Map Unit Description (MN)

Aitkin 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]

119C--Pomroy loamy fine sand, 6 to 12 percent slopes

Pomroy

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: sandy outwash over loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loamy fine sand	rapid	0.39 to 0.47 in	5.1 to 6.5
E,Bw1 -- 4 to 15 in	loamy fine sand	rapid	0.66 to 0.99 in	5.1 to 6.5
Bw2 -- 15 to 22 in	loamy sand	moderately slow	0.00 to 0.57 in	5.1 to 6.5
2Bt,2BC -- 22 to 44 in	sandy loam	slow	0.00 to 1.76 in	5.6 to 7.3
2Cd -- 44 to 60 in	sandy loam	moderately slow	0.00 to 0.63 in	5.6 to 7.3

124--Brickton silt loam

Brickton

Extent: 85 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: silty and clayey lacustrine deposits
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) .43
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*
A -- 0 to 4 in	silt loam	moderate	0.87 to 0.94 in	5.6 to 7.3
E,Btg1,Btg2 -- 4 to 32 in	silty clay	moderately slow	4.47 to 5.31 in	5.1 to 7.8
BCg,Cg -- 32 to 60 in	clay	moderately slow	4.47 to 6.15 in	7.4 to 8.4

133B--Dalbo very fine sandy loam, 1 to 6 percent slopes

Dalbo

Extent: 90 percent of the unit
Landform(s): lake plains
Slope gradient: 1 to 6 percent
Parent material: silty and clayey lacustrine deposits
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) .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*
A -- 0 to 3 in	very fine sandy loam	moderately rapid	0.41 to 0.57 in	5.6 to 7.3
E,Bt,BC -- 3 to 35 in	silty clay	moderately slow	3.19 to 5.74 in	5.1 to 7.3
C -- 35 to 60 in	silty clay loam	moderate	2.48 to 4.46 in	7.4 to 8.4

142--Nokay fine sandy loam

Nokay

Extent: 85 percent of the unit
Landform(s): flats on moraines
Slope gradient: 0 to 3 percent
Parent material: loamy till
Restrictive feature(s): dense material at 30 to 50 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 6 in	fine sandy loam	moderately rapid	0.77 to 1.06 in	4.5 to 5.5
E1 -- 6 to 12 in	sandy loam	moderately rapid	0.71 to 1.12 in	4.5 to 5.5
E2 -- 12 to 19 in	sandy loam	moderate	0.85 to 1.35 in	5.1 to 6.5
Bt,BC -- 19 to 44 in	sandy loam	slow	0.00 to 2.02 in	5.6 to 7.3
C -- 44 to 60 in	sandy loam	very slow	0.00 to 0.63 in	5.6 to 7.3

144B--Flak sandy loam, 3 to 8 percent slopes

Flak

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 3 to 8 percent
Parent material: loamy till
Restrictive feature(s): dense material at 30 to 50 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
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*
A -- 0 to 3 in	sandy loam	moderately rapid	0.41 to 0.57 in	4.5 to 6.5
E -- 3 to 13 in	sandy loam	moderately rapid	1.18 to 1.57 in	5.1 to 6.5
Bt -- 13 to 22 in	sandy loam	moderate	1.09 to 1.45 in	5.1 to 6.5
BC -- 22 to 45 in	sandy loam	slow	0.00 to 1.37 in	5.1 to 7.3
C -- 45 to 60 in	sandy loam	very slow	0.00 to 0.60 in	5.6 to 7.3

144C--Flak sandy loam, 8 to 15 percent slopes

Flak

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 15 percent
Parent material: loamy till
Restrictive feature(s): dense material at 30 to 50 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
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*
A -- 0 to 2 in	sandy loam	moderately rapid	0.26 to 0.35 in	4.5 to 6.5
E -- 2 to 5 in	sandy loam	moderately rapid	0.38 to 0.50 in	5.1 to 6.5
Bt -- 5 to 16 in	sandy loam	moderate	1.32 to 1.76 in	5.1 to 6.5
BC -- 16 to 34 in	sandy loam	slow	0.00 to 1.06 in	5.1 to 7.3
C -- 34 to 60 in	sandy loam	very slow	0.00 to 1.04 in	5.6 to 7.3

146B--Wabedo sandy loam, 1 to 6 percent slopes

Wabedo

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 6 percent
Parent material: loamy till
Restrictive feature(s): dense material at 40 to 50 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
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*
A --	0 to 5 in	sandy loam	moderately rapid	0.67 to 0.92 in	4.5 to 6.0
Bw1,Bw2,Bw3 --	5 to 27 in	sandy loam	moderate	2.65 to 3.53 in	4.5 to 6.5
BC --	27 to 47 in	sandy loam	slow	0.59 to 1.57 in	5.1 to 7.3
C --	47 to 60 in	sandy loam	very slow	0.00 to 0.52 in	5.1 to 7.3

147--Spooner silt loam

Spooner

Extent: 90 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: silty and clayey lacustrine deposits
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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated 4w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	silt loam	moderate	0.79 to 0.94 in	5.6 to 7.8
E -- 4 to 10 in	silt loam	moderately rapid	1.00 to 1.12 in	5.6 to 7.8
Btg1,Btg2 -- 10 to 29 in	silt loam	moderate	3.28 to 4.24 in	6.1 to 7.8
C1,C2 -- 29 to 60 in	silty clay loam	moderate	5.22 to 6.76 in	7.4 to 8.4

152B--Milaca fine sandy loam, 3 to 8 percent slopes

Milaca

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 3 to 8 percent
Parent material: loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
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*
A -- 0 to 3 in	fine sandy loam	moderately rapid	0.41 to 0.57 in	5.1 to 6.5
E1,E2,2E/B -- 3 to 22 in	fine sandy loam	moderately rapid	3.40 to 4.16 in	5.1 to 6.5
2B/E,2Bt -- 22 to 32 in	sandy loam	moderate	1.18 to 1.57 in	5.1 to 6.5
2BC -- 32 to 48 in	sandy loam	slow	0.00 to 1.29 in	5.6 to 7.3
2Cd -- 48 to 60 in	sandy loam	very slow	0.00 to 0.47 in	5.6 to 7.3

152C--Milaca fine sandy loam, 8 to 15 percent slopes

Milaca

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 15 percent
Parent material: loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
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*
A -- 0 to 3 in	fine sandy loam	moderately rapid	0.41 to 0.57 in	5.1 to 6.5
E,E/B -- 3 to 15 in	fine sandy loam	moderately rapid	2.13 to 2.60 in	5.1 to 6.5
2B/E,2Bt -- 15 to 20 in	sandy loam	moderate	0.61 to 0.82 in	5.1 to 6.5
2BC -- 20 to 45 in	sandy loam	slow	0.00 to 1.98 in	5.6 to 7.3
2Cd -- 45 to 60 in	sandy loam	very slow	0.00 to 0.60 in	5.6 to 7.3

152E--Milaca fine sandy loam, 15 to 25 percent slopes

Milaca

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 15 to 25 percent
Parent material: loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 6e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	fine sandy loam	moderately rapid	0.51 to 0.71 in	5.1 to 6.5
E,E/B -- 4 to 10 in	fine sandy loam	moderately rapid	1.06 to 1.30 in	5.1 to 6.5
2B/E,2Bt2 -- 10 to 22 in	sandy loam	moderate	1.46 to 1.95 in	5.1 to 6.5
2BC -- 22 to 42 in	sandy loam	slow	0.00 to 1.61 in	5.6 to 7.3
2Cd -- 42 to 60 in	sandy loam	very slow	0.00 to 0.71 in	5.6 to 7.3

164B--Mora fine sandy loam, 1 to 4 percent slopes

Mora

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 4 percent
Parent material: loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	fine sandy loam	moderately rapid	0.47 to 0.54 in	5.1 to 6.5
E1,E2 -- 3 to 15 in	fine sandy loam	moderately rapid	1.65 to 2.24 in	5.1 to 6.5
2B/E,2Bt1-2 -- 15 to 28 in	sandy loam	moderate	1.95 to 2.47 in	5.6 to 6.5
2Bc -- 28 to 42 in	sandy loam	slow	0.00 to 1.13 in	5.6 to 7.3
2Cd -- 42 to 60 in	sandy loam	very slow	0.00 to 0.71 in	5.6 to 7.3

166--Ronneby loam

Ronneby

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 2 percent
Parent material: loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loam	moderate	0.71 to 0.91 in	5.1 to 6.5
E1,E2,EB -- 4 to 22 in	sandy loam	moderately rapid	2.17 to 3.44 in	5.1 to 6.5
Bt1,Bt2 -- 22 to 35 in	sandy loam	moderate	1.56 to 2.47 in	5.6 to 6.5
BC -- 35 to 45 in	sandy loam	slow	0.30 to 0.79 in	5.6 to 7.3
Cd -- 45 to 60 in	sandy loam	very slow	0.00 to 0.60 in	5.6 to 7.3

