

Map Unit Description (MN)

Marshall County, Minnesota

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

47--Colvin silty clay loam

Colvin

<i>Extent:</i> 90 percent of the unit	<i>Soil loss tolerance (T factor):</i> 5
<i>Landform(s):</i> flats on lake plains	<i>Wind erodibility group (WEG):</i> 4L
<i>Slope gradient:</i> 0 to 1 percent	<i>Wind erodibility index (WEI):</i> 86
<i>Parent material:</i> lacustrine	<i>Kw factor (surface layer)</i> .32
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated</i> 2w
<i>Flooding:</i> none	<i>Hydric soil:</i> yes
<i>Ponding:</i> occasional	<i>Hydrologic group:</i> C/D
<i>Drainage class:</i> poorly drained	<i>Potential for frost action:</i> high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	silty clay loam	moderately slow	1.81 to 1.99 in	6.6 to 8.4
Bkg1..Bkg3 -- 9 to 29 in	silty clay loam	moderately slow	3.21 to 4.02 in	7.4 to 8.4
Cg -- 29 to 60 in	silty clay loam	moderate	4.61 to 6.14 in	7.4 to 8.4

57A--Fargo silty clay, 0 to 2 percent slopes

Fargo

<i>Extent:</i> 90 percent of the unit	<i>Soil loss tolerance (T factor):</i> 5
<i>Landform(s):</i> flats on lake plains, swales on lake plains	<i>Wind erodibility group (WEG):</i> 4
<i>Slope gradient:</i> 0 to 2 percent	<i>Wind erodibility index (WEI):</i> 86
<i>Parent material:</i> lacustrine	<i>Kw factor (surface layer)</i> .15
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated</i> 2w
<i>Flooding:</i> none	<i>Hydric soil:</i> yes
<i>Ponding:</i> occasional	<i>Hydrologic group:</i> C/D
<i>Drainage class:</i> poorly drained	<i>Potential for frost action:</i> high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 11 in	silty clay	slow	1.65 to 1.98 in	6.6 to 7.8
Bssg,Bkssg -- 11 to 17 in	silty clay	slow	0.83 to 1.00 in	6.6 to 8.4
Bkg,Cg -- 17 to 60 in	silty clay	slow	6.01 to 7.30 in	7.9 to 8.4

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58--Kittson loam

Kittson

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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) .32

Land capability, nonirrigated 1

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,AB -- 0 to 11 in	loam	moderate	2.20 to 2.43 in	6.6 to 7.8
Bw -- 11 to 15 in	sandy loam	moderate	0.47 to 0.75 in	6.6 to 7.8
2B1,2Bk2 -- 15 to 33 in	loam	moderate	2.72 to 3.44 in	7.4 to 8.4
2C -- 33 to 60 in	loam	moderate	4.02 to 5.09 in	7.4 to 8.4

59--Grimstad fine sandy loam

Grimstad

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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) .24

Land capability, nonirrigated 2s

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	fine sandy loam	moderately rapid	1.38 to 1.77 in	7.4 to 8.4
Bk,C1 -- 10 to 29 in	fine sand	rapid	0.96 to 3.28 in	7.4 to 8.4
2C2 -- 29 to 60 in	loam	moderate	4.61 to 5.83 in	7.4 to 8.4

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65--Foxhome sandy loam

Foxhome

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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) .17

Land capability, nonirrigated 3s

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	sandy loam	moderately rapid	1.02 to 1.18 in	6.6 to 7.8
Bw1 -- 8 to 14 in	loamy sand	rapid	0.44 to 0.76 in	6.6 to 7.8
2Bw2,2Bw3 -- 14 to 26 in	very gravelly coarse sand	rapid	0.24 to 0.83 in	7.4 to 8.4
3BC -- 26 to 60 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4

66--Flaming loamy fine sand

Flaming

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 15 in	loamy fine sand	rapid	1.50 to 1.80 in	5.6 to 7.3
Bw..C2 -- 15 to 60 in	fine sand	rapid	2.24 to 4.49 in	5.6 to 8.4

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67A--Bearden silt loam, 0 to 2 percent slopes

Bearden

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .32

Land capability, nonirrigated 2s

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	silt loam	moderate	1.81 to 2.17 in	7.4 to 8.4
Bk1,Bk2 -- 9 to 16 in	silt loam	moderately slow	1.13 to 1.56 in	7.4 to 8.4
Bw,C -- 16 to 60 in	silt loam	moderately slow	6.99 to 9.61 in	7.4 to 8.4

67B--Bearden silt loam, 2 to 6 percent slopes

Bearden

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 2 to 6 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .32

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	silt loam	moderate	1.57 to 1.89 in	7.4 to 8.4
Bk1,Bk2 -- 8 to 14 in	silt loam	moderately slow	1.01 to 1.39 in	7.4 to 8.4
Bw,C -- 14 to 60 in	silt loam	moderately slow	7.31 to 10.05 in	7.4 to 8.4

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77--Garnes fine sandy loam

Garnes

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated 1

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E -- 0 to 10 in	fine sandy loam	moderately rapid	1.57 to 1.77 in	6.1 to 7.3
Bt -- 10 to 17 in	clay loam	moderate	1.20 to 1.42 in	6.6 to 7.8
Bk,C -- 17 to 60 in	loam	moderate	6.44 to 8.15 in	7.4 to 8.4

93A--Bearden silty clay loam, 0 to 2 percent slopes

Bearden

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated 2s

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 11 in	silty clay loam	moderately slow	1.87 to 2.54 in	7.4 to 8.4
Bk1,Bk2 -- 11 to 21 in	silty clay loam	moderately slow	1.57 to 2.17 in	7.4 to 8.4
Bw,C -- 21 to 60 in	silty clay loam	moderately slow	6.24 to 8.57 in	7.4 to 8.4

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111--Hangaard sandy loam

Hangaard

Extent: 90 percent of the unit

Landform(s): flats on beach plains, swales on beach plains

Slope gradient: 0 to 2 percent

Parent material: beach deposits

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .10

Land capability, nonirrigated 4w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	sandy loam	moderately rapid	0.79 to 1.18 in	6.6 to 7.8
Ag -- 8 to 14 in	loamy sand	rapid	0.44 to 0.69 in	6.6 to 7.8
Cg1..Cg4 -- 14 to 60 in	gravelly coarse sand	very rapid	0.91 to 1.83 in	7.4 to 8.4

116--Redby loamy fine sand

Redby

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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) .24

Land capability, nonirrigated 3w

Hydric soil: no

Hydrologic group: A/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 6 in	loamy fine sand	rapid	0.47 to 0.71 in	5.1 to 6.5
E,Bw1,Bw2 -- 6 to 36 in	fine sand	rapid	2.09 to 2.99 in	5.1 to 6.5
C -- 36 to 60 in	fine sand	rapid	1.44 to 1.92 in	6.1 to 7.8

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117--Cormant loamy fine sand

Cormant

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .17

Land capability, nonirrigated 4w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 8 in	loamy fine sand	rapid	0.63 to 0.94 in	6.1 to 7.3
Cg1..Cg4 -- 8 to 60 in	fine sand	rapid	3.12 to 5.20 in	6.1 to 7.8

