

Map Unit Description (MN)

Washington 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]

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

Ostrander

Extent: 90 percent of the unit
Landform(s): loess hills
Slope gradient: 0 to 2 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
loess over till Kw (surface layer): .28
Land capability class, nonirrigated: 1
Hydric soil: no
Hydrologic group: B
Potential 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	silt loam	moderate	2.8 to 3.4 in	5.6 to 7.3
Bw1 -- 14 to 30 in	silt loam	moderate	2.7 to 3.1 in	5.1 to 7.3
2Bw2 -- 30 to 36 in	loam	moderate	1.0 to 1.1 in	5.1 to 7.3
2C -- 36 to 60 in	clay loam	moderate	4.1 to 4.6 in	6.6 to 7.8

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

Ostrander

Extent: 90 percent of the unit
Landform(s): loess hills
Slope gradient: 2 to 6 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
loess over till Kw (surface layer): .28
Land capability class, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential 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	silt loam	moderate	2.8 to 3.4 in	5.6 to 7.3
Bw1 -- 14 to 30 in	silt loam	moderate	2.7 to 3.1 in	5.1 to 7.3
2Bw2 -- 30 to 36 in	loam	moderate	1.0 to 1.1 in	5.1 to 7.3
2C -- 36 to 60 in	clay loam	moderate	4.1 to 4.6 in	6.6 to 7.8

This report shows only the major soils in each map unit

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

2C--Ostrander silt loam, 6 to 12 percent slopes

Ostrander

Extent: 90 percent of the unit

Landform(s): loess hills

Slope gradient: 6 to 12 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

loess over till Kw (surface layer): .28

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential frost action: moderate

Representative soil profile:

Texture

Ap,A --	0 to 14 in	silt loam
Bw1 --	14 to 30 in	silt loam
2Bw2 --	30 to 36 in	loam
2C --	36 to 60 in	clay loam

Permeability

Available water

capacity

pH

moderate	2.8 to 3.4 in	5.6 to 7.3
moderate	2.7 to 3.1 in	5.1 to 7.3
moderate	1.0 to 1.1 in	5.1 to 7.3
moderate	4.1 to 4.6 in	6.6 to 7.8

7B--Hubbard loamy sand, 1 to 6 percent slopes

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7B--Hubbard loamy sand, 1 to 6 percent slopes

Hubbard

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 1 to 6 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .15

Land capability class, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

Representative soil profile:

Texture

Ap,AB --	0 to 20 in	loamy sand
Bw --	20 to 35 in	sand
C --	35 to 60 in	sand

Permeability

Available water

capacity

pH

rapid	1.6 to 2.4 in	5.1 to 7.3
rapid	0.4 to 1.0 in	5.1 to 7.3
rapid	0.7 to 1.7 in	5.6 to 7.8

7C--Hubbard loamy sand, 6 to 12 percent slopes

Hubbard

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 6 to 12 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .15

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

Representative soil profile:

Texture

Ap,AB --	0 to 20 in	loamy sand
Bw --	20 to 35 in	sand
C --	35 to 60 in	sand

Permeability

Available water

capacity

pH

rapid	1.6 to 2.4 in	5.1 to 7.3
rapid	0.4 to 1.0 in	5.1 to 7.3
rapid	0.7 to 1.7 in	5.6 to 7.8

7D--Hubbard loamy sand, 12 to 18 percent slopes

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7D--Hubbard loamy sand, 12 to 18 percent slopes

Hubbard

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 12 to 18 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .15

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

Representative soil profile:

Texture

Ap,AB --	0 to 20 in	loamy sand
Bw --	20 to 35 in	sand
C --	35 to 60 in	sand

Permeability

Available water capacity

pH

rapid	1.6 to 2.4 in	5.1 to 7.3
rapid	0.4 to 1.0 in	5.1 to 7.3
rapid	0.7 to 1.7 in	5.6 to 7.8

