.4 to 8.4

Storden, moderately eroded

Extent: 30 to 65 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	7.4 to 8.4
Bk -- 7 to 55 in	loam	moderate	7.20 to 9.13 in	7.4 to 8.4
C -- 55 to 80 in	loam	moderate	3.72 to 4.71 in	7.4 to 8.4

L218B--Amiret loam, 2 to 5 percent slopes

Amiret

Extent: 75 to 90 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 5 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 12 in	loam	moderate	2.01 to 2.60 in	6.1 to 7.3
Bw -- 12 to 20 in	loam	moderate	1.24 to 1.57 in	6.1 to 7.3
Bk -- 20 to 50 in	loam	moderate	4.49 to 5.69 in	7.4 to 8.4
BC -- 50 to 67 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4
C -- 67 to 80 in	loam	moderate	1.95 to 2.47 in	7.4 to 8.4

L219A--Coland clay loam, 0 to 2 percent slopes, occasionally flooded

Coland, occasionally flooded

Extent: 65 to 90 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2,A3 -- 0 to 42 in	clay loam	moderate	8.43 to 9.27 in	6.1 to 7.3
AB -- 42 to 55 in	clay loam	moderate	2.60 to 2.86 in	6.1 to 7.3
Cg -- 55 to 60 in	clay loam	moderate	0.94 to 1.04 in	6.1 to 7.3

L222C2--Ves-Storden-Pilot Grove complex, 6 to 12 percent slopes, moderately eroded

Ves, moderately eroded

Extent: 25 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loam	moderate	1.57 to 1.73 in	6.1 to 7.3
Bw -- 8 to 22 in	loam	moderate	2.13 to 2.69 in	6.6 to 7.3
Bk -- 22 to 33 in	loam	moderate	1.87 to 2.09 in	7.4 to 8.4
C -- 33 to 60 in	loam	moderate	4.55 to 5.09 in	7.4 to 8.4

Storden, moderately eroded

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	7.4 to 8.4
Bk -- 7 to 55 in	loam	moderate	7.20 to 9.13 in	7.4 to 8.4
C -- 55 to 80 in	loam	moderate	3.72 to 4.71 in	7.4 to 8.4

L222C2--Ves-Storden-Pilot Grove complex, 6 to 12 percent slopes, moderately eroded

Pilot Grove

Extent: 15 to 35 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap,A --	0 to 9 in	sandy loam	moderately rapid	1.18 to 1.63 in	5.6 to 7.3
Bw --	9 to 17 in	sandy loam	moderately rapid	1.02 to 1.42 in	5.6 to 7.3
2BC --	17 to 21 in	loamy sand	rapid	0.08 to 0.16 in	5.6 to 7.3
2C --	21 to 58 in	gravelly coarse sand	rapid	0.74 to 1.48 in	6.6 to 8.4
3C --	58 to 80 in	loam	moderate	3.31 to 4.19 in	7.4 to 8.4

L223B--Amiret-Swanlake complex, 2 to 6 percent slopes

Amiret

Extent: 15 to 60 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 5 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 12 in	loam	moderate	2.01 to 2.60 in	6.1 to 7.3
Bw -- 12 to 20 in	loam	moderate	1.24 to 1.57 in	6.1 to 7.3
Bk -- 20 to 50 in	loam	moderate	4.49 to 5.69 in	7.4 to 8.4
BC -- 50 to 67 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4
C -- 67 to 80 in	loam	moderate	1.95 to 2.47 in	7.4 to 8.4

Swanlake

Extent: 15 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.81 to 2.17 in	7.4 to 8.4
Bk -- 9 to 43 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4
C -- 43 to 60 in	loam	moderate	2.54 to 3.22 in	7.4 to 8.4

L224A--Coland clay loam, 0 to 2 percent slopes, frequently flooded

Coland, frequently flooded

Extent: 65 to 90 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 5w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 42 in	clay loam	moderate	8.43 to 9.27 in	6.1 to 7.3
C -- 42 to 60 in	clay loam	moderate	3.54 to 3.90 in	6.1 to 7.3

L225B--Annton-North Twin complex, 2 to 6 percent slopes

Annton

Extent: 40 to 55 percent of the unit
Landform(s): hills on moraines
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	clay loam	moderate	1.77 to 2.17 in	6.1 to 7.3
Bw -- 10 to 22 in	clay loam	moderate	2.07 to 2.32 in	6.1 to 7.3
Bk -- 22 to 60 in	loam	moderately slow	5.29 to 6.05 in	7.4 to 8.4
BC -- 60 to 80 in	clay loam	moderately slow	2.81 to 3.21 in	7.4 to 8.4

