Map Unit Description (MN)

St. Louis County, Minnesota, Embarrass Part

[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]

1003B--Udorthents, loamy (cut and fill land)

Udorthents, loamy, (cut and fill land)

Extent: 100 percent of the unit
Landform(s): fills on moraines, beveled cuts on moraines
Slope gradient: 0 to 6 percent
Parent material: variable soil material
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class: well drained

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

Representative soil profile:

Texture	Permeability	Available water capacity	pH

1007--Udorthents, shallow (sanitary landfill)

Udorthents, shallow (sanitary landfill)

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

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

Representative soil profile:

Texture	Permeability	Available water capacity	pH

1012A--Lobo-Waskish complex, 0 to 2 percent slopes

Lobo

Extent: 50 to 80 percent of the unit
Landform(s): raised bogs on end moraines, raised bogs on outwash plains, raised bogs on till plains
Slope gradient: 0 to 2 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): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer)
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 38 in	peat	very rapid	21.00 to 24.82 in	
Oe -- 38 to 80 in	mucky peat	rapid	18.78 to 22.95 in	

Waskish

Extent: 20 to 50 percent of the unit
Landform(s): raised bogs on end moraines, raised bogs on outwash plains, raised bogs on till plains
Slope gradient: 0 to 2 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): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer)
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	
Oa -- 14 to 16 in	muck	moderately rapid	0.69 to 0.89 in	
Oi -- 16 to 80 in	mucky peat	very rapid	35.08 to 41.46 in	

1020A--Bowstring and Fluvaquents, loamy, 0 to 2 percent slopes, frequently flooded

Bowstring, frequently flooded

Extent: 0 to 90 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 1 percent
Parent material: organic materials mixed with alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer)
Land capability, nonirrigated: 8w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 38 in	muck	moderately rapid	13.37 to 17.19 in	
Cg -- 38 to 47 in	stratified fine sand to loamy fine sand	rapid	0.43 to 0.87 in	5.6 to 7.3
O'a -- 47 to 80 in	muck	moderately rapid	11.57 to 14.88 in	

Fluvaquents, frequently flooded

Extent: 0 to 90 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 2 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: very 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: 7w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 6 in	mucky silt loam	moderate	1.18 to 1.42 in	5.6 to 7.3
Cg -- 6 to 80 in	stratified silt loam to loamy coarse sand	moderately rapid	4.44 to 16.28 in	5.6 to 7.3

1021A--Rifle soils, 0 to 1 percent slopes

Rifle

Extent: 0 to 95 percent of the unit
Landform(s): swamps on end moraines, swamps on outwash plains, swamps on till plains
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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer)
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*
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

Rifle, depressional

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

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer)
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

1022A--Greenwood soils, 0 to 1 percent slopes

Greenwood

Extent: 0 to 95 percent of the unit
Landform(s): bogs on end moraines, bogs on outwash plains, bogs on till plains
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): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer)
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 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

Greenwood, depressional

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

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer)
Land capability, nonirrigated: 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 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

1048--Dumps, iron mine

Dumps, iron mine

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

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

Representative soil profile:

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

1049--Pits, iron mine

Pits, iron mine

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

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

Representative soil profile:

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

1050--Tailings basin

Tailings basin

Extent: 100 percent of the unit
Landform(s): spoil piles on moraines
Slope gradient:
Parent material: metal ore extraction mine spoil
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class:

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

Representative soil profile:

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

B4A--Indus-Dora, depressional, complex, 0 to 2 percent slopes

Indus

Extent: 55 to 80 percent of the unit
Landform(s): rises on lake plains, flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: clayey 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 4w
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	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
Eg -- 4 to 7 in	clay	slow	0.31 to 0.60 in	5.1 to 7.3
Btg -- 7 to 34 in	clay	very slow	2.14 to 2.68 in	5.6 to 7.3
Bkg -- 34 to 50 in	clay	very slow	1.29 to 1.94 in	7.4 to 8.4
Cg -- 50 to 80 in	clay	very slow	2.39 to 3.59 in	7.4 to 8.4

Dora, depressional

Extent: 20 to 40 percent of the unit
Landform(s): depressions on lake plains, drainageways on lake plains
Slope gradient: 0 to 1 percent
Parent material: herbaceous organic material over clayey glaciolacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer)
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oe -- 0 to 6 in	mucky peat	rapid	2.66 to 3.25 in	
Oa -- 6 to 22 in	muck	moderately rapid	6.46 to 7.26 in	
A -- 22 to 26 in	mucky silty clay loam	slow	0.59 to 1.18 in	6.1 to 7.3
Cg1 -- 26 to 36 in	clay	very slow	0.79 to 0.98 in	6.6 to 7.8
Cg2 -- 36 to 80 in	clay	very slow	3.53 to 5.29 in	7.4 to 8.4

B4A--Indus-Dora, depressional, complex, 0 to 2 percent slopes

B6B--Morcom-Thistledew complex, 0 to 6 percent slopes

Morcom

Extent: 40 to 60 percent of the unit
Landform(s): lake plains
Slope gradient: 0 to 4 percent
Parent material: sandy outwash over clayey glaciolacustrine deposits
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: 3w
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	fine sandy loam	moderately rapid	0.50 to 0.57 in	5.1 to 6.5
E -- 3 to 8 in	sandy loam	moderately rapid	0.47 to 0.76 in	5.1 to 6.5
Bw -- 8 to 19 in	loamy sand	rapid	0.88 to 1.21 in	5.1 to 6.5
2B/E -- 19 to 24 in	sandy clay loam	moderate	0.72 to 0.97 in	5.6 to 7.3
3Bt -- 24 to 28 in	clay	very slow	0.31 to 0.47 in	5.6 to 7.3
3Bk -- 28 to 44 in	clay	very slow	1.29 to 1.94 in	7.4 to 8.4
3C -- 44 to 80 in	clay	very slow	2.87 to 4.30 in	7.4 to 8.4

B6B--Morcom-Thistledew complex, 0 to 6 percent slopes

Thistledew

Extent: 20 to 40 percent of the unit
Landform(s): lake plains
Slope gradient: 1 to 6 percent
Parent material: sandy outwash over clayey glaciolacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .10
Land capability, nonirrigated: 3s
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	5.1 to 6.5
Bw -- 3 to 29 in	loamy sand	rapid	1.56 to 2.86 in	5.1 to 6.5
2Bt1 -- 29 to 43 in	sandy clay loam	moderate	1.93 to 2.62 in	5.6 to 7.3
3Bt2 -- 43 to 50 in	clay	very slow	0.57 to 0.85 in	5.6 to 7.3
3C -- 50 to 80 in	clay	very slow	2.39 to 3.59 in	7.4 to 8.4

B7D--Udorthents, slumped-Thistledew-Taylor complex, 10 to 25 percent slopes

Udorthents, slumped

Extent: 40 to 60 percent of the unit
Landform(s): lake plains
Slope gradient: 10 to 25 percent
Parent material: glaciolacustrine sediments and outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	loam	moderate	1.02 to 1.13 in	5.1 to 6.5
C1 -- 5 to 18 in	fine sandy loam	moderate	1.95 to 2.47 in	5.1 to 7.3
C2 -- 18 to 28 in	loamy fine sand	rapid	0.49 to 0.98 in	5.6 to 7.3
2C3 -- 28 to 50 in	stratified fine sandy loam to clay loam	moderately slow	3.09 to 4.19 in	5.6 to 7.8
3C4 -- 50 to 80 in	silty clay	very slow	2.39 to 3.59 in	7.4 to 8.4

Thistledew

Extent: 20 to 40 percent of the unit
Landform(s): lake plains
Slope gradient: 10 to 25 percent
Parent material: sandy outwash and/or beach deposits over glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .10
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B/D
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	5.1 to 6.5
Bw -- 3 to 29 in	loamy sand	rapid	1.56 to 2.86 in	5.1 to 6.5
2Bt1 -- 29 to 43 in	sandy clay loam	moderate	1.93 to 2.62 in	5.6 to 7.3
3Bt2 -- 43 to 50 in	clay	very slow	0.57 to 0.85 in	5.6 to 7.3
3C -- 50 to 80 in	clay	very slow	2.39 to 3.59 in	7.4 to 8.4

B7D--Udorthents, slumped-Thistledew-Taylor complex, 10 to 25 percent slopes

Taylor

Extent: 10 to 20 percent of the unit
Landform(s): lake plains
Slope gradient: 10 to 25 percent
Parent material: clayey glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
E --	4 to 10 in	silty clay loam	moderately slow	0.77 to 1.18 in	5.1 to 7.3
B/E --	10 to 14 in	silty clay	slow	0.56 to 0.87 in	5.6 to 7.3
Bt --	14 to 30 in	clay	very slow	1.26 to 1.57 in	5.6 to 7.3
BC --	30 to 38 in	clay	very slow	0.66 to 0.99 in	7.4 to 8.4
C --	38 to 80 in	clay	very slow	3.34 to 5.01 in	7.4 to 8.4

B8A--Bearville loamy sand, 0 to 2 percent slopes

Bearville

Extent: 65 to 85 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: sandy outwash and/or beach deposits over glaciolacustrine sediments
Restrictive feature(s): abrupt textural change at 10 to 20 i
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .15
Land capability, nonirrigated: 4w
Hydric soil: yes
Hydrologic group: D
Potential for frost action: high

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 2 in	loamy sand	rapid	0.20 to 0.24 in	5.1 to 6.5
Eg --	2 to 16 in	loamy sand	rapid	1.13 to 1.56 in	5.1 to 6.5
2Btg1 --	16 to 25 in	sandy clay loam	moderate	1.27 to 1.72 in	5.6 to 7.3
3Btg2 --	25 to 35 in	clay	very slow	0.79 to 1.18 in	5.6 to 7.3
3BCg --	35 to 80 in	clay	very slow	3.59 to 5.39 in	7.4 to 8.4

B10D--Rollins sandy loam, 8 to 18 percent slopes

Rollins

Extent: 80 to 90 percent of the unit
Landform(s): kames
Slope gradient: 8 to 18 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

B11B--Taylor-Taylor, sandy substratum, complex, 2 to 6 percent slopes

Taylor

Extent: 40 to 60 percent of the unit
Landform(s): kames
Slope gradient: 2 to 6 percent
Parent material: clayey glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
E --	4 to 10 in	silty clay loam	moderately slow	0.77 to 1.18 in	5.1 to 7.3
B/E --	10 to 14 in	silty clay	slow	0.56 to 0.87 in	5.6 to 7.3
Bt --	14 to 30 in	clay	very slow	1.26 to 1.57 in	5.6 to 7.3
BC --	30 to 38 in	clay	very slow	0.66 to 0.99 in	7.4 to 8.4
C --	38 to 80 in	clay	very slow	3.34 to 5.01 in	7.4 to 8.4

B11B--Taylor-Taylor, sandy substratum, complex, 2 to 6 percent slopes

Taylor, sandy substratum

Extent: 30 to 50 percent of the unit
Landform(s): kames
Slope gradient: 2 to 6 percent
Parent material: clayey glaciolacustrine sediments over 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	silty clay loam	moderately slow	0.83 to 0.91 in	5.1 to 6.5
E -- 4 to 10 in	silty clay loam	moderately slow	0.77 to 1.18 in	5.1 to 7.3
B/E -- 10 to 14 in	silty clay	slow	0.56 to 0.87 in	5.6 to 7.3
Bt -- 14 to 30 in	clay	very slow	1.26 to 1.57 in	5.6 to 7.3
BC -- 30 to 63 in	clay	very slow	2.65 to 3.97 in	7.4 to 8.4
2C -- 63 to 80 in	gravelly coarse sand	very rapid	0.34 to 1.02 in	6.6 to 7.8

B13B--Graycalm-Grayling complex, 1 to 8 percent slopes

Graycalm

Extent: 30 to 60 percent of the unit
Landform(s): outwash plains
Slope gradient: 1 to 8 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) .10
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 2 in	loamy sand	rapid	0.20 to 0.24 in	4.5 to 6.0
Bw -- 2 to 37 in	loamy sand	rapid	2.10 to 3.85 in	4.5 to 6.0
E and Bt -- 37 to 48 in	sand	rapid	0.55 to 0.99 in	5.1 to 6.0
C -- 48 to 80 in	coarse sand	very rapid	0.64 to 2.23 in	5.1 to 6.5

Grayling

Extent: 30 to 50 percent of the unit
Landform(s): outwash plains
Slope gradient: 1 to 8 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) .10
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	0.25 to 0.38 in	4.5 to 6.0
Bw -- 3 to 22 in	coarse sand	very rapid	0.57 to 1.70 in	4.5 to 6.0
C -- 22 to 80 in	coarse sand	very rapid	1.16 to 4.05 in	5.1 to 6.5

B14A--Greenwood soils, upham basin, 0 to 1 percent slopes

Greenwood

Extent: 0 to 95 percent of the unit
Landform(s): bogs on lake plains
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): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
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 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

Greenwood, depressional

Extent: 0 to 95 percent of the unit
Landform(s): bogs on lake plains
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: 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 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

B16B--Westoo-Barber-Vasso complex, 0 to 6 percent slopes

Westoo

Extent: 20 to 40 percent of the unit
Landform(s): lake plains, outwash plains
Slope gradient: 1 to 6 percent
Parent material: eolian deposits and/or 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .20
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw1 -- 5 to 17 in	loamy fine sand	rapid	1.06 to 1.89 in	4.5 to 6.5
Bw2 -- 17 to 44 in	loamy fine sand	rapid	1.63 to 2.72 in	5.1 to 6.5
C -- 44 to 74 in	fine sand	rapid	1.80 to 2.99 in	5.1 to 6.5
Cg -- 74 to 80 in	fine sand	rapid	0.35 to 0.59 in	5.1 to 6.5

B16B--Westoo-Barber-Vasso complex, 0 to 6 percent slopes

Barber

Extent: 20 to 40 percent of the unit
Landform(s): lake plains, outwash plains
Slope gradient: 0 to 4 percent
Parent material: eolian deposits and/or 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A/D
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	fine sandy loam	moderately rapid	0.82 to 0.92 in	4.5 to 6.0
E -- 5 to 8 in	fine sandy loam	moderately rapid	0.28 to 0.47 in	4.5 to 6.0
Bw1 -- 8 to 19 in	loamy fine sand	rapid	1.10 to 1.76 in	4.5 to 6.5
Bw2 -- 19 to 27 in	loamy fine sand	rapid	0.50 to 0.83 in	5.1 to 6.5
Bg -- 27 to 53 in	fine sand	rapid	1.56 to 2.60 in	5.1 to 6.5
C -- 53 to 80 in	fine sand	rapid	1.61 to 2.68 in	5.1 to 6.5

B16B--Westoo-Barber-Vasso complex, 0 to 6 percent slopes

Vasso

Extent: 15 to 25 percent of the unit
Landform(s): lake plains, outwash plains
Slope gradient: 0 to 4 percent
Parent material: sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

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

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 4 in	fine sandy loam	moderately rapid	0.63 to 0.75 in	4.5 to 6.0
E --	4 to 6 in	fine sandy loam	moderately rapid	0.18 to 0.33 in	4.5 to 6.0
Bw1 --	6 to 18 in	loamy fine sand	rapid	0.37 to 1.22 in	4.5 to 6.5
Bw2 --	18 to 38 in	fine sand	rapid	0.60 to 2.01 in	5.1 to 6.5
2Bg --	38 to 50 in	silt loam	moderate	2.01 to 2.60 in	5.6 to 6.5
2Cg --	50 to 80 in	silt loam	moderate	5.09 to 6.58 in	5.6 to 7.8

B17B--Graycalm-Biwabik complex, 1 to 6 percent slopes

Graycalm

Extent: 45 to 65 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): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .10
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 2 in	loamy sand	rapid	0.20 to 0.24 in	4.5 to 6.0
Bw -- 2 to 37 in	loamy sand	rapid	2.10 to 3.85 in	4.5 to 6.0
E and Bt -- 37 to 48 in	sand	rapid	0.55 to 0.99 in	5.1 to 6.0
C -- 48 to 80 in	coarse sand	very rapid	0.64 to 2.23 in	5.1 to 6.5

Biwabik

Extent: 30 to 50 percent of the unit
Landform(s): outwash plains
Slope gradient: 1 to 6 percent
Parent material: 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): 3
Wind erodibility index (WEI): 86
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 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and B -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

B17D--Graycalm-Biwabik complex, pitted, 6 to 25 percent slopes

Graycalm

Extent: 40 to 65 percent of the unit
Landform(s): pitted outwash plains
Slope gradient: 6 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) .10
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 2 in	loamy sand	rapid	0.20 to 0.24 in	4.5 to 6.0
Bw -- 2 to 37 in	loamy sand	rapid	2.10 to 3.85 in	4.5 to 6.0
E and Bt -- 37 to 48 in	sand	rapid	0.55 to 0.99 in	5.1 to 6.0
C -- 48 to 80 in	coarse sand	very rapid	0.64 to 2.23 in	5.1 to 6.5

Biwabik

Extent: 20 to 50 percent of the unit
Landform(s): pitted outwash plains
Slope gradient: 6 to 25 percent
Parent material: 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): 3
Wind erodibility index (WEI): 86
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 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and B -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

B18A--Foglake-Hassman, depressional, complex, 0 to 2 percent slopes

Foglake

Extent: 40 to 60 percent of the unit
Landform(s): flats on lake plains, rises on lake plains
Slope gradient: 0 to 2 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .43
Land capability, nonirrigated: 4w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Eg -- 8 to 16 in	silt loam	moderate	1.41 to 1.82 in	5.1 to 7.3
Btg,BCg -- 16 to 47 in	silty clay loam	slow	2.76 to 5.83 in	5.1 to 7.3
Cg -- 47 to 80 in	silty clay loam	moderately slow	5.95 to 7.28 in	7.4 to 8.4

Hassman, depressional

Extent: 20 to 40 percent of the unit
Landform(s): swales on lake plains, depressions on lake plains
Slope gradient: 0 to 1 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
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*
A -- 0 to 10 in	silty clay loam	moderately slow	2.07 to 2.26 in	5.1 to 6.5
Bg -- 10 to 32 in	silty clay	slow	1.98 to 4.19 in	5.1 to 7.3
BCg -- 32 to 45 in	silty clay	slow	1.17 to 2.47 in	5.6 to 7.8
Cg -- 45 to 80 in	silty clay	slow	3.15 to 6.66 in	7.4 to 8.4