8--Sparta loamy sand, 0 to 2 percent slopes

Sparta

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 0 to 2 percent

Parent material:

layer): .17

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

sandy glaciofluvial deposits *Kw (surface*

Land capability class, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

Representative soil profile:

Texture

Ap,AB --	0 to 16 in	loamy sand
Bw --	16 to 28 in	loamy sand
C --	28 to 60 in	sand

Permeability

Available water capacity

pH

moderately rapid	1.5 to 1.9 in	5.1 to 7.3
rapid	1.1 to 1.3 in	5.1 to 7.3
rapid	1.6 to 3.2 in	5.1 to 7.3

8B--Sparta loamy sand, 2 to 6 percent slopes

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8B--Sparta loamy sand, 2 to 6 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): outwash terraces
Slope gradient: 2 to 6 percent
Parent material:

layer): .17

Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
 sandy glaciofluvial deposits *Kw (surface*

Land capability class, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential frost action: low

Representative soil profile:

Texture

Ap,AB --	0 to 16 in	loamy sand
Bw --	16 to 28 in	loamy sand
C --	28 to 60 in	sand

Permeability

moderately rapid
rapid
rapid

Available water capacity

1.5 to 1.9 in
1.1 to 1.3 in
1.6 to 3.2 in

pH

5.1 to 7.3
5.1 to 7.3
5.1 to 7.3

8C--Sparta loamy sand, 6 to 15 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): outwash terraces
Slope gradient: 6 to 15 percent
Parent material:

layer): .17

Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
 sandy glaciofluvial deposits *Kw (surface*

Land capability class, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential frost action: low

Representative soil profile:

Texture

Ap,AB --	0 to 16 in	loamy sand
Bw --	16 to 28 in	loamy sand
C --	28 to 60 in	sand

Permeability

moderately rapid
rapid
rapid

Available water capacity

1.5 to 1.9 in
1.1 to 1.3 in
1.6 to 3.2 in

pH

5.1 to 7.3
5.1 to 7.3
5.1 to 7.3

12C--Emmert gravelly loamy coarse sand, 3 to 12 percent slopes

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12C--Emmert gravelly loamy coarse sand, 3 to 12 percent slopes

Emmert

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 3 to 12 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

outwash *Kw (surface layer):* .10

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential 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 6 in	gravelly loamy coarse sand	very rapid	0.4 to 0.6 in	5.1 to 6.5
Bw,C -- 6 to 60 in	extremely gravelly coarse sand	very rapid	1.1 to 2.2 in	5.1 to 7.3

12D--Emmert gravelly loamy coarse sand, 15 to 25 percent slopes

Emmert

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 15 to 25 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

outwash *Kw (surface layer):* .10

Land capability class, nonirrigated: 7s

Hydric soil: no

Hydrologic group: A

Potential 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 6 in	loamy coarse sand	very rapid	0.4 to 0.6 in	5.1 to 6.5
Bw,C -- 6 to 60 in	extremely gravelly coarse sand	very rapid	1.1 to 2.2 in	5.1 to 7.3

49--Antigo silt loam, 0 to 2 percent slopes

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49--Antigo silt loam, 0 to 2 percent slopes

Antigo

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 2 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

loess over outwash *K_w (surface layer):* .37

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential frost action: high

Representative soil profile:

Texture

A --	0 to 2 in	silt loam
E --	2 to 13 in	silt loam
Bt1,Bt2 --	13 to 26 in	silt loam
2Bt3 --	26 to 38 in	loamy sand
2C --	38 to 60 in	gravelly sand

<i>Permeability</i>	<i>Available water</i>	
	<i>capacity</i>	<i>pH</i>
moderate	0.4 to 0.5 in	4.5 to 6.5
moderate	2.2 to 2.4 in	4.5 to 6.5
moderate	2.1 to 2.9 in	4.5 to 6.5
moderately rapid	0.6 to 2.2 in	4.5 to 6.5
rapid	0.4 to 1.3 in	5.1 to 6.5

49B--Antigo silt loam, 2 to 6 percent slopes

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49B--Antigo silt loam, 2 to 6 percent slopes