167B--Baudette silt loam, 1 to 5 percent slopes

Baudette

Extent: 90 percent of the unit
Landform(s): lake plains
Slope gradient: 1 to 5 percent
Parent material: silty lacustrine deposits
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) .37
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	silt loam	moderate	0.79 to 0.87 in	5.6 to 7.3
E -- 4 to 13 in	silt loam	moderate	1.27 to 1.81 in	5.6 to 7.3
Bt1,Bt2 -- 13 to 35 in	stratified very fine sandy loam to silt loam	moderate	3.75 to 5.29 in	5.6 to 7.8
C1,C2,C3 -- 35 to 60 in	stratified very fine sandy loam to silt loam	moderate	4.22 to 5.46 in	7.4 to 8.4

186--Nemadji loamy fine sand

Nemadji

Extent: 85 percent of the unit
Landform(s): flats on outwash plains
Slope gradient: 0 to 3 percent
Parent material: sandy outwash
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .17
Land capability, nonirrigated 3w
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 6 in	loamy fine sand	rapid	0.59 to 0.83 in	4.5 to 5.5
E,Bw,Bhs -- 6 to 34 in	fine sand	rapid	1.40 to 3.07 in	4.5 to 6.0
C1,C2 -- 34 to 60 in	fine sand	rapid	1.30 to 1.82 in	4.5 to 6.0

188B--Omega loamy fine sand, 2 to 6 percent slopes

Omega

Extent: 85 percent of the unit
Landform(s): outwash plains
Slope gradient: 2 to 6 percent
Parent material: sandy 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): 2
Wind erodibility index (WEI): 134
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*
E -- 0 to 2 in	loamy fine sand	rapid	0.20 to 0.24 in	4.5 to 5.5
Bs,C1,C2 -- 2 to 60 in	fine sand	rapid	2.89 to 4.05 in	5.1 to 7.3

188C--Omega loamy fine sand, 6 to 12 percent slopes

Omega

Extent: 85 percent of the unit
Landform(s): outwash plains
Slope gradient: 6 to 12 percent
Parent material: sandy 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): 2
Wind erodibility index (WEI): 134
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*
E -- 0 to 2 in	loamy fine sand	rapid	0.20 to 0.24 in	4.5 to 5.5
Bs,C1,C2 -- 2 to 60 in	fine sand	rapid	2.89 to 4.05 in	5.1 to 7.3

188E--Omega loamy sand, 12 to 25 percent slopes

Omega

Extent: 85 percent of the unit
Landform(s): outwash plains
Slope gradient: 12 to 25 percent
Parent material: sandy 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .17
Land capability, nonirrigated 7s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
E -- 0 to 2 in	loamy sand	rapid	0.20 to 0.24 in	4.5 to 5.5
Bs,C1,C2 -- 2 to 60 in	fine sand	rapid	2.89 to 4.05 in	5.1 to 7.3

202--Meehan loamy sand

Meehan

Extent: 90 percent of the unit
Landform(s): flats on outwash plains
Slope gradient: 0 to 2 percent
Parent material: sandy outwash
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 4w
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loamy sand	moderately rapid	0.39 to 0.47 in	3.5 to 7.3
E, Bw -- 4 to 28 in	sand	rapid	1.44 to 2.64 in	3.5 to 6.5
Cg,C -- 28 to 60 in	sand	rapid	0.64 to 2.23 in	3.5 to 7.3

204B--Branstad loam, 2 to 6 percent slopes

Branstad

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material: loamy 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) .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*
A -- 0 to 2 in	loam	moderate	0.31 to 0.43 in	5.1 to 7.8
E,Bw,E',E/B -- 2 to 17 in	fine sandy loam	moderate	1.35 to 2.69 in	5.1 to 7.8
Bt1,Bt2 -- 17 to 36 in	loam	moderate	1.70 to 3.40 in	5.1 to 7.8
Bt3 -- 36 to 43 in	loam	moderate	0.64 to 1.28 in	5.1 to 6.5
C -- 43 to 60 in	loam	moderate	1.52 to 3.05 in	6.6 to 8.4

204C--Cushing loam, 6 to 12 percent slopes

Cushing

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: loamy 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): 5
Wind erodibility index (WEI): 56
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*
E -- 0 to 12 in	loam	moderate	1.89 to 2.83 in	5.1 to 7.8
B/E -- 12 to 25 in	loam	moderate	1.34 to 2.94 in	5.1 to 7.8
Bt1,Bt2 -- 25 to 44 in	loam	moderate	1.89 to 3.59 in	5.1 to 7.8
C -- 44 to 60 in	loam	moderately slow	1.42 to 2.99 in	5.1 to 8.4

204E--Cushing loam, 12 to 25 percent slopes

Cushing

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 25 percent
Parent material: loamy 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): 5
Wind erodibility index (WEI): 56
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*
E -- 0 to 5 in	loam	moderate	0.82 to 1.23 in	5.1 to 7.8
B/E -- 5 to 15 in	loam	moderate	0.98 to 2.17 in	5.1 to 7.8
Bt1,Bt2 -- 15 to 29 in	loam	moderate	1.42 to 2.69 in	5.1 to 7.8
C -- 29 to 60 in	loam	moderately slow	2.76 to 5.83 in	5.1 to 8.4

218--Watab fine sand

Watab

Extent: 85 percent of the unit
Landform(s): flats on moraines
Slope gradient: 0 to 2 percent
Parent material: sandy outwash over loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 1
Wind erodibility index (WEI): 220
Kw factor (surface layer) .15
Land capability, nonirrigated 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
E -- 0 to 7 in	fine sand	rapid	0.50 to 0.71 in	5.1 to 6.0
Bw1,Bw2 -- 7 to 28 in	loamy fine sand	rapid	1.25 to 1.88 in	5.1 to 6.5
Bw3 -- 28 to 36 in	fine sand	moderately rapid	0.63 to 0.94 in	5.1 to 6.5
2Bt,2BC -- 36 to 54 in	sandy loam	slow	0.54 to 1.45 in	5.6 to 7.3
2Cd -- 54 to 60 in	sandy loam	very slow	0.00 to 0.24 in	5.6 to 7.3

240B--Warba very fine sandy loam, 1 to 6 percent slopes

Warba

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 6 percent
Parent material: loamy 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) .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*
A -- 0 to 4 in	very fine sandy loam	moderately rapid	0.71 to 0.91 in	5.1 to 6.5
E,E/B,Bt -- 4 to 46 in	clay loam	moderately slow	6.74 to 8.00 in	5.1 to 7.3
C -- 46 to 60 in	loam	moderate	2.20 to 2.62 in	6.6 to 8.4

240C--Warba very fine sandy loam, 6 to 12 percent slopes

Warba

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: loamy 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 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	very fine sandy loam	moderately rapid	0.71 to 0.91 in	5.1 to 6.5
E,E/B,Bt -- 4 to 42 in	clay loam	moderately slow	6.11 to 7.26 in	5.1 to 7.3
C -- 42 to 60 in	loam	moderate	2.83 to 3.37 in	6.6 to 8.4

243--Stuntz very fine sandy loam

Stuntz

Extent: 85 percent of the unit
Landform(s): flats on moraines
Slope gradient: 0 to 3 percent
Parent material: loamy 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	very fine sandy loam	moderately rapid	0.57 to 0.72 in	4.5 to 6.5
E,B/E,Btg -- 3 to 37 in	clay loam	moderately slow	5.42 to 6.43 in	5.1 to 7.8
C -- 37 to 60 in	loam	moderately slow	3.65 to 4.34 in	6.6 to 8.4

266--Freer silt loam

Freer

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 2 percent
Parent material: silty lacustrine deposits over loamy till
Restrictive feature(s): dense material at 30 to 45 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated 2w
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 6 in	silt loam	moderate	1.18 to 1.42 in	4.5 to 6.0
E1,E2,E/B -- 6 to 21 in	silt loam	moderate	2.69 to 3.29 in	4.5 to 6.0
2Bt1 -- 21 to 27 in	loam	moderate	0.88 to 1.32 in	5.1 to 6.0
2Bt2 -- 27 to 35 in	loam	moderate	1.34 to 1.50 in	5.1 to 6.0
2BC -- 35 to 47 in	sandy loam	slow	0.35 to 0.94 in	5.6 to 7.3
2C -- 47 to 60 in	sandy loam	very slow	0.00 to 0.52 in	5.6 to 7.3