145--Enstrom loamy fine sand

Enstrom

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	loamy fine sand	rapid	0.71 to 0.85 in	6.6 to 7.8
Bw1,Bw2 -- 7 to 25 in	fine sand	rapid	1.09 to 1.45 in	6.6 to 8.4
2C -- 25 to 60 in	loam	moderate	5.89 to 6.93 in	7.4 to 8.4

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148--Poppleton fine sand

Poppleton

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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): 1

Wind erodibility index (WEI): 250

Kw factor (surface layer) .10

Land capability, nonirrigated 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 6 in	fine sand	rapid	0.47 to 0.59 in	5.6 to 7.3
Bw1..C2 -- 6 to 60 in	fine sand	rapid	2.70 to 5.39 in	6.1 to 7.8

157A--Wahpeton silty clay, 0 to 2 percent slopes, occasionally flooded

Wahpeton, occasionally flooded

Extent: 90 percent of the unit

Landform(s): flats on flood plains

Slope gradient: 0 to 2 percent

Parent material: alluvium

Restrictive feature(s): greater than 60 inches

Flooding: occasional

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 2s

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,Ass,Bss -- 0 to 35 in	silty clay	moderate	4.91 to 6.31 in	6.1 to 7.8
C -- 35 to 60 in	silty clay	moderate	3.22 to 4.22 in	6.6 to 8.4

Map Unit Description (MN)

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157B--Wahpeton silty clay, 2 to 6 percent slopes, occasionally flooded

Wahpeton, occasionally flooded

<i>Extent:</i> 90 percent of the unit	<i>Soil loss tolerance (T factor):</i> 5
<i>Landform(s):</i> rises on flood plains	<i>Wind erodibility group (WEG):</i> 4
<i>Slope gradient:</i> 2 to 6 percent	<i>Wind erodibility index (WEI):</i> 86
<i>Parent material:</i> alluvium	<i>Kw factor (surface layer)</i> .20
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated</i> 2e
<i>Flooding:</i> occasional	<i>Hydric soil:</i> no
<i>Ponding:</i> none	<i>Hydrologic group:</i> C
<i>Drainage class:</i> moderately well drained	<i>Potential for frost action:</i> high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,Ass,Bss -- 0 to 22 in	silty clay	moderate	3.09 to 3.97 in	6.1 to 7.8
C -- 22 to 60 in	silty clay	moderate	4.91 to 6.43 in	6.6 to 8.4

184A--Hamerly loam, 0 to 3 percent slopes

Hamerly

<i>Extent:</i> 90 percent of the unit	<i>Soil loss tolerance (T factor):</i> 5
<i>Landform(s):</i> rises on lake plains	<i>Wind erodibility group (WEG):</i> 4L
<i>Slope gradient:</i> 0 to 3 percent	<i>Wind erodibility index (WEI):</i> 86
<i>Parent material:</i> till	<i>Kw factor (surface layer)</i> .28
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated</i> 2s
<i>Flooding:</i> none	<i>Hydric soil:</i> no
<i>Ponding:</i> none	<i>Hydrologic group:</i> B/D
<i>Drainage class:</i> somewhat poorly drained	<i>Potential for frost action:</i> high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	6.6 to 8.4
Bk1 -- 9 to 16 in	loam	moderate	1.06 to 1.35 in	7.4 to 8.4
Bk2,C -- 16 to 60 in	loam	moderate	6.56 to 8.30 in	7.4 to 8.4

Map Unit Description (MN)

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187--Haug muck

Haug

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over till

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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 10 in	muck	moderately rapid	3.44 to 4.72 in	6.6 to 7.8
A -- 10 to 18 in	loam	moderately rapid	0.99 to 1.98 in	6.6 to 8.4
Bkg1..Bg2 -- 18 to 60 in	loam	moderate	4.59 to 7.93 in	7.4 to 8.4

205--Karlstad loamy sand

Karlstad

Extent: 90 percent of the unit

Landform(s): rises on beach plains

Slope gradient: 0 to 3 percent

Parent material: beach deposits

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): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated 3s

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E1,E2 -- 0 to 12 in	loamy sand	rapid	1.18 to 1.42 in	4.5 to 7.3
Bt1 -- 12 to 16 in	sandy loam	moderately rapid	0.56 to 0.78 in	6.1 to 7.3
2Bt2 -- 16 to 19 in	gravelly sandy loam	moderately rapid	0.33 to 0.44 in	6.1 to 7.8
2C -- 19 to 60 in	stratified very gravelly coarse sand to loamy fine sand	rapid	0.82 to 1.64 in	7.4 to 8.4

Map Unit Description (MN)

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236--Vallers loam

Vallers

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .28

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loam	moderate	1.81 to 1.99 in	7.4 to 8.4
Bkg1 -- 9 to 15 in	loam	moderately slow	0.89 to 1.12 in	7.4 to 8.4
Bkg2,Cg -- 15 to 60 in	loam	moderately slow	6.73 to 8.53 in	7.4 to 8.4

242B--Marquette loamy sand, 1 to 8 percent slopes

Marquette

Extent: 90 percent of the unit

Landform(s): hillslopes on beach ridges

Slope gradient: 1 to 8 percent

Parent material: beach deposits

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 2

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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	loamy sand	rapid	0.71 to 0.99 in	5.6 to 7.3
Bt1,Bt2 -- 7 to 13 in	very gravelly sandy loam	moderately rapid	0.59 to 0.94 in	6.6 to 8.4
C1,C2 -- 13 to 60 in	stratified extremely gravelly coarse sand to fine sand	very rapid	0.94 to 1.87 in	7.4 to 8.4

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258B--Sandberg loamy sand, 1 to 6 percent slopes

Sandberg

Extent: 90 percent of the unit

Landform(s): hillslopes on beach ridges

Slope gradient: 1 to 6 percent

Parent material: beach deposits

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) .17

Land capability, nonirrigated 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 12 in	loamy sand	rapid	1.18 to 1.42 in	5.6 to 7.8
Bw..C3 -- 12 to 60 in	gravelly coarse sand	very rapid	0.96 to 2.88 in	7.4 to 8.4

280--Pelan sandy loam

Pelan

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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 3s

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 6 in	sandy loam	moderately rapid	0.59 to 0.77 in	6.1 to 7.3
Bt1,Bt2 -- 6 to 12 in	very gravelly sandy loam	rapid	0.30 to 0.65 in	6.1 to 7.8
Bw1,Bw2 -- 12 to 24 in	very gravelly coarse sand	rapid	0.24 to 1.10 in	7.4 to 8.4
2Bk -- 24 to 60 in	loam	moderate	5.02 to 6.45 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

372--Hamar loamy fine sand

Hamar

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated 4w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	loamy fine sand	rapid	0.71 to 0.92 in	6.1 to 7.8
AC -- 7 to 20 in	loamy fine sand	rapid	0.78 to 1.30 in	6.6 to 7.8
Cg1,Ab..Cg3 -- 20 to 60 in	fine sand	rapid	2.39 to 3.98 in	7.4 to 8.4