Antigo

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 2 to 6 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	silt loam	moderate	0.4 to 0.5 in	4.5 to 6.5
E -- 2 to 13 in	silt loam	moderate	2.2 to 2.4 in	4.5 to 6.5
Bt1,Bt2 -- 13 to 26 in	silt loam	moderate	2.1 to 2.9 in	4.5 to 6.5
2Bt3 -- 26 to 38 in	loamy sand	moderately rapid	0.6 to 2.2 in	4.5 to 6.5
2C -- 38 to 60 in	gravelly sand	rapid	0.4 to 1.3 in	5.1 to 6.5

49C--Antigo silt loam, 6 to 12 percent slopes

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49C--Antigo silt loam, 6 to 12 percent slopes

Antigo

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 6 to 12 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

loess over outwash Kw (surface layer): .37

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	silt loam	moderate	0.4 to 0.5 in	4.5 to 6.5
E -- 2 to 13 in	silt loam	moderate	2.2 to 2.4 in	4.5 to 6.5
Bt1,Bt2 -- 13 to 26 in	silt loam	moderate	2.1 to 2.9 in	4.5 to 6.5
2Bt3 -- 26 to 38 in	loamy sand	moderately rapid	0.6 to 2.2 in	4.5 to 6.5
2C -- 38 to 60 in	gravelly sand	rapid	0.4 to 1.3 in	5.1 to 6.5

49D--Antigo silt loam, 12 to 18 percent slopes

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49D--Antigo silt loam, 12 to 18 percent slopes

Antigo

Extent: 90 percent of the unit
Landform(s): pitted outwash plains
Slope gradient: 12 to 18 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	silt loam	moderate	0.4 to 0.5 in	4.5 to 6.5
E -- 2 to 13 in	silt loam	moderate	2.2 to 2.4 in	4.5 to 6.5
Bt1,Bt2 -- 13 to 26 in	silt loam	moderate	2.1 to 2.9 in	4.5 to 6.5
2Bt3 -- 26 to 38 in	loamy sand	moderately rapid	0.6 to 2.2 in	4.5 to 6.5
2C -- 38 to 60 in	gravelly sand	rapid	0.4 to 1.3 in	5.1 to 6.5

75--Bluffton loam

Bluffton

Extent: 85 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 2 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
till Kw (surface layer): .28
Land capability class, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: B/D
Potential 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 19 in	loam	moderate	3.8 to 4.5 in	5.6 to 7.3
Bg -- 19 to 22 in	fine sandy loam	moderate	0.5 to 0.5 in	5.6 to 7.3
Cg -- 22 to 60 in	sandy clay loam	moderately slow	5.7 to 7.2 in	7.4 to 8.4

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75--Bluffton loam

100B--Copaston loam, 0 to 6 percent slopes

Copaston

<p><i>Extent:</i> 90 percent of the unit</p> <p><i>Landform(s):</i> terraces, hills</p> <p><i>Slope gradient:</i> 0 to 6 percent</p> <p><i>Parent material:</i></p> <p><i>layer):</i> .28</p> <p><i>Restrictive feature(s):</i> bedrock (lithic) at 12 to 20 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 1</p> <p><i>Wind erodibility group (WEG):</i> 5</p> <p><i>Wind erodibility index (WEI):</i> 56</p> <p>loamy sediment over bedrock <i>Kw (surface</i></p> <p><i>Land capability class, nonirrigated:</i> 3e</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> D</p> <p><i>Potential frost action:</i> moderate</p>
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Representative soil profile:

Texture

A --	0 to 8 in	loam
Bw1 --	8 to 14 in	sandy loam
Bw2 --	14 to 18 in	gravelly sandy loam
2R --	18 to 22 in	unweathered bedrock

<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
moderate	1.6 to 1.7 in	5.6 to 7.3
moderately rapid	0.9 to 1.1 in	5.6 to 7.3
moderately rapid	0.5 to 0.6 in	5.6 to 7.8
moderate		