B19B--Longsiding-Foglake-Grasston complex, 0 to 6 percent slopes

Longsiding

Extent: 35 to 60 percent of the unit
Landform(s): lake plains
Slope gradient: 1 to 4 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .43
Land capability, nonirrigated: 3w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.1 to 6.5
B/E -- 9 to 12 in	silty clay loam	moderately slow	0.30 to 0.55 in	5.1 to 7.3
Bt1,Bt3 -- 12 to 35 in	silty clay	slow	2.09 to 4.41 in	5.1 to 7.3
Bk,C -- 35 to 80 in	silty clay loam	moderately slow	8.08 to 9.87 in	7.4 to 8.4

Foglake

Extent: 15 to 35 percent of the unit
Landform(s): lake plains
Slope gradient: 0 to 2 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .43
Land capability, nonirrigated: 4w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Eg -- 8 to 16 in	silt loam	moderate	1.41 to 1.82 in	5.1 to 7.3
Btg,BCg -- 16 to 47 in	silty clay loam	slow	2.76 to 5.83 in	5.1 to 7.3
Cg -- 47 to 80 in	silty clay loam	moderately slow	5.95 to 7.28 in	7.4 to 8.4

B19B--Longsiding-Foglake-Grasston complex, 0 to 6 percent slopes

Grasston

Extent: 10 to 20 percent of the unit
Landform(s): lake plains
Slope gradient: 3 to 6 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .37
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.1 to 6.5
B/E -- 9 to 14 in	silty clay loam	moderately slow	0.56 to 1.02 in	5.1 to 7.3
Bt1,Bt2 -- 14 to 42 in	silty clay	slow	2.52 to 5.31 in	5.1 to 7.3
Bk,C -- 42 to 80 in	silty clay loam	moderately slow	6.80 to 8.31 in	7.4 to 8.4

B23A--Effie-Ashlake complex, MLRA 88, 0 to 2 percent slopes

Effie

Extent: 50 to 65 percent of the unit
Landform(s): flats on moraines
Slope gradient: 0 to 1 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated: 4w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	loam	moderate	0.39 to 0.43 in	5.1 to 7.3
Eg -- 2 to 5 in	loam	moderate	0.47 to 0.69 in	5.1 to 7.3
B/E -- 5 to 8 in	silty clay loam	slow	0.39 to 0.52 in	5.1 to 7.3
Btg -- 8 to 20 in	silty clay	slow	1.22 to 2.20 in	5.1 to 7.8
BCg -- 20 to 64 in	silty clay loam	moderately slow	6.17 to 7.94 in	7.4 to 8.4
Cg -- 64 to 80 in	clay loam	moderately slow	2.20 to 2.83 in	7.4 to 8.4

Ashlake

Extent: 30 to 45 percent of the unit
Landform(s): rises on moraines
Slope gradient: 1 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated: 3w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 1 in	loam	moderate	0.24 to 0.26 in	5.1 to 7.3
E -- 1 to 4 in	loam	moderate	0.36 to 0.52 in	5.1 to 7.3
E/B -- 4 to 9 in	loam	moderate	0.72 to 0.97 in	5.1 to 7.3
Bt -- 9 to 26 in	silty clay	slow	1.69 to 3.05 in	5.1 to 7.3
Bk -- 26 to 80 in	clay loam	moderately slow	7.55 to 9.71 in	7.4 to 8.4

B23A--Effie-Ashlake complex, MLRA 88, 0 to 2 percent slopes

B24B--Ashlake-Suomi-Effie complex, MLRA 88, 1 to 4 percent slopes

Ashlake

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

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated: 3w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 1 in	loam	moderate	0.24 to 0.26 in	5.1 to 7.3
E -- 1 to 4 in	loam	moderate	0.36 to 0.52 in	5.1 to 7.3
E/B -- 4 to 9 in	loam	moderate	0.72 to 0.97 in	5.1 to 7.3
Bt -- 9 to 26 in	silty clay	slow	1.69 to 3.05 in	5.1 to 7.3
Bk -- 26 to 80 in	clay loam	moderately slow	7.55 to 9.71 in	7.4 to 8.4

Suomi

Extent: 30 to 40 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 4 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loam	moderate	0.79 to 0.87 in	5.1 to 7.3
E -- 4 to 7 in	silt loam	moderate	0.47 to 0.69 in	5.1 to 7.3
B/E -- 7 to 11 in	silty clay loam	slow	0.55 to 0.75 in	5.1 to 7.3
Bt -- 11 to 39 in	silty clay	slow	2.80 to 5.03 in	5.1 to 7.3
BC -- 39 to 80 in	clay loam	moderately slow	5.73 to 7.37 in	7.4 to 8.4

B24B--Ashlake-Suomi-Effie complex, MLRA 88, 1 to 4 percent slopes

Effie

Extent: 15 to 30 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated: 4w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	loam	moderate	0.39 to 0.43 in	5.1 to 7.3
Eg -- 2 to 5 in	loam	moderate	0.47 to 0.69 in	5.1 to 7.3
B/E -- 5 to 8 in	silty clay loam	slow	0.39 to 0.52 in	5.1 to 7.3
Btg -- 8 to 20 in	silty clay	slow	1.22 to 2.20 in	5.1 to 7.8
BCg -- 20 to 64 in	silty clay loam	moderately slow	6.17 to 7.94 in	7.4 to 8.4
Cg -- 64 to 80 in	clay loam	moderately slow	2.20 to 2.83 in	7.4 to 8.4

B27A--McQuade-Buhl complex, 0 to 3 percent slopes

Mcquade

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

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loam	moderate	0.79 to 0.87 in	4.5 to 5.5
Eg -- 4 to 8 in	loam	moderate	0.59 to 0.83 in	4.5 to 5.5
2B/E -- 8 to 17 in	clay loam	slow	0.72 to 1.36 in	5.1 to 6.0
2Bt -- 17 to 36 in	clay	slow	1.51 to 2.83 in	5.1 to 6.5
2BCt -- 36 to 52 in	clay	slow	1.29 to 2.42 in	5.6 to 7.3
2BCd -- 52 to 80 in	clay	slow	1.12 to 2.24 in	6.1 to 8.4

Buhl

Extent: 25 to 45 percent of the unit
Landform(s): rises on till plains
Slope gradient: 1 to 3 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 3w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	loam	moderate	0.63 to 0.69 in	4.5 to 5.5
E -- 3 to 13 in	loam	moderate	1.48 to 2.07 in	4.5 to 5.5
2B/E -- 13 to 18 in	clay loam	slow	0.41 to 0.77 in	5.1 to 6.0
2Bt1 -- 18 to 32 in	clay	slow	1.10 to 2.07 in	5.1 to 6.0
2Bt2 -- 32 to 58 in	clay	slow	2.08 to 3.90 in	5.1 to 6.5
2BCd -- 58 to 80 in	clay	slow	0.88 to 1.76 in	6.1 to 8.4

B27A--McQuade-Buhl complex, 0 to 3 percent slopes

B28B--Buhl loam, 1 to 5 percent slopes

Buhl

Extent: 70 to 88 percent of the unit
Landform(s): drumlins, till plains
Slope gradient: 1 to 5 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 3 in	loam	moderate	0.63 to 0.69 in	4.5 to 5.5
E --	3 to 13 in	loam	moderate	1.48 to 2.07 in	4.5 to 5.5
2B/E --	13 to 18 in	clay loam	slow	0.41 to 0.77 in	5.1 to 6.0
2Bt1 --	18 to 32 in	clay	slow	1.10 to 2.07 in	5.1 to 6.0
2Bt2 --	32 to 58 in	clay	slow	2.08 to 3.90 in	5.1 to 6.5
2BCd --	58 to 80 in	clay	slow	0.88 to 1.76 in	6.1 to 8.4

B29B--Hibbing-Buhl complex, 1 to 8 percent slopes

Hibbing

Extent: 35 to 60 percent of the unit
Landform(s): till plains
Slope gradient: 3 to 8 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loam	moderate	0.79 to 0.87 in	4.5 to 5.5
Bw -- 4 to 8 in	loam	moderate	0.59 to 0.83 in	4.5 to 5.5
2E/B -- 8 to 12 in	loam	moderate	0.55 to 0.75 in	5.1 to 6.0
2Bt1 -- 12 to 27 in	clay	slow	1.23 to 2.30 in	5.1 to 6.0
2Bt2 -- 27 to 36 in	clay	slow	0.69 to 1.30 in	5.1 to 6.5
2Bt3 -- 36 to 48 in	clay	slow	0.98 to 1.83 in	5.1 to 6.5
2BCd -- 48 to 80 in	clay	slow	1.28 to 2.55 in	6.1 to 8.4

B29B--Hibbing-Buhl complex, 1 to 8 percent slopes

Buhl

Extent: 25 to 45 percent of the unit
Landform(s): till plains
Slope gradient: 1 to 4 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 3w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	loam	moderate	0.63 to 0.69 in	4.5 to 5.5
E -- 3 to 13 in	loam	moderate	1.48 to 2.07 in	4.5 to 5.5
2B/E -- 13 to 18 in	clay loam	slow	0.41 to 0.77 in	5.1 to 6.0
2Bt1 -- 18 to 32 in	clay	slow	1.10 to 2.07 in	5.1 to 6.0
2Bt2 -- 32 to 58 in	clay	slow	2.08 to 3.90 in	5.1 to 6.5
2BCd -- 58 to 80 in	clay	slow	0.88 to 1.76 in	6.1 to 8.4

B29D--Hibbing-Buhl complex, 1 to 18 percent slopes

Hibbing

Extent: 45 to 65 percent of the unit
Landform(s): moraines
Slope gradient: 5 to 18 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 4 in	loam	moderate	0.79 to 0.87 in	4.5 to 5.5
Bw --	4 to 8 in	loam	moderate	0.59 to 0.83 in	4.5 to 5.5
2E/B --	8 to 12 in	loam	moderate	0.55 to 0.75 in	5.1 to 6.0
2Bt1 --	12 to 27 in	clay	slow	1.23 to 2.30 in	5.1 to 6.0
2Bt2 --	27 to 36 in	clay	slow	0.69 to 1.30 in	5.1 to 6.5
2Bt3 --	36 to 48 in	clay	slow	0.98 to 1.83 in	5.1 to 6.5
2BCd --	48 to 80 in	clay	slow	1.28 to 2.55 in	6.1 to 8.4

B29D--Hibbing-Buhl complex, 1 to 18 percent slopes

Buhl

Extent: 20 to 30 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 5 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 3w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	loam	moderate	0.63 to 0.69 in	4.5 to 5.5
E -- 3 to 13 in	loam	moderate	1.48 to 2.07 in	4.5 to 5.5
2B/E -- 13 to 18 in	clay loam	slow	0.41 to 0.77 in	5.1 to 6.0
2Bt1 -- 18 to 32 in	clay	slow	1.10 to 2.07 in	5.1 to 6.0
2Bt2 -- 32 to 58 in	clay	slow	2.08 to 3.90 in	5.1 to 6.5
2BCd -- 58 to 80 in	clay	slow	0.88 to 1.76 in	6.1 to 8.4

B30A--Sago mucky peat, depressional, 0 to 1 percent slopes

Sago, depressional

Extent: 65 to 90 percent of the unit
Landform(s): -- error in exists on --
Slope gradient: 0 to 1 percent
Parent material: organic material over glaciolacustrine or glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 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*
Oe --	0 to 5 in	mucky peat	rapid	2.30 to 2.81 in	
Oa --	5 to 13 in	muck	moderately rapid	2.76 to 3.54 in	
A --	13 to 15 in	fine sandy loam	moderately rapid	0.22 to 0.41 in	4.5 to 6.0
Bg --	15 to 41 in	stratified loamy fine sand to silt loam	moderately rapid	3.38 to 4.94 in	5.1 to 6.5
Cg --	41 to 80 in	stratified loamy fine sand to silt loam	moderately rapid	5.07 to 7.41 in	5.6 to 7.8

B31D--Hibbing loam, 8 to 18 percent slopes

Hibbing

Extent: 75 to 95 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 18 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 4 in	loam	moderate	0.79 to 0.87 in	4.5 to 5.5
Bw --	4 to 8 in	loam	moderate	0.59 to 0.83 in	4.5 to 5.5
2E/B --	8 to 12 in	loam	moderate	0.55 to 0.75 in	5.1 to 6.0
2Bt1 --	12 to 27 in	clay	slow	1.23 to 2.30 in	5.1 to 6.0
2Bt2 --	27 to 36 in	clay	slow	0.69 to 1.30 in	5.1 to 6.5
2Bt3 --	36 to 48 in	clay	slow	0.98 to 1.83 in	5.1 to 6.5
2BCd --	48 to 80 in	clay	slow	1.28 to 2.55 in	6.1 to 8.4

B31E--Hibbing loam, 18 to 30 percent slopes

Hibbing

Extent: 85 to 95 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 30 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

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

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 4 in	loam	moderate	0.79 to 0.87 in	4.5 to 5.5
Bw --	4 to 8 in	loam	moderate	0.59 to 0.83 in	4.5 to 5.5
2E/B --	8 to 12 in	loam	moderate	0.55 to 0.75 in	5.1 to 6.0
2Bt1 --	12 to 27 in	clay	slow	1.23 to 2.30 in	5.1 to 6.0
2Bt2 --	27 to 36 in	clay	slow	0.69 to 1.30 in	5.1 to 6.5
2Bt3 --	36 to 48 in	clay	slow	0.98 to 1.83 in	5.1 to 6.5
2BCd --	48 to 80 in	clay	slow	1.28 to 2.55 in	6.1 to 8.4

B32A--McQuade-Dora, depressional-Fayal, depressional, complex, 0 to 2 percent slopes

Mcquade

Extent: 35 to 50 percent of the unit
Landform(s): flats on till plains
Slope gradient: 0 to 2 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

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

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 4 in	loam	moderate	0.79 to 0.87 in	4.5 to 5.5
Eg --	4 to 8 in	loam	moderate	0.59 to 0.83 in	4.5 to 5.5
2B/E --	8 to 17 in	clay loam	slow	0.72 to 1.36 in	5.1 to 6.0
2Bt --	17 to 36 in	clay	slow	1.51 to 2.83 in	5.1 to 6.5
2BCt --	36 to 52 in	clay	slow	1.29 to 2.42 in	5.6 to 7.3
2BCd --	52 to 80 in	clay	slow	1.12 to 2.24 in	6.1 to 8.4

Dora, depressional

Extent: 20 to 40 percent of the unit
Landform(s): swales on till plains, depressions on till plains
Slope gradient: 0 to 1 percent
Parent material: organic deposits over dense fine till
Restrictive feature(s): densic material at 40 to 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
Oe --	0 to 8 in	mucky peat	rapid	3.54 to 4.33 in	
Oa --	8 to 33 in	muck	moderately rapid	8.82 to 11.34 in	
2Cg --	33 to 65 in	clay	slow	2.55 to 4.78 in	5.1 to 6.5
2Cd --	65 to 80 in	clay	slow	0.60 to 1.20 in	6.1 to 7.8

B32A--McQuade-Dora, depressional-Fayal, depressional, complex, 0 to 2 percent slopes

Fayal, depressional

Extent: 15 to 35 percent of the unit
Landform(s): swales on till plains
Slope gradient: 0 to 1 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .02
Land capability, nonirrigated: 6w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Oe --	0 to 5 in	mucky peat	rapid	2.30 to 2.81 in	
A --	5 to 9 in	mucky silt loam	moderate	0.79 to 1.02 in	4.5 to 5.5
Eg --	9 to 17 in	clay loam	moderately slow	0.63 to 1.18 in	4.5 to 5.5
2Btg --	17 to 29 in	clay	slow	0.98 to 1.83 in	5.1 to 6.5
2BC --	29 to 46 in	clay	slow	1.35 to 2.54 in	5.6 to 7.3
2BCd --	46 to 80 in	clay	slow	1.35 to 2.71 in	6.1 to 8.4

B33A--McQuade-Fayal, depressional, complex, 0 to 2 percent slopes

Mcquade

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

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loam	moderate	0.79 to 0.87 in	4.5 to 5.5
Eg -- 4 to 8 in	loam	moderate	0.59 to 0.83 in	4.5 to 5.5
2B/E -- 8 to 17 in	clay loam	slow	0.72 to 1.36 in	5.1 to 6.0
2Bt -- 17 to 36 in	clay	slow	1.51 to 2.83 in	5.1 to 6.5
2BCt -- 36 to 52 in	clay	slow	1.29 to 2.42 in	5.6 to 7.3
2BCd -- 52 to 80 in	clay	slow	1.12 to 2.24 in	6.1 to 7.8

Fayal, depressional

Extent: 35 to 55 percent of the unit
Landform(s): swales on till plains
Slope gradient: 0 to 1 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .02
Land capability, nonirrigated: 6w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oe -- 0 to 5 in	mucky peat	rapid	2.30 to 2.81 in	
A -- 5 to 9 in	mucky silt loam	moderate	0.79 to 1.02 in	4.5 to 5.5
Eg -- 9 to 17 in	clay loam	moderately slow	0.63 to 1.18 in	4.5 to 5.5
2Btg -- 17 to 29 in	clay	slow	0.98 to 1.83 in	5.1 to 6.5
2BC -- 29 to 46 in	clay	slow	1.35 to 2.54 in	5.6 to 7.3
2BCd -- 46 to 80 in	clay	slow	1.35 to 2.71 in	6.1 to 8.4

B33A--McQuade-Fayal, depressional, complex, 0 to 2 percent slopes

B34B--Majestic-Hibbing complex, 2 to 8 percent slopes

Majestic

Extent: 45 to 65 percent of the unit
Landform(s): till plains
Slope gradient: 2 to 8 percent
Parent material: sandy sediments over dense fine till
Restrictive feature(s): densic material at 45 to 70 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) .17
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	sandy loam	moderately rapid	0.51 to 0.59 in	4.5 to 6.0
Bw1 -- 4 to 13 in	sandy loam	moderately rapid	1.09 to 1.54 in	4.5 to 6.0
Bw2 -- 13 to 34 in	loamy sand	rapid	1.04 to 2.30 in	4.5 to 6.0
2B/E -- 34 to 38 in	clay loam	slow	0.35 to 0.65 in	5.1 to 6.5
2Bt -- 38 to 59 in	clay	slow	1.67 to 3.13 in	5.1 to 6.5
2BCd -- 59 to 80 in	clay	slow	0.83 to 1.67 in	6.1 to 8.4