379--Percy loam, very cobbly

Percy, very cobbly

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 3s

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	loam	moderate	1.42 to 1.73 in	6.6 to 8.4
2Bg -- 8 to 13 in	gravelly fine sandy loam	moderately rapid	0.61 to 0.77 in	7.4 to 8.4
2Bkg1,@bkg2 13 to 20 in	loam	moderate	1.06 to 1.35 in	7.4 to 8.4
--				
2Cg -- 20 to 60 in	loam	moderate	4.77 to 7.56 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

383--Percy loam

Percy

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	loam	moderate	1.42 to 1.73 in	6.6 to 8.4
2Bg -- 8 to 11 in	gravelly fine sandy loam	moderately rapid	0.38 to 0.47 in	7.4 to 8.4
2Bkg1,2Bkg2 - 11 to 35 in	loam	moderate	3.60 to 4.56 in	7.4 to 8.4
-				
2Cg -- 35 to 60 in	loam	moderate	2.98 to 4.71 in	7.4 to 8.4

384--Percy mucky loam, depressional

Percy, depressional

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated 6w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 4 in	mucky loam	moderate	0.79 to 0.87 in	6.6 to 8.4
2Bg -- 4 to 18 in	loam	moderate	2.13 to 2.69 in	7.4 to 8.4
2Bkg1..2Cg -- 18 to 60 in	loam	moderate	5.01 to 7.93 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

387--Roliss loam, depressional

Roliss, depressional

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loam	moderate	1.81 to 2.26 in	6.6 to 8.4
A,Bg -- 9 to 17 in	loam	moderate	1.18 to 1.50 in	7.4 to 8.4
Bkg,BC -- 17 to 60 in	loam	moderate	6.44 to 8.15 in	7.4 to 8.4

412--Mavie fine sandy loam

Mavie

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	fine sandy loam	moderately rapid	1.57 to 1.77 in	7.4 to 8.4
Bkg -- 10 to 16 in	fine sandy loam	moderate	0.76 to 1.20 in	7.9 to 8.4
2Cg1 -- 16 to 27 in	very gravelly sand	rapid	0.32 to 0.64 in	7.4 to 8.4
3Cg2 -- 27 to 60 in	loam	moderate	4.96 to 6.28 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

418--Lamoure silty clay loam, occasionally flooded

Lamoure, occasionally flooded

Extent: 90 percent of the unit

Landform(s): flats on flood plains, swales on flood plains

Slope gradient: 0 to 2 percent

Parent material: alluvium

Restrictive feature(s): greater than 60 inches

Flooding: occasional

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .32

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A,Cg1 -- 0 to 21 in	silty clay loam	moderate	3.96 to 4.59 in	7.4 to 8.4
Cg2 -- 21 to 42 in	silty clay loam	moderate	3.61 to 4.25 in	7.4 to 8.4
Ab,2Cg -- 42 to 60 in	stratified silt loam to silty clay to silty clay loam	moderate	1.59 to 3.19 in	7.4 to 8.4

426--Foldahl loamy fine sand

Foldahl

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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 3s

Hydric soil: no

Hydrologic group: A

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 13 in	loamy fine sand	rapid	1.30 to 1.82 in	6.1 to 7.8
Bw1,Bw2 -- 13 to 33 in	sand	rapid	1.41 to 2.41 in	6.6 to 7.8
2C -- 33 to 60 in	loam	moderate	4.02 to 5.09 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

429A--Northcote clay, 0 to 2 percent slope

Northcote

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw factor (surface layer) .15

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	clay	slow	1.28 to 1.57 in	6.6 to 7.3
Bssg1,Bssg2 -- 10 to 29 in	clay	slow	1.93 to 2.70 in	6.6 to 7.8
Bssg3,Cg -- 29 to 60 in	clay	slow	3.07 to 4.30 in	7.4 to 8.4

432--Strandquist loam

Strandquist

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .28

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	loam	moderately rapid	1.97 to 2.17 in	6.6 to 8.4
2Bg1,2Bg2 -- 10 to 30 in	very gravelly sand	rapid	0.40 to 1.41 in	7.4 to 8.4
3Bg3,3Cg -- 30 to 60 in	loam	moderate	4.49 to 5.69 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

435--Syrene sandy loam

Syrene

Extent: 90 percent of the unit

Landform(s): flats on beach plains, swales on beach plains

Slope gradient: 0 to 2 percent

Parent material: beach deposits

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly 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 4w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	sandy loam	moderate	1.28 to 1.48 in	7.4 to 8.4
Bkg -- 10 to 19 in	sandy loam	moderately rapid	1.09 to 1.72 in	7.9 to 8.4
2Cg1,2Cg2 -- 19 to 60 in	stratified gravelly coarse sand to loamy fine sand	rapid	0.82 to 1.64 in	7.4 to 8.4

439--Strathcona fine sandy loam

Strathcona

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderately rapid	1.18 to 1.63 in	7.4 to 8.4
Bkg -- 9 to 15 in	loamy fine sand	moderately rapid	0.53 to 1.00 in	7.4 to 8.4
2Bg1,2Bg2 -- 15 to 32 in	fine sand	rapid	0.85 to 2.03 in	7.4 to 8.4
3Cg -- 32 to 60 in	loam	moderate	4.19 to 5.31 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

481--Kratka fine sandy loam

Kratka

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .17

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderately rapid	1.45 to 1.63 in	5.6 to 7.8
A,Bg -- 9 to 26 in	fine sand	rapid	1.02 to 2.03 in	5.6 to 7.8
2Bkg -- 26 to 60 in	loam	moderate	5.08 to 6.43 in	7.4 to 8.4

482--Grygla loamy fine sand

Grygla

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .17

Land capability, nonirrigated 4w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	loamy fine sand	rapid	0.92 to 1.06 in	6.1 to 7.3
Bg1,Bg2 -- 7 to 33 in	fine sand	rapid	1.56 to 2.86 in	6.6 to 7.8
2Bg3 -- 33 to 60 in	loam	moderate	4.55 to 5.09 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

514--Tacoosh muck

Tacoosh

Extent: 90 percent of the unit

Landform(s): bogs on lake plains, depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over till

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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa,Oe1,Oe2 -- 0 to 29 in	muck	moderately rapid	10.20 to 13.11 in	
Oe3,O'a -- 29 to 36 in	mucky peat	moderately rapid	3.01 to 3.68 in	
Cg1,Cg2 -- 36 to 60 in	sandy loam	moderate	2.88 to 4.80 in	

540--Seelyeville muck

Seelyeville

Extent: 90 percent of the unit

Landform(s): bogs on lake plains, depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .02

Land capability, nonirrigated 6w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 8 in	muck	moderately rapid	2.76 to 3.78 in	
Oe..O'a3 -- 8 to 60 in	muck	moderately rapid	18.19 to 24.94 in	

Map Unit Description (MN)

Marshall County, Minnesota

541--Rifle mucky peat

Rifle

Extent: 90 percent of the unit

Landform(s): bogs on lake plains, depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic

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 6w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oe1 -- 0 to 6 in	mucky peat	moderately rapid	2.83 to 3.43 in	
Oe2..O'e -- 6 to 60 in	mucky peat	moderately rapid	25.89 to 31.28 in	

543--Markey muck

Markey

Extent: 90 percent of the unit

Landform(s): bogs on lake plains, depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over glaciolacustrine

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: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 25 in	muck	moderately rapid	8.82 to 12.09 in	
A..Cg2 -- 25 to 60 in	sand	rapid	1.04 to 3.46 in	

Map Unit Description (MN)

Marshall County, Minnesota

544--Cathro muck

Cathro

Extent: 90 percent of the unit

Landform(s): bogs on lake plains, depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over till

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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1 -- 0 to 11 in	muck	moderately rapid	3.86 to 5.29 in	
Oa2 -- 11 to 25 in	muck	moderately rapid	4.96 to 6.80 in	
A..Cg -- 25 to 60 in	loam	moderate	5.20 to 6.58 in	

546--Lupton muck

Lupton

Extent: 90 percent of the unit

Landform(s): bogs on lake plains, depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .02

Land capability, nonirrigated 7w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1 -- 0 to 12 in	muck	moderately rapid	4.13 to 5.31 in	
Oe -- 12 to 20 in	mucky peat	moderately rapid	4.16 to 5.02 in	
Oa2 -- 20 to 60 in	muck	moderately rapid	13.78 to 17.72 in	

Map Unit Description (MN)

Marshall County, Minnesota

547--Deerwood muck

Deerwood

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over glaciolacustrine

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: A/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 11 in	muck	moderately rapid	3.86 to 5.29 in	5.6 to 7.8
A -- 11 to 15 in	fine sandy loam	rapid	0.35 to 0.67 in	6.1 to 8.4
Cg -- 15 to 60 in	fine sand	rapid	0.90 to 4.49 in	7.4 to 8.4

550--Dora muck

Dora

Extent: 90 percent of the unit

Landform(s): bogs on lake plains, depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over till

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: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1 -- 0 to 23 in	muck	moderately rapid	7.99 to 12.56 in	
Oa2 -- 23 to 31 in	muck	moderately rapid	2.89 to 4.55 in	
Cg1,Cg2 -- 31 to 60 in	silty clay	slow	2.87 to 5.75 in	

Map Unit Description (MN)

Marshall County, Minnesota

563--Northwood muck

Northwood

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over glaciolacustrine

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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 12 in	muck	moderately rapid	4.13 to 5.67 in	5.1 to 7.8
A -- 12 to 20 in	fine sandy loam	rapid	0.83 to 1.49 in	5.6 to 7.8
Bg1,Bg2 -- 20 to 34 in	loamy fine sand	rapid	0.83 to 1.52 in	5.6 to 8.4
2Cg -- 34 to 60 in	loam	moderate	3.90 to 4.94 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

565--Eckvoll loamy fine sand

Eckvoll

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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) .24

Land capability, nonirrigated 3s

Hydric soil: no

Hydrologic group: A

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	loamy fine sand	rapid	0.79 to 0.94 in	6.1 to 7.3
E -- 8 to 28 in	fine sand	rapid	1.00 to 2.41 in	6.1 to 7.3
2Bt -- 28 to 33 in	sandy clay loam	moderate	0.82 to 0.92 in	6.6 to 7.8
2BC -- 33 to 60 in	loam	moderate	4.02 to 5.09 in	7.4 to 8.4

582--Roliss loam

Roliss

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 12 in	loam	moderate	2.01 to 2.83 in	6.6 to 8.4
Bg -- 12 to 17 in	fine sandy loam	moderate	0.77 to 0.97 in	7.4 to 8.4
Bkg,BC -- 17 to 60 in	loam	moderate	6.44 to 8.15 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

583--Nereson fine sandy loam

Nereson

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .28

Land capability, nonirrigated 1

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E -- 0 to 10 in	fine sandy loam	moderately rapid	1.38 to 1.67 in	6.1 to 7.3
Bt -- 10 to 18 in	loam	moderate	1.49 to 1.82 in	6.6 to 7.8
2Bw -- 18 to 20 in	gravelly loam	moderately rapid	0.24 to 0.30 in	7.4 to 8.4
2Bkg -- 20 to 33 in	loam	moderately rapid	2.08 to 2.34 in	7.4 to 8.4
2Cg -- 33 to 60 in	loam	moderately rapid	4.28 to 4.82 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

630--Wildwood muck

Wildwood

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over till

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: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 9 in	muck	moderately rapid	3.17 to 4.07 in	5.1 to 6.5
A,Bg -- 9 to 18 in	clay	slow	0.91 to 1.72 in	5.6 to 7.3
Bkg,Cg -- 18 to 60 in	silty clay	slow	4.17 to 7.93 in	7.4 to 8.4

641--Clearwater clay

Clearwater

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw factor (surface layer) .10

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	clay	slow	1.28 to 1.67 in	6.6 to 7.8
Bssg1,Bssg2 -- 10 to 20 in	clay	slow	1.02 to 1.94 in	7.4 to 8.4
Bg -- 20 to 60 in	clay	slow	3.58 to 7.56 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

642--Clearwater loam

Clearwater

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	loam	moderately rapid	1.57 to 1.73 in	6.6 to 7.8
Bssg1,Bssg2 -- 8 to 20 in	clay	slow	1.10 to 2.32 in	7.4 to 8.4
Bg -- 20 to 60 in	clay	slow	3.58 to 7.56 in	7.4 to 8.4

643--Huot fine sandy loam

Huot

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .28

Land capability, nonirrigated 2s

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderately rapid	1.18 to 1.63 in	7.4 to 8.4
Bk1,Bk2 -- 9 to 16 in	loamy fine sand	moderately rapid	0.64 to 1.20 in	7.4 to 8.4
C1 -- 16 to 29 in	fine sand	rapid	0.78 to 1.43 in	7.4 to 8.4
2C2 -- 29 to 60 in	silty clay	slow	2.76 to 5.83 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

644--Boash clay loam

Boash

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	clay loam	slow	0.92 to 1.20 in	6.6 to 7.8
Bg1,Bg2 -- 7 to 33 in	silty clay	slow	3.90 to 5.20 in	6.6 to 7.8
2Bkg -- 33 to 60 in	loam	moderate	3.21 to 4.82 in	7.4 to 8.4

645--Espelie fine sandy loam

Espelie

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

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 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	fine sandy loam	moderately rapid	1.28 to 1.77 in	6.6 to 7.3
Bg1..Bg3 -- 10 to 34 in	fine sand	rapid	1.44 to 2.64 in	6.6 to 7.8
2Cg -- 34 to 60 in	clay	slow	2.34 to 4.94 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

647--Hilaire loamy fine sand

Hilaire

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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) .20