100C--Copaston loam, 6 to 12 percent slopes

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100C--Copaston loam, 6 to 12 percent slopes

Copaston

Extent: 90 percent of the unit
Landform(s): terraces, hills
Slope gradient: 6 to 12 percent
Parent material:
 layer): .28
Restrictive feature(s): bedrock (lithic) at 12 to 20 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
 loamy sediment over bedrock *Kw (surface layer):* .28
Land capability class, nonirrigated: 4e
Hydric soil: no
Hydrologic group: D
Potential frost action: moderate

Representative soil profile:

Texture

A --	0 to 8 in	loam
Bw1 --	8 to 14 in	sandy loam
Bw2 --	14 to 18 in	gravelly sandy loam
2R --	18 to 22 in	unweathered bedrock

Permeability	Available water	
	capacity	pH
moderate	1.6 to 1.7 in	5.6 to 7.3
moderately rapid	0.9 to 1.1 in	5.6 to 7.3
moderately rapid	0.5 to 0.6 in	5.6 to 7.8
moderate		

113--Webster loam

Webster

Extent: 85 percent of the unit
Landform(s): drainageways on moraines
Slope gradient: 0 to 2 percent
Parent material:
 till
Restrictive feature(s):
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 (surface layer): .24
Land capability class, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: B/D
Potential frost action: high

Representative soil profile:

Texture

Ap,A1 --	0 to 16 in	loam
Bg --	16 to 25 in	loam
Cg --	25 to 60 in	sandy clay loam

Permeability	Available water	
	capacity	pH
moderate	3.1 to 3.4 in	6.6 to 7.3
moderate	1.4 to 1.6 in	6.6 to 7.8
moderate	4.9 to 6.6 in	7.4 to 8.4

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120--Brill silt loam

Brill

Extent: 90 percent of the unit
Landform(s): drainageways on outwash plains
Slope gradient: 0 to 2 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
loess over outwash Kw (surface layer): .37
Land capability class, nonirrigated: 2s
Hydric soil: no
Hydrologic group: B
Potential 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 3 in	silt loam	moderate	0.6 to 0.8 in	4.5 to 7.3
E -- 3 to 11 in	silt loam	moderate	1.3 to 1.7 in	4.5 to 6.5
B/E -- 11 to 14 in	silt loam	moderate	0.5 to 0.7 in	4.5 to 6.5
Bt -- 14 to 35 in	silt loam	moderate	3.3 to 4.6 in	4.5 to 6.5
2C -- 35 to 60 in	stratified sand to coarse sand	rapid	0.2 to 1.7 in	4.5 to 6.5

123--Dundas fine sandy loam

Dundas

Extent: 85 percent of the unit
Landform(s): drainageways on moraines, flats on moraines
Slope gradient: 0 to 2 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
till Kw (surface layer): .28
Land capability class, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: B/D
Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderate	1.4 to 1.8 in	5.6 to 6.5
E -- 9 to 13 in	sandy clay loam	moderate	0.6 to 0.7 in	5.6 to 7.3
Btg -- 13 to 45 in	sandy clay loam	moderate	4.8 to 6.1 in	5.6 to 7.3
Cg -- 45 to 60 in	loam	moderate	2.1 to 2.8 in	7.4 to 8.4

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

123--Dundas fine sandy loam

132B--Hayden fine sandy loam, 2 to 6 percent slopes

Hayden

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
 till *Kw (surface layer):* .24
Land capability class, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderately rapid	1.3 to 1.6 in	5.6 to 7.3
E -- 9 to 15 in	fine sandy loam	moderately rapid	0.7 to 1.1 in	5.6 to 7.3
Bt -- 15 to 50 in	clay loam	moderate	5.3 to 6.7 in	5.1 to 7.3
C -- 50 to 60 in	loam	moderate	1.4 to 1.9 in	7.4 to 8.4

132C--Hayden fine sandy loam, 6 to 12 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