B34B--Majestic-Hibbing complex, 2 to 8 percent slopes

Hibbing

Extent: 15 to 30 percent of the unit
Landform(s): till plains
Slope gradient: 2 to 8 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loam	moderate	0.79 to 0.87 in	4.5 to 5.5
Bw -- 4 to 8 in	loam	moderate	0.59 to 0.83 in	4.5 to 5.5
2E/B -- 8 to 12 in	loam	moderate	0.55 to 0.75 in	5.1 to 6.0
2Bt1 -- 12 to 27 in	clay	slow	1.23 to 2.30 in	5.1 to 6.0
2Bt2 -- 27 to 36 in	clay	slow	0.69 to 1.30 in	5.1 to 6.5
2Bt3 -- 36 to 48 in	clay	slow	0.98 to 1.83 in	5.1 to 6.5
2BCd -- 48 to 80 in	clay	slow	1.28 to 2.55 in	6.1 to 8.4

B35E--Hibbing-Udorthents complex, 18 to 45 percent slopes

Hibbing

Extent: 40 to 60 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 45 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	loam	moderate	0.79 to 0.87 in	4.5 to 5.5
Bw -- 4 to 8 in	loam	moderate	0.59 to 0.83 in	4.5 to 5.5
2E/B -- 8 to 12 in	loam	moderate	0.55 to 0.75 in	5.1 to 6.0
2Bt1 -- 12 to 27 in	clay	slow	1.23 to 2.30 in	5.1 to 6.0
2Bt2 -- 27 to 36 in	clay	slow	0.69 to 1.30 in	5.1 to 6.5
2Bt3 -- 36 to 48 in	clay	slow	0.98 to 1.83 in	5.1 to 6.5
2BCd -- 48 to 80 in	clay	slow	1.28 to 2.55 in	6.1 to 8.4

Udorthents

Extent: 20 to 40 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 45 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	sandy loam	moderately rapid	0.56 to 0.72 in	4.5 to 6.0
Bw -- 5 to 9 in	gravelly sandy loam	moderately rapid	0.28 to 0.71 in	4.5 to 6.5
2C -- 9 to 80 in	gravelly coarse sand	very rapid	0.71 to 4.25 in	5.1 to 6.5

B36B--Lavell-Shawano complex, 1 to 6 percent slopes

Shawano

Extent: 25 to 55 percent of the unit
Landform(s): outwash plains, lake plains
Slope gradient: 1 to 6 percent
Parent material: eolian and/or glaciolacustrine sand
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) .20
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw -- 5 to 21 in	loamy fine sand	rapid	1.10 to 1.73 in	5.1 to 6.5
C -- 21 to 80 in	fine sand	rapid	3.54 to 5.91 in	5.1 to 6.5

Lavell

Extent: 30 to 55 percent of the unit
Landform(s): outwash plains, lake plains
Slope gradient: 1 to 6 percent
Parent material: eolian and/or glaciolacustrine sand
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: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw1 -- 5 to 18 in	loamy fine sand	rapid	0.78 to 1.30 in	4.5 to 6.5
Bw2 -- 18 to 42 in	fine sand	rapid	1.44 to 2.40 in	5.1 to 6.5
C -- 42 to 80 in	fine sand	rapid	2.27 to 3.78 in	5.1 to 6.5

B37B--Westoo-Lavell complex, 0 to 6 percent slopes

Westoo

Extent: 30 to 50 percent of the unit
Landform(s): lake plains, outwash plains
Slope gradient: 0 to 4 percent
Parent material: eolian deposits and/or 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .20
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw1 -- 5 to 17 in	loamy fine sand	rapid	1.06 to 1.89 in	4.5 to 6.5
Bw2 -- 17 to 44 in	loamy fine sand	rapid	1.63 to 2.72 in	5.1 to 6.5
C -- 44 to 74 in	fine sand	rapid	1.80 to 2.99 in	5.1 to 6.5
Cg -- 74 to 80 in	fine sand	rapid	0.35 to 0.59 in	5.1 to 6.5

Lavell

Extent: 25 to 40 percent of the unit
Landform(s): lake plains, outwash plains
Slope gradient: 1 to 6 percent
Parent material: eolian and/or glaciolacustrine sand
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: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw1 -- 5 to 18 in	loamy fine sand	rapid	0.78 to 1.30 in	4.5 to 6.5
Bw2 -- 18 to 42 in	fine sand	rapid	1.44 to 2.40 in	5.1 to 6.5
C -- 42 to 80 in	fine sand	rapid	2.27 to 3.78 in	5.1 to 6.5

B39A--Meehan loamy sand, 0 to 3 percent slopes

Meehan

Extent: 75 to 90 percent of the unit

Landform(s): rises on lake plains, flats on lake plains, flats on outwash plains, rises 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) .15

Land capability, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A/D

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 6.0
Bw1 -- 3 to 12 in	loamy sand	rapid	0.52 to 0.95 in	4.5 to 6.0
Bw2 -- 12 to 47 in	sand	rapid	0.70 to 3.15 in	4.5 to 6.0
C -- 47 to 80 in	coarse sand	very rapid	0.66 to 2.31 in	5.1 to 6.5

B40D--Shawano loamy fine sand, 6 to 18 percent slopes

Shawano

Extent: 75 to 90 percent of the unit
Landform(s): lake plains, outwash plains
Slope gradient: 6 to 18 percent
Parent material: eolian and/or glaciolacustrine sand
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) .20
Land capability, nonirrigated: 4e
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw -- 5 to 21 in	loamy fine sand	rapid	1.10 to 1.73 in	5.1 to 6.5
C -- 21 to 80 in	fine sand	rapid	3.54 to 5.91 in	5.1 to 6.5

B41B--Friendship loamy sand, 0 to 4 percent slopes

Friendship

Extent: 65 to 85 percent of the unit
Landform(s): rises on lake plains, rises on outwash plains
Slope gradient: 0 to 4 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) .10
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 6.0
Bw1 -- 3 to 24 in	sand	rapid	0.63 to 2.30 in	4.5 to 6.0
Bw2 -- 24 to 40 in	sand	rapid	0.32 to 1.13 in	4.5 to 6.0
C -- 40 to 80 in	sand	rapid	0.80 to 2.78 in	5.1 to 6.5

B47A--Daisybay peat, 0 to 1 percent slopes

Daisybay

Extent: 60 to 90 percent of the unit
Landform(s): bogs on moraines, bogs on till plains
Slope gradient: 0 to 1 percent
Parent material: organic material over dense fine till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Oi --	0 to 7 in	peat	very rapid	3.90 to 4.61 in	
Oe --	7 to 30 in	mucky peat	rapid	10.28 to 12.56 in	
Oa --	30 to 35 in	muck	moderately rapid	1.79 to 2.30 in	
2Cg --	35 to 80 in	clay	slow	3.59 to 6.73 in	5.6 to 7.3

B48A--Mooseline-Turpela complex, 0 to 3 percent slopes

Mooseline

Extent: 35 to 55 percent of the unit
Landform(s): rises on till plains
Slope gradient: 0 to 3 percent
Parent material: sandy sediments over dense fine till
Restrictive feature(s): densic material at 45 to 70 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) .15
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	sandy loam	moderately rapid	0.41 to 0.47 in	4.5 to 6.0
E -- 3 to 8 in	sandy loam	moderately rapid	0.47 to 0.80 in	4.5 to 6.0
Bw1 -- 8 to 23 in	loamy sand	rapid	1.05 to 2.24 in	5.1 to 6.5
Bw2 -- 23 to 34 in	sand	rapid	0.55 to 1.10 in	5.1 to 6.5
2B/E -- 34 to 39 in	clay loam	moderately slow	0.51 to 0.87 in	5.1 to 6.5
2Bt -- 39 to 56 in	clay	slow	1.35 to 2.54 in	5.1 to 6.5
2BCd -- 56 to 80 in	clay	slow	0.96 to 1.92 in	6.1 to 8.4

B48A--Mooseline-Turpela complex, 0 to 3 percent slopes

Turpela

Extent: 25 to 45 percent of the unit
Landform(s): flats on till plains
Slope gradient: 0 to 2 percent
Parent material: sandy sediments over dense fine till
Restrictive feature(s): densic material at 45 to 70 inches
Flooding: none
Ponding: none
Drainage class: 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: 4w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	fine sandy loam	moderately rapid	0.82 to 0.92 in	4.5 to 6.0
Bg1 -- 5 to 21 in	loamy fine sand	rapid	1.57 to 2.68 in	4.5 to 6.0
Bg2 -- 21 to 28 in	loamy fine sand	rapid	0.35 to 0.78 in	5.1 to 6.5
2Bt1 -- 28 to 34 in	clay	slow	0.47 to 0.89 in	5.1 to 6.0
2Bt2 -- 34 to 55 in	clay	slow	1.70 to 3.19 in	5.1 to 6.5
2BCd -- 55 to 80 in	clay	slow	0.99 to 1.98 in	6.1 to 8.4

B52A--Dora muck, depressional, hibbing catena, 0 to 1 percent slopes

Dora, depressional

Extent: 60 to 90 percent of the unit
Landform(s): swamps on moraines, swamps on till plains
Slope gradient: 0 to 1 percent
Parent material: organic material over dense fine till
Restrictive feature(s): densic material at 40 to 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 22 in	muck	moderately rapid	7.72 to 9.92 in	
2Cg -- 22 to 65 in	clay	slow	3.43 to 6.44 in	5.1 to 6.5
2Cd -- 65 to 80 in	clay	slow	0.60 to 1.20 in	6.1 to 7.8

B53A--Dora mucky peat, hibbing catena, 0 to 1 percent slopes

Dora

Extent: 60 to 90 percent of the unit
Landform(s): swamps on moraines, swamps on till plains
Slope gradient: 0 to 1 percent
Parent material: organic material over dense fine till
Restrictive feature(s): densic material at 40 to 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oe -- 0 to 8 in	mucky peat	rapid	3.54 to 4.33 in	
Oa -- 8 to 33 in	muck	moderately rapid	8.82 to 11.34 in	
2Cg -- 33 to 65 in	clay	slow	2.55 to 4.78 in	5.1 to 6.5
2Cd -- 65 to 80 in	clay	slow	0.60 to 1.20 in	6.1 to 7.8

B54A--Spooner-Littleswan complex, 0 to 3 percent slopes

Spooner

Extent: 55 to 75 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .43
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 5 in	silt loam	moderate	1.13 to 1.23 in	5.6 to 7.3
Eg -- 5 to 9 in	very fine sandy loam	moderate	0.67 to 0.87 in	5.6 to 7.3
Btg -- 9 to 30 in	silty clay loam	moderately slow	3.76 to 4.59 in	6.1 to 7.3
Bkg -- 30 to 57 in	silt loam	moderate	4.62 to 5.98 in	7.4 to 8.4
Cg -- 57 to 80 in	silt loam	moderate	3.88 to 5.02 in	7.4 to 8.4

Littleswan

Extent: 15 to 35 percent of the unit
Landform(s): rises on lake plains
Slope gradient: 1 to 3 percent
Parent material: 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .43
Land capability, nonirrigated: 3w
Hydric soil: no
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 -- 4 to 11 in	silt loam	moderate	1.20 to 1.56 in	5.6 to 7.3
Bt -- 11 to 32 in	silty clay loam	moderately slow	3.76 to 4.59 in	6.1 to 7.3
Cg1 -- 32 to 41 in	silt loam	moderate	1.54 to 1.99 in	7.4 to 8.4
Cg2 -- 41 to 80 in	silt loam	moderate	6.63 to 8.57 in	7.4 to 8.4

B56A--Spooner-Sax, depressional, complex, 0 to 2 percent slopes

Spooner

Extent: 40 to 65 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .43
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 5 in	silt loam	moderate	1.13 to 1.23 in	5.6 to 7.3
Eg -- 5 to 9 in	very fine sandy loam	moderate	0.67 to 0.87 in	5.6 to 7.3
Btg -- 9 to 30 in	silty clay loam	moderately slow	3.76 to 4.59 in	6.1 to 7.3
Bkg -- 30 to 57 in	silt loam	moderate	4.62 to 5.98 in	7.4 to 8.4
Cg -- 57 to 80 in	silt loam	moderate	3.88 to 5.02 in	7.4 to 8.4

Sax, depressional

Extent: 30 to 55 percent of the unit
Landform(s): depressions on lake plains
Slope gradient: 0 to 1 percent
Parent material: herbaceous 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): 1
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 13 in	muck	moderately rapid	4.55 to 6.24 in	
A -- 13 to 15 in	silt loam	moderate	0.43 to 0.51 in	5.6 to 7.3
Bg -- 15 to 36 in	silt loam	moderate	3.76 to 4.59 in	5.6 to 7.3
Cg -- 36 to 80 in	silt loam	moderate	7.50 to 9.70 in	7.4 to 8.4

B58B--Wurtsmith-Meehan complex, 0 to 4 percent slopes

Wurtsmith

Extent: 35 to 55 percent of the unit
Landform(s): rises on outwash plains
Slope gradient: 1 to 4 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*
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
Bw -- 3 to 18 in	sand	rapid	0.45 to 1.65 in	4.5 to 6.0
BC -- 18 to 33 in	sand	rapid	0.30 to 1.05 in	4.5 to 6.0
C -- 33 to 80 in	sand	rapid	0.94 to 3.28 in	5.1 to 6.5

Meehan

Extent: 30 to 50 percent of the unit
Landform(s): rises 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) .15
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A/D
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 6.0
Bw1 -- 3 to 12 in	loamy sand	rapid	0.52 to 0.95 in	4.5 to 6.0
Bw2 -- 12 to 47 in	sand	rapid	0.70 to 3.15 in	4.5 to 6.0
C -- 47 to 80 in	coarse sand	very rapid	0.66 to 2.31 in	5.1 to 6.5

B62A--Wabuse-Vasso complex, 0 to 3 percent slopes

Wabuse

Extent: 30 to 50 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 2 percent

Parent material: sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .17

Land capability, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
Ap --	0 to 9 in	sandy loam	moderately rapid	1.18 to 1.36 in	4.5 to 6.0
Bg1 --	9 to 16 in	loamy fine sand	rapid	0.28 to 0.78 in	4.5 to 6.0
Bg2 --	16 to 27 in	loamy sand	rapid	0.44 to 1.21 in	5.1 to 6.5
Bg3 --	27 to 32 in	loamy coarse sand	rapid	0.19 to 0.52 in	5.1 to 6.5
2Bg4 --	32 to 54 in	silt loam	moderate	3.75 to 4.85 in	5.6 to 6.5
2Cg --	54 to 80 in	silt loam	moderate	4.42 to 5.72 in	5.6 to 7.8

B62A--Wabuse-Vasso complex, 0 to 3 percent slopes

Vasso

Extent: 15 to 35 percent of the unit
Landform(s): rises on lake plains
Slope gradient: 1 to 3 percent
Parent material: sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

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

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 4 in	fine sandy loam	moderately rapid	0.63 to 0.75 in	4.5 to 6.0
E --	4 to 6 in	fine sandy loam	moderately rapid	0.18 to 0.33 in	4.5 to 6.0
Bw1 --	6 to 18 in	loamy fine sand	rapid	0.37 to 1.22 in	4.5 to 6.5
Bw2 --	18 to 38 in	fine sand	rapid	0.60 to 2.01 in	5.1 to 6.5
2Bg --	38 to 50 in	silt loam	moderate	2.01 to 2.60 in	5.6 to 6.5
2Cg --	50 to 80 in	silt loam	moderate	5.09 to 6.58 in	5.6 to 7.8

B63B--Urbanland-McQuade-Buhl complex, 0 to 12 percent slopes

Urban land

Extent: 40 to 65 percent of the unit
Landform(s): knolls on till plains, flats on till plains
Slope gradient: 0 to 12 percent
Parent material: human transported material
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

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

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Mcquade

Extent: 15 to 25 percent of the unit
Landform(s): till plains
Slope gradient: 0 to 2 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic material at 40 to 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

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

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 4 in	loam	moderate	0.79 to 0.87 in	4.5 to 5.5
Eg --	4 to 8 in	loam	moderate	0.59 to 0.83 in	4.5 to 5.5
2B/E --	8 to 17 in	clay loam	slow	0.72 to 1.36 in	5.1 to 6.0
2Bt --	17 to 36 in	clay	slow	1.51 to 2.83 in	5.1 to 6.5
2BCt --	36 to 52 in	clay	slow	1.29 to 2.42 in	5.6 to 7.3
2BCd --	52 to 80 in	clay	slow	1.12 to 2.24 in	6.1 to 8.4

B63B--Urbanland-McQuade-Buhl complex, 0 to 12 percent slopes

Buhl

Extent: 15 to 25 percent of the unit
Landform(s): till plains
Slope gradient: 1 to 5 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 3w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A	0 to 3 in	loam	moderate	0.63 to 0.69 in	4.5 to 5.5
E	3 to 13 in	loam	moderate	1.48 to 2.07 in	4.5 to 5.5
2B/E	13 to 18 in	clay loam	slow	0.41 to 0.77 in	5.1 to 6.0
2Bt1	18 to 32 in	clay	slow	1.10 to 2.07 in	5.1 to 6.0
2Bt2	32 to 58 in	clay	slow	2.08 to 3.90 in	5.1 to 6.5
2BCd	58 to 80 in	clay	slow	0.88 to 1.76 in	6.1 to 8.4

B64B--Vasso-Keenan complex, 1 to 6 percent slopes

Vasso

Extent: 30 to 50 percent of the unit

Landform(s): lake plains

Slope gradient: 1 to 3 percent

Parent material: sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 3w

Hydric soil: no

Hydrologic group: B/D

Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 4 in	fine sandy loam	moderately rapid	0.63 to 0.75 in	4.5 to 6.0
E --	4 to 6 in	fine sandy loam	moderately rapid	0.18 to 0.33 in	4.5 to 6.0
Bw1 --	6 to 18 in	loamy fine sand	rapid	0.37 to 1.22 in	4.5 to 6.5
Bw2 --	18 to 38 in	fine sand	rapid	0.60 to 2.01 in	5.1 to 6.5
2Bg --	38 to 50 in	silt loam	moderate	2.01 to 2.60 in	5.6 to 6.5
2Cg --	50 to 80 in	silt loam	moderate	5.09 to 6.58 in	5.6 to 7.8