North Twin

Extent: 15 to 45 percent of the unit
Landform(s): hills on moraines
Slope gradient: 3 to 4 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	clay loam	moderately slow	1.67 to 1.87 in	6.6 to 7.3
Bw -- 10 to 18 in	clay loam	moderately slow	1.16 to 1.49 in	6.1 to 7.3
Bk -- 18 to 31 in	clay loam	moderately slow	1.82 to 2.08 in	7.4 to 8.4
BCg,BC1,BC2 -- 31 to 80 in	clay loam	moderately slow	6.83 to 7.81 in	7.4 to 8.4

L226C2--Annton-Storden, firm till, complex, 6 to 12 percent slopes, moderately eroded

Annton, moderately eroded

Extent: 30 to 60 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	clay loam	moderate	1.42 to 1.73 in	6.1 to 7.3
Bw -- 8 to 21 in	clay loam	moderate	2.21 to 2.47 in	6.1 to 7.3
Bk -- 21 to 34 in	clay loam	moderately slow	1.82 to 2.08 in	7.4 to 8.4
BC1,BC2 -- 34 to 80 in	clay loam	moderately slow	6.45 to 7.37 in	7.4 to 8.4

Storden, moderately eroded, firm till

Extent: 25 to 50 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .37
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loam	moderate	1.97 to 2.17 in	7.4 to 8.4
Bk -- 10 to 31 in	clay loam	moderately slow	2.98 to 3.40 in	7.4 to 8.4
BC -- 31 to 80 in	clay loam	moderately slow	6.83 to 7.81 in	7.4 to 8.4

L227B--Truman silt loam, 2 to 6 percent slopes

Truman

Extent: 80 to 90 percent of the unit
Landform(s): hills on lake plains
Slope gradient: 2 to 6 percent
Parent material: lacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .37
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 14 in	silt loam	moderate	2.83 to 3.26 in	5.6 to 7.3
Bw1 -- 14 to 20 in	silt loam	moderate	1.06 to 1.24 in	5.6 to 7.8
Bw2,BC -- 20 to 36 in	silt loam	moderate	2.83 to 3.31 in	5.6 to 7.8
C -- 36 to 60 in	silt loam	moderate	4.32 to 4.80 in	7.4 to 8.4

L228B--Clarion-Ocheyedan complex, 2 to 5 percent slopes

Clarion

Extent: 50 to 80 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 5 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 14 in	loam	moderate	2.83 to 3.12 in	5.6 to 7.3
Bw -- 14 to 33 in	loam	moderate	3.21 to 3.59 in	5.6 to 7.3
Bk -- 33 to 60 in	loam	moderate	4.02 to 5.09 in	7.4 to 8.4

Ocheyedan

Extent: 15 to 45 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 5 percent
Parent material: loamy and silty sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 18 in	loam	moderate	3.62 to 4.35 in	6.1 to 7.3
2Bw1,2Bw2 -- 18 to 30 in	silt loam	moderate	1.89 to 2.13 in	6.1 to 7.8
3Bk1,3Bw2 -- 30 to 45 in	loam	moderate	2.24 to 2.84 in	7.4 to 8.4
3C -- 45 to 60 in	loam	moderate	2.24 to 2.84 in	7.4 to 8.4

L229A--Romnell silty clay loam, depressional, 0 to 1 percent slopes

Romnell, depressional

Extent: 75 to 95 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 23 in	silty clay loam	moderately slow	4.80 to 5.25 in	6.1 to 7.8
Bg1,Bg2 -- 23 to 43 in	silty clay loam	moderate	3.41 to 4.82 in	6.6 to 7.8
BCg1 -- 43 to 51 in	clay loam	moderately slow	1.24 to 1.57 in	6.6 to 7.8
BCg2 -- 51 to 80 in	clay loam	moderately slow	4.02 to 4.60 in	7.4 to 8.4

L230A--Biscay clay loam, loamy substratum, 0 to 2 percent slopes

Biscay, loamy substratum

Extent: 65 to 85 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 2 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	clay loam	moderate	1.42 to 1.56 in	6.1 to 7.4
A1,A2 -- 7 to 22 in	clay loam	moderate	2.54 to 2.84 in	6.1 to 7.4
Bg -- 22 to 36 in	clay loam	moderate	2.34 to 2.62 in	6.6 to 7.3
2Cg1 -- 36 to 56 in	gravelly loamy sand	rapid	0.40 to 0.80 in	7.6 to 8.4
2Cg2 -- 56 to 74 in	gravelly coarse sand	rapid	0.36 to 0.72 in	7.6 to 8.4
3Cg3 -- 74 to 80 in	clay loam	moderate	0.94 to 1.30 in	7.6 to 8.4