132C--Hayden fine sandy loam, 6 to 12 percent slopes

Hayden

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
 till *Kw (surface layer):* .24
Land capability class, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderately rapid	1.3 to 1.6 in	5.6 to 7.3
E -- 9 to 15 in	fine sandy loam	moderately rapid	0.7 to 1.1 in	5.6 to 7.3
Bt -- 15 to 50 in	clay loam	moderate	5.3 to 6.7 in	5.1 to 7.3
C -- 50 to 60 in	loam	moderate	1.4 to 1.9 in	7.4 to 8.4

132D--Hayden fine sandy loam, 12 to 25 percent slopes

Hayden

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 25 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
 till *Kw (surface layer):* .24
Land capability class, nonirrigated: 6e
Hydric soil: no
Hydrologic group: B
Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderately rapid	1.3 to 1.6 in	5.6 to 7.3
E -- 9 to 15 in	fine sandy loam	moderately rapid	0.7 to 1.1 in	5.6 to 7.3
Bt -- 15 to 50 in	clay loam	moderate	5.3 to 6.7 in	5.1 to 7.3
C -- 50 to 60 in	loam	moderate	1.4 to 1.9 in	7.4 to 8.4

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

132D--Hayden fine sandy loam, 12 to 25 percent slopes

151--Burkhardt sandy loam, 0 to 3 percent slopes

Burkhardt

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 0 to 3 percent

Parent material:

Kw (surface layer):

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

loamy glaciofluvial deposits over outwash
.20

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: B

Potential frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water</i>	
			<i>capacity</i>	<i>pH</i>
A1,A2 -- 0 to 13 in	sandy loam	moderately rapid	1.4 to 1.9 in	5.1 to 6.5
AB -- 13 to 16 in	sandy loam	moderately rapid	0.3 to 0.6 in	5.1 to 6.5
2BC,2C -- 16 to 60 in	gravelly coarse sand	rapid	0.9 to 1.7 in	5.6 to 6.5

151B--Burkhardt sandy loam, 3 to 9 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

151B--Burkhardt sandy loam, 3 to 9 percent slopes

Burkhardt

Extent: 90 percent of the unit
Landform(s): outwash terraces
Slope gradient: 3 to 9 percent
Parent material:
Kw (surface layer):
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
 loamy glaciofluvial deposits over outwash
 .20
Land capability class, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential 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 13 in	sandy loam	moderately rapid	1.4 to 1.9 in	5.1 to 6.5
AB -- 13 to 16 in	sandy loam	moderately rapid	0.3 to 0.6 in	5.1 to 6.5
2BC,2C -- 16 to 60 in	gravelly coarse sand	rapid	0.9 to 1.7 in	5.6 to 6.5

153B--Santiago silt loam, 2 to 6 percent slopes

Santiago

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
 loess over till
Kw (surface layer): .37
Land capability class, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential 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	silt loam	moderate	1.4 to 1.7 in	4.5 to 7.3
E -- 7 to 10 in	silt loam	moderate	0.6 to 0.7 in	4.5 to 7.3
Bt -- 10 to 25 in	silt loam	moderate	3.1 to 3.5 in	4.5 to 6.5
2Bt -- 25 to 40 in	sandy loam	moderate	1.3 to 2.7 in	4.5 to 6.5
2C -- 40 to 60 in	sandy loam	moderately slow	1.6 to 3.1 in	5.1 to 7.3

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

153B--Santiago silt loam, 2 to 6 percent slopes

153C--Santiago silt loam, 6 to 15 percent slopes

Santiago

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 6 to 15 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

loess over till Kw (surface layer): .37

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential frost action: moderate

Representative soil profile:

Texture

Permeability

Available water capacity

pH

Ap --	0 to 7 in	silt loam	moderate	1.4 to 1.7 in	4.5 to 7.3
E --	7 to 10 in	silt loam	moderate	0.6 to 0.7 in	4.5 to 7.3
Bt --	10 to 25 in	silt loam	moderate	3.1 to 3.5 in	4.5 to 6.5
2Bt --	25 to 40 in	sandy loam	moderate	1.3 to 2.7 in	4.5 to 6.5
2C --	40 to 60 in	sandy loam	moderately slow	1.6 to 3.1 in	5.1 to 7.3

