

Map Unit Description (MN)

Olmsted 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]

2A--Ostrander silt loam, 0 to 2 percent slopes

Ostrander

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 0 to 2 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated 1

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,A -- 0 to 17 in	silt loam	moderate	3.39 to 4.06 in	5.6 to 7.3
Bw1 -- 17 to 38 in	loam	moderate	3.55 to 4.17 in	5.1 to 7.3
2Bw2,2Bw3,2B -- 38 to 50 in	loam	moderate	2.07 to 2.32 in	5.1 to 7.3
2C -- 50 to 60 in	loam	moderate	1.67 to 1.87 in	6.6 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

2B--Ostrander loam, 2 to 6 percent slopes

Ostrander

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 2 to 6 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .17

Land capability, nonirrigated 2e

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,A -- 0 to 14 in	loam	moderate	2.83 to 3.40 in	5.6 to 7.3
Bw1 -- 14 to 18 in	loam	moderate	0.67 to 0.79 in	5.1 to 7.3
2Bw2,2Bw3,2B -- 18 to 40 in	loam	moderate	3.75 to 4.19 in	5.1 to 7.3
2C -- 40 to 60 in	loam	moderate	3.35 to 3.74 in	6.6 to 7.8

11C--Sogn loam, 4 to 12 percent slopes

Sogn

Extent: 95 percent of the unit

Landform(s): bluffs

Slope gradient: 4 to 12 percent

Parent material: residuum

Restrictive feature(s): lithic bedrock at 4 to 20 inches

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 7s

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>
A -- 0 to 8 in	loam	moderate	1.34 to 1.73 in	6.1 to 8.4
2Cr -- 8 to 12 in	unweathered bedrock	moderately slow	0.00 to 0.00 in	
2R -- 12 to 60 in	unweathered bedrock	impermeable		

Map Unit Description (MN)

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16--Arenzville silt loam

Arenzville, occasionally flooded

Extent: 95 percent of the unit

Landform(s): flood plains

Slope gradient: 0 to 1 percent

Parent material: silty alluvium

Restrictive feature(s): greater than 60 inches

Flooding: occasional

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated 2w

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	5.6 to 7.8
C -- 8 to 31 in	silt loam	moderate	4.18 to 5.11 in	5.6 to 7.8
Ab,,Bwb1,Bwb -- 31 to 60 in	silt loam	moderate	5.75 to 6.32 in	5.6 to 7.8

19--Chaseburg silt loam

Chaseburg, occasionally flooded

Extent: 95 percent of the unit

Landform(s): drainageways

Slope gradient: 0 to 2 percent

Parent material: silty slope alluvium

Restrictive feature(s): greater than 60 inches

Flooding: occasional

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated 2w

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 -- 0 to 15 in	silt loam	moderate	3.29 to 3.59 in	6.1 to 7.8
C1,C2,Ab,Bb -- 15 to 60 in	silt loam	moderate	8.08 to 9.87 in	5.6 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

23--Skyberg silt loam

Skyberg

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 0 to 2 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 2w

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>
A,E -- 0 to 11 in	silt loam	moderate	2.43 to 2.65 in	5.6 to 6.5
Bt1,Bt2 -- 11 to 24 in	silt loam	moderate	2.34 to 2.60 in	4.5 to 5.5
2Bt3,2Bt4,2B -- 24 to 46 in	loam	moderately slow	3.09 to 4.19 in	5.1 to 7.3
2C -- 46 to 60 in	loam	moderately slow	1.24 to 1.79 in	7.4 to 7.8

Clyde

Extent: 5 percent of the unit

Landform(s): drainageways

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: yes

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)

Olmsted County, Minnesota

24--Kasson silt loam

Kasson

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 1 to 4 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

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 -- 0 to 9 in	silt loam	moderate	1.99 to 2.17 in	5.6 to 6.5
Bt1,Bt2 -- 9 to 22 in	silty clay loam	moderate	2.34 to 2.86 in	4.5 to 6.0
2Bt3,2Bt4,2B -- 22 to 46 in	clay loam	moderately slow	3.60 to 4.56 in	5.1 to 7.3
2BC,2C -- 46 to 60 in	clay loam	moderately slow	1.24 to 1.79 in	7.4 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

25--Becker loam

Becker, occasionally flooded

Extent: 95 percent of the unit

Landform(s): flood plains

Slope gradient: 0 to 2 percent

Parent material: loamy alluvium over sandy alluvium

Restrictive feature(s): greater than 60 inches

Flooding: occasional

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .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 9 in	loam	moderately rapid	1.81 to 1.99 in	5.6 to 7.3
A1,A2,A3 -- 9 to 30 in	sandy loam	moderately rapid	3.13 to 4.17 in	5.6 to 7.3
2Bw -- 30 to 36 in	gravelly loamy coarse sand	rapid	0.30 to 0.59 in	6.1 to 7.8
2C -- 36 to 60 in	coarse sand	rapid	0.48 to 1.68 in	6.1 to 7.8

27A--Dickinson sandy loam, 0 to 1 percent slopes

Dickinson

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 0 to 1 percent

Parent material: loamy eolian deposits

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .15

Land capability, nonirrigated 3s

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	sandy loam	moderately rapid	1.80 to 2.24 in	5.6 to 7.3
Bw1,Bw2 -- 15 to 28 in	sandy loam	moderately rapid	1.56 to 1.95 in	5.1 to 6.5
BC,C -- 28 to 60 in	sand	rapid	0.64 to 1.28 in	5.6 to 7.3

Map Unit Description (MN)

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27B--Dickinson sandy loam, 2 to 6 percent slopes

Dickinson

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 2 to 6 percent

Parent material: loamy eolian deposits

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .15

Land capability, nonirrigated 3e

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 9 in	sandy loam	moderately rapid	1.09 to 1.36 in	5.6 to 7.3
Bw1,Bw2 -- 9 to 25 in	sandy loam	moderately rapid	1.94 to 2.42 in	5.1 to 6.5
BC,C -- 25 to 60 in	sand	rapid	0.69 to 1.39 in	5.6 to 7.3

27C--Dickinson sandy loam, 6 to 12 percent slopes

Dickinson

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 6 to 12 percent

Parent material: loamy eolian deposits

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .15

Land capability, nonirrigated 3e

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 20 in	sandy loam	moderately rapid	2.41 to 3.01 in	5.6 to 7.3
Bw1,Bw2 -- 20 to 36 in	sandy loam	moderately rapid	1.89 to 2.36 in	5.1 to 6.5
BC,C -- 36 to 60 in	sand	rapid	0.48 to 0.96 in	5.6 to 7.3

Map Unit Description (MN)

Olmsted County, Minnesota

30B--Kenyon loam, 1 to 6 percent slopes

Kenyon

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 1 to 6 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: C

Potential for frost action: moderate

<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	5.1 to 7.3
A -- 9 to 14 in	loam	moderate	1.02 to 1.13 in	5.1 to 7.3
AB -- 14 to 19 in	loam	moderate	0.94 to 1.04 in	5.1 to 7.3
2Bw1 -- 19 to 41 in	loam	moderate	3.75 to 4.19 in	5.1 to 7.3
2Bw2 -- 41 to 55 in	loam	moderate	2.41 to 2.69 in	5.1 to 7.3
2BC1 -- 55 to 71 in	loam	moderate	2.68 to 2.99 in	6.1 to 8.4
2BC2 -- 71 to 79 in	loam	moderate	1.34 to 1.50 in	6.1 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

42E--Salida gravelly sandy loam, 12 to 35 percent slopes

Salida

Extent: 95 percent of the unit

Landform(s): outwash plains

Slope gradient: 12 to 35 percent

Parent material: loamy outwash over gravelly outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .15

Land capability, nonirrigated 7s

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>
A1 -- 0 to 6 in	gravelly sandy loam	moderately rapid	0.59 to 0.71 in	6.1 to 8.4
A2 -- 6 to 12 in	gravelly loamy coarse sand	very rapid	0.12 to 0.24 in	7.4 to 8.4
Bw,C1,C2 -- 12 to 60 in	gravelly coarse sand	very rapid	0.96 to 1.92 in	7.4 to 8.4

73F--Bellechester loamy sand, 25 to 45 percent slopes

Bellechester

Extent: 95 percent of the unit

Landform(s): scarp slopes

Slope gradient: 25 to 45 percent

Parent material: sandy colluvium and/or residuum

Restrictive feature(s): paralithic bedrock at 40 to 70 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated 7s

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>
A1,A2,AB -- 0 to 16 in	loamy sand	rapid	1.61 to 2.26 in	6.1 to 8.4
Bw,BC,C -- 16 to 42 in	sand	rapid	1.04 to 2.08 in	6.6 to 8.4
Cr -- 42 to 60 in	weathered bedrock	moderate		

Map Unit Description (MN)

Olmsted County, Minnesota

99B--Racine silt loam, 1 to 6 percent slopes

Racine

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 1 to 6 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E -- 0 to 12 in	silt loam	moderate	2.60 to 2.83 in	5.1 to 7.3
Bt1 -- 12 to 18 in	clay loam	moderate	1.26 to 1.39 in	4.5 to 6.0
2Bt2,2Bt3,2Bt -- 18 to 46 in	sandy clay loam	moderate	4.19 to 5.31 in	4.5 to 6.0
2C1,2C2 -- 46 to 60 in	loam	moderately slow	1.38 to 2.07 in	6.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

99C--Racine silt loam, 6 to 12 percent slopes

Racine

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 6 to 12 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 3e

Hydric soil: no

Hydrologic group: C

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,E -- 0 to 6 in	silt loam	moderate	1.30 to 1.42 in	5.1 to 7.3
Bt1 -- 6 to 14 in	clay loam	moderate	1.65 to 1.82 in	4.5 to 6.0
2Bt2,2Bt3,2B -- 14 to 37 in	loam	moderate	3.43 to 4.34 in	4.5 to 6.0
2C1,2C2 -- 37 to 60 in	loam	moderately slow	2.28 to 3.43 in	6.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