268B--Cromwell fine sandy loam, 1 to 6 percent slopes

Cromwell

Extent: 85 percent of the unit
Landform(s): outwash plains
Slope gradient: 1 to 6 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .17
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	fine sandy loam	moderate	0.31 to 0.35 in	4.5 to 6.0
Bw,2Bw,2C -- 2 to 60 in	gravelly sand	rapid	2.89 to 4.05 in	5.1 to 7.3

268C--Cromwell sandy loam, 6 to 12 percent slopes

Cromwell

Extent: 85 percent of the unit
Landform(s): outwash plains
Slope gradient: 6 to 12 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .17
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	sandy loam	moderate	0.31 to 0.35 in	4.5 to 6.0
Bw,2Bw,2C -- 2 to 60 in	gravelly sand	rapid	2.89 to 4.05 in	5.1 to 7.3

268E--Cromwell fine sandy loam, 12 to 25 percent slopes

Cromwell

Extent: 85 percent of the unit
Landform(s): outwash plains
Slope gradient: 12 to 25 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .17
Land capability, nonirrigated 6e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	fine sandy loam	moderate	0.31 to 0.35 in	4.5 to 6.0
Bw,2Bw,2C -- 2 to 60 in	gravelly sand	rapid	2.89 to 4.05 in	5.1 to 7.3

268F--Cromwell fine sandy loam, 25 to 40 percent slopes

Cromwell

Extent: 85 percent of the unit
Landform(s): outwash plains
Slope gradient: 25 to 40 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .17
Land capability, nonirrigated 6e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	fine sandy loam	moderate	0.31 to 0.35 in	4.5 to 6.0
Bw,2Bw,2C -- 2 to 60 in	gravelly sand	rapid	2.89 to 4.05 in	5.1 to 7.3

292--Alstad loam

Alstad

Extent: 85 percent of the unit
Landform(s): flats on moraines
Slope gradient: 0 to 3 percent
Parent material: loamy 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated 2w
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loam	moderate	0.63 to 0.94 in	4.5 to 7.8
E -- 4 to 14 in	loam	moderate	0.92 to 2.25 in	4.5 to 7.8
B/E -- 14 to 22 in	loam	moderate	0.71 to 1.42 in	4.5 to 7.8
Bt,BC -- 22 to 52 in	loam	moderate	2.69 to 5.39 in	4.5 to 7.8
C -- 52 to 60 in	loam	moderate	0.71 to 1.42 in	7.4 to 8.4

302B--Rosholt fine sandy loam, 2 to 6 percent slopes

Rosholt

Extent: 85 percent of the unit
Landform(s): outwash plains
Slope gradient: 2 to 6 percent
Parent material: sandy 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): 3
Wind erodibility index (WEI): 86
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*
E -- 0 to 9 in	fine sandy loam	moderately rapid	0.91 to 1.63 in	4.5 to 7.3
E/B -- 9 to 15 in	fine sandy loam	moderately rapid	0.59 to 1.30 in	4.5 to 6.5
Bt1 -- 15 to 22 in	sandy loam	moderately rapid	0.64 to 1.35 in	4.5 to 6.5
2Bt2 -- 22 to 30 in	gravelly loamy sand	moderately rapid	0.31 to 1.26 in	4.5 to 6.5
2C -- 30 to 60 in	stratified very gravelly coarse sand to extremely gravelly sand	rapid	0.60 to 1.20 in	5.1 to 6.5

302C--Rosholt fine sandy loam, 6 to 12 percent slopes

Rosholt

Extent: 85 percent of the unit
Landform(s): outwash plains
Slope gradient: 6 to 12 percent
Parent material: sandy 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
E -- 0 to 2 in	fine sandy loam	moderately rapid	0.20 to 0.35 in	4.5 to 7.3
E/B -- 2 to 14 in	fine sandy loam	moderately rapid	1.22 to 2.69 in	4.5 to 6.5
Bt1 -- 14 to 26 in	sandy loam	moderately rapid	1.06 to 2.24 in	4.5 to 6.5
2Bt2 -- 26 to 31 in	gravelly loamy sand	moderately rapid	0.20 to 0.82 in	4.5 to 6.5
2C -- 31 to 60 in	stratified very gravelly coarse sand to extremely gravelly sand	rapid	0.57 to 1.15 in	5.1 to 6.5

346--Talmoon fine sandy loam

Talmoon

Extent: 85 percent of the unit
Landform(s): swales on moraines
Slope gradient: 0 to 2 percent
Parent material: loamy lacustrine deposits over loamy 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) .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*
A -- 0 to 10 in	fine sandy loam	moderate	1.28 to 2.17 in	5.1 to 7.3
Eg -- 10 to 17 in	loam	moderate	0.92 to 1.56 in	5.1 to 7.3
BE,Btg -- 17 to 31 in	clay loam	moderately slow	2.27 to 2.69 in	5.6 to 7.3
Cg -- 31 to 60 in	loam	moderately slow	4.31 to 5.46 in	7.4 to 8.4

428--Hassman muck

Hassman

Extent: 90 percent of the unit
Landform(s): depressions on lake plains
Slope gradient: 0 to 1 percent
Parent material: silty and clayey lacustrine deposits
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 4 in	muck	moderately rapid	1.38 to 1.89 in	5.1 to 6.5
A -- 4 to 8 in	silty clay loam	moderate	0.71 to 0.94 in	5.1 to 6.5
Bg,BCg -- 8 to 45 in	silty clay	slow	3.70 to 7.03 in	5.1 to 7.3
Cg -- 45 to 60 in	silty clay loam	slow	1.35 to 2.84 in	7.4 to 8.4

454B--Mahtomedi loamy coarse sand, 2 to 6 percent slopes

Mahtomedi

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 2 to 6 percent
Parent material: sandy and gravelly 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	loamy coarse sand	rapid	0.31 to 0.38 in	5.1 to 6.5
E -- 3 to 6 in	loamy coarse sand	rapid	0.17 to 0.22 in	5.1 to 6.5
Bw -- 6 to 28 in	gravelly sand	rapid	1.10 to 1.54 in	5.1 to 6.5
C -- 28 to 60 in	gravelly sand	rapid	1.28 to 2.87 in	5.1 to 7.8

454C--Mahtomedi loamy coarse sand, 6 to 12 percent slopes

Mahtomedi

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 6 to 12 percent
Parent material: sandy and gravelly 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loamy coarse sand	rapid	0.39 to 0.47 in	5.1 to 6.5
E -- 4 to 17 in	gravelly coarse sand	rapid	0.78 to 1.04 in	5.1 to 6.5
Bw -- 17 to 38 in	gravelly sand	rapid	1.06 to 1.49 in	5.1 to 6.5
C -- 38 to 60 in	gravelly sand	rapid	0.87 to 1.95 in	5.1 to 7.8

454E--Mahtomedi loamy coarse sand, 12 to 25 percent slopes

Mahtomedi

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 12 to 25 percent
Parent material: sandy and gravelly 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 1 in	loamy coarse sand	rapid	0.12 to 0.14 in	5.1 to 6.5
E -- 1 to 14 in	loamy coarse sand	rapid	0.78 to 1.04 in	5.1 to 6.5
Bw -- 14 to 25 in	gravelly sand	rapid	0.55 to 0.77 in	5.1 to 6.5
C -- 25 to 60 in	gravelly sand	rapid	1.39 to 3.12 in	5.1 to 7.8

454F--Mahtomedi gravelly loamy sand, 25 to 40 percent slopes

Mahtomedi

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 25 to 40 percent
Parent material: sandy and gravelly 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): 8
Wind erodibility index (WEI): 0
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*
A -- 0 to 2 in	gravelly loamy sand	rapid	0.12 to 0.20 in	5.1 to 6.5
E -- 2 to 15 in	loamy coarse sand	rapid	0.78 to 1.04 in	5.1 to 6.5
Bw -- 15 to 30 in	gravelly sand	rapid	0.75 to 1.05 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.20 to 2.69 in	5.1 to 7.8

458B--Menahga loamy sand, 1 to 6 percent slopes

Menahga

Extent: 85 percent of the unit
Landform(s): outwash plains
Slope gradient: 1 to 6 percent
Parent material: sandy 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.5
E,Bw -- 3 to 25 in	sand	rapid	1.10 to 1.54 in	4.5 to 6.5
C1,C2 -- 25 to 60 in	sand	rapid	1.73 to 2.43 in	5.6 to 7.8

458C--Menahga loamy sand, 6 to 12 percent slopes

Menahga

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 6 to 12 percent
Parent material: sandy 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.5
E,Bw -- 3 to 23 in	sand	rapid	0.98 to 1.38 in	4.5 to 6.5
C -- 23 to 60 in	sand	rapid	1.85 to 2.59 in	5.6 to 7.8