155B--Chetek sandy loam, 0 to 6 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

155B--Chetek sandy loam, 0 to 6 percent slopes

Chetek

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 6 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

outwash *Kw (surface layer):* .24

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential frost action: low

Representative soil profile:

Texture

Ap --	0 to 8 in	sandy loam
E --	8 to 14 in	loam
Bt --	14 to 19 in	gravelly sandy loam
2BC,2C --	19 to 60 in	gravelly coarse sand

Permeability

Available water

capacity

pH

moderate	0.8 to 1.2 in	5.1 to 7.3
moderate	0.6 to 1.2 in	5.1 to 7.3
rapid	0.2 to 0.6 in	5.1 to 7.3
rapid	0.8 to 1.6 in	5.1 to 7.3

155C--Chetek sandy loam, 6 to 12 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

155C--Chetek sandy loam, 6 to 12 percent slopes

Chetek

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 6 to 12 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

outwash *Kw (surface layer):* .24

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential frost action: low

<i>Representative soil profile:</i>			<i>Texture</i>	<i>Permeability</i>	<i>Available water</i>	
					<i>capacity</i>	<i>pH</i>
Ap --	0 to 8 in	sandy loam		moderate	0.8 to 1.2 in	5.1 to 7.3
E --	8 to 14 in	loam		moderate	0.6 to 1.2 in	5.1 to 7.3
Bt --	14 to 19 in	gravelly sandy loam		rapid	0.2 to 0.6 in	5.1 to 7.3
2BC,2C --	19 to 60 in	gravelly coarse sand		rapid	0.8 to 1.6 in	5.1 to 7.3

155D--Chetek sandy loam, 12 to 25 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

155D--Chetek sandy loam, 12 to 25 percent slopes

Chetek

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 12 to 25 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

outwash *Kw (surface layer):* .24

Land capability class, nonirrigated: 6e

Hydric soil: no

Hydrologic group: B

Potential frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water</i>	
			<i>capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	sandy loam	moderate	0.8 to 1.2 in	5.1 to 7.3
E -- 8 to 14 in	loam	moderate	0.6 to 1.2 in	5.1 to 7.3
Bt -- 14 to 19 in	gravelly sandy loam	rapid	0.2 to 0.6 in	5.1 to 7.3
2BC,2C -- 19 to 60 in	gravelly coarse sand	rapid	0.8 to 1.6 in	5.1 to 7.3

158B--Zimmerman loamy fine sand, 0 to 6 percent slopes

Zimmerman

Extent: 90 percent of the unit

Landform(s): lake plains

Slope gradient: 0 to 6 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .17

Land capability class, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water</i>	
			<i>capacity</i>	<i>pH</i>
Ap,E -- 0 to 15 in	loamy fine sand	rapid	1.5 to 1.8 in	5.1 to 6.5
E/Bt -- 15 to 60 in	fine sand	rapid	2.7 to 4.5 in	5.1 to 7.3

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

158C--Zimmerman loamy fine sand, 6 to 12 percent slopes

Zimmerman

Extent: 90 percent of the unit

Landform(s): lake plains

Slope gradient: 6 to 12 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .17

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,E --	0 to 15 in	loamy fine sand	rapid	1.5 to 1.8 in	5.1 to 6.5
E/Bt --	15 to 60 in	fine sand	rapid	2.7 to 4.5 in	5.1 to 7.3

158D--Zimmerman loamy fine sand, 12 to 25 percent slopes

Zimmerman

Extent: 90 percent of the unit

Landform(s): lake plains

Slope gradient: 12 to 25 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .17

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

<i>Representative soil profile:</i>		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,E --	0 to 15 in	loamy fine sand	rapid	1.5 to 1.8 in	5.1 to 6.5
E/Bt --	15 to 60 in	fine sand	rapid	2.7 to 4.5 in	5.1 to 7.3