99D2--Racine loam, 12 to 18 percent slopes, eroded

Racine, eroded

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 12 to 18 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated 4e

Hydric soil: no

Hydrologic group: C

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,E -- 0 to 6 in	loam	moderate	1.30 to 1.42 in	5.1 to 7.3
Bt1 -- 6 to 12 in	loam	moderate	1.18 to 1.30 in	4.5 to 6.0
2Bt2,2Bt3,2B -- 12 to 35 in	loam	moderate	3.48 to 4.41 in	4.5 to 6.0
2C1,2C2 -- 35 to 60 in	loam	moderately slow	2.48 to 3.72 in	6.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

131B--Massbach silt loam, 2 to 6 percent slopes

Massbach

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 2 to 6 percent

Parent material: loess over residuum over shale bedrock

Restrictive feature(s): paralithic bedrock at 40 to 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .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 7 in	silt loam	moderate	1.56 to 1.70 in	5.6 to 7.3
Bt1 -- 7 to 11 in	silt loam	moderate	0.71 to 0.79 in	5.6 to 7.3
Bt2,Bt3,Bt4 -- 11 to 37 in	silty clay loam	moderate	4.68 to 5.20 in	5.6 to 7.8
2BC -- 37 to 45 in	clay	slow	0.87 to 1.42 in	6.1 to 7.8
2Cr -- 45 to 60 in	weathered bedrock	slow		

Map Unit Description (MN)

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131C--Massbach silt loam, 6 to 12 percent slopes

Massbach

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 6 to 12 percent

Parent material: loess over residuum over shale bedrock

Restrictive feature(s): paralithic bedrock at 40 to 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated 3e

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	silt loam	moderate	1.56 to 1.70 in	5.6 to 7.3
Bt1 -- 7 to 11 in	silt loam	moderate	0.71 to 0.79 in	5.6 to 7.3
2Bt,2Bt3,2B -- 11 to 37 in	silt loam	moderate	4.68 to 5.20 in	5.6 to 7.8
2BC -- 37 to 45 in	clay	slow	0.87 to 1.42 in	6.1 to 7.8
2Cr -- 45 to 60 in	weathered bedrock	slow		

Map Unit Description (MN)

Olmsted County, Minnesota

131D--Massbach silt loam, 12 to 18 percent slopes

Massbach

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 12 to 18 percent

Parent material: loess over residuum over shale bedrock

Restrictive feature(s): paralithic bedrock at 40 to 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated 4e

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	silt loam	moderate	1.56 to 1.70 in	5.6 to 7.3
Bt1 -- 7 to 11 in	silt loam	moderate	0.71 to 0.79 in	5.6 to 7.3
2Bt2,2Bt3,2B -- 11 to 37 in	silt loam	moderate	4.68 to 5.20 in	5.6 to 7.8
2BC -- 37 to 45 in	clay	slow	0.87 to 1.42 in	6.1 to 7.8
2Cr -- 45 to 60 in	weathered bedrock	slow		

Map Unit Description (MN)

Olmsted County, Minnesota

143B--Eleva sandy loam, 2 to 6 percent slopes

Eleva

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 2 to 6 percent

Parent material: loamy deposits over sandstone

Restrictive feature(s): paralithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .17

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,E -- 0 to 9 in	sandy loam	moderately rapid	0.91 to 1.63 in	3.6 to 7.3
Bt1,Bt2 -- 9 to 21 in	fine sandy loam	moderately rapid	1.06 to 2.24 in	3.6 to 6.5
BC -- 21 to 32 in	fine sand	rapid	0.44 to 1.10 in	3.6 to 6.5
Cr -- 32 to 36 in	weathered bedrock	moderate		
R -- 36 to 60 in	unweathered bedrock	impermeable		

Map Unit Description (MN)

Olmsted County, Minnesota

143C--Eleva sandy loam, 6 to 12 percent slopes

Eleva

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 6 to 12 percent

Parent material: loamy deposits over sandstone

Restrictive feature(s): paralithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .17

Land capability, nonirrigated 3e

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,E -- 0 to 9 in	sandy loam	moderately rapid	0.91 to 1.63 in	3.6 to 7.3
Bt1,Bt2 -- 9 to 21 in	sandy loam	moderately rapid	1.06 to 2.24 in	3.6 to 6.5
BC -- 21 to 32 in	sand	rapid	0.44 to 1.10 in	3.6 to 6.5
Cr -- 32 to 36 in	weathered bedrock	moderate		
R -- 36 to 60 in	unweathered bedrock	impermeable		

Map Unit Description (MN)

Olmsted County, Minnesota

173F--Frontenac loam, 15 to 35 percent slopes

Frontenac

Extent: 90 percent of the unit

Landform(s): bluffs

Slope gradient: 15 to 35 percent

Parent material: loamy colluvium over residuum

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .20

Land capability, nonirrigated 7e

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,AB -- 0 to 12 in	loam	moderate	2.36 to 2.83 in	5.6 to 7.3
Bt1,Bt2 -- 12 to 30 in	loam	moderate	3.08 to 3.98 in	5.6 to 7.3
2C -- 30 to 60 in	channery loam	moderately rapid	1.20 to 2.99 in	6.6 to 7.8

Haverhill

Extent: 10 percent of the unit

Landform(s): seeps on benches

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: yes

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)

Olmsted County, Minnesota

176--Garwin silty clay loam

Garwin

Extent: 95 percent of the unit

Landform(s): drainageways

Slope gradient: 0 to 2 percent

Parent material: loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<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	silty clay loam	moderate	2.73 to 2.99 in	5.6 to 7.3
Bg1,Bg2,Bg3 -- 13 to 33 in	silty clay loam	moderate	3.61 to 4.02 in	6.1 to 7.3
BCg,Cg -- 33 to 60 in	silt loam	moderate	5.35 to 5.89 in	6.6 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

203--Joy silt loam, 1 to 4 percent slopes

Joy

Extent: 85 percent of the unit

Landform(s): drainageways

Slope gradient: 1 to 4 percent

Parent material: loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated 2e

Hydric soil: no

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 20 in	silt loam	moderate	4.42 to 4.82 in	5.6 to 7.3
Bw1,Bw2,Bw3 -- 20 to 40 in	silt loam	moderate	4.02 to 4.42 in	5.1 to 7.3
BC,C -- 40 to 65 in	silt loam	moderate	4.96 to 5.46 in	6.1 to 8.4

Garwin

Extent: 5 percent of the unit

Landform(s): drainageways

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: yes

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)

Olmsted County, Minnesota

209A--Kegonsa silt loam, 0 to 2 percent slopes

Kegonsa

Extent: 95 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 2 percent

Parent material: silty loess over sandy outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

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>
A,E -- 0 to 12 in	silt loam	moderate	2.60 to 2.83 in	5.1 to 7.3
Bt1,Bt2 -- 12 to 25 in	silt loam	moderate	2.41 to 2.94 in	5.1 to 6.5
2Bt3 -- 25 to 29 in	sandy clay loam	moderate	0.59 to 0.75 in	6.1 to 7.8
2C1,2C2 -- 29 to 60 in	sand	very rapid	0.61 to 1.23 in	7.4 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

209B--Kegonsa silt loam, 2 to 6 percent slopes

Kegonsa

Extent: 95 percent of the unit

Landform(s): outwash plains

Slope gradient: 2 to 6 percent

Parent material: silty loess over sandy outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

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>
A,E -- 0 to 12 in	silt loam	moderate	2.60 to 2.83 in	5.1 to 7.3
Bt1,Bt2 -- 12 to 25 in	silt loam	moderate	2.41 to 2.94 in	5.1 to 6.5
2Bt3 -- 25 to 29 in	loam	moderate	0.59 to 0.75 in	6.1 to 7.8
2C1,2C2 -- 29 to 60 in	loamy coarse sand	very rapid	0.61 to 1.23 in	7.4 to 8.4

216B--Lamont sandy loam, 2 to 6 percent slopes

Lamont

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 2 to 6 percent

Parent material: loamy over sandy outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .17

Land capability, nonirrigated 3e

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	sandy loam	moderately rapid	1.26 to 1.42 in	5.1 to 7.3
Bt1,Bt2 -- 8 to 20 in	loam	moderately rapid	1.71 to 1.95 in	5.1 to 7.3
Bt3,Bt4 -- 20 to 60 in	sand	rapid	3.58 to 4.37 in	5.1 to 6.5

Map Unit Description (MN)

Olmsted County, Minnesota

244C--Lilah sandy loam, 6 to 12 percent slopes

Lilah

Extent: 95 percent of the unit

Landform(s): outwash plains

Slope gradient: 6 to 12 percent

Parent material: loamy over sandy outwash

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): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .15

Land capability, nonirrigated 6s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	sandy loam	moderately rapid	1.00 to 1.18 in	5.1 to 7.3
Bt1 -- 9 to 13 in	sandy loam	moderately rapid	0.39 to 0.47 in	4.5 to 6.0
2Bt2,2Bt3 -- 13 to 56 in	gravelly loamy coarse sand	very rapid	0.86 to 1.72 in	4.5 to 6.0
2C -- 56 to 60 in	coarse sand	very rapid	0.08 to 0.16 in	4.5 to 6.0

251F--Marlean silty clay loam, 25 to 40 percent slopes

Marlean

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 25 to 40 percent

Parent material: loamy till over residuum

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 7e

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 10 in	silty clay loam	moderate	1.77 to 1.97 in	6.1 to 7.3
2Bw -- 10 to 18 in	flaggy silty clay	moderate	1.49 to 1.82 in	6.1 to 7.3
2C -- 18 to 60 in	flaggy clay loam	rapid	3.34 to 6.26 in	7.4 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