Land capability, nonirrigated 3s

Hydric soil: no

Hydrologic group: A

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 11 in	loamy fine sand	rapid	1.10 to 1.54 in	6.6 to 7.3
Bw1,Bw2 -- 11 to 34 in	fine sand	rapid	1.60 to 2.51 in	6.6 to 7.8
2Bk -- 34 to 60 in	clay	slow	2.34 to 4.94 in	7.4 to 8.4

648--Newfolden loam

Newfolden

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated 2s

Hydric soil: no

Hydrologic group: D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	loam	moderate	1.42 to 1.56 in	6.6 to 7.8
Bt -- 7 to 16 in	clay	slow	0.91 to 1.72 in	6.6 to 7.8
2Bk1,2Bk2 -- 16 to 36 in	clay loam	moderate	2.95 to 3.74 in	7.4 to 8.4
2C -- 36 to 60 in	clay loam	moderate	3.60 to 4.56 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

649--Reiner loamy fine sand

Reiner

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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) .28

Land capability, nonirrigated 2s

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	loamy fine sand	rapid	0.98 to 1.28 in	6.6 to 7.3
Bt -- 10 to 16 in	sandy clay loam	moderate	0.94 to 1.20 in	6.6 to 7.3
Bk,C -- 16 to 60 in	loam	moderate	6.56 to 8.30 in	7.4 to 8.4

650--Reiner fine sandy loam

Reiner

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .28

Land capability, nonirrigated 1

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderately rapid	1.45 to 1.63 in	6.6 to 7.3
Bt -- 9 to 16 in	clay loam	moderate	1.06 to 1.35 in	6.6 to 7.3
Bk,C -- 16 to 60 in	loam	moderate	6.56 to 8.30 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

651--Thiefriever fine sandy loam

Thiefriever

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: 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: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	fine sandy loam	moderately rapid	1.02 to 1.42 in	7.4 to 8.4
Bkg1 -- 8 to 15 in	loamy fine sand	moderately rapid	0.64 to 1.20 in	7.4 to 8.4
Bkg2 -- 15 to 31 in	fine sand	rapid	0.97 to 1.78 in	7.4 to 8.4
2Cg -- 31 to 60 in	clay	slow	2.59 to 5.46 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

652--Wyandotte clay loam

Wyandotte

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	clay loam	moderate	1.10 to 1.50 in	7.4 to 7.8
Bkg1 -- 8 to 15 in	loam	moderate	0.99 to 1.28 in	7.9 to 8.4
2Bkg2 -- 15 to 29 in	very gravelly coarse sand	rapid	0.28 to 0.99 in	7.4 to 8.4
3Cg -- 29 to 60 in	clay	slow	2.76 to 5.83 in	7.4 to 7.8

Map Unit Description (MN)

Marshall County, Minnesota

653--Smiley mucky loam, depressional

Smiley, depressional

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	mucky loam	moderate	0.39 to 0.59 in	6.6 to 7.8
Btg -- 2 to 8 in	clay loam	moderate	0.89 to 1.12 in	6.6 to 7.8
Bkg1,Bkg2 -- 8 to 21 in	loam	moderate	1.95 to 2.47 in	7.4 to 8.4
Cg -- 21 to 60 in	loam	moderate	5.85 to 7.41 in	7.4 to 8.4

708--Rushlake loamy sand

Rushlake

Extent: 90 percent of the unit

Landform(s): rises on beach ridges

Slope gradient: 0 to 3 percent

Parent material: beach 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) .05

Land capability, nonirrigated 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	loamy sand	rapid	0.79 to 0.94 in	6.1 to 7.8
Bw..C4 -- 8 to 60 in	gravelly sand	rapid	1.04 to 5.20 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

712--Rosewood fine sandy loam

Rosewood

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 12 in	fine sandy loam	moderately rapid	1.89 to 2.13 in	7.4 to 8.4
Bkg1,Bkg2 -- 12 to 22 in	loamy fine sand	moderately rapid	0.92 to 1.74 in	7.4 to 8.4
Cg -- 22 to 60 in	fine sand	rapid	1.89 to 3.02 in	7.4 to 8.4

713--Linveldt fine sandy loam

Linveldt

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated 3s

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,E -- 0 to 13 in	fine sandy loam	moderately rapid	1.82 to 2.34 in	6.6 to 7.8
Bt -- 13 to 19 in	sandy loam	moderately rapid	0.71 to 1.06 in	6.6 to 7.8
2Bw1,Bw2 -- 19 to 31 in	sand	rapid	0.61 to 1.34 in	7.4 to 8.4
3C -- 31 to 60 in	loam	moderate	4.31 to 5.46 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

721B--Corliss loamy sand, 1 to 6 percent slopes

Corliss

Extent: 90 percent of the unit

Landform(s): hillslopes on beach ridges

Slope gradient: 1 to 6 percent

Parent material: beach deposits

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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	loamy sand	rapid	0.71 to 0.85 in	6.1 to 7.8
Bw -- 7 to 12 in	gravelly sand	rapid	0.14 to 0.47 in	6.1 to 7.8
C1..C3 -- 12 to 60 in	stratified gravelly coarse sand to sand	rapid	0.96 to 2.88 in	7.4 to 8.4

765--Smiley loam

Smiley

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .20

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loam	moderate	1.81 to 2.17 in	6.6 to 7.8
Btg -- 9 to 16 in	clay loam	moderate	1.06 to 1.35 in	6.6 to 8.4
Bkg1,Bkg2,Cg -- 16 to 60 in	loam	moderate	6.56 to 8.30 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

794--Clearriver loamy fine sand

Clearriver

Extent: 90 percent of the unit

Landform(s): rises on beach plains

Slope gradient: 0 to 3 percent

Parent material: beach 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) .15

Land capability, nonirrigated 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loamy fine sand	rapid	0.91 to 1.09 in	5.1 to 6.5
E/Bt -- 9 to 14 in	stratified fine sand to sandy clay loam	rapid	0.31 to 0.56 in	5.1 to 7.3
C1,C2,C3 -- 14 to 60 in	stratified gravelly coarse sand to fine sand	rapid	0.91 to 2.74 in	6.6 to 7.8

Map Unit Description (MN)

Marshall County, Minnesota

935--Hegne-Fargo complex

Hegne

Extent: 50 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 2 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Apk -- 0 to 8 in	silty clay	slow	1.10 to 1.34 in	7.4 to 8.4
Bkssg1&2 -- 8 to 23 in	silty clay	slow	1.94 to 2.39 in	7.4 to 8.4
Bg,Cg -- 23 to 60 in	silty clay	slow	2.96 to 5.18 in	7.4 to 8.4

Fargo

Extent: 40 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw factor (surface layer) .15

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 15 in	silty clay	slow	2.24 to 2.69 in	6.6 to 7.8
Bssg,Bkssg -- 15 to 31 in	silty clay	slow	2.26 to 2.74 in	6.6 to 8.4
Bkg,Cg -- 31 to 60 in	silty clay	slow	4.02 to 4.89 in	7.9 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