L231A--Mayer clay loam, loamy substratum, 0 to 2 percent slopes

Mayer, loamy substratum

Extent: 65 to 85 percent of the unit
Landform(s): rims on depressions on moraines, flats on moraines
Slope gradient: 0 to 2 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 16 in	loam	moderate	3.23 to 3.55 in	7.4 to 8.4
Bg -- 16 to 35 in	loam	moderate	3.78 to 4.16 in	7.4 to 8.4
2Cg -- 35 to 60 in	gravelly sand	rapid	0.50 to 0.99 in	7.4 to 8.4
3Cg -- 60 to 80 in	clay loam	moderate	3.21 to 4.42 in	7.6 to 8.4

L232A--Havelock clay loam, sandy substratum, 0 to 2 percent slopes, rarey flooded

Havelock, sandy substratum, rarely flooded

Extent: 70 to 85 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: rare
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 40 in	clay loam	moderate	6.83 to 9.24 in	7.4 to 8.4
Cg -- 40 to 78 in	clay loam	moderate	6.43 to 7.56 in	7.4 to 8.4
2Cg -- 78 to 80 in	coarse sand	rapid	0.04 to 0.08 in	6.1 to 8.4

L233A--Lakefield silty clay loam, 0 to 3 percent slopes

Lakefield

Extent: 85 to 95 percent of the unit
Landform(s): lake plains
Slope gradient: 0 to 3 percent
Parent material: lacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 18 in	silty clay loam	moderate	3.26 to 4.35 in	7.4 to 8.4
Bkg,BCkg -- 18 to 53 in	silty clay loam	moderate	5.61 to 7.01 in	7.4 to 8.4
Cg -- 53 to 60 in	silty clay loam	moderate	1.07 to 1.34 in	7.4 to 8.4

L234A--Romnell silty clay loam, ponded, 0 to 1 percent slopes

Romnell, ponded

Extent: 75 to 95 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .32
Land capability, nonirrigated 8w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 42 in	silty clay loam	moderate	7.58 to 9.27 in	6.1 to 7.8
Bg -- 42 to 50 in	clay loam	moderate	1.18 to 1.50 in	6.6 to 7.8
BCg1 -- 50 to 51 in	clay loam	moderately slow	0.18 to 0.22 in	6.6 to 7.8
BCg2 -- 51 to 80 in	clay loam	moderately slow	4.02 to 4.60 in	7.4 to 8.4

L235A--Riverston clay loam, 0 to 2 percent slopes, occasionally flooded

Riverston, occasionally flooded

Extent: 80 to 95 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A,AB -- 0 to 31 in	clay loam	moderate	5.29 to 7.15 in	7.4 to 8.4
Bg -- 31 to 36 in	clay loam	moderate	0.80 to 0.94 in	7.4 to 8.4
Cg -- 36 to 43 in	sandy loam	moderately rapid	0.71 to 0.92 in	7.4 to 8.4
2Cg -- 43 to 80 in	sand	very rapid	1.11 to 2.22 in	7.4 to 8.4

L236A--Shandep clay loam, depressional, 0 to 1 percent slopes

Shandep, depressional

Extent: 85 to 95 percent of the unit
Landform(s): depressions on outwash plains, depressions on stream terraces
Slope gradient: 0 to 1 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 22 in	clay loam	moderate	4.41 to 5.07 in	6.1 to 7.3
Bg -- 22 to 40 in	clay loam	moderate	3.08 to 3.62 in	6.1 to 7.3
2Cg -- 40 to 60 in	loamy sand	rapid	0.39 to 0.79 in	6.1 to 8.4

L238A--Webster-Delft complex, 0 to 3 percent slopes

Webster

Extent: 45 to 70 percent of the unit
Landform(s): flats on moraines, swales on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 19 in	clay loam	moderate	3.59 to 3.97 in	6.6 to 7.3
Bg -- 19 to 26 in	clay loam	moderate	1.13 to 1.28 in	6.6 to 7.8
BCg,Cg -- 26 to 60 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4

Delft

Extent: 25 to 50 percent of the unit
Landform(s): drainageways on moraines, swales on moraines
Slope gradient: 1 to 3 percent
Parent material: colluvium over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A -- 0 to 37 in	loam	moderately slow	6.66 to 7.40 in	5.6 to 7.8
Bg -- 37 to 50 in	clay loam	moderate	2.47 to 2.86 in	6.6 to 7.8
Cg -- 50 to 60 in	loam	moderate	1.48 to 1.87 in	7.4 to 8.4