B64B--Vasso-Keenan complex, 1 to 6 percent slopes

Keenan

Extent: 25 to 45 percent of the unit

Landform(s): lake plains

Slope gradient: 1 to 6 percent

Parent material: sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 2s

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	fine sandy loam	moderately rapid	0.63 to 0.71 in	4.5 to 6.0
Bw1 --	4 to 12 in	loamy fine sand	rapid	0.31 to 0.87 in	4.5 to 6.5
Bw2 --	12 to 32 in	fine sand	rapid	0.60 to 2.01 in	5.1 to 6.5
2Bw3 --	32 to 54 in	silt loam	moderate	3.75 to 4.85 in	5.6 to 6.5
2C --	54 to 80 in	silt loam	moderate	4.42 to 5.72 in	5.6 to 7.8

B65A--Merwin peat, upham basin, 0 to 1 percent slopes

Merwin

Extent: 60 to 90 percent of the unit
Landform(s): bogs on lake plains
Slope gradient: 0 to 1 percent
Parent material: organic material over glaciolacustrine or glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 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 6 in	peat	very rapid	3.25 to 3.84 in	
Oe --	6 to 46 in	mucky peat	rapid	18.07 to 22.09 in	
Cg --	46 to 80 in	stratified loamy fine sand to silty clay	moderate	3.39 to 6.09 in	5.6 to 7.8

B66C--Entisols, channeled, 0 to 20 percent slopes, rarely to frequently flooded

Udifluvents, occasionally flooded

Extent: 15 to 50 percent of the unit
Landform(s): levees on flood plains
Slope gradient: 2 to 10 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
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) .32
Land capability, nonirrigated: 3w
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 6 in	silt loam	moderate	1.18 to 1.42 in	5.6 to 7.3
Cg --	6 to 80 in	stratified silt loam to loamy coarse sand	rapid	4.44 to 16.28 in	5.6 to 7.3

Udipsamments, rarely flooded

Extent: 10 to 35 percent of the unit
Landform(s): valley sides on flood plains
Slope gradient: 4 to 20 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: rare
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) .10
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	0.25 to 0.38 in	4.5 to 6.5
Bw --	3 to 22 in	coarse sand	very rapid	0.76 to 1.32 in	4.5 to 6.5
C --	22 to 80 in	coarse sand	very rapid	2.31 to 3.47 in	5.6 to 7.3

B66C--Entisols, channeled, 0 to 20 percent slopes, rarely to frequently flooded

Udifluvents, frequently flooded

Extent: 10 to 30 percent of the unit
Landform(s): flats on flood plains, rises on flood plains
Slope gradient: 0 to 6 percent
Parent material: 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .32
Land capability, nonirrigated: 5w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 6 in	silt loam	moderate	1.18 to 1.42 in	5.6 to 7.3
Cg --	6 to 80 in	stratified silt loam to loamy coarse sand	rapid	4.44 to 16.28 in	5.6 to 7.3

Fluvaquents, frequently flooded

Extent: 10 to 25 percent of the unit
Landform(s): flats on flood plains
Slope gradient: 0 to 3 percent
Parent material: alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .32
Land capability, nonirrigated: 5w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 6 in	mucky silt loam	moderate	1.30 to 1.54 in	5.6 to 7.3
Cg --	6 to 80 in	stratified silt loam to loamy coarse sand	rapid	4.44 to 16.28 in	5.6 to 7.3

B67A--Rifle soils, hibbing catena, 0 to 1 percent slopes

Rifle

Extent: 0 to 95 percent of the unit
Landform(s): swamps on moraines, swamps on till plains
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): 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*
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

Rifle, depressional

Extent: 0 to 95 percent of the unit
Landform(s): swamps on moraines, swamps on till plains
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: 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

B73A--Spooner-Buhl-Littleswan complex, 0 to 3 percent slopes

Spooner

Extent: 20 to 50 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .43
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 5 in	silt loam	moderate	1.13 to 1.23 in	5.6 to 7.3
Eg -- 5 to 9 in	very fine sandy loam	moderate	0.67 to 0.87 in	5.6 to 7.3
Btg -- 9 to 30 in	silty clay loam	moderately slow	3.76 to 4.59 in	6.1 to 7.3
Bkg -- 30 to 57 in	silt loam	moderate	4.62 to 5.98 in	7.4 to 8.4
Cg -- 57 to 80 in	silt loam	moderate	3.88 to 5.02 in	7.4 to 8.4

Littleswan

Extent: 15 to 35 percent of the unit
Landform(s): rises on lake plains
Slope gradient: 1 to 3 percent
Parent material: 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): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .43
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	silt loam	moderate	0.87 to 0.94 in	5.6 to 7.3
E -- 4 to 11 in	silt loam	moderate	1.20 to 1.56 in	5.6 to 7.3
Bt -- 11 to 32 in	silty clay loam	moderately slow	3.76 to 4.59 in	6.1 to 7.3
Cg1 -- 32 to 41 in	silt loam	moderate	1.54 to 1.99 in	7.4 to 8.4
Cg2 -- 41 to 80 in	silt loam	moderate	6.63 to 8.57 in	7.4 to 8.4

B73A--Spooner-Buhl-Littleswan complex, 0 to 3 percent slopes

Buhl

Extent: 15 to 40 percent of the unit
Landform(s): rises on lake plains
Slope gradient: 1 to 3 percent
Parent material: loamy material over dense fine till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
Land capability, nonirrigated: 3w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	loam	moderate	0.63 to 0.69 in	4.5 to 5.5
E -- 3 to 13 in	loam	moderate	1.48 to 2.07 in	4.5 to 5.5
2B/E -- 13 to 18 in	clay loam	slow	0.41 to 0.77 in	5.1 to 6.0
2Bt1 -- 18 to 32 in	clay	slow	1.10 to 2.07 in	5.1 to 6.0
2Bt2 -- 32 to 58 in	clay	slow	2.08 to 3.90 in	5.1 to 6.5
2BCd -- 58 to 80 in	clay	slow	0.88 to 1.76 in	6.1 to 8.4

B74A--Kapla, depressional-Wabuse complex, 0 to 2 percent slopes

Kapla, depressional

Extent: 35 to 60 percent of the unit

Landform(s): depressions on lake plains, swales on lake plains, swales on outwash plains, depressions on outwash plains

Slope gradient: 0 to 1 percent

Parent material: eolian and/or glaciolacustrine materials

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): 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
Oe --	0 to 5 in	mucky peat	rapid	2.30 to 2.81 in	
A --	5 to 12 in	fine sandy loam	moderately rapid	0.80 to 1.41 in	4.5 to 6.0
Bg1 --	12 to 24 in	fine sandy loam	moderately rapid	1.46 to 2.44 in	4.5 to 6.5
Bg2 --	24 to 37 in	loamy very fine sand	moderately rapid	1.56 to 2.60 in	5.1 to 6.5
Cg --	37 to 80 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	5.58 to 7.30 in	5.6 to 7.8

B74A--Kapla, depressional-Wabuse complex, 0 to 2 percent slopes

Wabuse

Extent: 20 to 50 percent of the unit

Landform(s): flats on lake plains, flats on outwash plains

Slope gradient: 0 to 2 percent

Parent material: sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: high

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 3 in	fine sandy loam	moderately rapid	0.50 to 0.57 in	4.5 to 6.0
E --	3 to 6 in	fine sandy loam	moderately rapid	0.30 to 0.50 in	4.5 to 6.0
Bg1 --	6 to 28 in	loamy fine sand	rapid	1.98 to 3.31 in	5.1 to 6.5
2Bg2 --	28 to 60 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	3.51 to 5.10 in	5.1 to 6.5
2Cg --	60 to 80 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	2.21 to 3.21 in	5.6 to 7.8

B80A--Rifle soils, taylor catena, 0 to 1 percent slopes

Rifle

Extent: 0 to 95 percent of the unit
Landform(s): depressions on lake plains
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): 2
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer)
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*
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

Rifle, depressional

Extent: 0 to 95 percent of the unit
Landform(s): depressions on lake plains
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): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer)
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*
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

B82A--Greenwood soils, taylor catena, 0 to 1 percent slopes

Greenwood

Extent: 0 to 95 percent of the unit
Landform(s): raised bogs on lake plains
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): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer)
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 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

Greenwood, depressional

Extent: 0 to 95 percent of the unit
Landform(s): bogs on lake plains
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): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer)
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 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

B99A--Cathro-Sago complex, depressional, 0 to 1 percent slopes

Cathro, depressional

Extent: 30 to 65 percent of the unit
Landform(s): swamps on lake plains
Slope gradient: 0 to 1 percent
Parent material: organic material over glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 36 in	muck	moderately rapid	12.54 to 16.12 in	
A -- 36 to 40 in	mucky silt loam	moderate	0.95 to 1.13 in	5.1 to 6.5
Cg -- 40 to 80 in	stratified loamy fine sand to silt loam	moderately rapid	5.17 to 7.56 in	5.6 to 7.8

Sago, depressional

Extent: 30 to 60 percent of the unit
Landform(s): swamps on lake plains, -- error in exists on --
Slope gradient: 0 to 1 percent
Parent material: organic material over glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oe -- 0 to 5 in	mucky peat	rapid	2.30 to 2.81 in	
Oa -- 5 to 13 in	muck	moderately rapid	2.76 to 3.54 in	
A -- 13 to 15 in	fine sandy loam	moderately rapid	0.22 to 0.41 in	4.5 to 6.0
Bg -- 15 to 41 in	stratified loamy fine sand to silt loam	moderately rapid	3.38 to 4.94 in	5.1 to 6.5
Cg -- 41 to 80 in	stratified loamy fine sand to silt loam	moderately rapid	5.07 to 7.41 in	5.6 to 7.8

B99A--Cathro-Sago complex, depressional, 0 to 1 percent slopes

B108A--Cathro muck, depressional, upham basin, 0 to 1 percent sloes

Cathro, depressional

Extent: 60 to 90 percent of the unit
Landform(s): swamps on lake plains
Slope gradient: 0 to 1 percent
Parent material: organic material over glaciolacustrine or glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:

		Texture	*Permeability*	*Available water capacity*	*pH*
Oa --	0 to 36 in	muck	moderately rapid	12.54 to 16.12 in	
A --	36 to 40 in	mucky silt loam	moderate	0.95 to 1.13 in	5.1 to 6.5
Cg --	40 to 80 in	stratified loamy fine sand to silty clay	moderate	3.98 to 7.16 in	5.6 to 7.8

B119A--Tacoosh mucky peat, upham basin, 0 to 1 percent slopes

Tacoosh

Extent: 60 to 90 percent of the unit
Landform(s): swamps on lake plains
Slope gradient: 0 to 1 percent
Parent material: organic material over glaciolacustrine or glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:

		Texture	*Permeability*	*Available water capacity*	*pH*
Oe1 --	0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 --	12 to 32 in	mucky peat	rapid	9.04 to 11.04 in	
Oa --	32 to 36 in	muck	moderately rapid	1.38 to 1.77 in	
Cg --	36 to 80 in	stratified loamy fine sand to silty clay	moderate	4.41 to 7.94 in	6.1 to 7.8

B147A--Rifle soils, upham basin, 0 to 1 percent slopes

Rifle

Extent: 0 to 95 percent of the unit
Landform(s): swamps on lake plains
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): 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*
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

Rifle, depressional

Extent: 0 to 95 percent of the unit
Landform(s): swamps on lake plains
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: 7w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa -- 42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 -- 52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

B152A--Greenwood soils, hibbing catena, 0 to 1 percent slopes

Greenwood

Extent: 0 to 95 percent of the unit
Landform(s): bogs on moraines, bogs on till plains
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): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
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 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

Greenwood, depressional

Extent: 0 to 95 percent of the unit
Landform(s): bogs on moraines, bogs on till plains
Slope gradient: 0 to 0 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: 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 10 in	peat	very rapid	5.41 to 6.40 in	
Oe1 -- 10 to 24 in	mucky peat	rapid	6.38 to 7.80 in	
Oe2 -- 24 to 80 in	mucky peat	rapid	25.16 to 30.75 in	

DA--Denied access

Denied Acess

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

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

Representative soil profile:

Texture	Permeability	Available water capacity	pH

F1C--Eaglesnest stony loam, 4 to 12 percent slopes, very bouldery

Eaglesnest, very bouldery

Extent: 75 to 90 percent of the unit
Landform(s): moraines
Slope gradient: 4 to 12 percent
Parent material: loamy material over dense till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 --	3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 --	6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 --	20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC --	28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd --	41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

F2B--Eaglesnest-Wahlsten complex, 2 to 8 percent slopes, bouldery

Eaglesnest, bouldery

Extent: 30 to 60 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 8 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

F2B--Eaglesnest-Wahlsten complex, 2 to 8 percent slopes, bouldery

Wahlsten, bouldery

Extent: 20 to 50 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 8 percent
Parent material: loamy drift over dense gravelly lodgment till over bedrock
Restrictive feature(s): densic material at 15 to 35 inches
lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 --	3 to 9 in	stony loam	moderate	0.59 to 1.06 in	4.5 to 6.0
Bw2 --	9 to 17 in	gravelly loam	moderate	0.63 to 1.26 in	5.1 to 6.5
2Cd --	17 to 37 in	very gravelly sandy loam	slow	0.60 to 1.41 in	5.1 to 6.5
R --	37 to 80 in	bedrock	very slow		

F3D--Eveleth-Eaglesnest-Conic complex, 6 to 18 percent slopes, bouldery

Eveleth, bouldery

Extent: 30 to 50 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 18 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic material at 35 to 55 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 -- 4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC -- 23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd -- 43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

Eaglesnest, bouldery

Extent: 15 to 35 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 10 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

F3D--Eveleth-Eaglesnest-Conic complex, 6 to 18 percent slopes, bouldery

Conic, bouldery

Extent: 15 to 30 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 18 percent
Parent material: loamy drift over dense gravelly lodgment till over bedrock
Restrictive feature(s): densic material at 12 to 30 inches
lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: well drained

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

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw --	3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC --	9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd --	18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R --	29 to 80 in	bedrock	very slow		

F4E--Eveleth-Conic, bouldery-Rock outcrop complex, 18 to 30 percent slopes

Eveleth, bouldery

Extent: 45 to 65 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 30 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic material at 35 to 55 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
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	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 -- 4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC -- 23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd -- 43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

Conic, bouldery

Extent: 20 to 35 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 30 percent
Parent material: loamy drift over dense gravelly lodgment till over bedrock
Restrictive feature(s): densic material at 12 to 30 inches lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: well drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw -- 3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC -- 9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd -- 18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R -- 29 to 80 in	bedrock	very slow		

F4E--Eveleth-Conic, bouldery-Rock outcrop complex, 18 to 30 percent slopes

Rock outcrop

Extent: 10 to 20 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 30 percent
Parent material:
Restrictive feature(s): lithic bedrock at 0 to 0 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: 8s
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

Representative soil profile:

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

F5B--Babbitt, bouldery-Wahlsten, bouldery-Aquepts, rubbly, complex, 0 to 8 percent slopes

Babbitt, bouldery

Extent: 30 to 50 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 4 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .17
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:

		Texture	*Permeability*	*Available water capacity*	*pH*
A --	0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 --	5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 --	14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
2BC --	30 to 50 in	very gravelly sandy loam	moderately slow	1.20 to 2.81 in	5.1 to 6.5
2Cd --	50 to 80 in	very gravelly sandy loam	slow	0.60 to 1.50 in	5.1 to 6.5

F5B--Babbitt, bouldery-Wahlsten, bouldery-Aquepts, rubbly, complex, 0 to 8 percent slopes

Wahlsten, bouldery

Extent: 20 to 30 percent of the unit
Landform(s): moraines
Slope gradient: 3 to 8 percent
Parent material: loamy drift over dense gravelly lodgment till over bedrock
Restrictive feature(s): densic material at 15 to 35 inches lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 9 in	stony loam	moderate	0.59 to 1.06 in	4.5 to 6.0
Bw2 -- 9 to 17 in	gravelly loam	moderate	0.63 to 1.26 in	5.1 to 6.5
2Cd -- 17 to 37 in	very gravelly sandy loam	slow	0.60 to 1.41 in	5.1 to 6.5
R -- 37 to 80 in	bedrock	very slow		

Aquepts, rubbly, depressional

Extent: 10 to 20 percent of the unit
Landform(s): drainageways on moraines
Slope gradient: 0 to 1 percent
Parent material: glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .05
Land capability, nonirrigated: 8s
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	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

F5B--Babbitt, bouldery-Wahlsten, bouldery-Aquepts, rubbly, complex, 0 to 8 percent slopes

F6B--Soudan-Eaglesnest-Babbitt complex, 1 to 8 percent slopes, bouldery

Soudan, bouldery

Extent: 35 to 55 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 8 percent
Parent material: sandy outwash and/or eloian material over dense lodgment till
Restrictive feature(s): densic 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) .17
Land capability, nonirrigated: 6s
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	moderately rapid	0.44 to 0.57 in	4.5 to 6.0
Bw1 -- 3 to 17 in	sandy loam	moderately rapid	1.38 to 2.34 in	4.5 to 6.0
Bw2 -- 17 to 36 in	loamy sand	rapid	0.94 to 1.89 in	4.5 to 6.0
2BC -- 36 to 57 in	very cobbly sandy loam	moderately slow	0.85 to 1.91 in	5.1 to 6.5
2Cd -- 57 to 80 in	very cobbly sandy loam	slow	0.46 to 1.14 in	5.1 to 6.5

Eaglesnest, bouldery

Extent: 15 to 35 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 8 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

F6B--Soudan-Eaglesnest-Babbitt complex, 1 to 8 percent slopes, bouldery

Babbitt, bouldery

Extent: 15 to 35 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 4 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .17
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 -- 5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
2BC -- 30 to 50 in	very gravelly sandy loam	moderately slow	1.20 to 2.81 in	5.1 to 6.5
2Cd -- 50 to 80 in	very gravelly sandy loam	slow	0.60 to 1.50 in	5.1 to 6.5

F7B--Biwabik-Graycalm complex, 1 to 8 percent slopes

Biwabik

Extent: 40 to 70 percent of the unit
Landform(s): outwash plains
Slope gradient: 1 to 8 percent
Parent material: 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): 3
Wind erodibility index (WEI): 86
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 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and Bt -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

Graycalm

Extent: 25 to 55 percent of the unit
Landform(s): outwash plains
Slope gradient: 1 to 8 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) .10
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 2 in	loamy sand	rapid	0.20 to 0.24 in	4.5 to 6.0
Bw -- 2 to 37 in	loamy sand	rapid	2.10 to 3.85 in	4.5 to 6.0
E and Bt -- 37 to 48 in	sand	rapid	0.55 to 0.99 in	5.1 to 6.0
C -- 48 to 80 in	coarse sand	very rapid	0.64 to 2.23 in	5.1 to 6.5