458E--Menahga loamy sand, 12 to 25 percent slopes

Menahga

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 12 to 25 percent
Parent material: sandy 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 10 in	loamy sand	rapid	0.98 to 1.18 in	4.5 to 6.5
E,Bw -- 10 to 25 in	sand	rapid	0.77 to 1.07 in	4.5 to 6.5
C -- 25 to 60 in	sand	rapid	1.73 to 2.43 in	5.6 to 7.8

464B--Brennyville silt loam, 2 to 5 percent slopes

Brennyville

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 5 percent
Parent material: silty lacustrine deposits over loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	silt loam	moderate	1.13 to 1.23 in	4.5 to 6.0
E1,E2 -- 5 to 18 in	silt loam	moderate	2.21 to 2.86 in	4.5 to 6.5
E/B -- 18 to 24 in	silt loam	moderate	1.18 to 1.42 in	5.1 to 6.5
2Bt -- 24 to 32 in	loam	moderate	0.94 to 1.26 in	5.1 to 7.3
2BC -- 32 to 38 in	sandy loam	slow	0.19 to 0.50 in	5.1 to 7.3
2Cd -- 38 to 60 in	sandy loam	slow	0.00 to 0.87 in	5.1 to 7.8

469B--Hillcity silt loam, 1 to 6 percent slopes

Hillcity

Extent: 95 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 6 percent
Parent material: silty eolian deposits over loamy 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) .37
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
E -- 0 to 6 in	silt loam	moderate	1.18 to 1.42 in	5.1 to 6.5
Bw,E' -- 6 to 20 in	silt loam	moderate	2.41 to 3.12 in	5.1 to 6.5
B/E,Bt,E&Bt -- 20 to 43 in	silt loam	moderate	3.88 to 5.02 in	5.6 to 7.3
2C -- 43 to 60 in	loam	moderate	1.86 to 3.72 in	6.6 to 8.4

502--Dusler silt loam

Dusler

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 2 percent
Parent material: loamy 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
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	silt loam	moderate	1.02 to 1.23 in	4.5 to 6.0
Eg,2B/E -- 5 to 21 in	fine sandy loam	moderate	2.52 to 3.46 in	4.5 to 6.0
2Bt1,2Bt2 -- 21 to 50 in	clay loam	moderately slow	4.37 to 5.54 in	5.1 to 7.3
2C -- 50 to 60 in	loam	slow	0.98 to 1.48 in	6.6 to 7.8

504B--Duluth fine sandy loam, 1 to 6 percent slopes

Duluth

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 6 percent
Parent material: loamy 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) .37
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	fine sandy loam	moderate	0.50 to 0.69 in	4.5 to 6.0
E,Bw,2BE,2Bt -- 3 to 41 in	clay loam	moderately slow	5.67 to 7.18 in	4.5 to 6.5
2C -- 41 to 60 in	loam	moderately slow	2.65 to 3.59 in	6.1 to 7.8

504C--Duluth fine sandy loam, 6 to 12 percent slopes

Duluth

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: loamy 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) .37
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	fine sandy loam	moderate	0.50 to 0.69 in	4.5 to 6.0
E,Bw,2BE,2Bt - 3 to 49 in	clay loam	moderately slow	6.85 to 8.68 in	4.5 to 6.5
2C -- 49 to 60 in	loam	moderately slow	1.54 to 2.09 in	6.1 to 7.8

504E--Duluth fine sandy loam, 12 to 25 percent slopes

Duluth

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 25 percent
Parent material: loamy 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) .37
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 3 in	fine sandy loam	moderate	0.50 to 0.69 in	4.5 to 6.0
E,Bw.2BE,2Bt - 3 to 37 in	clay loam	moderately slow	5.08 to 6.43 in	4.5 to 6.5
2C -- 37 to 60 in	loam	moderately slow	3.20 to 4.34 in	6.1 to 7.8

531--Beseman muck

Beseman

Extent: 90 percent of the unit
Landform(s): bogs
Slope gradient: 0 to 1 percent
Parent material: organic material over loamy till
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa1 -- 0 to 14 in	muck	moderately rapid	7.80 to 9.21 in	
Oa2 -- 14 to 40 in	muck	moderately rapid	14.29 to 16.89 in	
Cg1,Cg2 -- 40 to 60 in	silty clay loam	moderately slow	2.17 to 3.54 in	

532--Sago muck

Sago

Extent: 90 percent of the unit
Landform(s): depressions on lake plains
Slope gradient: 0 to 1 percent
Parent material: organic material over sandy and silty glaciolacustrine deposits
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 11 in	muck	moderately rapid	3.86 to 4.96 in	4.5 to 6.5
Bg,Cg -- 11 to 60 in	stratified fine sand to silt loam	moderate	6.83 to 9.76 in	5.6 to 8.4

533--Loxley peat

Loxley

Extent: 90 percent of the unit
Landform(s): bogs
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): 3
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .02
Land capability, nonirrigated 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
Oi	0 to 3 in	peat	very rapid	1.10 to 2.05 in	
Oa1,Oa2,Oa3	3 to 60 in	muck	moderately rapid	19.84 to 25.51 in	

540--Seelyeville muck

Seelyeville

Extent: 90 percent of the unit
Landform(s): swamps
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): 3
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: A/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,Oe,O'a	9 to 60 in	muck	moderately rapid	17.78 to 22.85 in	

541--Rifle peat

Rifle

Extent: 90 percent of the unit
Landform(s): swamps
Slope gradient: 0 to 1 percent
Parent material: herbaceous organic material
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): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
Oi	0 to 10 in	peat	very rapid	5.71 to 6.89 in	
Oe1,Oe2,Oe3	10 to 60 in	mucky peat	rapid	24.00 to 29.00 in	

543--Markey muck

Markey

Extent: 85 percent of the unit
Landform(s): swamps
Slope gradient: 0 to 1 percent
Parent material: organic material over sandy outwash
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa	0 to 35 in	muck	moderately rapid	12.26 to 15.77 in	
Cg1,Cg2	35 to 60 in	sand	rapid	0.74 to 1.98 in	

544--Cathro muck

Cathro

Extent: 90 percent of the unit
Landform(s): swamps
Slope gradient: 0 to 1 percent
Parent material: organic material over loamy till
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 20 in	muck	moderately rapid	9.04 to 11.04 in	
Oa3 -- 20 to 38 in	muck	moderately rapid	6.34 to 8.15 in	
Cg -- 38 to 60 in	loam	moderate	2.38 to 4.76 in	

546--Lupton muck

Lupton

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

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa1 -- 0 to 13 in	muck	moderately rapid	4.55 to 5.85 in	
Oa2 -- 13 to 60 in	muck	moderately rapid	16.40 to 21.08 in	

549--Greenwood peat

Greenwood

Extent: 85 percent of the unit
Landform(s): bogs
Slope gradient: 0 to 1 percent
Parent material: herbaceous organic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .02
Land capability, nonirrigated 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oi -- 0 to 14 in	peat	very rapid	7.80 to 9.21 in	
Oe1,Oe2 -- 14 to 60 in	mucky peat	rapid	20.55 to 25.12 in	

563--Northwood muck

Northwood

Extent: 85 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over sandy and silty glaciolacustrine deposits
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 9 in	muck	moderately rapid	3.17 to 4.07 in	5.1 to 7.8
A -- 9 to 13 in	loamy sand	rapid	0.35 to 0.67 in	5.6 to 7.8
Bg1,Bg2 -- 13 to 35 in	coarse sand	rapid	1.32 to 2.43 in	5.6 to 8.4
2Cg -- 35 to 60 in	loam	moderate	3.47 to 4.71 in	7.4 to 8.4

564--Friendship loamy sand

Friendship

Extent: 85 percent of the unit
Landform(s): outwash plains
Slope gradient: 0 to 3 percent
Parent material: sandy outwash
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
E -- 0 to 3 in	loamy sand	rapid	0.25 to 0.38 in	3.5 to 7.3
Bw1 -- 3 to 6 in	loamy sand	very rapid	0.14 to 0.30 in	3.5 to 6.5
Bw2,Bw3,BC -- 6 to 39 in	sand	very rapid	1.65 to 2.65 in	4.5 to 7.3
C1,C2 -- 39 to 60 in	sand	very rapid	0.83 to 1.46 in	5.1 to 7.8

607--Pengilly silt loam

Pengilly

Extent: 85 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 2 percent
Parent material: loamy 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated 7w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	silt loam	moderate	0.79 to 0.94 in	5.6 to 7.3
Cg1,Cg2,Cg3 -- 4 to 60 in	stratified loamy very fine sand to silt loam	moderate	6.71 to 11.18 in	6.1 to 8.4