L239A--Revere clay loam, 0 to 2 percent slopes

Revere

Extent: 85 to 95 percent of the unit
Landform(s): rims on depressions on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	clay loam	moderate	1.54 to 1.72 in	7.4 to 8.4
Ay -- 9 to 15 in	clay loam	moderate	1.00 to 1.12 in	7.4 to 8.4
Byg1,Byg2 -- 15 to 35 in	clay loam	moderate	3.01 to 3.81 in	7.4 to 8.4
Cg1,Cg2 -- 35 to 60 in	loam	moderate	4.22 to 4.71 in	7.4 to 8.4

L240A--Shandep mucky loam, ponded, 0 to 1 percent slopes

Shandep, ponded

Extent: 70 to 90 percent of the unit
Landform(s): depressions on outwash plains, depressions on stream terraces
Slope gradient: 0 to 1 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .24
Land capability, nonirrigated 8w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A1 -- 0 to 10 in	clay loam	moderate	1.97 to 2.26 in	6.1 to 7.3
A2,A3 -- 10 to 58 in	clay loam	moderate	9.61 to 11.05 in	6.1 to 7.3
BCg -- 58 to 60 in	clay loam	moderate	0.33 to 0.39 in	6.1 to 7.3
2C -- 60 to 80 in	sand	rapid	0.40 to 0.80 in	6.1 to 8.4

L241B--Dickinson fine sandy loam, firm till substratum, 1 to 6 percent slopes

Dickinson, firm till substratum

Extent: 70 to 90 percent of the unit
Landform(s): hills on moraines
Slope gradient: 1 to 6 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,AB -- 0 to 16 in	fine sandy loam	moderately rapid	1.94 to 2.42 in	5.6 to 7.3
Bw -- 16 to 30 in	fine sandy loam	moderately rapid	1.65 to 2.07 in	5.1 to 6.5
C1 -- 30 to 47 in	loamy sand	rapid	0.34 to 0.68 in	5.6 to 7.8
C2 -- 47 to 60 in	sand	rapid	0.26 to 0.52 in	5.6 to 7.8
2BC -- 60 to 80 in	clay loam	moderately slow	2.81 to 3.21 in	7.4 to 8.4

L242B--Terril loam, firm till substratum, 2 to 6 percent slopes

Terril, firm till substratum

Extent: 80 to 95 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: colluvium over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 30 in	loam	moderate	5.98 to 6.58 in	6.1 to 7.3
A3,AB -- 30 to 40 in	loam	moderate	1.74 to 1.94 in	6.1 to 7.3
Bw -- 40 to 61 in	loam	moderate	3.34 to 3.76 in	6.1 to 7.3
BC -- 61 to 80 in	clay loam	moderately slow	2.65 to 3.02 in	7.4 to 8.4

L245A--Shandep loam, 0 to 2 percent slopes

Shandep

Extent: 70 to 90 percent of the unit
Landform(s): flats on outwash plains, flats on stream terraces
Slope gradient: 0 to 2 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 22 in	clay loam	moderate	4.41 to 5.07 in	6.1 to 7.3
Bg -- 22 to 40 in	clay loam	moderate	3.08 to 3.62 in	6.1 to 7.3
2Cg -- 40 to 60 in	loamy sand	rapid	0.39 to 0.79 in	6.1 to 8.4

L248B--Annton-Swanlake, firm till, complex, 3 to 6 percent slopes

Annton

Extent: 35 to 65 percent of the unit
Landform(s): hills on moraines
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	clay loam	moderate	1.77 to 2.17 in	6.1 to 7.3
Bw -- 10 to 22 in	clay loam	moderate	2.07 to 2.32 in	6.1 to 7.3
Bk -- 22 to 60 in	loam	moderately slow	5.29 to 6.05 in	7.4 to 8.4
BC -- 60 to 80 in	clay loam	moderately slow	2.81 to 3.21 in	7.4 to 8.4

Swanlake, firm till

Extent: 30 to 50 percent of the unit
Landform(s): hills on moraines
Slope gradient: 3 to 6 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	clay loam	moderately slow	1.34 to 1.50 in	7.4 to 8.4
ABk -- 8 to 18 in	clay loam	moderately slow	1.43 to 1.64 in	7.4 to 8.4
Bk -- 18 to 40 in	clay loam	moderately slow	3.09 to 3.53 in	7.4 to 8.4
BC -- 40 to 80 in	clay loam	moderately slow	5.57 to 6.36 in	7.4 to 8.4