F8D--Biwabik-Graycalm-Friendship complex, pitted, 0 to 18 percent slopes

Biwabik

Extent: 30 to 60 percent of the unit
Landform(s): pitted outwash plains
Slope gradient: 8 to 18 percent
Parent material: 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .15
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	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and Bt -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

Graycalm

Extent: 30 to 60 percent of the unit
Landform(s): pitted outwash plains
Slope gradient: 8 to 18 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) .10
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	loamy sand	rapid	0.20 to 0.24 in	4.5 to 6.0
Bw -- 2 to 37 in	loamy sand	rapid	2.10 to 3.85 in	4.5 to 6.0
E and Bt -- 37 to 48 in	sand	rapid	0.55 to 0.99 in	5.1 to 6.0
C -- 48 to 80 in	coarse sand	very rapid	0.64 to 2.23 in	5.1 to 6.5

F8D--Biwabik-Graycalm-Friendship complex, pitted, 0 to 18 percent slopes

Friendship, depressional

Extent: 10 to 20 percent of the unit
Landform(s): depressions on pitted 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) .20
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
Bw1 -- 3 to 24 in	sand	rapid	0.63 to 2.30 in	4.5 to 6.0
Bw2 -- 24 to 40 in	sand	rapid	0.32 to 1.13 in	4.5 to 6.0
C -- 40 to 80 in	sand	rapid	0.80 to 2.78 in	5.1 to 6.5

F9A--Cloquet loam, 0 to 2 percent slopes

Cloquet

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

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
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	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw -- 2 to 22 in	loam	moderate	3.01 to 4.42 in	4.5 to 6.0
2C -- 22 to 80 in	very gravelly loamy coarse sand	rapid	0.58 to 2.31 in	5.1 to 6.5

F9B--Cloquet loam, 2 to 8 percent slopes

Cloquet

Extent: 75 to 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 2 to 8 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
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	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw --	2 to 22 in	loam	moderate	3.01 to 4.42 in	4.5 to 6.0
2C --	22 to 80 in	very gravelly loamy coarse sand	rapid	0.58 to 2.31 in	5.1 to 6.5

F10D--Cloquet-Pequaywan complex, pitted, 0 to 18 percent slopes

Cloquet

Extent: 65 to 80 percent of the unit
Landform(s): pitted outwash plains
Slope gradient: 8 to 18 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 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: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw -- 2 to 22 in	loam	moderate	3.01 to 4.42 in	4.5 to 6.0
2C -- 22 to 80 in	very gravelly loamy coarse sand	rapid	0.58 to 2.31 in	5.1 to 6.5

Pequaywan

Extent: 10 to 20 percent of the unit
Landform(s): depressions on pitted outwash plains
Slope gradient: 0 to 2 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated: 3s
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	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw1,Bw2 -- 2 to 20 in	loam	moderate	2.72 to 3.98 in	4.5 to 6.0
Bw3 -- 20 to 30 in	sandy loam	moderately rapid	0.79 to 1.77 in	4.5 to 6.0
2C -- 30 to 80 in	very gravelly sand	rapid	0.50 to 2.00 in	5.1 to 6.5

F10E--Cloquet-Pequaywan complex, pitted, 0 to 45 percent slopes

Cloquet

Extent: 60 to 80 percent of the unit
Landform(s): pitted outwash plains
Slope gradient: 18 to 45 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated: 6e
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	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw -- 2 to 22 in	loam	moderate	3.01 to 4.42 in	4.5 to 6.0
2C -- 22 to 80 in	very gravelly loamy coarse sand	rapid	0.58 to 2.31 in	5.1 to 6.5

Pequaywan

Extent: 10 to 20 percent of the unit
Landform(s): depressions on pitted outwash plains
Slope gradient: 0 to 3 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated: 3s
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	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw1,Bw2 -- 2 to 20 in	loam	moderate	2.72 to 3.98 in	4.5 to 6.0
Bw3 -- 20 to 30 in	sandy loam	moderately rapid	0.79 to 1.77 in	4.5 to 6.0
2C -- 30 to 80 in	very gravelly sand	rapid	0.50 to 2.00 in	5.1 to 6.5

F11B--Eaglesnest stony loam, 2 to 8 percent slopes, bouldery

Eaglesnest, bouldery

Extent: 70 to 90 percent of the unit
Landform(s): till plains
Slope gradient: 2 to 8 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

F12B--Eaglesnest-Babbitt complex, 1 to 8 percent slopes, bouldery

Eaglesnest, bouldery

Extent: 35 to 55 percent of the unit
Landform(s): rises on till plains
Slope gradient: 2 to 8 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

Babbitt, bouldery

Extent: 30 to 50 percent of the unit
Landform(s): flats on till plains
Slope gradient: 1 to 4 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .17
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 -- 5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
2BC -- 30 to 50 in	very gravelly sandy loam	moderately slow	1.20 to 2.81 in	5.1 to 6.5
2Cd -- 50 to 80 in	very gravelly sandy loam	slow	0.60 to 1.50 in	5.1 to 6.5

F12B--Eaglesnest-Babbitt complex, 1 to 8 percent slopes, bouldery

F13A--Babbitt, bouldery-Aquepts, rubbly, complex, 0 to 3 percent slopes

Babbitt, bouldery

Extent: 35 to 55 percent of the unit
Landform(s): rises on till plains
Slope gradient: 0 to 3 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .17
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 -- 5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
2BC -- 30 to 50 in	very gravelly sandy loam	moderately slow	1.20 to 2.81 in	5.1 to 6.5
2Cd -- 50 to 80 in	very gravelly sandy loam	slow	0.60 to 1.50 in	5.1 to 6.5

Aquepts, rubbly, depressional

Extent: 30 to 50 percent of the unit
Landform(s): depressions on till plains, drainageways on till plains
Slope gradient: 0 to 1 percent
Parent material: glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .05
Land capability, nonirrigated: 8s
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	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

F14D--Eveleth stony loam, 8 to 18 percent slopes, bouldery

Eveleth, bouldery

Extent: 80 to 95 percent of the unit
Landform(s): till plains
Slope gradient: 8 to 18 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic material at 35 to 55 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 --	4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 --	13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC --	23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd --	43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

F15E--Rollins cobbly sandy loam, 18 to 35 percent slopes, stony

Rollins, stony

Extent: 85 to 95 percent of the unit
Landform(s): eskers
Slope gradient: 18 to 35 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .15
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 5 in	cobbly sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

F16B--Shawano loamy fine sand, 1 to 8 percent slopes

Shawano

Extent: 75 to 95 percent of the unit
Landform(s): end moraines
Slope gradient: 1 to 8 percent
Parent material: eolian sand
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) .20
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw -- 5 to 21 in	loamy fine sand	rapid	1.10 to 1.73 in	5.1 to 6.5
C -- 21 to 80 in	fine sand	rapid	3.54 to 5.91 in	5.1 to 6.5

F17A--Aquepts, 0 to 2 percent slopes, rubbly

Aquepts, rubbly, depressional

Extent: 65 to 90 percent of the unit
Landform(s): depressions on till plains, drainageways on till plains
Slope gradient: 0 to 2 percent
Parent material: glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .05
Land capability, nonirrigated: 8s
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	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg --	4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg --	40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

F18A--Babbitt stony loam, 0 to 3 percent slopes, bouldery

Babbitt, bouldery

Extent: 70 to 90 percent of the unit
Landform(s): rises on till plains
Slope gradient: 0 to 3 percent
Parent material: loamy material over dense till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 -- 5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
2BC -- 30 to 50 in	very gravelly sandy loam	moderately slow	1.20 to 2.81 in	5.1 to 6.5
2Cd -- 50 to 80 in	very gravelly sandy loam	slow	0.60 to 1.50 in	5.1 to 6.5

F19A--Pequaywan loam, 0 to 3 percent slopes

Pequaywan

Extent: 75 to 95 percent of the unit
Landform(s): flats on outwash plains, rises on outwash plains
Slope gradient: 0 to 3 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated: 3s
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	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw1,Bw2 -- 2 to 20 in	loam	moderate	2.72 to 3.98 in	4.5 to 6.0
Bw3 -- 20 to 30 in	sandy loam	moderately rapid	0.79 to 1.77 in	4.5 to 6.0
2C -- 30 to 80 in	very gravelly sand	rapid	0.50 to 2.00 in	5.1 to 6.5

F20A--Barronett-Barronett, depressional, complex, 0 to 1 percent slopes

Barronett

Extent: 50 to 70 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 1 percent
Parent material: silty glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .43
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	silt loam	moderate	1.02 to 1.13 in	5.1 to 6.0
Eg -- 5 to 9 in	very fine sandy loam	moderate	0.63 to 0.71 in	5.1 to 6.0
Btg -- 9 to 20 in	silt loam	moderately slow	1.87 to 2.20 in	5.1 to 6.5
BCg -- 20 to 24 in	silt loam	moderate	0.67 to 0.79 in	5.1 to 6.5
Cg -- 24 to 80 in	silt loam	moderate	9.50 to 11.18 in	5.1 to 6.5

Barronett, depressional

Extent: 25 to 45 percent of the unit
Landform(s): depressions on lake plains
Slope gradient: 0 to 1 percent
Parent material: silty glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .43
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*
A -- 0 to 9 in	mucky silt loam	moderate	1.99 to 2.90 in	5.1 to 6.0
Eg -- 9 to 19 in	very fine sandy loam	moderate	1.57 to 1.77 in	5.1 to 6.0
Btg -- 19 to 27 in	silt loam	moderately slow	1.41 to 1.65 in	5.1 to 6.5
BCg -- 27 to 33 in	silt loam	moderate	1.00 to 1.18 in	5.1 to 6.5
Cg -- 33 to 80 in	silt loam	moderate	7.96 to 9.37 in	5.1 to 6.5

F21C--Quetico, stony-Rock outcrop complex, 2 to 15 percent slopes

Quetico, stony

Extent: 30 to 60 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 15 percent
Parent material: loamy drift over bedrock
Restrictive feature(s): lithic bedrock at 4 to 10 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated: 7s
Hydric soil: no
Hydrologic group: D
Potential for frost action: low

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 1 in	fine sandy loam	moderately rapid	0.11 to 0.17 in	4.5 to 6.0
Bw --	1 to 7 in	gravelly fine sandy loam	moderately rapid	0.47 to 0.77 in	4.5 to 6.0
R --	7 to 80 in	bedrock	very slow		

Rock outcrop

Extent: 20 to 40 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 15 percent
Parent material:
Restrictive feature(s): lithic bedrock at 0 to 0 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: 8s
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

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

F21D--Quetico, stony-Rock outcrop complex, 15 to 35 percent slopes

Quetico, stony

Extent: 30 to 60 percent of the unit
Landform(s): moraines
Slope gradient: 15 to 35 percent
Parent material: loamy drift over bedrock
Restrictive feature(s): lithic bedrock at 4 to 10 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated: 7s
Hydric soil: no
Hydrologic group: D
Potential for frost action: low

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 1 in	fine sandy loam	moderately rapid	0.11 to 0.17 in	4.5 to 6.0
Bw --	1 to 7 in	gravelly fine sandy loam	moderately rapid	0.47 to 0.77 in	4.5 to 6.0
R --	7 to 80 in	bedrock	very slow		

Rock outcrop

Extent: 20 to 40 percent of the unit
Landform(s): moraines
Slope gradient: 15 to 35 percent
Parent material:
Restrictive feature(s): lithic bedrock at 0 to 0 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: 8s
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

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

F21F--Quetico, stony-Rock outcrop complex, 35 to 60 percent slopes

Quetico, stony

Extent: 30 to 60 percent of the unit
Landform(s): moraines
Slope gradient: 35 to 60 percent
Parent material: loamy drift over bedrock
Restrictive feature(s): lithic bedrock at 4 to 10 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .28
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: D
Potential for frost action: low

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 1 in	fine sandy loam	moderately rapid	0.11 to 0.17 in	4.5 to 6.0
Bw --	1 to 7 in	gravelly fine sandy loam	moderately rapid	0.47 to 0.77 in	4.5 to 6.0
R --	7 to 80 in	bedrock	very slow		

Rock outcrop

Extent: 25 to 50 percent of the unit
Landform(s): moraines
Slope gradient: 35 to 60 percent
Parent material:
Restrictive feature(s): lithic bedrock at 0 to 0 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: 8s
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

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

F22F--Eveleth-Conic complex, 20 to 50 percent slopes, very bouldery

Eveleth, very bouldery

Extent: 50 to 70 percent of the unit
Landform(s): moraines
Slope gradient: 20 to 50 percent
Parent material: loamy material over dense till
Restrictive feature(s): densic material at 35 to 55 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 7e
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	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 -- 4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC -- 23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd -- 43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

Conic, very bouldery

Extent: 15 to 30 percent of the unit
Landform(s): moraines
Slope gradient: 20 to 50 percent
Parent material: loamy material over dense till
Restrictive feature(s): densic material at 12 to 30 inches
lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw -- 3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC -- 9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
C -- 18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R -- 29 to 80 in	bedrock	impermeable		

F22F--Eveleth-Conic complex, 20 to 50 percent slopes, very bouldery

F23B--Rollins-Biwabik complex, 1 to 8 percent slopes

Rollins

Extent: 25 to 50 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 8 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

Biwabik

Extent: 20 to 40 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 8 percent
Parent material: 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): 3
Wind erodibility index (WEI): 86
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 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and B -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

F23D--Rollins-Biwabik complex, 8 to 18 percent slopes

Rollins

Extent: 30 to 60 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 18 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

Biwabik

Extent: 20 to 50 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 18 percent
Parent material: 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .15
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	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and B -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

F24A--Gnesen loam, 0 to 3 percent slopes

Gnesen

Extent: 75 to 90 percent of the unit
Landform(s): rises on outwash plains, flats on outwash plains
Slope gradient: 0 to 3 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .37
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A/D
Potential for frost action: moderate

Representative soil profile:

		Texture	*Permeability*	*Available water capacity*	*pH*
A --	0 to 3 in	loam	moderately rapid	0.63 to 0.69 in	4.5 to 6.0
Bw --	3 to 30 in	sandy loam	moderately rapid	2.94 to 5.09 in	4.5 to 6.0
2C --	30 to 80 in	gravelly sand	rapid	0.50 to 3.50 in	5.1 to 6.5

F25D--Rollins-Cloquet complex, 8 to 18 percent slopes

Rollins

Extent: 45 to 65 percent of the unit
Landform(s): pitted outwash plains
Slope gradient: 8 to 18 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

Cloquet

Extent: 25 to 35 percent of the unit
Landform(s): pitted outwash plains
Slope gradient: 8 to 18 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 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: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 2 in	loam	moderately rapid	0.39 to 0.43 in	4.5 to 6.0
Bw -- 2 to 22 in	loam	moderate	3.01 to 4.42 in	4.5 to 6.0
2C -- 22 to 80 in	very gravelly loamy coarse sand	rapid	0.58 to 2.31 in	5.1 to 6.5

F26C--Shagawa-Beargrease complex, 2 to 15 percent slopes, extremely bouldery

Shagawa, extremely bouldery

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

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .17
Land capability, nonirrigated: 7s
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	stony loam	moderate	0.44 to 0.57 in	4.5 to 6.0
Bw1 -- 3 to 13 in	stony loam	moderate	0.79 to 1.48 in	4.5 to 6.0
2Bw2 -- 13 to 32 in	very gravelly coarse sandy loam	moderately rapid	1.13 to 1.70 in	5.1 to 6.5
2C -- 32 to 80 in	extremely gravelly loamy coarse sand	rapid	1.44 to 3.84 in	5.1 to 6.5

Beargrease, extremely bouldery

Extent: 25 to 50 percent of the unit
Landform(s): end moraines
Slope gradient: 2 to 15 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .10
Land capability, nonirrigated: 7s
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	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 -- 2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 -- 14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC -- 22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C -- 46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

F26E--Shagawa-Beargrease complex, 8 to 30 percent slopes, extremely bouldery

Shagawa, extremely bouldery

Extent: 30 to 60 percent of the unit
Landform(s): end moraines
Slope gradient: 8 to 30 percent
Parent material: loamy material over glacial till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .17
Land capability, nonirrigated: 7e
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	stony loam	moderate	0.44 to 0.57 in	4.5 to 6.0
Bw1 -- 3 to 13 in	stony loam	moderate	0.79 to 1.48 in	4.5 to 6.0
2Bw2 -- 13 to 32 in	very gravelly coarse sandy loam	moderately rapid	1.13 to 1.70 in	5.1 to 6.5
2C -- 32 to 80 in	extremely gravelly loamy coarse sand	rapid	1.44 to 3.84 in	5.1 to 6.5

Beargrease, extremely bouldery

Extent: 25 to 45 percent of the unit
Landform(s): end moraines
Slope gradient: 8 to 30 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .10
Land capability, nonirrigated: 7e
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	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 -- 2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 -- 14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC -- 22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C -- 46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

F26G--Shagawa-Beargrease complex, 35 to 60 percent slopes, extremely bouldery

Shagawa, extremely bouldery

Extent: 30 to 60 percent of the unit
Landform(s): end moraines
Slope gradient: 35 to 60 percent
Parent material: loamy material over glacial till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .17
Land capability, nonirrigated: 7e
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	stony loam	moderate	0.44 to 0.57 in	4.5 to 6.0
Bw1 -- 3 to 13 in	stony loam	moderate	0.79 to 1.48 in	4.5 to 6.0
2Bw2 -- 13 to 32 in	very gravelly coarse sandy loam	moderately rapid	1.13 to 1.70 in	5.1 to 6.5
2C -- 32 to 80 in	extremely gravelly loamy coarse sand	rapid	1.44 to 3.84 in	5.1 to 6.5

Beargrease, extremely bouldery

Extent: 25 to 45 percent of the unit
Landform(s): end moraines
Slope gradient: 35 to 60 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .10
Land capability, nonirrigated: 7e
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	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 -- 2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 -- 14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC -- 22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C -- 46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

F27C--Beargrease very stony loam, 2 to 15 percent slopes, extremely stony

Beargrease, extremely stony

Extent: 75 to 95 percent of the unit
Landform(s): pitted outwash plains
Slope gradient: 2 to 15 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .10
Land capability, nonirrigated: 7e
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	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 -- 2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 -- 14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC -- 22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C -- 46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

F27E--Beargrease very stony loam, 10 to 35 percent slopes, extremely stony

Beargrease, extremely stony

Extent: 75 to 90 percent of the unit
Landform(s): pitted outwash plains
Slope gradient: 10 to 35 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .10
Land capability, nonirrigated: 7e
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	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 -- 2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 -- 14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC -- 22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C -- 46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