615--Cowhorn loamy very fine sand

Cowhorn

Extent: 90 percent of the unit
Landform(s): lake plains
Slope gradient: 0 to 3 percent
Parent material: sandy and silty glaciolacustrine deposits
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .37
Land capability, nonirrigated 2w
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	loamy very fine sand	moderately rapid	0.31 to 0.39 in	5.1 to 6.5
E,Bw -- 2 to 39 in	loamy very fine sand	moderately rapid	4.44 to 7.03 in	5.1 to 6.5
C1,C2 -- 39 to 60 in	very fine sand	moderately rapid	2.50 to 3.96 in	6.1 to 8.4

617B--Goodland silt loam, 1 to 10 percent slopes

Goodland

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 10 percent
Parent material: sandy and silty glaciolacustrine deposits over sandy and gravelly outwash
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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	silt loam	moderate	0.63 to 0.76 in	5.1 to 6.5
E,Bw,2EB,2Bt -- 3 to 24 in	sandy loam	moderate	2.50 to 3.96 in	5.1 to 6.5
3Bt -- 24 to 33 in	loamy sand	moderately rapid	0.54 to 0.91 in	5.1 to 6.5
3C -- 33 to 60 in	coarse sand	rapid	0.54 to 1.87 in	5.6 to 7.8

618B--Itasca silt loam, 1 to 6 percent slopes

Itasca

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 6 percent
Parent material: silty glaciolacustrine deposits over loamy 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	silt loam	moderate	0.43 to 0.47 in	5.1 to 6.5
E,Bw,2B/E -- 2 to 21 in	silt loam	moderate	3.21 to 4.16 in	5.1 to 6.0
2Bt -- 21 to 28 in	sandy loam	moderate	0.78 to 1.35 in	5.6 to 7.3
2C -- 28 to 60 in	sandy loam	moderate	3.51 to 6.06 in	6.6 to 8.4

621--Morph very fine sandy loam

Morph

Extent: 85 percent of the unit
Landform(s): swales on lake plains
Slope gradient: 0 to 2 percent
Parent material: alluvium and/or lacustrine deposits
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) .24
Land capability, nonirrigated 4w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	very fine sandy loam	moderately rapid	0.51 to 0.87 in	5.1 to 6.5
Eg,B/E,Btg -- 4 to 33 in	fine sandy loam	moderate	3.20 to 5.54 in	5.1 to 7.3
BCg,Cg1-Cg3 -- 33 to 60 in	stratified loamy sand to silty clay loam	moderate	2.94 to 5.09 in	6.6 to 8.4

625--Sandwick loamy sand

Sandwick

Extent: 85 percent of the unit
Landform(s): swales on moraines
Slope gradient: 0 to 2 percent
Parent material: sandy outwash over loamy 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
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*
E -- 0 to 6 in	loamy sand	rapid	0.47 to 0.59 in	5.1 to 6.5
Bw,E' -- 6 to 34 in	sand	rapid	1.68 to 2.52 in	5.1 to 6.5
2E/B,2Btg -- 34 to 55 in	loam	moderately slow	2.13 to 3.40 in	5.6 to 7.3
2Cg -- 55 to 60 in	loam	moderately slow	0.09 to 0.47 in	6.6 to 8.4

627--Tawas muck

Tawas

Extent: 90 percent of the unit
Landform(s): swamps
Slope gradient: 0 to 1 percent
Parent material: organic material over sandy drift
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa1 -- 0 to 13 in	muck	moderately rapid	4.55 to 5.85 in	
Oa2,Oa3,Oa4 -- 13 to 31 in	muck	moderately rapid	4.35 to 8.15 in	
2Cg1,2Cg2 -- 31 to 60 in	coarse sand	rapid	0.86 to 2.87 in	

628--Talmoon muck, depressional

Talmoon, depressional

Extent: 85 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: loamy glaciolacustrine deposits over loamy 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 4 in	muck	moderately rapid	0.98 to 1.57 in	5.1 to 7.3
A,Eg -- 4 to 20 in	fine sandy loam	moderate	2.10 to 3.55 in	5.1 to 7.3
BE,Btg1,Btg2 -- 20 to 42 in	loam	moderately slow	3.53 to 4.19 in	5.6 to 7.3
Cg1,Cg2 -- 42 to 60 in	loam	moderately slow	2.66 to 3.37 in	7.4 to 8.4

629B--Wawina loamy very fine sand, 1 to 10 percent slopes

Wawina

Extent: 90 percent of the unit
Landform(s): lake plains
Slope gradient: 1 to 10 percent
Parent material: sandy glaciolacustrine deposits
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .24
Land capability, nonirrigated 2s
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
E1 -- 0 to 23 in	loamy very fine sand	moderately rapid	3.65 to 4.11 in	5.1 to 6.5
E2,Bw,C -- 23 to 60 in	very fine sand	moderately rapid	5.18 to 5.92 in	5.1 to 7.3

672--Willosippi loam

Willosippi

Extent: 90 percent of the unit
Landform(s): swales on lake plains
Slope gradient: 0 to 2 percent
Parent material: loamy glaciolacustrine deposits
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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .32
Land capability, nonirrigated 4w
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	loam	moderate	1.42 to 1.70 in	5.1 to 7.3
Eg -- 7 to 12 in	fine sandy loam	moderately rapid	0.71 to 1.04 in	5.1 to 7.3
Btg1-4,Cg1 -- 12 to 42 in	stratified loamy sand to silty clay loam	moderate	4.55 to 5.76 in	5.6 to 7.8
Cg2,Cg3 -- 42 to 60 in	stratified loamy sand to silty clay loam	moderate	2.13 to 3.37 in	6.6 to 8.4

685--Oesterle fine sandy loam

Oesterle

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

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	fine sandy loam	moderately rapid	0.20 to 0.35 in	4.5 to 6.5
E,E/B,B/E,Bt -- 2 to 21 in	sandy loam	moderately rapid	1.70 to 3.78 in	4.5 to 6.5
Bt2 -- 21 to 34 in	stratified loamy coarse sand to gravelly sand	moderately rapid	0.65 to 2.34 in	4.5 to 6.5
2C -- 34 to 60 in	gravelly sand	rapid	0.26 to 1.82 in	5.1 to 6.5

732B--Bushville loamy fine sand, 1 to 6 percent slopes

Bushville

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 6 percent
Parent material: sandy outwash over loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: C
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	loamy fine sand	rapid	0.20 to 0.24 in	5.1 to 6.5
E,Bw,BE, -- 2 to 26 in	loamy sand	rapid	1.44 to 2.16 in	5.1 to 6.5
2Bt -- 26 to 31 in	sandy loam	moderate	0.51 to 0.77 in	5.1 to 6.5
2BC -- 31 to 50 in	sandy loam	slow	0.57 to 1.51 in	5.1 to 7.3
2Cd -- 50 to 60 in	sandy loam	very slow	0.00 to 0.39 in	5.6 to 7.3

734--Cormant loamy fine sand, stratified substratum

Cormant, stratified substratum

Extent: 90 percent of the unit
Landform(s): swales on lake plains
Slope gradient: 0 to 2 percent
Parent material: sandy glaciolacustrine deposits
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .17
Land capability, nonirrigated 4w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	loamy fine sand	rapid	0.63 to 0.94 in	6.1 to 7.3
Cg1-Cg5 -- 8 to 60 in	stratified sand to silt loam	rapid	5.72 to 8.31 in	6.6 to 7.8

736--Ronneby-Mora complex

Ronneby

Extent: 50 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 2 percent
Parent material: loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	fine sandy loam	moderately rapid	0.67 to 0.92 in	5.1 to 6.5
E1,E2,EB -- 5 to 28 in	sandy loam	moderately rapid	2.74 to 4.34 in	5.1 to 6.5
Bt1,Bt2 -- 28 to 37 in	sandy loam	moderate	1.09 to 1.72 in	5.6 to 6.5
BC -- 37 to 46 in	sandy loam	slow	0.27 to 0.72 in	5.6 to 7.3
Cd -- 46 to 60 in	sandy loam	very slow	0.00 to 0.55 in	5.6 to 7.3

Mora

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 4 percent
Parent material: loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	fine sandy loam	moderately rapid	0.47 to 0.54 in	5.1 to 6.5
E -- 3 to 7 in	fine sandy loam	moderately rapid	0.55 to 0.75 in	5.1 to 6.5
2Bt -- 7 to 25 in	sandy loam	moderate	2.72 to 3.44 in	5.6 to 6.5
2BC -- 25 to 43 in	sandy loam	slow	0.00 to 1.42 in	5.6 to 7.3
2Cd -- 43 to 60 in	sandy loam	very slow	0.00 to 0.68 in	5.6 to 7.3