L249A--Knoke silty clay loam, firm till substratum, depressional, 0 to 1 percent slopes

Knoke, firm till substratum, depressional

Extent: 75 to 90 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: lacustrine sediments over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap,A1,A2 -- 0 to 10 in	mucky silty clay loam	moderately slow	2.07 to 2.26 in	7.4 to 8.4
ABg -- 10 to 42 in	silty clay loam	moderately slow	6.78 to 7.43 in	7.4 to 8.4
Bg -- 42 to 63 in	silty clay loam	moderately slow	3.76 to 4.17 in	7.4 to 8.4
2BCg -- 63 to 80 in	clay loam	moderately slow	2.37 to 2.71 in	7.4 to 8.4

L255D2--Storden-Ves complex, 12 to 18 percent slopes, moderately eroded

Storden, moderately eroded

Extent: 40 to 80 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	7.4 to 8.4
Bk -- 7 to 55 in	loam	moderate	7.20 to 9.13 in	7.4 to 8.4
C -- 55 to 80 in	loam	moderate	3.72 to 4.71 in	7.4 to 8.4

Ves, moderately eroded

Extent: 20 to 40 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .20
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	loam	moderate	1.54 to 1.99 in	6.1 to 7.8
Bw -- 9 to 18 in	loam	moderate	1.36 to 1.72 in	6.6 to 7.8
C -- 18 to 60 in	loam	moderate	6.26 to 7.93 in	7.4 to 8.4

L256D2--Storden-Ves-Pilot Grove complex, 12 to 18 percent slopes, moderately eroded

Storden, moderately eroded

Extent: 35 to 45 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	7.4 to 8.4
Bk -- 7 to 55 in	loam	moderate	7.20 to 9.13 in	7.4 to 8.4
C -- 55 to 80 in	loam	moderate	3.72 to 4.71 in	7.4 to 8.4

Ves, moderately eroded

Extent: 15 to 35 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 18 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 10 in	loam	moderate	1.97 to 2.17 in	6.1 to 7.8
Bw -- 10 to 22 in	loam	moderate	2.07 to 2.32 in	6.6 to 7.8
Bk -- 22 to 39 in	loam	moderate	2.88 to 3.22 in	7.4 to 8.4
C -- 39 to 60 in	loam	moderate	3.55 to 3.96 in	7.4 to 8.4

L256D2--Storden-Ves-Pilot Grove complex, 12 to 18 percent slopes, moderately eroded

Pilot Grove

Extent: 15 to 45 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: outwash over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap --	0 to 9 in	sandy loam	moderately rapid	1.18 to 1.63 in	5.6 to 7.3
Bw --	9 to 17 in	sandy loam	moderately rapid	1.02 to 1.42 in	5.6 to 7.3
2BC --	17 to 22 in	loamy coarse sand	rapid	0.10 to 0.20 in	5.6 to 7.3
2C1 --	22 to 39 in	gravelly coarse sand	rapid	0.34 to 0.68 in	6.6 to 8.4
2C2 --	39 to 55 in	gravelly coarse sand	rapid	0.32 to 0.65 in	6.6 to 8.4
3C --	55 to 80 in	loam	moderate	3.97 to 5.46 in	7.4 to 8.4

L257A--Blue Earth mucky silt loam, sandy substratum, depressional, 0 to 1 percent slopes

Blue Earth, depressional, sandy substratum

Extent: 70 to 90 percent of the unit
Landform(s): depressions on outwash plains
Slope gradient: 0 to 1 percent
Parent material: coprogenous earth over outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 11 in	mucky silt loam	moderate	1.98 to 2.65 in	7.4 to 8.4
Cg1 -- 11 to 48 in	mucky silty clay loam	moderate	6.66 to 8.88 in	7.4 to 8.4
Cg2 -- 48 to 65 in	mucky silt loam	moderate	2.71 to 3.72 in	7.4 to 8.4
2Cg -- 65 to 80 in	sand	rapid	0.30 to 1.05 in	7.9 to 8.4

M-W--Water, miscellaneous

Water, miscellaneous

Extent: 100 percent of the unit
Landform(s):
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

Map Unit Description (MN)

Cottonwood County, Minnesota

W--Water

Water

Extent: 100 percent of the unit
Landform(s):
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*

This report provides a semitabular listing of some soil and site properties and interpretations that are valuable in communicating the concept of a map unit. The report also provides easy access to the commonly used conservation planning information in one place. The major soil components in each map unit are displayed. Minor components may be displayed if they are included in the database and are selected at the time the report is generated.