251G--Marlean silty clay loam, 40 to 80 percent slopes

Marlean

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 40 to 80 percent

Parent material: loamy till over residuum

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 7e

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A --	0 to 10 in	silty clay loam	moderate	1.77 to 1.97 in	6.1 to 7.3
2Bw --	10 to 18 in	flaggy silty clay loam	moderate	1.49 to 1.82 in	6.1 to 7.3
2C --	18 to 60 in	flaggy clay loam	rapid	3.34 to 6.26 in	7.4 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

252--Marshan silt loam

Marshan, frequently flooded, frequently ponded

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 0 to 1 percent

Parent material: loamy sediments over sandy and gravelly outwash

Restrictive feature(s): greater than 60 inches

Flooding: frequent

Ponding: frequent

Drainage class: poorly drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

Representative soil profile:

	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A1 -- 0 to 14 in	silt loam	moderate	2.83 to 3.40 in	5.6 to 7.3
A2,Bg1 -- 14 to 23 in	silt loam	moderate	1.47 to 1.91 in	5.6 to 7.3
Bg2 -- 23 to 30 in	loam	moderate	1.06 to 1.35 in	5.6 to 7.3
2C1,2C2 -- 30 to 60 in	sand	rapid	0.60 to 1.50 in	6.1 to 7.3

Map Unit Description (MN)

Olmsted County, Minnesota

283B--Plainfield loamy sand, 0 to 6 percent slopes

Plainfield

Extent: 95 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 6 percent

Parent material: sandy outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .15

Land capability, nonirrigated 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A1,A2 -- 0 to 10 in	loamy sand	rapid	0.89 to 1.18 in	5.1 to 7.3
Bw -- 10 to 21 in	sand	rapid	0.44 to 0.77 in	4.5 to 6.5
C1,C2,C3 -- 21 to 60 in	sand	rapid	1.17 to 2.73 in	4.5 to 6.5

283C--Plainfield sand, 6 to 12 percent slopes

Plainfield

Extent: 95 percent of the unit

Landform(s): outwash plains

Slope gradient: 6 to 12 percent

Parent material: sandy outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 1

Wind erodibility index (WEI): 220

Kw factor (surface layer) .02

Land capability, nonirrigated 6s

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>
A1,A2 -- 0 to 6 in	sand	rapid	0.24 to 0.53 in	5.1 to 7.3
Bw -- 6 to 21 in	sand	rapid	0.60 to 1.05 in	4.5 to 6.5
C1,C2,C3 -- 21 to 60 in	sand	rapid	1.17 to 2.73 in	4.5 to 6.5

Map Unit Description (MN)

Olmsted County, Minnesota

283E--Plainfield sand, 12 to 30 percent slopes

Plainfield

Extent: 95 percent of the unit

Landform(s): outwash plains

Slope gradient: 12 to 30 percent

Parent material: sandy outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 1

Wind erodibility index (WEI): 220

Kw factor (surface layer) .02

Land capability, nonirrigated 7s

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>
A1,A2 -- 0 to 8 in	sand	rapid	0.31 to 0.71 in	5.1 to 7.3
Bw -- 8 to 21 in	sand	rapid	0.52 to 0.91 in	4.5 to 6.5
C1,C2,C3 -- 21 to 60 in	sand	rapid	1.17 to 2.73 in	4.5 to 6.5

285A--Port Byron silt loam, 0 to 1 percent slopes

Port Byron

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 0 to 1 percent

Parent material: silty loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated 1

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,A,AB -- 0 to 15 in	silt loam	moderate	3.29 to 3.59 in	5.1 to 8.4
Bw1,Bw2,Bw3 -- 15 to 35 in	silt loam	moderate	4.02 to 4.42 in	5.6 to 7.3
BC,C -- 35 to 60 in	silt loam	moderate	4.96 to 5.46 in	5.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

285B--Port Byron silt loam, 1 to 5 percent slopes

Port Byron

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 1 to 5 percent

Parent material: silty loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .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,A,AB -- 0 to 15 in	silt loam	moderate	3.29 to 3.59 in	5.1 to 8.4
Bw1,Bw2,Bw3 --	silt loam	moderate	3.39 to 3.72 in	5.6 to 7.3
BC,C -- 32 to 60 in	silt loam	moderate	5.59 to 6.15 in	5.6 to 8.4

285C--Port Byron silt loam, 5 to 9 percent slopes

Port Byron

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 5 to 9 percent

Parent material: silty loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated 3e

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,A,AB -- 0 to 10 in	silt loam	moderate	2.17 to 2.36 in	5.1 to 8.4
Bw1,Bw2,Bw3 --	silt loam	moderate	3.07 to 3.38 in	5.6 to 7.3
BC,C -- 25 to 60 in	silt loam	moderate	6.93 to 7.62 in	5.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

289--Radford silt loam

Radford, frequently flooded

Extent: 90 percent of the unit

Landform(s): flood plains

Slope gradient: 0 to 1 percent

Parent material: silty alluvium

Restrictive feature(s): greater than 60 inches

Flooding: frequent

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated 2w

Hydric soil: no

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 12 in	silt loam	moderate	2.60 to 2.83 in	5.6 to 7.8
C -- 12 to 29 in	silt loam	moderate	3.46 to 3.81 in	6.1 to 7.8
Ab1,Ab2,Bgb -- 29 to 60 in	silt loam	moderate	5.53 to 6.14 in	6.6 to 7.8

Otter

Extent: 5 percent of the unit

Landform(s): swales on flood plains

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: yes

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)

Olmsted County, Minnesota

295--Readlyn loam

Readlyn

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 0 to 3 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .20

Land capability, nonirrigated 1

Hydric soil: no

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,A1,A2,Bt1 - 0 to 22 in	loam	moderate	4.41 to 4.85 in	5.1 to 7.3
-				
2Bt2,2Bt3 -- 22 to 44 in	loam	moderate	3.75 to 4.19 in	5.1 to 6.5
2C -- 44 to 60 in	loam	moderate	2.68 to 2.99 in	6.6 to 8.4

Tripoli

Extent: 3 percent of the unit

Landform(s): drainageways

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: yes

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)

Olmsted County, Minnesota

298--Richwood silt loam, 0 to 2 percent slopes

Richwood, very rarely flooded

Extent: 95 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 2 percent

Parent material: loess over sandy outwash

Restrictive feature(s): greater than 60 inches

Flooding: very rare

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .32

Land capability, nonirrigated 1

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A1,A2 --	0 to 24 in	silt loam	moderate	5.28 to 5.76 in	5.6 to 7.3
Bt1,Bt2,Bt3 --	24 to 50 in	silt loam	moderate	4.68 to 5.72 in	5.6 to 7.3
2Bt4 --	50 to 59 in	sandy loam	moderately rapid	0.81 to 1.99 in	5.6 to 7.3
2C --	59 to 60 in	sand	rapid	0.04 to 0.06 in	6.1 to 7.3

Map Unit Description (MN)

Olmsted County, Minnesota

299A--Rockton loam, 0 to 1 percent slopes

Rockton

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 0 to 1 percent

Parent material: loamy sediments over residuum over limestone bedrock

Restrictive feature(s): lithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .20

Land capability, nonirrigated 2s

Hydric soil: no

Hydrologic group: C

Potential for frost action: moderate

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A --	0 to 15 in	loam	moderate	2.99 to 3.29 in	5.1 to 6.5
Bt1,Bt2 --	15 to 26 in	loam	moderate	1.87 to 2.09 in	5.1 to 6.5
2Bt3 --	26 to 31 in	clay loam	moderate	0.51 to 0.72 in	5.6 to 7.3
2R --	31 to 35 in	weathered bedrock	rapid		

Map Unit Description (MN)

Olmsted County, Minnesota

299B--Rockton loam, 1 to 6 percent slopes

Rockton

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 1 to 6 percent

Parent material: loamy sediments over residuum over limestone bedrock

Restrictive feature(s): lithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .20

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: C

Potential for frost action: moderate

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A --	0 to 15 in	loam	moderate	2.99 to 3.29 in	5.1 to 6.5
Bt1,Bt2 --	15 to 26 in	loam	moderate	1.87 to 2.09 in	5.1 to 6.5
2Bt3 --	26 to 31 in	clay	moderate	0.51 to 0.72 in	5.6 to 7.3
2R --	31 to 35 in	weathered bedrock	rapid		

Map Unit Description (MN)

Olmsted County, Minnesota

299C--Rockton loam, 6 to 12 percent slopes

Rockton

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 6 to 12 percent

Parent material: loamy sediments over residuum over limestone bedrock

Restrictive feature(s): lithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .20

Land capability, nonirrigated 3e

Hydric soil: no

Hydrologic group: C

Potential for frost action: moderate

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A --	0 to 15 in	loam	moderate	2.99 to 3.29 in	5.1 to 6.5
Bt1,Bt2 --	15 to 33 in	clay loam	moderate	3.08 to 3.44 in	5.1 to 6.5
2Bt3 --	33 to 37 in	weathered bedrock	rapid	0.67 to 0.75 in	5.1 to 6.5
2R --	37 to 60 in	weathered bedrock	impermeable		

Map Unit Description (MN)

Olmsted County, Minnesota

301B--Lindstrom silt loam, 2 to 6 percent slopes

Lindstrom

Extent: 95 percent of the unit

Landform(s): scarp slopes

Slope gradient: 2 to 6 percent

Parent material: loess and/or silty alluvium

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .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 9 in	silt loam	moderate	1.81 to 1.99 in	5.6 to 7.3
A1,A2,A3,A4 -- 9 to 24 in	silt loam	moderate	3.29 to 3.89 in	5.6 to 7.3
Bw1,Bw2 -- 24 to 55 in	silt loam	moderate	6.22 to 6.84 in	5.6 to 7.3
C -- 55 to 60 in	silt loam	moderate	0.80 to 0.90 in	6.6 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