738B--Milaca-Millward complex, 2 to 8 percent slopes

Milaca

Extent: 50 percent of the unit
Landform(s): moraines
Slope gradient: 3 to 8 percent
Parent material: loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
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*
A -- 0 to 4 in	fine sandy loam	moderately rapid	0.51 to 0.71 in	5.1 to 6.5
E -- 4 to 17 in	fine sandy loam	moderately rapid	2.34 to 2.86 in	5.1 to 6.5
2E/B -- 17 to 22 in	sandy loam	moderate	0.61 to 0.82 in	5.1 to 6.5
2B/E,2Bt,2BC -- 22 to 33 in	sandy loam	slow	0.00 to 0.88 in	5.6 to 7.3
2Cd -- 33 to 60 in	sandy loam	very slow	0.00 to 1.07 in	5.6 to 7.3

Millward

Extent: 35 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 8 percent
Parent material: loamy glaciofluvial deposits over loamy till
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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
E -- 0 to 4 in	fine sandy loam	moderately rapid	0.51 to 0.71 in	4.5 to 6.5
Bw1 -- 4 to 21 in	fine sandy loam	moderate	2.03 to 2.71 in	5.1 to 6.5
2Bw2,2Bw3 -- 21 to 34 in	sand	rapid	0.65 to 0.91 in	5.1 to 6.5
3Bt1,3Bt2 -- 34 to 46 in	sandy loam	moderate	1.46 to 1.95 in	5.6 to 7.3
3Cd -- 46 to 60 in	sandy loam	moderate	1.65 to 2.20 in	5.6 to 7.3

738C--Milaca-Millward complex, 8 to 15 percent slopes

Milaca

Extent: 50 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 15 percent
Parent material: loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
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*
A -- 0 to 3 in	sandy loam	moderately rapid	0.41 to 0.57 in	5.1 to 6.5
E -- 3 to 14 in	fine sandy loam	moderately rapid	1.98 to 2.43 in	5.1 to 6.5
2E/B -- 14 to 21 in	sandy loam	moderate	0.80 to 1.07 in	5.1 to 6.5
2Bt,2BC -- 21 to 32 in	sandy loam	slow	0.00 to 0.88 in	5.6 to 7.3
2Cd -- 32 to 60 in	sandy loam	very slow	0.00 to 1.12 in	5.6 to 7.3

Millward

Extent: 35 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 15 percent
Parent material: loamy glaciofluvial deposits over loamy till
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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated 4e
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
E -- 0 to 8 in	fine sandy loam	moderately rapid	1.02 to 1.42 in	4.5 to 6.5
Bw1 -- 8 to 23 in	fine sandy loam	moderate	1.80 to 2.39 in	5.1 to 6.5
2Bw -- 23 to 34 in	sand	rapid	0.55 to 0.77 in	5.1 to 6.5
3Bt -- 34 to 43 in	sandy loam	moderate	1.09 to 1.45 in	5.6 to 7.3
3Cd -- 43 to 60 in	sandy loam	moderate	2.03 to 2.71 in	5.6 to 7.3

759--Waukenabo fine sandy loam

Waukenabo

Extent: 85 percent of the unit
Landform(s): swales on lake plains
Slope gradient: 0 to 2 percent
Parent material: sandy and silty glaciolacustrine deposits
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) .24
Land capability, nonirrigated 4w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 6 in	fine sandy loam	moderately rapid	0.77 to 1.06 in	5.1 to 7.3
Eg1,Eg2 -- 6 to 15 in	loamy sand	moderately rapid	0.91 to 1.27 in	5.1 to 7.3
Btg1,Btg2 -- 15 to 28 in	sandy loam	moderate	1.56 to 2.21 in	5.6 to 7.3
Bkg -- 28 to 30 in	very fine sandy loam	moderately rapid	0.24 to 0.33 in	7.4 to 8.4
Cg1,Cg2 -- 30 to 80 in	stratified fine sand to silt loam	moderately rapid	5.50 to 8.00 in	7.4 to 8.4

795--Redby loamy fine sand, stratified substratum

Redby, stratified substratum

Extent: 90 percent of the unit
Landform(s): -- error in exists on --
Slope gradient: 0 to 3 percent
Parent material: sandy glaciolacustrine deposits
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .17
Land capability, nonirrigated 3w
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	loamy fine sand	rapid	0.57 to 0.85 in	5.1 to 6.5
E --	7 to 25 in	sand	rapid	1.27 to 1.81 in	5.1 to 6.5
BE,Bt,BC --	25 to 42 in	fine sand	rapid	1.02 to 1.35 in	6.1 to 7.8
C --	42 to 60 in	stratified fine sand to fine sandy loam	rapid	1.42 to 2.13 in	6.1 to 7.8

797--Mooselake and Lupton mucky peats

Mooselake

Extent: 45 percent of the unit
Landform(s): swamps
Slope gradient: 0 to 1 percent
Parent material: herbaceous organic material
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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
Oi --	0 to 3 in	mucky peat	very rapid	1.10 to 1.73 in	
Oe --	3 to 60 in	mucky peat	rapid	22.68 to 28.35 in	

Lupton

Extent: 45 percent of the unit
Landform(s): swamps
Slope gradient: 0 to 1 percent
Parent material: organic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .02
Land capability, nonirrigated 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa1 --	0 to 8 in	mucky peat	moderately rapid	3.54 to 4.33 in	
Oa2 --	8 to 60 in	muck	moderately rapid	18.19 to 23.39 in	

799--Seelyeville-Bowstring association

Seelyeville

Extent: 45 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 1 percent
Parent material: organic material
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 28 in	muck	moderately rapid	9.78 to 12.58 in	
Oe,O'a -- 28 to 60 in	muck	moderately rapid	11.16 to 14.35 in	

Bowstring

Extent: 45 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 1 percent
Parent material: organic material and/or alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
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) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 38 in	muck	moderately rapid	13.37 to 17.19 in	
C -- 38 to 43 in	stratified sand to fine sandy loam	rapid	0.38 to 0.66 in	
O'a,C'g -- 43 to 60 in	muck	moderately rapid	5.93 to 7.62 in	

869--Lobo and Waskish peats

Lobo

Extent: 70 percent of the unit
Landform(s): bogs
Slope gradient: 0 to 1 percent
Parent material: mossy organic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
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) .02
Land capability, nonirrigated 7w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oi -- 0 to 44 in	peat	very rapid	24.25 to 28.66 in	
Oe -- 44 to 60 in	mucky peat	rapid	7.09 to 8.66 in	

Waskish

Extent: 20 percent of the unit
Landform(s): bogs
Slope gradient: 0 to 1 percent
Parent material: mossy organic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
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) .02
Land capability, nonirrigated 7w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oi -- 0 to 60 in	peat	very rapid	32.91 to 38.90 in	

870B--Itasca-Goodland complex, 2 to 6 percent slopes

Itasca

Extent: 55 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material: silty glaciolacustrine deposits over loamy 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	silt loam	moderate	0.43 to 0.47 in	5.1 to 6.5
E,Bw,E' -- 2 to 16 in	silt loam	moderate	2.41 to 3.12 in	5.1 to 6.0
2B/E,2Bt -- 16 to 37 in	sandy loam	moderate	2.30 to 3.96 in	5.6 to 7.3
2C -- 37 to 60 in	sandy loam	moderate	2.51 to 4.34 in	6.6 to 8.4

Goodland

Extent: 30 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material: sandy and silty glaciolacustrine deposits over sandy and gravelly outwash
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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated 2e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	silt loam	moderate	0.63 to 0.76 in	5.1 to 6.5
E,Bw,2EB,2Bt -- 3 to 30 in	sandy loam	moderate	3.21 to 5.09 in	5.1 to 6.5
3Bt -- 30 to 41 in	loamy sand	moderately rapid	0.66 to 1.10 in	5.1 to 6.5
3C -- 41 to 60 in	coarse sand	rapid	0.38 to 1.32 in	5.6 to 7.8

870C--Itasca-Goodland complex, 6 to 12 percent slopes

Itasca

Extent: 55 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: silty glaciolacustrine deposits over loamy 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	silt loam	moderate	0.87 to 0.94 in	5.1 to 6.5
E,Bw -- 4 to 14 in	silt loam	moderate	1.74 to 2.25 in	5.1 to 6.0
2B/E,2Bt -- 14 to 49 in	sandy loam	moderate	3.81 to 6.58 in	5.6 to 7.3
2C -- 49 to 60 in	sandy loam	moderate	1.21 to 2.09 in	6.6 to 8.4