936--Clearwater-Reis complex

Clearwater

Extent: 50 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .20

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loam	slow	1.18 to 1.54 in	6.6 to 7.8
Bssg1,Bssg2 -- 9 to 30 in	silty clay	slow	2.09 to 3.96 in	7.4 to 8.4
Bg -- 30 to 60 in	clay	slow	2.69 to 5.69 in	7.4 to 8.4

Reis

Extent: 40 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .28

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	clay loam	slow	0.92 to 1.20 in	7.4 to 8.4
Bkssg1&2 -- 7 to 21 in	silty clay	slow	1.79 to 2.34 in	7.4 to 8.4
Bkssg3,Cg -- 21 to 60 in	clay	slow	3.51 to 7.41 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

937--Eaglepoint-Northcote complex

Eaglepoint

Extent: 55 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 2 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw factor (surface layer) .15

Land capability, nonirrigated 2w

Hydric soil: no

Hydrologic group: D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	clay	slow	1.28 to 1.57 in	7.4 to 8.4
Bkss1,Bkss2 -- 10 to 29 in	clay	slow	1.93 to 2.70 in	7.9 to 8.4
Bkg1,Bkg2 -- 29 to 48 in	clay	slow	1.70 to 2.46 in	7.4 to 8.4
BCg,Cg -- 48 to 60 in	silty clay	slow	1.06 to 1.54 in	7.4 to 8.4

Northcote

Extent: 40 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw factor (surface layer) .15

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 13 in	clay	slow	1.69 to 2.08 in	6.6 to 7.3
Bssg1,Bssg2 -- 13 to 23 in	clay	slow	0.98 to 1.38 in	6.6 to 7.8
Bssg3,Cg -- 23 to 60 in	clay	slow	3.70 to 5.18 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

972--Roliss-Vallers complex

Roliss

Extent: 50 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 9 in	loam	moderate	1.54 to 2.17 in	6.6 to 8.4
Bg -- 9 to 17 in	loam	moderate	1.18 to 1.50 in	7.4 to 8.4
Bkg,BC -- 17 to 60 in	loam	moderate	6.44 to 8.15 in	7.4 to 8.4

Vallers

Extent: 40 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 2 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .28

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loam	moderate	1.99 to 2.17 in	7.4 to 8.4
Bkg1 -- 9 to 15 in	loam	moderately slow	0.89 to 1.12 in	7.4 to 8.4
Bkg2,Cg -- 15 to 60 in	loam	moderately slow	7.63 to 8.53 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1006--Fluvaquents-Haploborolls complex, 0 to 30 percent slopes, flooded

Fluvaquents, frequently flooded

Extent: 45 percent of the unit

Landform(s): flats on flood plains, swales on flood plains

Slope gradient: 0 to 2 percent

Parent material: alluvium

Restrictive feature(s): greater than 60 inches

Flooding: frequent

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .32

Land capability, nonirrigated 6w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	very fine sandy loam	rapid	0.63 to 0.94 in	6.6 to 7.8
C -- 4 to 60 in	stratified loamy sand to silt loam	rapid	2.24 to 11.18 in	6.6 to 7.8

Haploborolls, rarely flooded

Extent: 45 percent of the unit

Landform(s): hillslopes on flood plains

Slope gradient: 2 to 30 percent

Parent material: glaciolacustrine

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): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .28

Land capability, nonirrigated 6e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 11 in	clay loam	moderate	1.87 to 2.43 in	6.6 to 7.8
C -- 11 to 60 in	clay loam	moderate	6.83 to 9.76 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1030--Pits, gravel-Udipsamments complex

Pits, gravel

Extent: 80 percent of the unit

Landform(s): beach plains, outwash plains, stream terraces

Slope gradient: 0 to 45 percent

Parent material: beach deposits

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:

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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Udipsamments

Extent: 20 percent of the unit

Landform(s): beach plains, outwash plains, stream terraces

Slope gradient: 0 to 6 percent

Parent material: beach deposits

Restrictive feature(s): greater than 60 inches

Flooding:

Ponding:

Drainage class: excessively drained

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:

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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Map Unit Description (MN)

Marshall County, Minnesota

1031--Seelyeville muck, ponded

Seelyeville, ponded

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organics

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

Kw factor (surface layer) .02

Land capability, nonirrigated 8w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 14 in	muck	moderately rapid	4.96 to 6.38 in	
Oe..O'a3 -- 14 to 60 in	muck	moderately rapid	15.98 to 20.55 in	

Map Unit Description (MN)

Marshall County, Minnesota

1143--Berner-Markey complex

Berner

Extent: 55 percent of the unit

Landform(s): bogs on lake plains, depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over glaciolacustrine

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: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1..Oa4 -- 0 to 33 in	muck	moderately rapid	11.57 to 15.87 in	
Cg1 -- 33 to 44 in	gravelly sand	rapid	0.55 to 1.10 in	
2Cg2 -- 44 to 60 in	clay loam	moderate	2.36 to 2.99 in	

Markey

Extent: 30 percent of the unit

Landform(s): bogs on lake plains, bogs on lake plains, depressions on lake plains, depressions on lake plains, bogs on lake plains, bogs on lake plains, depressions on lake plains, depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over glaciolacustrine

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: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 29 in	muck	moderately rapid	10.20 to 13.98 in	
A..Cg2 -- 29 to 60 in	sand	rapid	0.92 to 3.07 in	

Map Unit Description (MN)

Marshall County, Minnesota

1144--Strathcona and Kratka soils, depressional

Strathcona, depressional

Extent: 45 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: glaciolacustrine

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): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 6w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 10 in	mucky fine sandy loam	rapid	1.97 to 2.95 in	7.4 to 8.4
Bkg -- 10 to 16 in	fine sandy loam	moderately rapid	0.57 to 1.07 in	7.4 to 8.4
2Bg1,2Bg2 -- 16 to 30 in	fine sand	rapid	0.69 to 1.65 in	7.4 to 8.4
3Cg -- 30 to 60 in	loam	moderate	4.49 to 5.69 in	7.4 to 8.4

Kratka, depressional

Extent: 45 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: glaciolacustrine

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): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .17

Land capability, nonirrigated 6w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 9 in	mucky fine sandy loam	moderately rapid	1.81 to 2.72 in	6.6 to 7.8
A,Bg -- 9 to 26 in	fine sand	rapid	1.02 to 1.86 in	6.6 to 7.8
2Bkg -- 26 to 80 in	loam	moderate	8.09 to 10.25 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1146--Northwood muck, ponded

Northwood, ponded

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

Kw factor (surface layer) .02

Land capability, nonirrigated 8w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 15 in	muck	moderately rapid	5.24 to 6.73 in	5.1 to 7.8
A -- 15 to 21 in	fine sandy loam	rapid	0.53 to 1.00 in	5.6 to 7.8
Bg1,Bg2 -- 21 to 28 in	coarse sand	rapid	0.43 to 0.78 in	5.6 to 8.4
2Cg -- 28 to 60 in	loam	moderate	4.46 to 6.06 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1158--Skagen loam