F28B--Oysterlake complex, 0 to 4 percent slopes, extremely stony

Oysterlake, extremely stony

Extent: 40 to 65 percent of the unit
Landform(s): rises on outwash plains
Slope gradient: 0 to 4 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 7s
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	stony loam	moderate	0.55 to 0.75 in	4.5 to 6.0
Bw1 -- 4 to 16 in	stony loam	moderate	0.85 to 1.83 in	4.5 to 6.0
Bw2 -- 16 to 26 in	gravelly loam	moderate	0.59 to 1.38 in	4.5 to 6.5
2BC -- 26 to 42 in	extremely gravelly coarse sand	very rapid	0.16 to 0.65 in	5.1 to 6.5
2C -- 42 to 80 in	extremely cobbly coarse sand	very rapid	0.38 to 1.51 in	5.1 to 6.5

Oysterlake, wet, extremely stony

Extent: 20 to 45 percent of the unit
Landform(s): flats on outwash plains, swales on outwash plains
Slope gradient: 0 to 2 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 7s
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	stony loam	moderate	0.55 to 0.75 in	4.5 to 6.0
Bw1 -- 4 to 16 in	stony loam	moderate	0.85 to 1.83 in	4.5 to 6.0
Bw2 -- 16 to 26 in	gravelly loam	moderate	0.59 to 1.38 in	4.5 to 6.5
2BC -- 26 to 42 in	extremely gravelly coarse sand	very rapid	0.16 to 0.65 in	5.1 to 6.5
2C -- 42 to 80 in	extremely cobbly coarse sand	very rapid	0.38 to 1.51 in	5.1 to 6.5

F29E--Shagawa, extremely stony-Beargrease, extremely stony-Tacoosh complex, 0 to 35 percent slopes

Shagawa, extremely bouldery

Extent: 30 to 50 percent of the unit
Landform(s): end moraines
Slope gradient: 10 to 35 percent
Parent material: loamy material over glacial till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .17
Land capability, nonirrigated: 7e
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	stony loam	moderate	0.44 to 0.57 in	4.5 to 6.0
Bw1 --	3 to 13 in	stony loam	moderate	0.79 to 1.48 in	4.5 to 6.0
2Bw2 --	13 to 32 in	very gravelly coarse sandy loam	moderately rapid	1.13 to 1.70 in	5.1 to 6.5
2C --	32 to 80 in	extremely gravelly loamy coarse sand	rapid	1.44 to 3.84 in	5.1 to 6.5

Beargrease, extremely bouldery

Extent: 20 to 30 percent of the unit
Landform(s): end moraines
Slope gradient: 10 to 35 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .10
Land capability, nonirrigated: 7e
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	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 --	2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 --	14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC --	22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C --	46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

F29E--Shagawa, extremely stony-Beargrease, extremely stony-Tacoosh complex, 0 to 35 percent slopes

F29G--Shagawa, extremely stony-Beargrease, extremely stony-Tacoosh complex, 0 to 60 percent slopes

Shagawa, extremely bouldery

Extent: 30 to 60 percent of the unit
Landform(s): end moraines
Slope gradient: 25 to 60 percent
Parent material: loamy material over glacial till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .17
Land capability, nonirrigated: 7e
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	stony loam	moderate	0.44 to 0.57 in	4.5 to 6.0
Bw1 --	3 to 13 in	stony loam	moderate	0.79 to 1.48 in	4.5 to 6.0
2Bw2 --	13 to 32 in	very gravelly coarse sandy loam	moderately rapid	1.13 to 1.70 in	5.1 to 6.5
2C --	32 to 80 in	extremely gravelly loamy coarse sand	rapid	1.44 to 3.84 in	5.1 to 6.5

Beargrease, extremely bouldery

Extent: 20 to 40 percent of the unit
Landform(s): end moraines
Slope gradient: 25 to 60 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .10
Land capability, nonirrigated: 7e
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	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 --	2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 --	14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC --	22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C --	46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

F29G--Shagawa, extremely stony-Beargrease, extremely stony-Tacoosh complex, 0 to 60 percent slopes

F30G--Conic, very bouldery-Insula, very bouldery-Rock outcrop complex, 20 to 70 percent slopes

Conic, very bouldery

Extent: 30 to 60 percent of the unit
Landform(s): moraines
Slope gradient: 20 to 50 percent
Parent material: loamy drift over dense gravelly lodgment till over bedrock
Restrictive feature(s): densic material at 12 to 30 inches
lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw --	3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC --	9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd --	18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R --	29 to 80 in	bedrock	very slow		

Insula, very bouldery

Extent: 15 to 40 percent of the unit
Landform(s): moraines
Slope gradient: 20 to 50 percent
Parent material: loamy drift over bedrock
Restrictive feature(s): lithic bedrock at 10 to 20 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .15
Land capability, nonirrigated: 7e
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 3 in	gravelly sandy loam	moderately rapid	0.28 to 0.44 in	4.5 to 6.0
Bw1 --	3 to 11 in	gravelly sandy loam	moderately rapid	0.63 to 1.26 in	4.5 to 6.0
Bw2 --	11 to 17 in	gravelly fine sandy loam	moderately rapid	0.41 to 0.89 in	5.1 to 6.5
R --	17 to 80 in	bedrock	very slow		

F30G--Conic, very bouldery-Insula, very bouldery-Rock outcrop complex, 20 to 70 percent slopes

Rock outcrop

Extent: 10 to 40 percent of the unit
Landform(s): moraines
Slope gradient: 20 to 70 percent
Parent material:
Restrictive feature(s): lithic bedrock at 0 to 0 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: 8s
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

F31B--Oysterlake, extremely stony-Tacoosh complex, 0 to 4 percent slopes

Oysterlake, extremely stony

Extent: 45 to 70 percent of the unit
Landform(s): rises on outwash plains
Slope gradient: 0 to 4 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 7s
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	stony loam	moderate	0.55 to 0.75 in	4.5 to 6.0
Bw1 --	4 to 16 in	stony loam	moderate	0.85 to 1.83 in	4.5 to 6.0
Bw2 --	16 to 26 in	gravelly loam	moderate	0.59 to 1.38 in	4.5 to 6.5
2BC --	26 to 42 in	extremely gravelly coarse sand	very rapid	0.16 to 0.65 in	5.1 to 6.5
2C --	42 to 80 in	extremely cobbly coarse sand	very rapid	0.38 to 1.51 in	5.1 to 6.5

F32A--Merwin peat, 0 to 1 percent slopes

Merwin

Extent: 60 to 90 percent of the unit
Landform(s): bogs on till plains, bogs on outwash plains, bogs on end moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 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 6 in	peat	very rapid	3.25 to 3.84 in	
Oe -- 6 to 46 in	mucky peat	rapid	18.07 to 22.09 in	
2Cg -- 46 to 80 in	stratified loamy fine sand to loam	moderate	4.40 to 6.43 in	5.1 to 7.3

F34A--Cathro muck, depressional, 0 to 1 percent slopes

Cathro, depressional

Extent: 60 to 90 percent of the unit
Landform(s): swamps on end moraines, swamps on outwash plains, swamps on till plains
Slope gradient: 0 to 1 percent
Parent material: organic material over glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer)
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 36 in	muck	moderately rapid	12.54 to 16.12 in	
A -- 36 to 40 in	mucky silt loam	moderate	0.95 to 1.13 in	5.1 to 6.5
2Cg -- 40 to 80 in	stratified loamy fine sand to loam	moderate	5.17 to 7.56 in	5.1 to 7.3

F35D--Eveleth, bouldery-Conic, bouldery-Aquepts, rubbly, complex, 0 to 18 percent slopes

Eveleth, bouldery

Extent: 25 to 50 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 18 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic material at 35 to 55 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .17
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 --	4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 --	13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC --	23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd --	43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

F35D--Eveleth, bouldery-Conic, bouldery-Aquepts, rubbly, complex, 0 to 18 percent slopes

Conic, bouldery

Extent: 15 to 30 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 18 percent
Parent material: loamy drift over dense gravelly lodgment till over bedrock
Restrictive feature(s): densic material at 12 to 30 inches lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: well drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw -- 3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC -- 9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd -- 18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R -- 29 to 80 in	bedrock	very slow		

Aquepts, rubbly, depressional

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

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 8s
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	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

F35D--Eveleth, bouldery-Conic, bouldery-Aquepts, rubbly, complex, 0 to 18 percent slopes

F35E--Eveleth, bouldery-Conic, bouldery-Aquepts, rubbly, complex, 0 to 30 percent slopes

Eveleth, bouldery

Extent: 25 to 50 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 30 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic material at 35 to 55 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .17
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 --	4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 --	13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC --	23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd --	43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

F35E--Eveleth, bouldery-Conic, bouldery-Aquepts, rubbly, complex, 0 to 30 percent slopes

Conic, bouldery

Extent: 15 to 30 percent of the unit
Landform(s): moraines
Slope gradient: 18 to 30 percent
Parent material: loamy drift over dense gravelly lodgment till over bedrock
Restrictive feature(s): densic material at 12 to 30 inches lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: well drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw -- 3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC -- 9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd -- 18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R -- 29 to 80 in	bedrock	very slow		

Aquepts, rubbly, depressional

Extent: 15 to 30 percent of the unit
Landform(s): drainageways on moraines
Slope gradient: 0 to 3 percent
Parent material: glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 8s
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	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

F35E--Eveleth, bouldery-Conic, bouldery-Aquepts, rubbly, complex, 0 to 30 percent slopes

F36D--Conic, bouldery-Insula, bouldery-Rock outcrop complex, 8 to 25 percent slopes

Conic, bouldery

Extent: 30 to 50 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 25 percent
Parent material: loamy drift over dense gravelly lodgment till over bedrock
Restrictive feature(s): densic material at 12 to 30 inches lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: well drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	stony loam	moderate	0.31 to 0.50 in	4.5 to 6.0
Bw -- 3 to 9 in	stony loam	moderate	0.53 to 0.89 in	4.5 to 6.0
BC -- 9 to 18 in	cobbly sandy loam	moderate	0.63 to 1.27 in	5.1 to 6.5
Cd -- 18 to 29 in	very gravelly coarse sandy loam	slow	0.22 to 0.77 in	5.1 to 6.5
R -- 29 to 80 in	bedrock	very slow		

Insula, bouldery

Extent: 20 to 40 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 25 percent
Parent material: loamy drift over bedrock
Restrictive feature(s): lithic bedrock at 10 to 20 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	gravelly sandy loam	moderately rapid	0.28 to 0.44 in	4.5 to 6.0
Bw1 -- 3 to 11 in	gravelly sandy loam	moderately rapid	0.63 to 1.26 in	4.5 to 6.0
Bw2 -- 11 to 17 in	gravelly fine sandy loam	moderately rapid	0.41 to 0.89 in	5.1 to 6.5
R -- 17 to 80 in	bedrock	very slow		

F36D--Conic, bouldery-Insula, bouldery-Rock outcrop complex, 8 to 25 percent slopes

Rock outcrop

Extent: 15 to 30 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 25 percent
Parent material:
Restrictive feature(s): lithic bedrock at 0 to 0 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: 8s
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

Representative soil profile:

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

F37B--Foglake-Babbitt, bouldery, complex, 0 to 4 percent slopes

Foglake

Extent: 40 to 60 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .43
Land capability, nonirrigated: 4w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Eg -- 8 to 16 in	silt loam	moderate	1.41 to 1.82 in	5.1 to 7.3
Btg, BCg -- 16 to 47 in	silty clay loam	slow	2.76 to 5.83 in	5.1 to 7.3
Cg -- 47 to 80 in	silty clay loam	moderately slow	5.95 to 7.28 in	7.4 to 8.4

Babbitt, bouldery

Extent: 20 to 45 percent of the unit
Landform(s): rises on lake plains
Slope gradient: 1 to 4 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .17
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	stony loam	moderate	0.67 to 0.97 in	4.5 to 6.0
Bw1 -- 5 to 14 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 14 to 30 in	gravelly sandy loam	moderate	1.10 to 2.36 in	5.1 to 6.5
2BC -- 30 to 50 in	very gravelly sandy loam	moderately slow	1.20 to 2.81 in	5.1 to 6.5
2Cd -- 50 to 80 in	very gravelly sandy loam	slow	0.60 to 1.50 in	5.1 to 6.5

F38B--Longsiding-Eaglesnest, bouldery, complex, 0 to 8 percent slopes

Longsiding

Extent: 40 to 60 percent of the unit
Landform(s): lake plains
Slope gradient: 1 to 8 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .43
Land capability, nonirrigated: 3w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.1 to 6.5
B/E -- 9 to 12 in	silty clay loam	moderately slow	0.30 to 0.55 in	5.1 to 7.3
Bt1, Bt3 -- 12 to 35 in	silty clay	slow	2.09 to 4.41 in	5.1 to 7.3
Bk, C -- 35 to 80 in	silty clay loam	moderately slow	8.08 to 9.87 in	7.4 to 8.4

Eaglesnest, bouldery

Extent: 25 to 45 percent of the unit
Landform(s): lake plains
Slope gradient: 3 to 8 percent
Parent material: loamy drift over dense gravelly lodgment till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

F39A--Foglake-Aquepts, rubbly-Hassman, depressional, complex, 0 to 2 percent slopes

Foglake, bouldery

Extent: 30 to 50 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .43
Land capability, nonirrigated: 4w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Eg -- 8 to 16 in	silt loam	moderate	1.41 to 1.82 in	5.1 to 7.3
Btg, BCg -- 16 to 47 in	silty clay loam	slow	2.76 to 5.83 in	5.1 to 7.3
Cg -- 47 to 80 in	silty clay loam	moderately slow	5.95 to 7.28 in	7.4 to 8.4

Aquepts, rubbly, depressional

Extent: 20 to 40 percent of the unit
Landform(s): drainageways on lake plains, swales on lake plains
Slope gradient: 0 to 1 percent
Parent material: glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 8s
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	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

F39A--Foglake-Aquepts, rubbly-Hassman, depressional, complex, 0 to 2 percent slopes

Hassman, depressional

Extent: 15 to 30 percent of the unit

Landform(s): drainageways on lake plains, swales on lake plains

Slope gradient: 0 to 1 percent

Parent material: 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): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

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
A --	0 to 10 in	silty clay loam	moderately slow	2.07 to 2.26 in	5.1 to 6.5
Bg --	10 to 32 in	silty clay	slow	1.98 to 4.19 in	5.1 to 7.3
BCg --	32 to 45 in	silty clay	slow	1.17 to 2.47 in	5.6 to 7.8
Cg --	45 to 80 in	silty clay	slow	3.15 to 6.66 in	7.4 to 8.4

F40B--Rollins cobbly sandy loam, 2 to 8 percent slopes

Rollins

Extent: 70 to 90 percent of the unit
Landform(s): kames, outwash plains
Slope gradient: 2 to 8 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
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 5 in	cobbly sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

F40D--Rollins cobbly sandy loam, 8 to 18 percent slopes

Rollins

Extent: 70 to 90 percent of the unit
Landform(s): kames, outwash plains
Slope gradient: 8 to 18 percent
Parent material: loamy material over gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
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 5 in	cobbly sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

F41B--Wurtsmith-Friendship complex, MLRA 93, 1 to 4 percent slopes

Wurtsmith

Extent: 30 to 60 percent of the unit
Landform(s): outwash plains
Slope gradient: 1 to 4 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*
A -- 0 to 3 in	loamy sand	rapid	0.31 to 0.38 in	4.5 to 6.0
Bw -- 3 to 18 in	sand	rapid	0.45 to 1.65 in	4.5 to 6.0
BC -- 18 to 33 in	sand	rapid	0.30 to 1.05 in	4.5 to 6.0
C -- 33 to 80 in	sand	rapid	0.94 to 3.28 in	5.1 to 6.5

Friendship

Extent: 30 to 55 percent of the unit
Landform(s): outwash plains
Slope gradient: 1 to 4 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) .10
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 6.0
Bw1 -- 3 to 24 in	sand	rapid	0.63 to 2.30 in	4.5 to 6.0
Bw2 -- 24 to 40 in	sand	rapid	0.32 to 1.13 in	4.5 to 6.0
C -- 40 to 80 in	sand	rapid	0.80 to 2.78 in	5.1 to 6.5

F42A--Meehan sandy loam, 0 to 2 percent slopes

Meehan

Extent: 70 to 85 percent of the unit
Landform(s): rises on outwash plains, 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A/D
Potential for frost action: low

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 3 in	sandy loam	moderately rapid	0.31 to 0.38 in	4.5 to 6.0
Bw1 --	3 to 12 in	loamy sand	rapid	0.52 to 0.95 in	4.5 to 6.0
Bw2 --	12 to 47 in	sand	rapid	0.70 to 3.15 in	4.5 to 6.0
C --	47 to 80 in	coarse sand	very rapid	0.66 to 2.31 in	5.1 to 6.5

F43A--Roscommon muck, depressional, MLRA 93, 0 to 1 percent slopes

Roscommon, depressional

Extent: 70 to 85 percent of the unit
Landform(s): depressions on outwash plains, drainageways on outwash plains
Slope gradient: 0 to 1 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 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: moderate

Representative soil profile:

		Texture	*Permeability*	*Available water capacity*	*pH*
Oa --	0 to 3 in	muck	moderately rapid	1.10 to 1.42 in	4.5 to 6.0
Eg --	3 to 8 in	sand	rapid	0.14 to 0.52 in	4.5 to 6.0
Bg --	8 to 33 in	sand	rapid	0.50 to 2.52 in	4.5 to 6.0
Cg --	33 to 80 in	sand	very rapid	0.94 to 3.28 in	5.1 to 6.5

F44D--Soudan-Eveleth complex, 8 to 18 percent slopes, bouldery

Soudan, bouldery

Extent: 40 to 65 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 18 percent
Parent material: sandy outwash and/or eloian material over dense till
Restrictive feature(s): densic 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) .17
Land capability, nonirrigated: 6s
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	moderately rapid	0.44 to 0.57 in	4.5 to 6.0
Bw1 -- 3 to 17 in	sandy loam	moderately rapid	1.38 to 2.34 in	4.5 to 6.0
Bw2 -- 17 to 36 in	loamy sand	rapid	0.94 to 1.89 in	4.5 to 6.0
2BC -- 36 to 57 in	very cobbly sandy loam	moderately slow	0.85 to 1.91 in	5.1 to 6.5
2Cd -- 57 to 80 in	very cobbly sandy loam	slow	0.46 to 1.14 in	5.1 to 6.5