Goodland

Extent: 30 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material: sandy and silty glaciolacustrine deposits over sandy and gravelly outwash
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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	silt loam	moderate	0.63 to 0.76 in	5.1 to 6.5
E,Bw,2EB,2Bt -- 3 to 25 in	sandy loam	moderate	2.65 to 4.19 in	5.1 to 6.5
3Bt -- 25 to 33 in	loamy sand	moderately rapid	0.47 to 0.79 in	5.1 to 6.5
3C -- 33 to 60 in	coarse sand	rapid	0.54 to 1.87 in	5.6 to 7.8

870E--Itasca-Goodland complex, 12 to 25 percent slopes

Itasca

Extent: 50 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 25 percent
Parent material: silty glaciolacustrine deposits over loamy 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
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 2 in	silt loam	moderate	0.43 to 0.47 in	5.1 to 6.5
E,Bw -- 2 to 14 in	silt loam	moderate	2.07 to 2.69 in	5.1 to 6.0
2B/E,2Bt -- 14 to 53 in	sandy loam	moderate	4.29 to 7.41 in	5.6 to 7.3
2C -- 53 to 60 in	sandy loam	moderate	0.74 to 1.27 in	6.6 to 8.4

Goodland

Extent: 35 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 25 percent
Parent material: sandy and silty glaciolacustrine deposits over sandy and gravelly outwash
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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
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 3 in	silt loam	moderate	0.63 to 0.76 in	5.1 to 6.5
E,B/E,2Bt -- 3 to 23 in	sandy loam	moderate	2.36 to 3.74 in	5.1 to 6.5
3Bt -- 23 to 34 in	loamy sand	moderately rapid	0.66 to 1.10 in	5.1 to 6.5
3C -- 34 to 60 in	coarse sand	rapid	0.52 to 1.82 in	5.6 to 7.8

872--Pengilly-Winterfield association

Pengilly

Extent: 60 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 2 percent
Parent material: loamy 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated 7w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	silt loam	moderate	0.79 to 0.94 in	5.6 to 7.3
Cg1,Cg2,Cg3 -- 4 to 60 in	stratified loamy very fine sand to silt loam	moderate	6.71 to 11.18 in	6.1 to 8.4

Winterfield

Extent: 25 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 4 percent
Parent material: sandy alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .17
Land capability, nonirrigated 7w
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 6 in	loamy fine sand	rapid	0.59 to 0.71 in	5.6 to 7.8
C1,C2 -- 6 to 41 in	loamy fine sand	rapid	2.10 to 3.85 in	5.6 to 7.8
C3,C4 -- 41 to 60 in	sand	rapid	0.76 to 1.89 in	5.6 to 8.4

928C--Cushing-Mahtomedi complex, 2 to 10 percent slopes

Cushing

Extent: 50 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 10 percent
Parent material: loamy 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 3e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
E -- 0 to 16 in	very fine sandy loam	moderate	1.61 to 3.55 in	5.1 to 7.8
B/E -- 16 to 19 in	loam	moderate	0.28 to 0.61 in	5.1 to 7.8
Bt -- 19 to 44 in	loam	moderate	2.52 to 4.79 in	5.1 to 7.8
C -- 44 to 60 in	loam	moderately slow	1.42 to 2.99 in	5.1 to 8.4

Mahtomedi

Extent: 35 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 10 percent
Parent material: sandy and gravelly 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loamy sand	rapid	0.39 to 0.47 in	5.1 to 6.5
E -- 4 to 15 in	coarse sand	rapid	0.66 to 0.88 in	5.1 to 6.5
Bw -- 15 to 26 in	gravelly coarse sand	rapid	0.55 to 0.77 in	5.1 to 6.5
C -- 26 to 60 in	gravelly sand	rapid	1.35 to 3.05 in	5.1 to 7.8

928D--Cushing-Mahtomedi complex, 10 to 25 percent slopes

Cushing

Extent: 45 percent of the unit
Landform(s): moraines
Slope gradient: 10 to 25 percent
Parent material: loamy 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): 5
Wind erodibility index (WEI): 56
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*
E -- 0 to 7 in	loam	moderate	1.13 to 1.70 in	5.1 to 7.8
B/E -- 7 to 17 in	loam	moderate	0.98 to 2.17 in	5.1 to 7.8
Bt -- 17 to 30 in	loam	moderate	1.30 to 2.47 in	5.1 to 7.8
C -- 30 to 60 in	loam	moderately slow	2.69 to 5.69 in	5.1 to 8.4

Mahtomedi

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 10 to 25 percent
Parent material: sandy and gravelly 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	loamy coarse sand	rapid	0.31 to 0.38 in	5.1 to 6.5
E -- 3 to 13 in	coarse sand	rapid	0.59 to 0.79 in	5.1 to 6.5
Bw -- 13 to 25 in	gravelly coarse sand	rapid	0.61 to 0.85 in	5.1 to 6.5
C -- 25 to 60 in	gravelly sand	rapid	1.39 to 3.12 in	5.1 to 7.8

928F--Cushing-Mahtomedi complex, 25 to 40 percent slopes

Cushing

Extent: 45 percent of the unit
Landform(s): moraines
Slope gradient: 25 to 35 percent
Parent material: loamy 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 6e
Hydric soil: no
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
E -- 0 to 4 in	fine sandy loam	moderate	0.39 to 0.87 in	5.1 to 7.8
B/E -- 4 to 14 in	loam	moderate	1.02 to 2.25 in	5.1 to 7.8
Bt -- 14 to 35 in	loam	moderate	2.09 to 3.96 in	5.1 to 7.8
V -- 35 to 60 in	loam	moderately slow	2.23 to 4.71 in	5.1 to 8.4

Mahtomedi

Extent: 40 percent of the unit
Landform(s): moraines
Slope gradient: 25 to 40 percent
Parent material: sandy and gravelly 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 7s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loamy sand	rapid	0.39 to 0.47 in	5.1 to 6.5
E -- 4 to 20 in	coarse sand	rapid	0.97 to 1.29 in	5.1 to 6.5
Bw -- 20 to 35 in	gravelly coarse sand	rapid	0.75 to 1.05 in	5.1 to 6.5
C -- 35 to 60 in	gravelly sand	rapid	0.99 to 2.23 in	5.1 to 7.8

980--Blackhoof and Mahtowa soils

Blackhoof

Extent: 45 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over loamy 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 10 in	muck	moderately rapid	5.41 to 6.40 in	5.1 to 6.5
A -- 10 to 14 in	clay loam	slow	0.69 to 0.87 in	5.1 to 6.5
Bg,C -- 14 to 60 in	loam	slow	6.39 to 7.76 in	5.1 to 7.8

Mahtowa

Extent: 45 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: loamy 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
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*
Oa -- 0 to 3 in	muck	moderately rapid	1.73 to 2.05 in	5.1 to 6.5
A -- 3 to 11 in	loam	moderately slow	1.34 to 1.50 in	6.1 to 7.3
Bg,C -- 11 to 60 in	loam	moderately rapid	6.83 to 9.28 in	6.6 to 7.8

990--Twig and Giese soils

Twig

Extent: 45 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over loamy till
Restrictive feature(s): dense material at 40 to 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 7w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 10 in	muck	moderately rapid	3.44 to 5.41 in	3.5 to 5.0
A -- 10 to 16 in	loam	moderately slow	1.26 to 1.39 in	3.5 to 5.5
Eg,2Bg -- 16 to 44 in	fine sandy loam	very slow	1.96 to 2.80 in	3.5 to 5.5
2Bw,2BC -- 44 to 52 in	sandy loam	moderately slow	0.87 to 1.26 in	3.5 to 5.5
2Cd -- 52 to 60 in	sandy loam	very slow	0.00 to 0.31 in	3.5 to 6.0

Giese

Extent: 45 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over loamy till
Restrictive feature(s): dense material at 40 to 80 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 4 in	muck	moderately rapid	1.38 to 2.17 in	4.5 to 6.0
A -- 4 to 10 in	loam	moderately rapid	0.77 to 1.30 in	4.5 to 6.0
Eg1,Eg2 -- 10 to 21 in	fine sandy loam	moderately rapid	0.99 to 1.65 in	4.5 to 6.0
2Btg1,2Btg2 -- 21 to 43 in	fine sandy loam	moderate	3.31 to 3.97 in	5.1 to 6.5
2BC -- 43 to 70 in	fine sandy loam	slow	0.00 to 1.09 in	5.6 to 7.3
2Cd -- 70 to 80 in	fine sandy loam	very slow	0.00 to 0.39 in	5.6 to 7.3

990--Twig and Giese soils

1002--Borosaprists and Fluvaquents soils, frequently flooded

Borosaprists, frequently flooded

Extent: 50 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 2 percent
Parent material: organic material
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 7w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa1 -- 0 to 27 in	muck	moderately rapid	9.51 to 12.22 in	
Oa2 -- 27 to 48 in	muck	moderately rapid	7.30 to 9.39 in	
Cg -- 48 to 60 in	stratified sand to silt loam	moderately rapid	1.42 to 2.60 in	