Skagen

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	loam	moderate	1.13 to 1.28 in	7.4 to 7.8
Bk1 -- 7 to 10 in	gravelly loam	moderately rapid	0.19 to 0.41 in	7.4 to 8.4
2Bk2,2Bk3 -- 10 to 21 in	loam	moderately rapid	1.21 to 1.98 in	7.4 to 8.4
2Bw -- 21 to 60 in	loam	moderately rapid	4.29 to 7.02 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1170--Skagen loam, very cobbly

Skagen, very cobbly

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated 3s

Hydric soil: no

Hydrologic group: C

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	loam	moderate	1.57 to 1.77 in	7.4 to 7.8
Bk1 -- 10 to 13 in	gravelly loam	moderately rapid	0.22 to 0.47 in	7.4 to 8.4
2Bk2,2Bk3 -- 13 to 19 in	loam	moderately rapid	0.65 to 1.06 in	7.4 to 8.4
2Bw -- 19 to 60 in	loam	moderately rapid	4.50 to 7.37 in	7.4 to 8.4

1187--Dora muck, ponded

Dora, ponded

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

Kw factor (surface layer) .02

Land capability, nonirrigated 8w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1,Oa2 -- 0 to 31 in	muck	moderately rapid	10.89 to 17.11 in	
Cg1 -- 31 to 42 in	mucky silty clay loam	moderate	2.43 to 2.76 in	
Cg2 -- 42 to 60 in	silty clay	slow	1.59 to 3.37 in	

Map Unit Description (MN)

Marshall County, Minnesota

1188--Wildwood muck, ponded

Wildwood, ponded

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

Kw factor (surface layer) .02

Land capability, nonirrigated 8w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 14 in	muck	moderately rapid	4.96 to 6.38 in	5.1 to 6.5
A,Bg -- 14 to 23 in	silty clay	slow	0.87 to 1.65 in	5.6 to 7.3
Bkg,Cg -- 23 to 60 in	silty clay	slow	3.70 to 7.03 in	7.4 to 8.4

1189--Clearwater mucky loam, depressional

Clearwater, depressional

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 7 in	mucky loam	moderate	1.20 to 2.13 in	6.6 to 7.8
Bssg1&2 -- 7 to 10 in	silty clay	slow	0.28 to 0.52 in	7.4 to 8.4
Bg -- 10 to 60 in	clay	slow	4.50 to 9.50 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1191--Sahkahtay sandy loam

Sahkahtay

Extent: 90 percent of the unit

Landform(s): flats on beach plains, swales on beach plains

Slope gradient: 0 to 2 percent

Parent material: beach deposits

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	sandy loam	moderately rapid	0.39 to 0.55 in	5.6 to 7.3
E -- 4 to 8 in	loamy sand	rapid	0.20 to 0.31 in	5.6 to 7.3
Btg -- 8 to 14 in	sandy clay loam	moderate	0.82 to 1.07 in	6.1 to 7.3
Cg1..Cg3 -- 14 to 60 in	gravelly coarse sand	very rapid	1.37 to 2.74 in	7.4 to 8.4

1264--Ulen loamy fine sand

Ulen

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: glaciolacustrine

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) .24

Land capability, nonirrigated 3s

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	loamy fine sand	rapid	0.98 to 1.18 in	7.4 to 8.4
Bk1,Bk2 -- 10 to 21 in	loamy fine sand	moderately rapid	0.99 to 1.87 in	7.4 to 8.4
C1..C3 -- 21 to 80 in	fine sand	rapid	2.95 to 4.72 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1297--Augsburg very fine sandy loam

Augsburg

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .32

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	very fine sandy loam	moderately rapid	1.81 to 2.08 in	7.4 to 8.4
Bkg1,Bkg2 -- 9 to 29 in	loamy very fine sand	moderately rapid	3.41 to 4.42 in	7.4 to 8.4
2Bg -- 29 to 60 in	clay	slow	2.76 to 5.83 in	7.4 to 8.4

1299--Borup very fine sandy loam

Borup

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .32

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	very fine sandy loam	moderately rapid	1.57 to 1.81 in	7.4 to 8.4
Bkg1,Bkg2 -- 8 to 21 in	silt loam	moderately rapid	2.21 to 2.86 in	7.4 to 8.4
Bkg3..Cg -- 21 to 60 in	stratified silt loam to very fine sand	rapid	3.12 to 8.57 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1304A--Glyndon very fine sandy loam, 0 to 2 percent slopes

Glyndon

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

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) .32

Land capability, nonirrigated 2s

Hydric soil: no

Hydrologic group: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	very fine sandy loam	moderately rapid	1.81 to 2.08 in	7.4 to 8.4
Bk1,Bk2 -- 9 to 17 in	loamy very fine sand	moderately rapid	1.34 to 1.73 in	7.4 to 8.4
C1,C2 -- 17 to 60 in	loamy very fine sand	moderately rapid	3.43 to 9.44 in	7.4 to 8.4

1304B--Glyndon very fine sandy loam, 2 to 6 percent slopes

Glyndon

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 2 to 6 percent

Parent material: glaciolacustrine

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) .32

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	very fine sandy loam	moderately rapid	1.57 to 1.81 in	7.4 to 8.4
Bk1,Bk2 -- 8 to 17 in	loamy very fine sand	moderately rapid	1.54 to 1.99 in	7.4 to 8.4
C1,C2 -- 17 to 60 in	loamy very fine sand	moderately rapid	3.43 to 9.44 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1315A--Wheatville very fine sandy loam, 0 to 2 percent slopes

Wheatville

<i>Extent:</i> 90 percent of the unit	<i>Soil loss tolerance (T factor):</i> 4
<i>Landform(s):</i> flats on lake plains, rises on lake plains	<i>Wind erodibility group (WEG):</i> 3
<i>Slope gradient:</i> 0 to 2 percent	<i>Wind erodibility index (WEI):</i> 86
<i>Parent material:</i> glaciolacustrine	<i>Kw factor (surface layer)</i> .32
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated</i> 2s
<i>Flooding:</i> none	<i>Hydric soil:</i> no
<i>Ponding:</i> none	<i>Hydrologic group:</i> C/D
<i>Drainage class:</i> moderately well drained	<i>Potential for frost action:</i> high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	very fine sandy loam	moderately rapid	1.63 to 1.99 in	7.4 to 8.4
Bk1,Bk2,Bw -- 9 to 29 in	loamy very fine sand	moderately rapid	3.41 to 4.42 in	7.4 to 8.4
2C -- 29 to 60 in	clay	slow	2.76 to 5.83 in	7.4 to 8.4

1356--Water, miscellaneous

Water, miscellaneous

<i>Extent:</i> 100 percent of the unit	<i>Soil loss tolerance (T factor):</i>
<i>Landform(s):</i>	<i>Wind erodibility group (WEG):</i>
<i>Slope gradient:</i>	<i>Wind erodibility index (WEI):</i>
<i>Parent material:</i>	<i>Kw factor (surface layer)</i>
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated</i>
<i>Flooding:</i>	<i>Hydric soil:</i>
<i>Ponding:</i>	<i>Hydrologic group:</i>
<i>Drainage class:</i>	<i>Potential for frost action:</i>

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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Map Unit Description (MN)