301C--Lindstrom silt loam, 6 to 15 percent slopes

Lindstrom

Extent: 95 percent of the unit

Landform(s): scarp slopes

Slope gradient: 6 to 15 percent

Parent material: loess and/or silty alluvium

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .32

Land capability, nonirrigated 3e

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	silt loam	moderate	1.81 to 1.99 in	5.6 to 7.3
A1,A2,A3,A4 -- 9 to 24 in	silt loam	moderate	3.29 to 3.89 in	5.6 to 7.3
Bw1,Bw2 -- 24 to 55 in	silt loam	moderate	6.22 to 6.84 in	5.6 to 7.3
C -- 55 to 60 in	silt loam	moderate	0.80 to 0.90 in	6.6 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

309C--Schapville silty clay loam, 6 to 12 percent slopes

Schapville

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 6 to 12 percent

Parent material: loess over residuum over shale bedrock

Restrictive feature(s): paralithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated 3e

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 7 in	silty clay loam	moderate	1.28 to 1.42 in	5.6 to 7.3
A -- 7 to 15 in	silty clay loam	moderate	1.42 to 1.57 in	5.6 to 7.3
Bg -- 15 to 20 in	clay	slow	0.41 to 0.51 in	5.6 to 7.3
2Cr -- 20 to 60 in	weathered bedrock	slow		

Haverhill

Extent: 5 percent of the unit

Landform(s): seeps on benches

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: yes

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)

Olmsted County, Minnesota

309D--Schapville silty clay loam, 12 to 25 percent slopes

Schapville

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 12 to 25 percent

Parent material: loess over residuum over shale bedrock

Restrictive feature(s): paralithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated 6e

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 7 in	silty clay loam	moderate	1.28 to 1.42 in	5.6 to 7.3
A -- 7 to 15 in	silty clay loam	moderate	1.42 to 1.57 in	5.6 to 7.3
Bg -- 15 to 20 in	clay	slow	0.41 to 0.51 in	5.6 to 7.3
2Cr -- 20 to 60 in	weathered bedrock	slow		

Haverhill

Extent: 5 percent of the unit

Landform(s): seeps on benches

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: yes

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)

Olmsted County, Minnesota

312B--Shullsburg silt loam, 2 to 6 percent slopes

Shullsburg

Extent: 95 percent of the unit

Landform(s): scarp slopes

Slope gradient: 2 to 6 percent

Parent material: loess over shale

Restrictive feature(s): paralithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 2e

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,A -- 0 to 17 in	silt loam	moderate	3.39 to 4.06 in	5.6 to 7.3
Bt1,Bt2 -- 17 to 26 in	silty clay loam	moderately slow	1.63 to 1.99 in	5.6 to 7.3
2Bt3,2Bt4 -- 26 to 37 in	clay	slow	1.32 to 1.76 in	6.1 to 7.8
2Cr -- 37 to 60 in	weathered bedrock	slow		

Haverhill

Extent: 5 percent of the unit

Landform(s): seeps on benches

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: yes

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)

Olmsted County, Minnesota

312C--Shullsburg silt loam, 6 to 12 percent slopes

Shullsburg

Extent: 95 percent of the unit

Landform(s): scarp slopes

Slope gradient: 6 to 12 percent

Parent material: loess over shale

Restrictive feature(s): paralithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 3e

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,A -- 0 to 15 in	silt loam	moderate	2.99 to 3.59 in	5.6 to 7.3
Bt1,Bt2 -- 15 to 21 in	silty clay loam	moderately slow	1.06 to 1.30 in	5.6 to 7.3
2Bt3,2Bt4 -- 21 to 27 in	silty clay	slow	0.71 to 0.94 in	6.1 to 7.8
2Cr -- 27 to 60 in	weathered bedrock	slow		

Haverhill

Extent: 5 percent of the unit

Landform(s): seeps on benches

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: yes

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)

Olmsted County, Minnesota

313--Spillville silt loam

Spillville, occasionally flooded

Extent: 95 percent of the unit

Landform(s): flood plains

Slope gradient: 0 to 1 percent

Parent material: loamy 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): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated 2w

Hydric soil: no

Hydrologic group: C

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,A1,A2,Bw1	0 to 52 in	silt loam	moderate	9.87 to 10.91 in	5.6 to 7.3
--					
BC --	52 to 60 in	coarse sand	moderately rapid	1.18 to 1.42 in	5.6 to 7.3

322C--Timula silt loam, 6 to 12 percent slopes

Timula

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 6 to 12 percent

Parent material: coarse-silty loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated 3e

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,Bw1,Bw2 --	0 to 20 in	silt loam	moderate	4.02 to 4.82 in	6.1 to 7.8
C1,C2 --	20 to 60 in	silt loam	moderate	7.16 to 7.95 in	7.4 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

322D--Timula silt loam, 12 to 18 percent slopes

Timula

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 12 to 18 percent

Parent material: coarse-silty loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated 4e

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,Bw1,Bw2 --	0 to 20 in silt loam	moderate	4.02 to 4.82 in	6.1 to 7.8
C1,C2 --	20 to 60 in silt loam	moderate	7.16 to 7.95 in	7.4 to 8.4

322E--Timula silt loam, 18 to 30 percent slopes

Timula

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 18 to 30 percent

Parent material: coarse-silty loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated 6e

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,Bw1,Bw2 --	0 to 22 in silt loam	moderate	4.41 to 5.29 in	6.1 to 7.8
C1,C2 --	22 to 60 in silt loam	moderate	6.80 to 7.56 in	7.4 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

333--Vasa silt loam

Vasa

Extent: 95 percent of the unit

Landform(s): drainageways

Slope gradient: 0 to 3 percent

Parent material: loess over till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

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,E -- 0 to 14 in	silt loam	moderate	3.12 to 3.40 in	5.6 to 7.3
Bt1,Bt2,Bt3, -- 14 to 38 in	silt loam	moderate	4.72 to 5.20 in	5.1 to 7.3
Bt4,C -- 38 to 60 in	silt loam	moderate	4.41 to 4.85 in	6.6 to 7.3

340B--Whalan loam, 1 to 6 percent slopes

Whalan

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 1 to 6 percent

Parent material: loamy till over clayey residuum

Restrictive feature(s): lithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: C

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,E,E&B -- 0 to 17 in	loam	moderate	3.72 to 4.06 in	5.6 to 7.3
Bt1 -- 17 to 22 in	loam	moderate	0.87 to 0.97 in	5.1 to 6.5
2Bt2 -- 22 to 27 in	clay loam	moderately slow	0.71 to 0.90 in	5.6 to 7.8
2R -- 27 to 31 in	weathered bedrock	rapid		

Map Unit Description (MN)

Olmsted County, Minnesota

340C--Whalan loam, 6 to 12 percent slopes

Whalan

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 6 to 12 percent

Parent material: loamy till over clayey residuum

Restrictive feature(s): lithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 3e

Hydric soil: no

Hydrologic group: C

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,E,E&B -- 0 to 17 in	loam	moderate	3.72 to 4.06 in	5.6 to 7.3
Bt1 -- 17 to 22 in	loam	moderate	0.87 to 0.97 in	5.1 to 6.5
2Bt2 -- 22 to 27 in	clay loam	moderately slow	0.71 to 0.90 in	5.6 to 7.8
2R -- 27 to 31 in	weathered bedrock	rapid		

369B--Waubeek silt loam, 1 to 6 percent slopes

Waubeek

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 1 to 6 percent

Parent material: loess over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

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,E -- 0 to 13 in	silt loam	moderate	2.73 to 2.99 in	5.6 to 7.3
Bt1,Bt2,Bt3 -- 13 to 33 in	silt loam	moderate	3.61 to 4.02 in	5.1 to 6.5
2Bt4,2C -- 33 to 60 in	loam	moderate	4.55 to 5.09 in	5.1 to 7.3

Map Unit Description (MN)

Olmsted County, Minnesota

369C--Waubeek silt loam, 6 to 12 percent slopes

Waubeek

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 6 to 12 percent

Parent material: loess over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated 3e

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	silt loam	moderate	2.73 to 2.99 in	5.6 to 7.3
Bt1,Bt2,Bt3 -- 13 to 33 in	silt loam	moderate	3.61 to 4.02 in	5.1 to 6.5
2Bt4,2C -- 33 to 60 in	loam	moderate	4.55 to 5.09 in	5.1 to 7.3

378--Maxfield silty clay loam

Maxfield

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 0 to 2 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated 2w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A1,A2 -- 0 to 15 in	silty clay loam	moderate	3.14 to 3.44 in	6.6 to 7.3
Bg1,Bg2 -- 15 to 32 in	silty clay loam	moderate	3.05 to 3.39 in	6.1 to 7.3
2Bg3,2C -- 32 to 60 in	loam	moderate	4.75 to 5.31 in	6.1 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

401B--Mt. Carroll silt loam, 2 to 6 percent slopes

Mt. Carroll

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 2 to 6 percent

Parent material: fine-silty loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,E -- 0 to 12 in	silt loam	moderate	2.60 to 2.83 in	5.6 to 7.3
Bt1,Bt2,Bt3 -- 12 to 40 in	silt loam	moderate	5.67 to 6.24 in	5.6 to 7.3
BC -- 40 to 51 in	silt loam	moderate	2.20 to 2.43 in	5.1 to 7.3
C -- 51 to 60 in	silt loam	moderate	1.73 to 1.91 in	5.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

401C--Mt. Carroll silt loam, 6 to 12 percent slopes

Mt. Carroll

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 6 to 12 percent

Parent material: fine-silty loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated 3e

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,E -- 0 to 12 in	silt loam	moderate	2.60 to 2.83 in	5.6 to 7.3
Bt1,Bt2,Bt3 -- 12 to 38 in	silt loam	moderate	5.20 to 5.72 in	5.6 to 7.3
BC -- 38 to 51 in	silt loam	moderate	2.68 to 2.94 in	5.1 to 7.3
C -- 51 to 60 in	silt loam	moderate	1.73 to 1.91 in	5.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

401C2--Mt. Carroll silt loam, 6 to 12 percent slopes, eroded

Mt. Carroll, eroded

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 6 to 12 percent

Parent material: fine-silty loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated 3e