Fluvaquents, frequently flooded

Extent: 40 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: frequent
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 16 in	silt loam	moderate	2.91 to 3.87 in	6.6 to 7.8
Cg -- 16 to 60 in	stratified loamy sand to silt loam	moderate	5.24 to 9.61 in	6.6 to 7.8

1031--Histosols, ponded

Histosols, ponded

Extent: 90 percent of the unit
Landform(s): swamps
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) .02
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*
Oe -- 0 to 40 in	mucky peat	rapid	14.06 to 18.07 in	
Cg -- 40 to 60 in	fine sand	rapid	1.18 to 1.38 in	

1072--Udorthents, shallow (sanitary landfill)

Udorthents, shallow (sanitary landfill)

Extent: 95 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 30 percent
Parent material: loamy fill material
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)
Land capability, nonirrigated 8s
Hydric soil:
Hydrologic group: B
Potential for frost action: moderate

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

1115--Newson loamy sand

Newson

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

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 6 in	loamy sand	moderately rapid	0.47 to 0.77 in	3.5 to 7.3
Bg,BCg -- 6 to 23 in	sand	rapid	0.85 to 1.86 in	3.5 to 5.5
Cg -- 23 to 60 in	sand	rapid	1.48 to 4.07 in	4.5 to 6.5

1150--Jevne fine sandy loam

Jevne

Extent: 85 percent of the unit
Landform(s): -- error in exists on --
Slope gradient: 0 to 2 percent
Parent material: loamy glaciolacustrine deposits over loamy 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) .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*
A -- 0 to 6 in	fine sandy loam	moderately rapid	0.77 to 1.30 in	5.1 to 7.3
Eg1,Eg2 -- 6 to 19 in	loam	moderate	1.69 to 2.86 in	5.1 to 6.5
Btg1-Btg3 -- 19 to 43 in	loam	moderate	3.84 to 4.56 in	5.6 to 7.3
Cg1,Cg2 -- 43 to 60 in	stratified loamy sand to clay loam	rapid	2.03 to 3.22 in	6.6 to 8.4

1154--Sax muck

Sax

Extent: 85 percent of the unit
Landform(s): depressions on lake plains
Slope gradient: 0 to 1 percent
Parent material: organic material over silty glaciolacustrine deposits
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 12 in	muck	moderately rapid	4.13 to 5.31 in	5.1 to 6.5
A -- 12 to 15 in	silt loam	moderate	0.54 to 0.69 in	6.1 to 7.3
Bg -- 15 to 39 in	silt loam	moderate	4.08 to 5.28 in	6.1 to 7.3
Cg1,Cg2 -- 39 to 60 in	silty clay loam	moderate	2.92 to 4.59 in	7.4 to 8.4

1353B--Cutaway loamy fine sand, 1 to 6 percent slopes

Cutaway

Extent: 85 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 6 percent
Parent material: sandy outwash over loamy 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .17
Land capability, nonirrigated 3s
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	loamy fine sand	rapid	0.20 to 0.24 in	5.1 to 6.5
E,Bw,E' -- 2 to 26 in	loamy sand	rapid	1.44 to 2.64 in	5.1 to 6.5
2E/B,2B/E -- 26 to 49 in	loam	moderate	2.74 to 4.34 in	5.1 to 7.8
2C -- 49 to 60 in	loam	moderate	1.32 to 2.09 in	6.1 to 8.4

1354A--Aftad fine sandy loam, 0 to 3 percent slopes

Aftad

Extent: 85 percent of the unit
Landform(s): lake plains
Slope gradient: 0 to 3 percent
Parent material: loamy glaciolacustrine deposits
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*
A -- 0 to 3 in	fine sandy loam	moderate	0.44 to 0.57 in	5.1 to 7.3
E,E/B -- 3 to 25 in	loamy fine sand	moderate	1.98 to 4.19 in	4.5 to 6.5
Bt1,Bt2,BC -- 25 to 44 in	very fine sandy loam	moderate	1.89 to 3.59 in	4.5 to 6.5
C -- 44 to 60 in	stratified sandy loam to silt loam	moderate	0.79 to 3.15 in	5.1 to 6.5

1372--Wealthwood loamy fine sand

Wealthwood

Extent: 85 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: sandy outwash over loamy glaciolacustrine deposits
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .17
Land capability, nonirrigated 4w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loamy fine sand	rapid	0.39 to 0.47 in	4.5 to 5.5
E,Bw,E' -- 4 to 28 in	loamy fine sand	rapid	1.44 to 2.40 in	4.5 to 5.5
2Btg1-2Btg3 -- 28 to 42 in	stratified sand to silty clay loam	moderately rapid	2.13 to 2.69 in	5.1 to 6.0
2Cg1,2Cg2 -- 42 to 60 in	stratified sand to silt loam	moderately rapid	2.13 to 2.83 in	5.1 to 6.0

1375B--Alban fine sandy loam, 3 to 8 percent slopes

Alban

Extent: 85 percent of the unit
Landform(s): lake plains
Slope gradient: 3 to 8 percent
Parent material: loamy glaciolacustrine deposits
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) .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*
A -- 0 to 5 in	fine sandy loam	moderate	0.67 to 0.92 in	5.1 to 7.3
E,E/B,B/E -- 5 to 23 in	fine sandy loam	moderate	1.59 to 3.90 in	5.1 to 7.3
Bt -- 23 to 29 in	fine sandy loam	moderate	0.76 to 1.26 in	5.1 to 7.3
2C -- 29 to 60 in	stratified fine sand to silt	moderate	1.54 to 6.76 in	5.1 to 7.3

1878--Hamre muck

Hamre

Extent: 85 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over loamy glaciolacustrine deposits
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 10 in	muck	moderately rapid	3.44 to 4.72 in	5.1 to 7.8
A1,A2 -- 10 to 17 in	loam	moderate	1.20 to 1.35 in	5.1 to 7.8
Bg,Cg1,Cg2 -- 17 to 60 in	loam	moderate	7.30 to 8.15 in	7.4 to 8.4

1982--Baudette-Spooner complex

Baudette

Extent: 55 percent of the unit
Landform(s): lake plains
Slope gradient: 0 to 2 percent
Parent material: silty lacustrine deposits
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) .37
Land capability, nonirrigated 1
Hydric soil: no
Hydrologic group: B
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	silt loam	moderate	0.79 to 0.87 in	5.6 to 7.3
E -- 4 to 9 in	silt loam	moderate	0.72 to 1.02 in	5.6 to 7.3
Bt -- 9 to 21 in	silt loam	moderate	2.01 to 2.83 in	5.6 to 7.8
C -- 21 to 60 in	silt loam	moderate	6.63 to 8.57 in	7.4 to 8.4

Spooner

Extent: 35 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: silty and clayey lacustrine deposits
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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated 4w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 7 in	silt loam	moderate	1.42 to 1.70 in	5.6 to 7.8
E -- 7 to 22 in	silt loam	moderately rapid	2.54 to 2.84 in	5.6 to 7.8
Btg -- 22 to 27 in	silt loam	moderate	0.87 to 1.13 in	6.1 to 7.8
C -- 27 to 60 in	silt loam	moderate	5.56 to 7.19 in	7.4 to 8.4

1983--Cathro muck, stratified substratum

Cathro, stratified substratum

Extent: 90 percent of the unit
Landform(s): swamps
Slope gradient: 0 to 1 percent
Parent material: organic material over alluvium
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa1 -- 0 to 16 in	muck	moderately rapid	7.26 to 8.88 in	
Oa2 -- 16 to 35 in	muck	moderately rapid	6.61 to 8.50 in	
Cg -- 35 to 60 in	stratified sand to silty clay loam	rapid	2.48 to 4.96 in	

1984--Leafriver muck

Leafriver

Extent: 85 percent of the unit
Landform(s): depressions on outwash plains
Slope gradient: 0 to 1 percent
Parent material: organic material over alluvium
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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .02
Land capability, nonirrigated 6w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 13 in	muck	moderately rapid	4.55 to 6.50 in	4.5 to 7.3
A -- 13 to 17 in	sand	rapid	0.31 to 0.55 in	4.5 to 7.3
Cg -- 17 to 60 in	sand	rapid	1.29 to 3.43 in	4.5 to 7.3

GP--Pits, gravel-udispamments complex

Pits, gravel

Extent: 100 percent of the unit
Landform(s): outwash plains, stream terraces, moraines
Slope gradient: 0 to 50 percent
Parent material: sandy and gravelly 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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

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

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:
Hydrologic group:
Potential for frost action:

Representative soil profile:

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

Map Unit Description (MN)

Aitkin 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:

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.