Marshall County, Minnesota

1804--Hamre muck, ponded

Hamre, ponded

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

Kw factor (surface layer) .02

Land capability, nonirrigated 8w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 9 in	muck	moderate	3.17 to 4.35 in	5.1 to 7.8
A,Bg1 -- 9 to 21 in	loam	moderate	2.01 to 2.60 in	5.1 to 7.8
Bg2 -- 21 to 60 in	loam	moderate	5.85 to 7.41 in	7.4 to 8.4

1807--Cathro muck, ponded

Cathro, ponded

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

Kw factor (surface layer) .02

Land capability, nonirrigated 8w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1 -- 0 to 20 in	muck	moderately rapid	7.03 to 9.64 in	
Oa2 -- 20 to 36 in	muck	moderately rapid	5.51 to 7.56 in	
A,Cg -- 36 to 60 in	fine sandy loam	moderate	3.60 to 4.56 in	

Map Unit Description (MN)

Marshall County, Minnesota

1808--Markey muck, ponded

Markey, ponded

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

Kw factor (surface layer) .02

Land capability, nonirrigated 8w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 40 in	muck	moderately rapid	14.06 to 19.28 in	
A,Cg1,Cg2 -- 40 to 60 in	sand	rapid	0.59 to 1.57 in	

1871--Fargo silty clay, swales

Fargo, swales

Extent: 90 percent of the unit

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

Slope gradient: 0 to 1 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: rare

Ponding: occasional

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw factor (surface layer) .15

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 12 in	silty clay	slow	1.77 to 2.13 in	6.6 to 7.8
Bssg,Bkssg -- 12 to 37 in	silty clay	slow	3.53 to 4.28 in	6.6 to 8.4
Bkg,Cg -- 37 to 60 in	silty clay	slow	3.20 to 3.88 in	7.9 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1874--Radium loamy sand

Radium

Extent: 90 percent of the unit

Landform(s): rises on beach ridges

Slope gradient: 0 to 3 percent

Parent material: beach 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 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 14 in	loamy sand	rapid	0.85 to 1.70 in	6.1 to 7.8
Bw1,Bw2 -- 14 to 33 in	sand	rapid	0.57 to 1.51 in	6.6 to 8.4
C1 -- 33 to 43 in	very gravelly coarse sand	very rapid	0.20 to 0.49 in	7.4 to 8.4
C2 -- 43 to 60 in	sand	rapid	0.51 to 1.52 in	7.4 to 8.4

1878--Hamre muck

Hamre

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: organic over till

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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 9 in	muck	moderate	3.17 to 4.35 in	5.1 to 7.8
A -- 9 to 14 in	loam	moderate	0.87 to 1.13 in	5.1 to 7.8
Bg1,Bg2 -- 14 to 60 in	loam	moderate	6.85 to 8.68 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1882--Rosewood, Strathcona, and Berner soils, seepy

Rosewood, seepy

Extent: 30 percent of the unit

Landform(s): fens on beach ridges

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 6w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 8 in	fine sandy loam	moderately rapid	1.57 to 2.36 in	7.4 to 8.4
Bkg2 -- 8 to 27 in	loamy fine sand	moderately rapid	1.70 to 3.21 in	7.4 to 8.4
Cg -- 27 to 60 in	fine sand	rapid	1.65 to 2.65 in	7.4 to 8.4

Strathcona, seepy

Extent: 30 percent of the unit

Landform(s): fens on beach ridges

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

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): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 6w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 9 in	fine sandy loam	moderately rapid	1.81 to 2.72 in	7.4 to 8.4
Bkg -- 9 to 21 in	fine sand	rapid	0.59 to 1.42 in	7.4 to 8.4
2Bg1..3Cg -- 21 to 60 in	loam	moderate	5.85 to 7.41 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1882--Rosewood, Strathcona, and Berner soils, seepy

Berner, seepy

Extent: 30 percent of the unit

Landform(s): fens on beach ridges

Slope gradient: 0 to 1 percent

Parent material: organic over glaciolacustrine

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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1..Oa4 -- 0 to 21 in	muck	moderately rapid	7.30 to 10.02 in	
Cg1 -- 21 to 35 in	gravelly sand	rapid	0.71 to 1.42 in	
2Cg2 -- 35 to 60 in	clay loam	moderate	3.72 to 4.71 in	

Map Unit Description (MN)

Marshall County, Minnesota

1963--Bearden-Colvin complex

Bearden

Extent: 50 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated 2s

Hydric soil: no

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	silty clay loam	moderately slow	1.67 to 2.26 in	7.4 to 8.4
Bk1,Bk2 -- 10 to 17 in	silty clay loam	moderately slow	1.13 to 1.56 in	7.4 to 8.4
Bw,C -- 17 to 60 in	silty clay loam	moderately slow	6.87 to 9.44 in	7.4 to 8.4

Colvin

Extent: 40 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .32

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	silty clay loam	moderately slow	1.81 to 1.99 in	7.4 to 8.4
Bkg1..Bkg3 -- 9 to 21 in	silty clay loam	moderately slow	1.89 to 2.36 in	7.4 to 8.4
Cg -- 21 to 60 in	silty clay loam	moderate	5.85 to 7.80 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1964--Colvin-Fargo complex

Colvin

Extent: 50 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 2 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .32

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 11 in	silty clay loam	moderately slow	2.20 to 2.43 in	7.4 to 8.4
Bkg1..Bkg3 -- 11 to 19 in	silty clay loam	moderately slow	1.26 to 1.57 in	7.4 to 8.4
Cg -- 19 to 60 in	silty clay loam	moderate	6.14 to 8.19 in	7.4 to 8.4

Fargo

Extent: 40 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: lacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw factor (surface layer) .15

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: C/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 14 in	silty clay	slow	2.13 to 2.55 in	6.6 to 7.8
Bssg,Bkssg -- 14 to 26 in	silty clay	slow	1.65 to 2.01 in	6.6 to 8.4
Bkg,Cg -- 26 to 60 in	silty clay	slow	4.74 to 5.76 in	7.9 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

1966--Rosewood-Hamar complex

Rosewood

Extent: 55 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly 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 3w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 11 in	fine sandy loam	moderately rapid	1.76 to 1.98 in	7.4 to 8.4
Bkg1,Bkg2 -- 11 to 18 in	loamy fine sand	moderately rapid	0.64 to 1.20 in	7.4 to 8.4
Cg -- 18 to 60 in	fine sand	rapid	0.83 to 2.92 in	7.4 to 8.4

Hamar

Extent: 40 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated 4w

Hydric soil: yes

Hydrologic group: A/D

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 16 in	loamy fine sand	rapid	1.61 to 2.10 in	6.1 to 7.8
AC..Cg3 -- 16 to 60 in	fine sand	rapid	2.62 to 4.37 in	7.4 to 8.4

Map Unit Description (MN)

Marshall County, Minnesota

W--Water

Water

Extent: 100 percent of the unit

Landform(s):

Slope gradient:

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding:

Ponding:

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated

Hydric soil:

Hydrologic group:

Potential for frost action:

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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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.