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,E -- 0 to 7 in	silt loam	moderate	1.56 to 1.70 in	5.6 to 7.3
Bt1,Bt2,Bt3 -- 7 to 27 in	silt loam	moderate	3.94 to 4.33 in	5.6 to 7.3
BC -- 27 to 51 in	silt loam	moderate	4.88 to 5.37 in	5.1 to 7.3
C -- 51 to 60 in	silt loam	moderate	1.73 to 1.91 in	5.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

401D--Mt. Carroll silt loam, 12 to 18 percent slopes

Mt. Carroll

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 12 to 18 percent

Parent material: fine-silty loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated 4e

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 10 in	silt loam	moderate	2.17 to 2.36 in	5.6 to 7.3
Bt1,Bt2,Bt3 -- 10 to 35 in	silt loam	moderate	5.04 to 5.54 in	5.6 to 7.3
BC -- 35 to 51 in	silt loam	moderate	3.23 to 3.55 in	5.1 to 7.3
C -- 51 to 60 in	silt loam	moderate	1.73 to 1.91 in	5.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

401D2--Mt. Carroll silt loam, 12 to 18 percent slopes, eroded

Mt. Carroll, eroded

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 12 to 18 percent

Parent material: fine-silty loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated 4e

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 7 in	silt loam	moderate	1.56 to 1.70 in	5.6 to 7.3
Bt1,Bt2,Bt3 -- 7 to 25 in	silt loam	moderate	3.62 to 3.98 in	5.6 to 7.3
BC -- 25 to 51 in	silt loam	moderate	5.20 to 5.72 in	5.1 to 7.3
C -- 51 to 60 in	silt loam	moderate	1.73 to 1.91 in	5.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

401E--Mt. Carroll silt loam, 18 to 25 percent slopes

Mt. Carroll

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 18 to 25 percent

Parent material: fine-silty loess

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated 6e

Hydric soil: no

Hydrologic group: B

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,E -- 0 to 10 in	silt loam	moderate	2.17 to 2.36 in	5.6 to 7.3
Bt1,Bt2,Bt3 -- 10 to 35 in	silt loam	moderate	5.04 to 5.54 in	5.6 to 7.3
BC -- 35 to 51 in	silt loam	moderate	3.23 to 3.55 in	5.1 to 7.3
C -- 51 to 60 in	silt loam	moderate	1.73 to 1.91 in	5.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

463--Minneiska loam, occasionally flooded

Minneiska, occasionally flooded

Extent: 95 percent of the unit

Landform(s): flood plains

Slope gradient: 0 to 1 percent

Parent material: loamy alluvium

Restrictive feature(s): greater than 60 inches

Flooding: occasional

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .20

Land capability, nonirrigated 2w

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,A1,A2 --	0 to 36 in loam	moderately rapid	7.17 to 7.88 in	7.4 to 8.4
Bw --	36 to 39 in sandy loam	moderately rapid	0.41 to 0.57 in	7.4 to 8.4
2C --	39 to 60 in gravelly coarse sand	rapid	1.04 to 1.67 in	7.4 to 8.4

Root

Extent: 5 percent of the unit

Landform(s): swales on flood plains

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: yes

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)

Olmsted County, Minnesota

465--Kalmarville silt loam

Kalmarville, frequently flooded

Extent: 95 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 1 percent
Parent material: loamy alluvium over sandy alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .32
Land capability, nonirrigated 5w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 10 in	silt loam	moderate	1.97 to 2.36 in	6.6 to 7.8
2C1 -- 10 to 43 in	sand	moderately rapid	4.30 to 5.95 in	6.6 to 7.8
2C2 -- 43 to 60 in	sand	rapid	1.02 to 1.52 in	6.6 to 7.8

467--Sawmill silty clay loam

Sawmill, frequently flooded

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

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .24
Land capability, nonirrigated 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>
A1,A2 -- 0 to 18 in	silty clay loam	moderate	3.80 to 4.17 in	6.1 to 7.8
A3,A4 -- 18 to 30 in	silty clay loam	moderate	2.48 to 2.72 in	6.1 to 7.8
Bg -- 30 to 41 in	silty clay loam	moderate	1.87 to 2.20 in	6.1 to 7.8
Cg -- 41 to 60 in	silty clay loam	moderate	2.83 to 3.59 in	6.1 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

468--Otter silt loam, channeled

Otter, frequently flooded, ponded

Extent: 95 percent of the unit

Landform(s): drainageways

Slope gradient: 0 to 2 percent

Parent material: silty alluvium

Restrictive feature(s): greater than 60 inches

Flooding: frequent

Ponding: frequent

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated 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,A,Ab1,Ab2 - 0 to 30 in	silt loam	moderate	6.58 to 7.18 in	6.1 to 7.8
Ab3 -- 30 to 38 in	silt loam	moderate	1.34 to 1.73 in	6.1 to 7.8
Cg -- 38 to 60 in	silt loam	moderate	3.31 to 4.41 in	6.1 to 8.4

471--Root silt loam

Root, frequently flooded

Extent: 95 percent of the unit

Landform(s): flood plains

Slope gradient: 1 to 3 percent

Parent material: loamy alluvium

Restrictive feature(s): greater than 60 inches

Flooding: frequent

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .32

Land capability, nonirrigated 5w

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>
A1,A2 -- 0 to 34 in	silt loam	moderate	6.77 to 8.13 in	6.6 to 7.8
2C -- 34 to 50 in	channery loam	very rapid	0.16 to 0.32 in	7.4 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

472B--Channahon loam, 1 to 6 percent slopes

Channahon

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 1 to 6 percent

Parent material: loamy sediments over limestone bedrock

Restrictive feature(s): lithic bedrock at 10 to 20 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 3e

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,A -- 0 to 12 in	loam	moderate	1.77 to 2.72 in	6.1 to 8.4
Bt -- 12 to 15 in	loam	moderate	0.47 to 0.69 in	6.1 to 8.4
R -- 15 to 19 in	unweathered bedrock	moderately slow		

472C--Channahon loam, 6 to 12 percent slopes

Channahon

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 6 to 12 percent

Parent material: loamy sediments over limestone bedrock

Restrictive feature(s): lithic bedrock at 10 to 20 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 6e

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,A -- 0 to 7 in	loam	moderate	1.06 to 1.63 in	6.1 to 8.4
Bt -- 7 to 13 in	loam	moderate	0.89 to 1.30 in	6.1 to 8.4
R -- 13 to 15 in	unweathered bedrock	moderately slow		

Map Unit Description (MN)

Olmsted County, Minnesota

473D--Dorerton loam, 12 to 25 percent slopes

Dorerton

Extent: 95 percent of the unit

Landform(s): bluffs

Slope gradient: 12 to 25 percent

Parent material: loamy loess over colluvium

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .32

Land capability, nonirrigated 6e

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E1,E2 -- 0 to 10 in	loam	moderate	1.97 to 2.36 in	5.1 to 7.3
Bt1,Bt2 -- 10 to 18 in	loam	moderate	1.41 to 1.57 in	5.1 to 7.3
2Bt3 -- 18 to 30 in	channery loam	moderate	0.94 to 1.65 in	5.6 to 7.3
2C -- 30 to 60 in	very flaggy loamy sand	moderately rapid	0.90 to 2.69 in	7.4 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

473F--Dorernton loam, 25 to 40 percent slopes

Dorernton

Extent: 90 percent of the unit

Landform(s): hills

Slope gradient: 25 to 40 percent

Parent material: loamy loess over colluvium

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .32

Land capability, nonirrigated 7e

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E1,E2 -- 0 to 10 in	loam	moderate	1.97 to 2.36 in	5.1 to 7.3
Bt1,Bt2 -- 10 to 18 in	loam	moderate	1.41 to 1.57 in	5.1 to 7.3
2Bt3 -- 18 to 30 in	channery clay loam	moderate	0.94 to 1.65 in	5.6 to 7.3
2C -- 30 to 60 in	very flaggy loamy sand	moderately rapid	0.90 to 2.69 in	7.4 to 8.4

Root

Extent: 5 percent of the unit

Landform(s): flood plains

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: yes

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)

Olmsted County, Minnesota

474B--Haverhill silty clay loam, 1 to 8 percent slopes

Haverhill

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 1 to 8 percent

Parent material: shale over clayey residuum

Restrictive feature(s): paralithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: very poorly drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 6w

Hydric soil: yes

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>
A,AB -- 0 to 13 in	silty clay loam	moderately slow	2.08 to 3.25 in	7.4 to 7.8
Bg1,Bg2,Bg3 -- 13 to 32 in	clay	slow	1.70 to 3.02 in	7.4 to 7.8
Cr -- 32 to 42 in	weathered bedrock	slow		

Map Unit Description (MN)

Olmsted County, Minnesota

475B--Backbone sandy loam, 1 to 6 percent slopes

Backbone

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 1 to 6 percent

Parent material: alluvium over residuum

Restrictive feature(s): lithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .15

Land capability, nonirrigated 4s

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,E -- 0 to 9 in	sandy loam	moderately rapid	1.09 to 1.27 in	5.6 to 7.3
Bt1 -- 9 to 23 in	sandy loam	moderately rapid	1.52 to 1.79 in	5.1 to 7.3
Bt2,2Bt3 -- 23 to 28 in	clay loam	moderately slow	0.72 to 0.82 in	5.6 to 7.3
Cr -- 28 to 32 in	weathered bedrock	impermeable		
R -- 32 to 40 in	unweathered bedrock	impermeable		

Map Unit Description (MN)

Olmsted County, Minnesota

476B--Frankville silt loam, 1 to 6 percent slopes

Frankville

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 1 to 6 percent

Parent material: loess over clayey residuum

Restrictive feature(s): lithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