Eveleth, bouldery

Extent: 20 to 40 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 18 percent
Parent material: loamy material over dense till
Restrictive feature(s): densic material at 35 to 55 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 -- 4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC -- 23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd -- 43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

F101A--Bugcreek extremely stony sandy loam, 0 to 1 percent slopes, rubbly

Bugcreek, rubbly

Extent: 85 to 95 percent of the unit
Landform(s): drainageways on interdrumlins, rims on bogs, rims on swamps
Slope gradient: 0 to 1 percent
Parent material: loamy material over dense loamy till
Restrictive feature(s): densic 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): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 8s
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 6 in	extremely stony sandy loam	moderately rapid	0.65 to 1.12 in	4.5 to 6.0
Bw1,Bw2 -- 6 to 20 in	extremely stony sandy loam	moderately rapid	1.42 to 2.41 in	4.5 to 6.0
Bw3,Bw4,Bw5 -- 20 to 58 in	stony fine sandy loam	moderately rapid	3.40 to 6.43 in	4.5 to 6.0
2BCd,2Cd -- 58 to 80 in	gravelly sandy loam	very slow	0.88 to 1.32 in	5.1 to 6.5

F106B--Toimi-Nevens-Brimson complex, 0 to 8 percent slopes, very stony

Toimi, very stony

Extent: 25 to 50 percent of the unit
Landform(s): moraines
Slope gradient: 3 to 8 percent
Parent material: loamy material over dense till
Restrictive feature(s): densic material at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	stony loam	moderate	0.43 to 0.79 in	4.5 to 6.0
Bw -- 4 to 35 in	stony fine sandy loam	moderately rapid	2.80 to 5.60 in	4.6 to 6.0
2BCd,2Cd -- 35 to 80 in	gravelly sandy loam	very slow	1.80 to 2.69 in	5.1 to 6.5

Nevens, very stony

Extent: 20 to 40 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 2 percent
Parent material: loamy material over dense loamy till
Restrictive feature(s): densic material at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	stony loam	moderate	0.56 to 1.02 in	4.5 to 6.0
Bw -- 5 to 37 in	stony fine sandy loam	moderately rapid	2.87 to 5.74 in	4.5 to 6.0
2BCd,2Cd -- 37 to 80 in	gravelly sandy loam	very slow	1.72 to 2.57 in	5.1 to 6.5

F106B--Toimi-Nevens-Brimson complex, 0 to 8 percent slopes, very stony

Brimson, very stony

Extent: 15 to 50 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 5 percent
Parent material: loamy material over dense till
Restrictive feature(s): densic material at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	stony fine sandy loam	moderately rapid	0.56 to 1.02 in	4.5 to 6.0
Bw -- 5 to 35 in	stony fine sandy loam	moderately rapid	2.69 to 5.39 in	4.5 to 6.0
2BCd,2Cd -- 35 to 80 in	gravelly sandy loam	very slow	1.80 to 2.69 in	5.1 to 6.5

F107D--Toimi-Nevens complex, 0 to 18 percent slopes, very stony

Toimi, very stony

Extent: 40 to 65 percent of the unit
Landform(s): moraines
Slope gradient: 8 to 18 percent
Parent material: loamy material over dense till
Restrictive feature(s): densic material at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	stony loam	moderate	0.43 to 0.79 in	4.5 to 6.0
Bw -- 4 to 35 in	stony fine sandy loam	moderately rapid	2.80 to 5.60 in	4.6 to 6.0
2BCd,2Cd -- 35 to 80 in	gravelly sandy loam	very slow	1.80 to 2.69 in	5.1 to 6.5

Nevens, very stony

Extent: 15 to 35 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 2 percent
Parent material: loamy material over dense loamy till
Restrictive feature(s): densic material at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	stony loam	moderate	0.56 to 1.02 in	4.5 to 6.0
Bw -- 5 to 37 in	stony fine sandy loam	moderately rapid	2.87 to 5.74 in	4.5 to 6.0
2BCd,2Cd -- 37 to 80 in	gravelly sandy loam	very slow	1.72 to 2.57 in	5.1 to 6.5

F108B--Brimson, very stony-Bugcreek, rubbly, complex, 0 to 5 percent slopes

Brimson, very stony

Extent: 30 to 60 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 5 percent
Parent material: loamy material over dense till
Restrictive feature(s): densic material at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: B/D
Potential for frost action: moderate

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 5 in	stony fine sandy loam	moderately rapid	0.56 to 1.02 in	4.5 to 6.0
Bw --	5 to 35 in	stony fine sandy loam	moderately rapid	2.69 to 5.39 in	4.5 to 6.0
2BCd,2Cd --	35 to 80 in	gravelly sandy loam	very slow	1.80 to 2.69 in	5.1 to 6.5

Bugcreek, rubbly

Extent: 20 to 40 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: loamy material over dense till
Restrictive feature(s): densic 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): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .02
Land capability, nonirrigated: 8s
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 6 in	extremely stony sandy loam	moderately rapid	0.65 to 1.12 in	4.5 to 6.0
Bw1,Bw2 --	6 to 20 in	extremely stony sandy loam	moderately rapid	1.42 to 2.41 in	4.5 to 6.0
Bw3,Bw4,Bw5 --	20 to 58 in	stony fine sandy loam	moderately rapid	3.40 to 6.43 in	4.5 to 6.0
2BCd,2Cd --	58 to 80 in	gravelly sandy loam	very slow	0.88 to 1.32 in	5.1 to 6.5

F116A--Mooselake muck, 0 to 1 percent slopes

Mooselake

Extent: 60 to 85 percent of the unit

Landform(s): swamps on end moraines, swamps on outwash plains, swamps on till plains

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): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer)

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*
Oa -- 0 to 36 in	muck	moderately rapid	12.54 to 16.12 in	
Oe -- 36 to 80 in	mucky peat	rapid	19.84 to 24.25 in	

F129A--Tacoosh mucky peat, 0 to 1 percent slopes

Tacoosh

Extent: 60 to 90 percent of the unit

Landform(s): swamps on end moraines, swamps on outwash plains, swamps on till plains

Slope gradient: 0 to 1 percent

Parent material: organic material over glaciofluvial sediments

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .02

Land capability, nonirrigated: 7w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oe1 -- 0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 -- 12 to 32 in	mucky peat	rapid	9.04 to 11.04 in	
Oa -- 32 to 36 in	muck	moderately rapid	1.38 to 1.77 in	
2Cg -- 36 to 80 in	stratified loamy fine sand to loam	moderate	5.73 to 8.38 in	5.1 to 6.5

F164B--Beargrease-Biwabik-Rollins complex, 2 to 8 percent slopes, very stony

Beargrease, very stony

Extent: 35 to 60 percent of the unit
Landform(s): end moraines
Slope gradient: 2 to 8 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .10
Land capability, nonirrigated: 6s
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	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 -- 2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 -- 14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC -- 22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C -- 46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

Rollins, very stony

Extent: 15 to 35 percent of the unit
Landform(s): end moraines
Slope gradient: 2 to 8 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
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 5 in	cobbly sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

F164B--Beargrease-Biwabik-Rollins complex, 2 to 8 percent slopes, very stony

Biwabik, very stony

Extent: 15 to 35 percent of the unit
Landform(s): end moraines
Slope gradient: 2 to 8 percent
Parent material: 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): 3
Wind erodibility index (WEI): 86
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 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and B -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

F164E--Beargrease-Biwabik-Rollins complex, 8 to 35 percent slopes, very stony

Beargrease, very stony

Extent: 35 to 60 percent of the unit
Landform(s): end moraines
Slope gradient: 8 to 35 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 7
Wind erodibility index (WEI): 38
Kw factor (surface layer) .10
Land capability, nonirrigated: 6e
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	very stony loam	moderate	0.22 to 0.31 in	4.5 to 6.0
Bw1 -- 2 to 14 in	very stony sandy loam	moderately rapid	0.73 to 1.59 in	4.5 to 6.0
2Bw2 -- 14 to 22 in	extremely stony loamy coarse sand	rapid	0.08 to 0.39 in	4.5 to 6.0
2BC -- 22 to 46 in	extremely gravelly coarse sand	very rapid	0.24 to 0.96 in	4.5 to 6.5
2C -- 46 to 80 in	extremely cobbly coarse sand	very rapid	0.34 to 1.35 in	5.1 to 6.5

Rollins, very stony

Extent: 15 to 35 percent of the unit
Landform(s): end moraines
Slope gradient: 8 to 35 percent
Parent material: loamy material over sandy-skeletal outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .15
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 5 in	cobbly sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

F164E--Beargrease-Biwabik-Rollins complex, 8 to 35 percent slopes, very stony

Biwabik, very stony

Extent: 15 to 35 percent of the unit
Landform(s): end moraines
Slope gradient: 8 to 35 percent
Parent material: 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .15
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	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and B -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

F165C--Insula, very bouldery-Rock outcrop-Wahlsten, very bouldery, complex, 2 to 12 percent slopes

Rock outcrop

Extent: 20 to 35 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 12 percent
Parent material:
Restrictive feature(s): lithic bedrock at 0 to 0 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: 8s
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

Representative soil profile:

Texture	Permeability	Available water capacity	pH

Insula, very bouldery

Extent: 20 to 35 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 12 percent
Parent material: loamy drift over bedrock
Restrictive feature(s): lithic bedrock at 10 to 20 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:

		Texture	Permeability	Available water capacity	pH
A --	0 to 3 in	gravelly sandy loam	moderately rapid	0.28 to 0.44 in	4.5 to 6.0
Bw1 --	3 to 11 in	gravelly sandy loam	moderately rapid	0.63 to 1.26 in	4.5 to 6.0
Bw2 --	11 to 17 in	gravelly fine sandy loam	moderately rapid	0.41 to 0.89 in	5.1 to 6.5
R --	17 to 80 in	bedrock	very slow		

F165C--Insula, very bouldery-Rock outcrop-Wahlsten, very bouldery, complex, 2 to 12 percent slopes

Wahlsten, very bouldery

Extent: 15 to 30 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 8 percent
Parent material: loamy drift over dense gravelly lodgment till over bedrock
Restrictive feature(s): densic material at 15 to 35 inches
lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 9 in	stony loam	moderate	0.59 to 1.06 in	4.5 to 6.0
Bw2 -- 9 to 17 in	gravelly loam	moderate	0.63 to 1.26 in	5.1 to 6.5
2Cd -- 17 to 37 in	very gravelly sandy loam	slow	0.60 to 1.41 in	5.1 to 6.5
R -- 37 to 80 in	bedrock	very slow		

F166A--Aquepts, rubbly-Tacoosh-Rifle complex, 0 to 2 percent slopes

Aquepts, rubbly, depressional

Extent: 30 to 50 percent of the unit
Landform(s): drainageways on moraines
Slope gradient: 0 to 2 percent
Parent material: glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer) .05
Land capability, nonirrigated: 8s
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	extremely stony sandy loam	moderate	0.16 to 0.31 in	4.5 to 6.0
Bg -- 4 to 40 in	very stony loam	moderate	1.45 to 4.71 in	4.5 to 6.0
Cg -- 40 to 80 in	cobbly sandy loam	moderately slow	2.78 to 6.36 in	5.1 to 6.5

Tacoosh, depressional

Extent: 15 to 30 percent of the unit
Landform(s): drainageways on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over glaciofluvial sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer)
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*
Oe1 -- 0 to 7 in	mucky peat	rapid	3.19 to 3.90 in	
Oe2 -- 7 to 30 in	mucky peat	rapid	10.28 to 12.56 in	
Oa -- 30 to 40 in	muck	moderately rapid	3.58 to 4.61 in	
2Bg -- 40 to 56 in	very stony loam	moderate	0.63 to 2.05 in	5.1 to 6.5
2Cg -- 56 to 80 in	cobbly sandy loam	moderately slow	1.68 to 3.84 in	5.1 to 6.5

F166A--Aquepts, rubbly-Tacoosh-Rifle complex, 0 to 2 percent slopes

Rifle

Extent: 15 to 30 percent of the unit
Landform(s): drainageways on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer)
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*
Oe1 --	0 to 12 in	mucky peat	rapid	5.31 to 6.50 in	
Oe2 --	12 to 42 in	mucky peat	rapid	13.64 to 16.67 in	
Oa --	42 to 52 in	muck	moderately rapid	3.44 to 4.43 in	
Oe3 --	52 to 80 in	mucky peat	rapid	12.58 to 15.37 in	

F167B--Wahlsten, bouldery-Insula, bouldery-Rock outcrop complex, 1 to 10 percent slopes

Wahlsten, bouldery

Extent: 25 to 45 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 8 percent
Parent material: loamy drift over dense gravelly lodgment till over bedrock
Restrictive feature(s): densic material at 15 to 35 inches lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 9 in	stony loam	moderate	0.59 to 1.06 in	4.5 to 6.0
Bw2 -- 9 to 17 in	gravelly loam	moderate	0.63 to 1.26 in	5.1 to 6.5
2Cd -- 17 to 37 in	very gravelly sandy loam	slow	0.60 to 1.41 in	5.1 to 6.5
R -- 37 to 80 in	bedrock	very slow		

Insula, bouldery

Extent: 15 to 30 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 10 percent
Parent material: loamy drift over bedrock
Restrictive feature(s): lithic bedrock at 10 to 20 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	gravelly sandy loam	moderately rapid	0.28 to 0.44 in	4.5 to 6.0
Bw1 -- 3 to 11 in	gravelly sandy loam	moderately rapid	0.63 to 1.26 in	4.5 to 6.0
Bw2 -- 11 to 17 in	gravelly fine sandy loam	moderately rapid	0.41 to 0.89 in	5.1 to 6.5
R -- 17 to 80 in	bedrock	very slow		

F167B--Wahlsten, bouldery-Insula, bouldery-Rock outcrop complex, 1 to 10 percent slopes

Rock outcrop

Extent: 15 to 30 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 8 percent
Parent material:
Restrictive feature(s): lithic bedrock at 0 to 0 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: 8s
Hydric soil: unranked
Hydrologic group:
Potential for frost action:

Representative soil profile:

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

F168A--Foglake-Hassman, depressional, complex, MLRA 93A, 0 to 2 percent slopes

Foglake

Extent: 35 to 60 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 2 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .43
Land capability, nonirrigated: 4w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 8 in	silt loam	moderate	1.73 to 1.89 in	5.1 to 6.5
Eg -- 8 to 16 in	silt loam	moderate	1.41 to 1.82 in	5.1 to 7.3
Btg,BCg -- 16 to 47 in	silty clay loam	slow	2.76 to 5.83 in	5.1 to 7.3
Cg -- 47 to 80 in	silty clay loam	moderately slow	5.95 to 7.28 in	7.4 to 8.4

Hassman, depressional

Extent: 25 to 50 percent of the unit
Landform(s): depressions
Slope gradient: 0 to 1 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .28
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*
A -- 0 to 10 in	silty clay loam	moderately slow	2.07 to 2.26 in	5.1 to 6.5
Bg -- 10 to 32 in	silty clay	slow	1.98 to 4.19 in	5.1 to 7.3
BCg -- 32 to 45 in	silty clay	slow	1.17 to 2.47 in	5.6 to 7.8
Cg -- 45 to 80 in	silty clay	slow	3.15 to 6.66 in	7.4 to 8.4

F169B--Longsiding-Grasston complex, 1 to 6 percent slopes

Longsiding

Extent: 35 to 55 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 4 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .43
Land capability, nonirrigated: 3w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.1 to 6.5
B/E -- 9 to 12 in	silty clay loam	moderately slow	0.30 to 0.55 in	5.1 to 7.3
Bt1,Bt3 -- 12 to 35 in	silty clay	slow	2.09 to 4.41 in	5.1 to 7.3
Bk,C -- 35 to 80 in	silty clay loam	moderately slow	8.08 to 9.87 in	7.4 to 8.4

Grasston

Extent: 10 to 35 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 6 percent
Parent material: 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .37
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Ap -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.1 to 6.5
B/E -- 9 to 14 in	silty clay loam	moderately slow	0.56 to 1.02 in	5.1 to 7.3
Bt1,Bt2 -- 14 to 42 in	silty clay	slow	2.52 to 5.31 in	5.1 to 7.3
Bk,C -- 42 to 80 in	silty clay loam	moderately slow	6.80 to 8.31 in	7.4 to 8.4

F172B--Westoo-Barber-Vasso complex, MLRA 93A, 0 to 6 percent slopes

Westoo

Extent: 20 to 40 percent of the unit
Landform(s): lake plains
Slope gradient: 1 to 6 percent
Parent material: eolian 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): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .20
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	loamy fine sand	rapid	0.51 to 0.67 in	4.5 to 6.0
Bw1 -- 5 to 17 in	loamy fine sand	rapid	1.06 to 1.89 in	4.5 to 6.5
Bw2 -- 17 to 44 in	loamy fine sand	rapid	1.63 to 2.72 in	5.1 to 6.5
C -- 44 to 74 in	fine sand	rapid	1.80 to 2.99 in	5.1 to 6.5
Cg -- 74 to 80 in	fine sand	rapid	0.35 to 0.59 in	5.1 to 6.5

Barber

Extent: 20 to 40 percent of the unit
Landform(s): lake plains
Slope gradient: 0 to 4 percent
Parent material: eolian deposits and/or 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): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 3w
Hydric soil: no
Hydrologic group: A/D
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	fine sandy loam	moderately rapid	0.82 to 0.92 in	4.5 to 6.0
E -- 5 to 8 in	fine sandy loam	moderately rapid	0.28 to 0.47 in	4.5 to 6.0
Bw1 -- 8 to 19 in	loamy fine sand	rapid	1.10 to 1.76 in	4.5 to 6.5
Bw2 -- 19 to 27 in	loamy fine sand	rapid	0.50 to 0.83 in	5.1 to 6.5
Bg -- 27 to 53 in	fine sand	rapid	1.56 to 2.60 in	5.1 to 6.5
C -- 53 to 80 in	fine sand	rapid	1.61 to 2.68 in	5.1 to 6.5