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,E -- 0 to 12 in	silt loam	moderate	2.48 to 2.72 in	6.6 to 7.3
Bt1.Bt2,Bt3 -- 12 to 32 in	silt loam	moderate	3.61 to 4.02 in	5.6 to 6.5
2Bt4 -- 32 to 37 in	silty clay	slow	0.61 to 0.77 in	6.1 to 7.3
Cr -- 37 to 41 in	weathered bedrock	impermeable		
R -- 41 to 50 in	unweathered bedrock	impermeable		

Map Unit Description (MN)

Olmsted County, Minnesota

476C--Frankville silt loam, 6 to 12 percent slopes

Frankville

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 6 to 12 percent

Parent material: loess over clayey residuum

Restrictive feature(s): lithic bedrock at 20 to 40 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated 3e

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,E -- 0 to 12 in	silt loam	moderate	2.48 to 2.72 in	6.6 to 7.3
Bt1,Bt2,Bt3 -- 12 to 32 in	silt loam	moderate	3.61 to 4.02 in	5.6 to 6.5
2Bt4 -- 32 to 37 in	silty clay	slow	0.61 to 0.77 in	6.1 to 7.3
Cr -- 37 to 41 in	weathered bedrock	impermeable		
R -- 41 to 50 in	unweathered bedrock	impermeable		

Map Unit Description (MN)

Olmsted County, Minnesota

477A--Littleton silt loam, 0 to 1 percent slopes

Littleton

Extent: 90 percent of the unit

Landform(s): drainageways

Slope gradient: 0 to 1 percent

Parent material: silty alluvium

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated 1

Hydric soil: no

Hydrologic group: B/D

Potential for frost action: high

<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	5.6 to 7.8
A1,A2 -- 8 to 28 in	silt loam	moderate	4.42 to 4.82 in	5.6 to 7.8
Bw1,Bw2 -- 28 to 60 in	silty clay loam	moderate	6.38 to 7.02 in	5.6 to 7.8

Garwin

Extent: 5 percent of the unit

Landform(s): drainageways

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: yes

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)

Olmsted County, Minnesota

477A--Littleton silt loam, 0 to 1 percent slopes

Sawmill

Extent: 5 percent of the unit

Landform(s): drainageways

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: yes

Hydrologic group:

Potential for frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

Map Unit Description (MN)

Olmsted County, Minnesota

477B--Littleton silt loam, 1 to 4 percent slopes

Littleton

Extent: 90 percent of the unit

Landform(s): drainageways

Slope gradient: 1 to 4 percent

Parent material: silty alluvium

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated 2e

Hydric soil: no

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	silt loam	moderate	1.57 to 1.89 in	5.6 to 7.8
A1,A2 -- 8 to 32 in	silt loam	moderate	5.28 to 5.76 in	5.6 to 7.8
Bw1,Bw2 -- 32 to 60 in	silt loam	moderate	5.59 to 6.15 in	5.6 to 7.8

Garwin

Extent: 4 percent of the unit

Landform(s): drainageways

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: yes

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)

Olmsted County, Minnesota

477B--Littleton silt loam, 1 to 4 percent slopes

Sawmill

Extent: 4 percent of the unit

Landform(s): drainageways

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: yes

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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478B--Coggon silt loam, 2 to 6 percent slopes

Coggon

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 2 to 6 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .32

Land capability, nonirrigated 2e

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,E -- 0 to 12 in	silt loam	moderate	2.13 to 2.36 in	5.1 to 7.3
Bt1,2Bt2,2Bt -- 12 to 55 in	clay loam	moderate	7.36 to 8.23 in	4.5 to 6.0
2C -- 55 to 60 in	loam	moderate	0.80 to 0.90 in	5.1 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

479--Floyd silt loam, 1 to 4 percent slopes

Floyd

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 1 to 4 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 1

Hydric soil: no

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,A1,A2 -- 0 to 18 in	silt loam	moderate	3.62 to 3.98 in	6.1 to 7.3
A3,Bw1 -- 18 to 26 in	loam	moderate	1.26 to 1.42 in	6.1 to 7.3
2Bw2,2Bw3,2C -- 26 to 60 in	loam	moderate	5.42 to 6.09 in	6.6 to 8.4

Clyde

Extent: 5 percent of the unit

Landform(s): drainageways

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: yes

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)

Olmsted County, Minnesota

483A--Waukee loam, 0 to 2 percent slopes

Waukee

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 0 to 2 percent

Parent material: loamy alluvium over sandy outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated 2s

Hydric soil: no

Hydrologic group: B

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,A -- 0 to 10 in	loam	moderate	1.97 to 2.17 in	5.1 to 7.3
Bt1,Bt2,Bt3 -- 10 to 31 in	loam	moderate	3.19 to 4.04 in	5.1 to 6.0
2Bt4,2Bt5,2C -- 31 to 60 in	coarse sand	very rapid	0.57 to 1.72 in	5.6 to 6.5

483B--Waukee loam, 2 to 6 percent slopes

Waukee

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 2 to 6 percent

Parent material: loamy alluvium over sandy outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 10 in	loam	moderate	1.97 to 2.17 in	5.1 to 7.3
Bt1,Bt2,Bt3 -- 10 to 31 in	loam	moderate	3.19 to 4.04 in	5.1 to 6.0
2Bt4,2Bt5,2C -- 31 to 60 in	sand	very rapid	0.57 to 1.72 in	5.6 to 6.5

Map Unit Description (MN)

Olmsted County, Minnesota

484C--Eyota sandy loam, 6 to 12 percent slopes

Eyota

Extent: 95 percent of the unit

Landform(s): scarp slopes

Slope gradient: 6 to 12 percent

Parent material: loamy colluvium

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .17

Land capability, nonirrigated 3e

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	sandy loam	moderately rapid	1.28 to 1.57 in	5.1 to 7.3
A -- 10 to 24 in	loam	moderately rapid	1.70 to 1.98 in	4.5 to 6.5
2Bw1,2Bw2,2B -- 24 to 50 in	silt loam	moderate	5.20 to 5.72 in	4.5 to 6.5
2C -- 50 to 60 in	silt loam	rapid	0.79 to 1.38 in	6.1 to 7.3

Map Unit Description (MN)

Olmsted County, Minnesota

484E--Eyota loamy sand, 12 to 25 percent slopes

Eyota

Extent: 95 percent of the unit

Landform(s): scarp slopes

Slope gradient: 12 to 25 percent

Parent material: loamy colluvium

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .15

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>
Ap -- 0 to 10 in	loamy sand	moderately rapid	0.98 to 1.38 in	5.1 to 7.3
A -- 10 to 24 in	fine sandy loam	moderately rapid	1.70 to 1.98 in	4.5 to 6.5
2Bw1,2Bw2,2B -- 24 to 55 in	silt loam	moderate	6.22 to 6.84 in	4.5 to 6.5
2C -- 55 to 60 in	fine sandy loam	rapid	0.38 to 0.66 in	6.1 to 7.3

Map Unit Description (MN)

Olmsted County, Minnesota

485--Lawler loam

Lawler

Extent: 95 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 2 percent

Parent material: loamy sediments over sandy and gravelly outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .20

Land capability, nonirrigated 2s

Hydric soil: no

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 16 in	loam	moderate	3.23 to 3.55 in	5.6 to 7.3
Bw1,Bw2,Bw3 -- 16 to 33 in	loam	moderate	2.71 to 3.05 in	5.1 to 6.5
2Bw4,2C1,2C2 -- 33 to 60 in	loamy sand	very rapid	0.54 to 1.07 in	5.1 to 7.3

Marshan

Extent: 5 percent of the unit

Landform(s): drainageways

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: yes

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)

Olmsted County, Minnesota

486--Marshan silt loam, depressional

Marshan, depressional

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 0 to 1 percent

Parent material: loamy sediments over sandy and gravelly outwash

Restrictive feature(s): greater than 60 inches

Flooding: frequent

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .28

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A1 -- 0 to 14 in	silt loam	moderate	2.83 to 3.40 in	5.6 to 7.3
A2,Bg1 -- 14 to 23 in	silty clay loam	moderate	1.47 to 1.91 in	5.6 to 7.3
Bg2 -- 23 to 30 in	loam	moderate	1.06 to 1.35 in	5.6 to 7.3
2C1,2C2 -- 30 to 60 in	gravelly coarse sand	rapid	0.60 to 1.50 in	6.1 to 7.3

Map Unit Description (MN)

Olmsted County, Minnesota

487--Hoopeston sandy loam

Hoopeston

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 2 percent

Parent material: loamy alluvium over sandy outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .15

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 10 in	sandy loam	moderately rapid	1.18 to 1.48 in	5.1 to 6.5
A,Bw1,Bw2 -- 10 to 32 in	sandy loam	moderately rapid	2.65 to 3.75 in	5.1 to 7.8
C1,C2 -- 32 to 60 in	sand	rapid	1.40 to 2.80 in	4.5 to 8.4

Poorly drained soils

Extent: 10 percent of the unit

Landform(s): drainageways

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: yes

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)

Olmsted County, Minnesota

488F--Brodale flaggy loam, 25 to 40 percent slopes

Brodale

Extent: 95 percent of the unit

Landform(s): bluffs

Slope gradient: 25 to 40 percent

Parent material: loamy colluvium and/or residuum

Restrictive feature(s): lithic bedrock at 40 to 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .15

Land capability, nonirrigated 7s

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 12 in	flaggy loam	moderate	0.71 to 1.42 in	6.6 to 8.4
Bw,C -- 12 to 45 in	flaggy loamy very fine sand	moderately rapid	1.32 to 2.98 in	7.4 to 8.4
R -- 45 to 49 in	unweathered bedrock	rapid		

488G--Brodale flaggy sandy loam, 40 to 80 percent slopes

Brodale

Extent: 95 percent of the unit

Landform(s): bluffs

Slope gradient: 40 to 80 percent

Parent material: loamy colluvium and/or residuum

Restrictive feature(s): lithic bedrock at 40 to 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .10