F172B--Westoo-Barber-Vasso complex, MLRA 93A, 0 to 6 percent slopes

Vasso

Extent: 15 to 25 percent of the unit
Landform(s): lake plains
Slope gradient: 0 to 3 percent
Parent material: sandy eolian or glaciolacustrine material and underlying loamy glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	fine sandy loam	moderately rapid	0.63 to 0.75 in	4.5 to 6.0
E -- 4 to 6 in	fine sandy loam	moderately rapid	0.18 to 0.33 in	4.5 to 6.0
Bw1 -- 6 to 18 in	loamy fine sand	rapid	0.37 to 1.22 in	4.5 to 6.5
Bw2 -- 18 to 38 in	fine sand	rapid	0.60 to 2.01 in	5.1 to 6.5
2Bg -- 38 to 50 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	1.30 to 1.89 in	5.1 to 6.5
2Cg -- 50 to 80 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	3.29 to 4.79 in	5.6 to 6.5

F173A--Wabuse-Vasso complex, MLRA 93A, 0 to 3 percent slopes

Wabuse

Extent: 30 to 50 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 2 percent

Parent material: sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .17

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 9 in	sandy loam	moderately rapid	1.18 to 1.36 in	4.5 to 6.0
Bg1 --	9 to 16 in	loamy fine sand	rapid	0.28 to 0.78 in	4.5 to 6.0
Bg2 --	16 to 27 in	loamy sand	rapid	0.44 to 1.21 in	5.1 to 6.5
Bg3 --	27 to 32 in	loamy coarse sand	rapid	0.19 to 0.52 in	5.1 to 6.5
2Bg4 --	32 to 54 in	silt loam	moderate	3.75 to 4.85 in	5.6 to 6.5
2Cg --	54 to 80 in	silt loam	moderate	4.42 to 5.20 in	5.1 to 6.5

F173A--Wabuse-Vasso complex, MLRA 93A, 0 to 3 percent slopes

Vasso

Extent: 20 to 40 percent of the unit
Landform(s): rises on lake plains
Slope gradient: 1 to 3 percent
Parent material: sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

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

Representative soil profile:

		Texture	*Permeability*	*Available water capacity*	*pH*
A --	0 to 4 in	fine sandy loam	moderately rapid	0.63 to 0.75 in	4.5 to 6.0
E --	4 to 6 in	fine sandy loam	moderately rapid	0.18 to 0.33 in	4.5 to 6.0
Bw1 --	6 to 18 in	loamy fine sand	rapid	0.37 to 1.22 in	4.5 to 6.5
Bw2 --	18 to 38 in	fine sand	rapid	0.60 to 2.01 in	5.1 to 6.5
2Bg --	38 to 50 in	silt loam	moderate	2.01 to 2.60 in	5.6 to 6.5
2Cg --	50 to 80 in	silt loam	moderate	5.09 to 5.98 in	5.1 to 6.5

F174B--Keenan-Vasso complex, 0 to 4 percent slopes

Vasso

Extent: 35 to 55 percent of the unit
Landform(s): rises on lake plains
Slope gradient: 0 to 3 percent
Parent material: sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: A/D
Potential for frost action: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 4 in	fine sandy loam	moderately rapid	0.63 to 0.75 in	4.5 to 6.0
E -- 4 to 6 in	fine sandy loam	moderately rapid	0.18 to 0.33 in	4.5 to 6.0
Bw1 -- 6 to 18 in	loamy fine sand	rapid	0.37 to 1.22 in	4.5 to 6.5
Bw2 -- 18 to 38 in	fine sand	rapid	0.60 to 2.01 in	5.1 to 6.5
2Bg -- 38 to 50 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	1.30 to 1.89 in	5.1 to 6.5
2Cg -- 50 to 80 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	3.29 to 4.79 in	5.6 to 6.5

F174B--Keenan-Vasso complex, 0 to 4 percent slopes

Keenan

Extent: 35 to 55 percent of the unit
Landform(s): rises on lake plains
Slope gradient: 1 to 4 percent
Parent material: sandy eolian, glaciolacustrine or outwash material and underlying loamy glaciolacustrine sediments
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 2s
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	fine sandy loam	moderately rapid	0.63 to 0.71 in	4.5 to 6.0
Bw1 -- 4 to 12 in	loamy fine sand	rapid	0.31 to 0.87 in	4.5 to 6.5
Bw2 -- 12 to 32 in	fine sand	rapid	0.60 to 2.01 in	5.1 to 6.5
2Bw3 -- 32 to 54 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	2.43 to 3.53 in	5.1 to 6.5
2C -- 54 to 80 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	2.86 to 4.16 in	5.6 to 6.5

F176A--Sago muck, depressional, 0 to 1 percent slopes

Sago, depressional

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

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer)
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 5.85 in	
A --	13 to 15 in	fine sandy loam	moderately rapid	0.22 to 0.41 in	4.5 to 6.0
Bg --	15 to 41 in	stratified loamy fine sand to loamy very fine sand to fine sandy loam to very fine sandy loam to silt loam	moderately rapid	3.38 to 4.94 in	5.1 to 6.5
Cg --	41 to 80 in	stratified loamy fine sand to silt loam	moderately rapid	5.07 to 7.41 in	5.6 to 7.3

F177C--Eveleth-Eaglesnest complex, 2 to 20 percent slopes, very bouldery

Eveleth, very bouldery

Extent: 45 to 70 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 20 percent
Parent material: loamy material over dense till
Restrictive feature(s): densic material at 35 to 55 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.51 to 0.75 in	4.5 to 6.0
Bw1 -- 4 to 13 in	stony loam	moderate	0.72 to 1.45 in	4.5 to 6.0
Bw2 -- 13 to 23 in	cobbly loam	moderate	0.69 to 1.57 in	5.1 to 6.5
2BC -- 23 to 43 in	very gravelly sandy loam	moderately slow	0.80 to 1.81 in	5.1 to 6.5
2Cd -- 43 to 80 in	very gravelly sandy loam	slow	0.74 to 1.85 in	5.1 to 6.5

Eaglesnest, very bouldery

Extent: 15 to 40 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 8 percent
Parent material: loamy material over dense till
Restrictive feature(s): densic 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): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .15
Land capability, nonirrigated: 6s
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	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 -- 3 to 6 in	stony loam	moderate	0.22 to 0.44 in	4.5 to 6.0
Bw2 -- 6 to 20 in	stony sandy loam	moderate	0.99 to 2.13 in	5.1 to 6.5
Bw3 -- 20 to 28 in	very stony sandy loam	moderate	0.47 to 1.02 in	5.1 to 6.5
2BC -- 28 to 41 in	very cobbly sandy loam	moderately slow	0.52 to 1.17 in	5.1 to 6.5
2Cd -- 41 to 80 in	very cobbly sandy loam	slow	0.78 to 1.95 in	5.1 to 6.5

F177C--Eveleth-Eaglesnest complex, 2 to 20 percent slopes, very bouldery

F178C--Urban land-Wahlsten-Biwabik complex, 0 to 15 percent slopes

Urban land

Extent: 50 to 70 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 8 percent
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

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

Representative soil profile:

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

Wahlsten, bouldery

Extent: 15 to 30 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 8 percent
Parent material: loamy material over dense till
Restrictive feature(s): densic material at 15 to 35 inches
lithic bedrock at 20 to 40 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: D
Potential for frost action: moderate

Representative soil profile:

		Texture	*Permeability*	*Available water capacity*	*pH*
A --	0 to 3 in	stony loam	moderate	0.41 to 0.60 in	4.5 to 6.0
Bw1 --	3 to 9 in	stony loam	moderate	0.59 to 1.06 in	4.5 to 6.0
Bw2 --	9 to 17 in	gravelly loam	moderate	0.63 to 1.26 in	5.1 to 6.5
2Cd --	17 to 37 in	very gravelly sandy loam	slow	0.60 to 1.41 in	5.1 to 6.5
R --	37 to 80 in	bedrock	impermeable		

F178C--Urban land-Wahlsten-Biwabik complex, 0 to 15 percent slopes

Biwabik

Extent: 15 to 30 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 15 percent
Parent material: 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): 3
Wind erodibility index (WEI): 86
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 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and B -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

F179B--Urban land-Biwabik-Slimlake complex, 0 to 6 percent slopes

Urban land

Extent: 50 to 70 percent of the unit
Landform(s): knolls on till plains, flats on till plains
Slope gradient: 0 to 6 percent
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

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

Representative soil profile:

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

Slimlake

Extent: 15 to 25 percent of the unit
Landform(s): outwash plains
Slope gradient: 0 to 6 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): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .17
Land capability, nonirrigated: 3s
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	sandy loam	moderately rapid	0.51 to 0.59 in	4.5 to 6.0
Bw1 --	4 to 16 in	sandy loam	moderately rapid	1.10 to 2.07 in	4.5 to 6.0
Bw2 --	16 to 44 in	sand	rapid	0.56 to 2.52 in	4.5 to 6.0
C --	44 to 80 in	coarse sand	very rapid	0.72 to 2.51 in	5.1 to 6.5

F179B--Urban land-Biwabik-Slimlake complex, 0 to 6 percent slopes

Biwabik

Extent: 15 to 25 percent of the unit
Landform(s): outwash plains
Slope gradient: 0 to 4 percent
Parent material: 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): 3
Wind erodibility index (WEI): 86
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 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and B -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

F180A--Aquic Dystrudepts, 0 to 2 percent slopes

Aquic Dystrudepts

Extent: 70 to 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): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .17
Land capability, nonirrigated: 3w
Hydric soil: no
Hydrologic group: A/D
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	sandy loam	moderately rapid	0.41 to 0.47 in	4.5 to 6.0
Bw1 -- 3 to 12 in	sandy loam	moderately rapid	0.78 to 1.47 in	4.5 to 6.0
Bw2 -- 12 to 47 in	sand	rapid	0.70 to 3.15 in	4.5 to 6.0
C -- 47 to 80 in	coarse sand	very rapid	0.66 to 2.31 in	5.1 to 6.5

F181A--Aquepts-Humaquepts, depressional, complex, 0 to 1 percent slopes

Humaquepts, depressional

Extent: 35 to 55 percent of the unit
Landform(s): depressions on outwash plains, drainageways on outwash plains
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: moderate

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
Oa -- 0 to 9 in	muck	moderately rapid	3.17 to 4.07 in	4.5 to 6.0
A -- 9 to 12 in	sandy loam	moderately rapid	0.36 to 0.41 in	4.5 to 6.0
Bg -- 12 to 40 in	sand	rapid	0.57 to 2.83 in	4.5 to 6.0
Cg -- 40 to 80 in	sand	very rapid	0.80 to 2.78 in	5.1 to 6.5

Aquepts

Extent: 35 to 55 percent of the unit
Landform(s): flats on outwash plains
Slope gradient: 0 to 1 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
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*
A -- 0 to 4 in	sandy loam	moderately rapid	0.51 to 0.59 in	4.5 to 6.0
Bg -- 4 to 18 in	sandy loam	moderately rapid	1.28 to 2.41 in	4.5 to 6.0
Cg1 -- 18 to 48 in	sand	rapid	0.60 to 2.69 in	4.5 to 6.0
Cg2 -- 48 to 80 in	coarse sand	very rapid	0.64 to 2.23 in	5.1 to 6.5

F182B--Cromwell-Slimlake complex, 0 to 4 percent slopes

Cromwell

Extent: 40 to 65 percent of the unit
Landform(s): rises on outwash plains
Slope gradient: 0 to 4 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): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .17
Land capability, nonirrigated: 3s
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	sandy loam	moderately rapid	0.51 to 0.59 in	4.5 to 6.0
Bw1 -- 4 to 16 in	sandy loam	moderately rapid	1.10 to 2.07 in	4.5 to 6.0
Bw2 -- 16 to 44 in	sand	rapid	0.56 to 2.52 in	4.5 to 6.0
C -- 44 to 80 in	coarse sand	very rapid	0.72 to 2.51 in	5.1 to 6.5

Slimlake

Extent: 25 to 45 percent of the unit
Landform(s): flats on outwash plains
Slope gradient: 0 to 4 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): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .17
Land capability, nonirrigated: 3s
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	sandy loam	moderately rapid	0.51 to 0.59 in	4.5 to 6.0
Bw1 -- 4 to 16 in	sandy loam	moderately rapid	1.10 to 2.07 in	4.5 to 6.0
Bw2 -- 16 to 44 in	sand	rapid	0.56 to 2.52 in	4.5 to 6.0
C -- 44 to 80 in	coarse sand	very rapid	0.72 to 2.51 in	5.1 to 6.5

F183B--Cromwell-Biwabik complex, 0 to 4 percent slopes

Cromwell

Extent: 45 to 65 percent of the unit
Landform(s): flats on outwash plains, rises on outwash plains
Slope gradient: 0 to 4 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): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .17
Land capability, nonirrigated: 3s
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	sandy loam	moderately rapid	0.51 to 0.59 in	4.5 to 6.0
Bw1 -- 4 to 16 in	sandy loam	moderately rapid	1.10 to 2.07 in	4.5 to 6.0
Bw2 -- 16 to 44 in	sand	rapid	0.56 to 2.52 in	4.5 to 6.0
C -- 44 to 80 in	coarse sand	very rapid	0.72 to 2.51 in	5.1 to 6.5

Biwabik

Extent: 30 to 50 percent of the unit
Landform(s): flats on outwash plains, rises on outwash plains
Slope gradient: 0 to 4 percent
Parent material: 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): 3
Wind erodibility index (WEI): 86
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 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and B -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

F184B--Biwabik-Rollins complex, 1 to 6 percent slopes

Biwabik

Extent: 45 to 65 percent of the unit
Landform(s): outwash plains
Slope gradient: 1 to 6 percent
Parent material: gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .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 2 in	sandy loam	moderately rapid	0.24 to 0.30 in	4.5 to 6.0
Bw -- 2 to 9 in	gravelly sandy loam	moderately rapid	0.64 to 0.92 in	4.5 to 6.0
E -- 9 to 32 in	gravelly loamy sand	rapid	0.69 to 1.60 in	4.5 to 6.0
E and B -- 32 to 64 in	gravelly loamy sand	rapid	0.97 to 1.94 in	5.1 to 6.0
C -- 64 to 80 in	gravelly coarse sand	very rapid	0.31 to 0.94 in	5.1 to 6.5

Rollins

Extent: 15 to 40 percent of the unit
Landform(s): outwash plains
Slope gradient: 1 to 6 percent
Parent material: very gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 5 in	sandy loam	moderately rapid	0.51 to 0.72 in	4.5 to 6.0
Bw -- 5 to 14 in	gravelly sandy loam	moderately rapid	0.81 to 1.45 in	4.5 to 6.0
2BC -- 14 to 25 in	very gravelly sand	rapid	0.22 to 0.55 in	4.5 to 6.0
2C -- 25 to 80 in	very gravelly coarse sand	very rapid	0.55 to 2.74 in	5.1 to 6.5

F185B--Lamellic Dystrudepts, 1 to 8 percent slopes

Lamellic Dystrudepts

Extent: 70 to 90 percent of the unit
Landform(s): dunes
Slope gradient: 1 to 8 percent
Parent material: eolian material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

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

Representative soil profile:	*Texture*	*Permeability*	*Available water capacity*	*pH*
A -- 0 to 3 in	fine sandy loam	moderately rapid	0.50 to 0.57 in	4.5 to 6.0
Bw1 -- 3 to 15 in	fine sandy loam	moderately rapid	1.42 to 2.36 in	4.5 to 6.5
Bw2 -- 15 to 35 in	fine sand	rapid	1.20 to 2.01 in	5.1 to 6.5
E and Bt -- 35 to 80 in	fine sand	rapid	2.69 to 4.49 in	5.1 to 6.5

F186C--Dystrudepts-Udipsamments complex, 2 to 12 percent slopes

Dystrudepts

Extent: 30 to 55 percent of the unit
Landform(s): moraines, outwash plains
Slope gradient: 2 to 12 percent
Parent material: eolian sand over very cobbly outwash or ablation till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

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

Representative soil profile:		*Texture*	*Permeability*	*Available water capacity*	*pH*
A --	0 to 3 in	fine sandy loam	moderately rapid	0.50 to 0.57 in	4.5 to 6.0
Bw1 --	3 to 15 in	fine sandy loam	moderately rapid	1.42 to 2.36 in	4.5 to 6.5
Bw2 --	15 to 35 in	fine sand	rapid	1.20 to 2.01 in	5.1 to 6.5
E and Bt --	35 to 54 in	fine sand	rapid	1.13 to 1.89 in	5.1 to 6.5
2C --	54 to 80 in	extremely cobbly coarse sand	very rapid	0.26 to 1.04 in	5.1 to 6.5

Udipsamments

Extent: 15 to 35 percent of the unit
Landform(s): moraines, outwash plains
Slope gradient: 2 to 12 percent
Parent material: sandy outwash over very cobbly outwash or ablation till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer) .10
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 2 in	loamy sand	rapid	0.20 to 0.24 in	4.5 to 6.0
Bw --	2 to 37 in	loamy sand	rapid	2.10 to 3.85 in	4.5 to 6.0
E and Bt --	37 to 48 in	sand	rapid	0.55 to 0.99 in	5.1 to 6.0
2C --	48 to 80 in	extremely cobbly coarse sand	very rapid	0.32 to 1.28 in	5.1 to 6.5

F187A--Dora mucky peat, 0 to 1 percent slopes

Dora

Extent: 60 to 90 percent of the unit
Landform(s): swamps on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over glaciolacustrine deposits
Restrictive feature(s): densic material at 40 to 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .02
Land capability, nonirrigated: 7w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: moderate

Representative soil profile:

		Texture	*Permeability*	*Available water capacity*	*pH*
Oe --	0 to 8 in	mucky peat	rapid	3.54 to 4.33 in	
Oa --	8 to 33 in	muck	moderately rapid	8.82 to 11.34 in	
Cg --	33 to 80 in	silty clay	slow	4.22 to 8.90 in	7.4 to 8.4

GP--Pits, gravel-Udipsamments complex

Pits, gravel

Extent: 60 to 95 percent of the unit
Landform(s): borrow pits on moraines, gravel pits on outwash plains, gravel pits on stream terraces
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: unranked
Hydrologic group:
Potential for frost action:

Representative soil profile:

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

Udipsamments

Extent: 5 to 40 percent of the unit
Landform(s): moraines, outwash plains, stream terraces, -- error in exists on --
Slope gradient: 0 to 25 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class: well drained

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

Representative soil profile:

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

M-W--Water, miscellaneous

Water, miscellaneous

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

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

Representative soil profile:

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

USFS--U.S. Forest Service mapping

USFS and other lands

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)

St. Louis County, Minnesota, Embarrass Part

W--Water

Water

Extent: 100 percent of the unit
Landform(s): lakes
Slope gradient: 0 to 0 percent
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

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

Representative soil profile:

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

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.