Land capability, nonirrigated 7s

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 12 in	flaggy sandy loam	moderate	0.71 to 1.42 in	6.6 to 8.4
Bw,C -- 12 to 45 in	very flaggy sandy loam	moderately rapid	1.32 to 2.98 in	7.4 to 8.4
R -- 45 to 49 in	unweathered bedrock	rapid		

Map Unit Description (MN)

Olmsted County, Minnesota

489A--Atkinson loam, 0 to 1 percent slopes

Atkinson

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 0 to 1 percent

Parent material: loamy till

Restrictive feature(s): lithic bedrock at 40 to 55 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .20

Land capability, nonirrigated 1

Hydric soil: no

Hydrologic group: C

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 13 in	loam	moderate	2.60 to 2.86 in	5.6 to 7.3
Bt1,Bt2 -- 13 to 24 in	loam	moderate	1.87 to 2.09 in	5.1 to 6.0
Bt3 -- 24 to 34 in	clay loam	slow	1.18 to 1.48 in	6.6 to 7.3
Cr -- 34 to 41 in	weathered bedrock	impermeable		
R -- 41 to 45 in	unweathered bedrock	impermeable		

Map Unit Description (MN)

Olmsted County, Minnesota

489B--Atkinson loam, 1 to 6 percent slopes

Atkinson

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 1 to 6 percent

Parent material: loamy till

Restrictive feature(s): lithic bedrock at 40 to 55 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .20

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: C

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 13 in	loam	moderate	2.60 to 2.86 in	5.6 to 7.3
Bt1,Bt2 -- 13 to 24 in	loam	moderate	1.87 to 2.09 in	5.1 to 6.0
Bt3 -- 24 to 34 in	clay loam	slow	1.18 to 1.48 in	6.6 to 7.3
Cr -- 34 to 41 in	weathered bedrock	impermeable		
R -- 41 to 45 in	unweathered bedrock	impermeable		

Map Unit Description (MN)

Olmsted County, Minnesota

491B--Waucoma loam, 2 to 6 percent slopes

Waucoma

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 2 to 6 percent

Parent material: loamy till

Restrictive feature(s): lithic bedrock at 40 to 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated 2e

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,E -- 0 to 12 in	loam	moderate	2.24 to 2.48 in	5.6 to 7.3
Bt1,Bt2,Bt3, -- 12 to 45 in	loam	moderate	5.62 to 6.28 in	5.6 to 6.5
2Bt5 -- 45 to 55 in	clay	slow	1.23 to 1.54 in	6.6 to 7.3
2R -- 55 to 60 in	unweathered bedrock	impermeable		

Map Unit Description (MN)

Olmsted County, Minnesota

492B--Nasset silt loam, 2 to 6 percent slopes

Nasset

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 2 to 6 percent

Parent material: loess over residuum over limestone bedrock

Restrictive feature(s): lithic bedrock at 40 to 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .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 6 in	silt loam	moderate	1.24 to 1.36 in	5.1 to 7.3
E,Bt1,Bt2,Bt --	6 to 37 in	silt loam	moderate	5.60 to 6.22 in	5.1 to 6.5
2Bt4 --	37 to 44 in	clay	slow	0.85 to 1.06 in	6.6 to 7.3
2R --	44 to 48 in	unweathered bedrock	impermeable		

Map Unit Description (MN)

Olmsted County, Minnesota

492C--Nasset silt loam, 6 to 12 percent slopes

Nasset

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 6 to 12 percent

Parent material: loess over residuum over limestone bedrock

Restrictive feature(s): lithic bedrock at 40 to 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .37

Land capability, nonirrigated 3e

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 6 in	silt loam	moderate	1.24 to 1.36 in	5.1 to 7.3
E,Bt1,Bt2,Bt -- 6 to 37 in	silt loam	moderate	5.60 to 6.22 in	5.1 to 6.5
2Bt4 -- 37 to 44 in	silty clay loam	slow	0.85 to 1.06 in	6.6 to 7.3
2R -- 44 to 48 in	unweathered bedrock	impermeable		

493B--Oronoco loam, 2 to 6 percent slopes

Oronoco

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 2 to 6 percent

Parent material: loamy eolian sediments

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .28

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,E -- 0 to 11 in	loam	moderate	2.20 to 2.43 in	6.1 to 7.3
Bt1,Bt2,Bt3, -- 11 to 45 in	loam	moderate	5.08 to 6.43 in	5.6 to 7.8
Bt5,2C -- 45 to 60 in	silt loam	moderate	2.99 to 3.29 in	7.4 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

493C--Oronoco loam, 6 to 12 percent slopes

Oronoco

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 6 to 12 percent

Parent material: loamy eolian sediments

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .28

Land capability, nonirrigated 3e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,E -- 0 to 11 in	loam	moderate	2.20 to 2.43 in	6.1 to 7.3
Bt1,Bt2,Bt3, -- 11 to 45 in	fine sandy loam	moderate	5.08 to 6.43 in	5.6 to 7.8
Bt5,2C -- 45 to 60 in	silt loam	moderate	2.99 to 3.29 in	7.4 to 7.8

493D--Oronoco fine sandy loam, 12 to 18 percent slopes

Oronoco

Extent: 95 percent of the unit

Landform(s): hills

Slope gradient: 12 to 18 percent

Parent material: loamy eolian sediments

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .24

Land capability, nonirrigated 4e

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,E -- 0 to 8 in	fine sandy loam	moderately rapid	1.18 to 1.42 in	6.1 to 7.3
Bt1,Bt2,Bt3, -- 8 to 43 in	fine sandy loam	moderate	5.26 to 6.66 in	5.6 to 7.8
Bt5,2C -- 43 to 60 in	silt loam	moderate	3.39 to 3.72 in	7.4 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

495--Zumbro loamy sand

Zumbro

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 0 to 2 percent

Parent material: sandy alluvium

Restrictive feature(s): greater than 60 inches

Flooding: very rare

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated 3s

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>
A1	--	0 to 8 in	loamy sand	rapid	0.79 to 0.94 in	5.6 to 7.8
A2	--	8 to 40 in	loamy sand	rapid	3.23 to 3.87 in	5.6 to 7.8
A3	--	40 to 50 in	sand	rapid	0.59 to 1.08 in	6.1 to 7.8
C	--	50 to 65 in	sand	rapid	0.30 to 1.05 in	6.1 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

516A--Dowagiac loam, 0 to 2 percent slopes

Dowagiac

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 0 to 2 percent

Parent material: loamy outwash over sandy and gravelly outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .28

Land capability, nonirrigated 2s

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E,Bt1	-- 0 to 15 in	loam	moderate	2.39 to 2.69 in	5.6 to 6.5
Bt2	-- 15 to 21 in	loam	moderate	0.77 to 0.83 in	5.1 to 6.5
2Bt3	-- 21 to 35 in	clay loam	moderately rapid	1.98 to 2.13 in	5.1 to 6.5
2Bt4	-- 35 to 60 in	coarse sand	rapid	0.25 to 0.99 in	5.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

516B--Dowagiac silt loam, 2 to 6 percent slopes

Dowagiac

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 2 to 6 percent

Parent material: loamy outwash over sandy and gravelly outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .37

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

Representative soil profile:

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E,Bt1	-- 0 to 15 in	silt loam	moderate	2.39 to 2.69 in	5.6 to 6.5
Bt2	-- 15 to 21 in	loam	moderate	0.77 to 0.83 in	5.1 to 6.5
2Bt3	-- 21 to 35 in	gravelly coarse sandy loam	moderately rapid	1.98 to 2.13 in	5.1 to 6.5
2Bt4,2C	-- 35 to 60 in	coarse sand	rapid	0.25 to 0.99 in	5.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

516C--Dowagiac sandy loam, 6 to 12 percent slopes

Dowagiac

Extent: 95 percent of the unit

Landform(s): stream terraces

Slope gradient: 6 to 12 percent

Parent material: loamy outwash over sandy and gravelly outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .17

Land capability, nonirrigated 3e

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,E,Bt1 -- 0 to 7 in	sandy loam	moderately rapid	0.99 to 1.13 in	5.6 to 6.5
Bt2 -- 7 to 15 in	loam	moderate	1.02 to 1.10 in	5.1 to 6.5
2Bt3 -- 15 to 45 in	gravelly coarse sandy loam	moderately rapid	4.19 to 4.49 in	5.1 to 6.5
2Bt4,2C -- 45 to 60 in	coarse sand	rapid	0.15 to 0.60 in	5.6 to 8.4

528B--Palms muck, 1 to 6 percent slopes

Palms

Extent: 95 percent of the unit

Landform(s): till plains

Slope gradient: 1 to 6 percent

Parent material: herbaceous organic material over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: very poorly drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

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,Oa3, -- 0 to 33 in	muck	moderately rapid	11.57 to 14.88 in	
Ab1,Ab2,Cg -- 33 to 60 in	silty clay loam	moderate	3.75 to 5.89 in	

Map Unit Description (MN)

Olmsted County, Minnesota

593D--Elbaville silt loam, 12 to 18 percent slopes

Elbaville

Extent: 95 percent of the unit

Landform(s): bluffs

Slope gradient: 12 to 18 percent

Parent material: loess over loamy-skeletal sediments

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated 4e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E1,E2,B&A -- 0 to 16 in	silt loam	moderate	3.23 to 3.87 in	5.6 to 7.3
Bt1 -- 16 to 20 in	silt loam	moderately slow	0.63 to 0.75 in	5.1 to 7.3
2Bt2 -- 20 to 25 in	silty clay	moderately slow	0.67 to 0.82 in	5.6 to 7.3
3Bt3 -- 25 to 36 in	channery clay loam	moderate	1.28 to 1.49 in	6.6 to 7.8
3C -- 36 to 60 in	flaggy loamy sand	moderately rapid	1.44 to 2.40 in	7.4 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

593E--Elbaville silt loam, 18 to 30 percent slopes

Elbaville

Extent: 95 percent of the unit

Landform(s): bluffs

Slope gradient: 18 to 30 percent

Parent material: loess over loamy-skeletal sediments

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .43

Land capability, nonirrigated 6e

Hydric soil: no

Hydrologic group: C

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E1,E2,B&A -- 0 to 16 in	silt loam	moderate	3.23 to 3.87 in	5.6 to 7.3
Bt1 -- 16 to 20 in	silt loam	moderately slow	0.63 to 0.75 in	5.1 to 7.3
2Bt2 -- 20 to 25 in	silty clay	moderately slow	0.67 to 0.82 in	5.6 to 7.3
3Bt3 -- 25 to 36 in	very flaggy silty clay loam	moderate	1.28 to 1.49 in	6.6 to 7.8
3C -- 36 to 60 in	very flaggy sandy loam	moderately rapid	1.44 to 2.40 in	7.4 to 7.8

Map Unit Description (MN)

Olmsted County, Minnesota

898F--Brodale-Bellechester complex, 25 to 60 percent slopes

Brodale

Extent: 55 percent of the unit

Landform(s): bluffs

Slope gradient: 40 to 60 percent

Parent material: loamy colluvium and/or residuum

Restrictive feature(s): lithic bedrock at 40 to 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .10

Land capability, nonirrigated 7s

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 8 in	flaggy sandy loam	moderate	0.47 to 0.94 in	6.6 to 8.4
Bw,C -- 8 to 60 in	flaggy loamy sand	moderately rapid	2.08 to 4.68 in	7.4 to 8.4
R -- 60 to 64 in	unweathered bedrock	rapid		

Bellechester

Extent: 30 percent of the unit

Landform(s): bluffs

Slope gradient: 25 to 50 percent

Parent material: sandy colluvium and/or residuum

Restrictive feature(s): paralithic bedrock at 40 to 70 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer) .10

Land capability, nonirrigated 7s

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>
A1,A2,AB -- 0 to 16 in	loamy sand	rapid	1.61 to 2.26 in	6.1 to 8.4
Bw,BC,C -- 16 to 42 in	sand	rapid	1.04 to 2.08 in	6.6 to 8.4
Cr -- 42 to 60 in	weathered bedrock	moderate		

Map Unit Description (MN)

Olmsted County, Minnesota

973D--Brodale-Sogn complex, 12 to 25 percent slopes

Brodale

Extent: 55 percent of the unit

Landform(s): bluffs

Slope gradient: 20 to 25 percent

Parent material: loamy colluvium and/or residuum

Restrictive feature(s): lithic bedrock at 40 to 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .15

Land capability, nonirrigated 7s

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 7 in	flaggy loam	moderate	0.43 to 0.85 in	6.6 to 8.4
Bw,C -- 7 to 45 in	channery loamy fine sand	moderately rapid	1.51 to 3.40 in	7.4 to 8.4
R -- 45 to 49 in	unweathered bedrock	rapid		

Sogn

Extent: 35 percent of the unit

Landform(s): bluffs

Slope gradient: 12 to 20 percent

Parent material: residuum

Restrictive feature(s): lithic bedrock at 4 to 20 inches

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer) .37

Land capability, nonirrigated 6s

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>
A,2C -- 0 to 15 in	loam	moderate	2.54 to 3.29 in	6.1 to 8.4
2R -- 15 to 19 in	unweathered bedrock	impermeable		

Map Unit Description (MN)

Olmsted County, Minnesota

1013--Pits, quarry

Pits, quarry

Extent: 100 percent of the unit

Landform(s): till plains

Slope gradient: 0 to 50 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding:

Ponding:

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated

Hydric soil:

Hydrologic group:

Potential for frost action:

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

1029--Pits, gravel

Pits, gravel

Extent: 100 percent of the unit

Landform(s): outwash plains, stream terraces

Slope gradient: 0 to 25 percent

Parent material: sandy and gravelly outwash

Restrictive feature(s): greater than 60 inches

Flooding:

Ponding:

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated

Hydric soil:

Hydrologic group:

Potential for frost action:

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

Map Unit Description (MN)

Olmsted County, Minnesota

1039--Urban land

Urban land

Extent: 100 percent of the unit

Landform(s): benches, flood plains, hills

Slope gradient: 0 to 6 percent

Parent material: variable soil material

Restrictive feature(s): greater than 60 inches

Flooding:

Ponding:

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated

Hydric soil: no

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>

1078--Udorthents

Udorthents

Extent: 100 percent of the unit

Landform(s): till plains

Slope gradient: 0 to 25 percent

Parent material: variable soil material

Restrictive feature(s): greater than 60 inches

Flooding:

Ponding:

Drainage class: well drained

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated

Hydric soil: no

Hydrologic group:

Potential for frost action:

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

Map Unit Description (MN)

Olmsted County, Minnesota

1811B--Lamont-Racine complex, 2 to 6 percent slopes

Lamont

Extent: 55 percent of the unit

Landform(s): stream terraces

Slope gradient: 2 to 6 percent

Parent material: loamy over sandy outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw factor (surface layer) .17

Land capability, nonirrigated 3e

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	sandy loam	moderately rapid	1.26 to 1.42 in	5.1 to 7.3
Bt1,Bt2 -- 8 to 28 in	loam	moderately rapid	2.81 to 3.21 in	5.1 to 7.3
Bt3,Bt4,C -- 28 to 60 in	sand	rapid	2.87 to 3.51 in	5.1 to 6.5

Racine

Extent: 30 percent of the unit

Landform(s): stream terraces

Slope gradient: 2 to 6 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E -- 0 to 8 in	loam	moderate	1.73 to 1.89 in	5.1 to 7.3
Bt1 -- 8 to 22 in	clay loam	moderate	2.83 to 3.12 in	4.5 to 6.0
2Bt2,2Bt3,2B -- 22 to 42 in	clay loam	moderate	3.01 to 3.81 in	4.5 to 6.0
2C1,2C2 -- 42 to 60 in	loam	moderately slow	1.77 to 2.66 in	6.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

1812B--Terril loam, sandy substratum, 1 to 6 percent slopes

Terril, sandy substratum

Extent: 95 percent of the unit

Landform(s): drainageways

Slope gradient: 1 to 6 percent

Parent material: colluvium

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .20

Land capability, nonirrigated 2e

Hydric soil: no

Hydrologic group: C

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,A1,A2,A3 -- 0 to 31 in	loam	moderate	6.22 to 6.84 in	6.1 to 7.3
Bw1,Bw2 -- 31 to 45 in	loam	moderate	2.20 to 2.48 in	6.1 to 7.3
2C -- 45 to 60 in	coarse sand	rapid	0.75 to 1.05 in	6.1 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

1819G--Dorernton-Rock outcrop complex, very steep

Dorernton, very steep

Extent: 50 percent of the unit

Landform(s): bluffs

Slope gradient: 12 to 65 percent

Parent material: loamy loess over colluvium

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .32

Land capability, nonirrigated 7e

Hydric soil: no

Hydrologic group: B

Potential for frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E1,E2 -- 0 to 10 in	loam	moderate	1.97 to 2.36 in	5.1 to 7.3
Bt1,Bt2 -- 10 to 18 in	loam	moderate	1.41 to 1.57 in	5.1 to 7.3
2Bt3 -- 18 to 30 in	channery clay loam	moderate	0.94 to 1.65 in	5.6 to 7.3
2C -- 30 to 60 in	flaggy loamy sand	moderately rapid	0.90 to 2.69 in	7.4 to 8.4

Rock outcrop, very steep

Extent: 35 percent of the unit

Landform(s): bluffs

Slope gradient: 12 to 65 percent

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding:

Ponding:

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated

Hydric soil:

Hydrologic group:

Potential for frost action:

<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)

Olmsted County, Minnesota

1832C--Ostrander-Dowagiac loams, 6 to 12 percent slopes

Ostrander

Extent: 55 percent of the unit

Landform(s): stream terraces

Slope gradient: 6 to 12 percent

Parent material: silty sediments over loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .20

Land capability, nonirrigated 3e

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,A -- 0 to 13 in	loam	moderate	2.60 to 3.12 in	5.6 to 7.3
Bw1 -- 13 to 20 in	loam	moderate	1.20 to 1.42 in	5.1 to 7.3
2Bw2,2Bw3,2B -- 20 to 45 in	loam	moderate	4.22 to 4.71 in	5.1 to 7.3
2C -- 45 to 60 in	loam	moderate	2.54 to 2.84 in	6.6 to 7.8

Dowagiac

Extent: 40 percent of the unit

Landform(s): stream terraces

Slope gradient: 6 to 12 percent

Parent material: loamy outwash over sandy and gravelly outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer) .28

Land capability, nonirrigated 3e

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E,Bt1 -- 0 to 10 in	loam	moderate	1.57 to 1.77 in	5.6 to 6.5
Bt2 -- 10 to 19 in	loam	moderate	1.18 to 1.27 in	5.1 to 6.5
2Bt3 -- 19 to 34 in	gravelly sandy loam	moderately rapid	2.09 to 2.24 in	5.1 to 6.5
2Bt4,2C -- 34 to 60 in	coarse sand	rapid	0.26 to 1.04 in	5.6 to 8.4

Map Unit Description (MN)

Olmsted County, Minnesota

1846--Kato silty clay loam, depressional

Kato, depressional

Extent: 95 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 1 percent

Parent material: silty sediment over sandy outwash

Restrictive feature(s): greater than 60 inches

Flooding: frequent

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer) .24

Land capability, nonirrigated 3w

Hydric soil: yes

Hydrologic group: B/D

Potential for frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A1,A2 -- 0 to 16 in	silty clay loam	moderate	2.91 to 3.87 in	6.1 to 7.8
Bg1,Bg2,Bg3 -- 16 to 50 in	silty clay loam	moderate	6.09 to 7.45 in	5.1 to 7.3
2Cg1,2Cg2 -- 50 to 60 in	gravelly loamy coarse sand	rapid	0.20 to 0.69 in	6.1 to 7.8

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.