159--Anoka loamy fine sand, 0 to 3 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

159--Anoka loamy fine sand, 0 to 3 percent slopes

Anoka

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 0 to 3 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
 outwash *Kw (surface layer):* .17
Land capability class, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential 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	loamy fine sand	rapid	1.2 to 1.4 in	5.6 to 6.5
E/Bt -- 9 to 60 in	loamy fine sand	moderately rapid	5.1 to 8.1 in	5.1 to 6.5

159B--Anoka loamy fine sand, 3 to 9 percent slopes

Anoka

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 3 to 9 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
 outwash *Kw (surface layer):* .17
Land capability class, nonirrigated: 4e
Hydric soil: no
Hydrologic group: A
Potential 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	loamy fine sand	rapid	1.2 to 1.4 in	5.6 to 6.5
E/Bt -- 9 to 60 in	loamy fine sand	moderately rapid	5.1 to 8.1 in	5.1 to 6.5

161--Isanti loamy fine sand, depressional

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

161--Isanti loamy fine sand, depressional

Isanti, depressional

Extent: 85 percent of the unit

Landform(s): depressions on outwash plains

Slope gradient: 0 to 1 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .17

Land capability class, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: A/D

Potential frost action: moderate

Representative soil profile:

Texture

A1,A2 --	0 to 13 in	loamy fine sand
Bg --	13 to 42 in	fine sand
Cg --	42 to 60 in	loamy fine sand

Permeability

Available water

capacity

pH

rapid	1.3 to 1.6 in	5.1 to 6.5
rapid	1.7 to 2.3 in	5.1 to 6.5
rapid	0.9 to 1.2 in	5.6 to 6.5

162--Lino loamy fine sand

Lino

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 3 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .17

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: A

Potential frost action: moderate

Representative soil profile:

Texture

Ap --	0 to 9 in	loamy fine sand
Bw --	9 to 36 in	loamy fine sand
C --	36 to 60 in	fine sand

Permeability

Available water

capacity

pH

rapid	0.9 to 1.1 in	5.1 to 6.0
rapid	1.6 to 2.1 in	5.1 to 6.0
rapid	1.2 to 1.7 in	5.1 to 6.5

166--Ronneby fine sandy loam

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

166--Ronneby fine sandy loam

Ronneby

Extent: 90 percent of the unit

Landform(s): drainageways on moraines

Slope gradient: 0 to 2 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

till *Kw (surface layer):* .24

Land capability class, nonirrigated: 2w

Hydric soil: no

Hydrologic group: C

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water</i>	
			<i>capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderately rapid	1.2 to 1.6 in	5.1 to 6.5
E -- 9 to 18 in	fine sandy loam	moderately rapid	1.1 to 1.7 in	5.1 to 6.5
Btg -- 18 to 41 in	sandy loam	moderate	2.7 to 4.3 in	5.6 to 6.5
C -- 41 to 60 in	sandy loam	moderately slow	1.5 to 3.0 in	5.6 to 7.3

169B--Braham loamy fine sand, 1 to 6 percent slopes

Braham

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 1 to 6 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash over till *Kw (surface layer):* .17

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: B

Potential frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water</i>	
			<i>capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loamy fine sand	rapid	0.9 to 1.1 in	5.6 to 7.3
E -- 9 to 28 in	loamy fine sand	rapid	1.5 to 1.9 in	5.6 to 7.3
2Bt -- 28 to 39 in	sandy clay loam	moderate	1.7 to 2.0 in	5.1 to 7.3
2C -- 39 to 60 in	loam	moderate	3.1 to 3.8 in	7.4 to 8.4

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

169B--Braham loamy fine sand, 1 to 6 percent slopes

169C--Braham loamy fine sand, 6 to 15 percent slopes

Braham

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 15 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
outwash over till Kw (surface layer): .17
Land capability class, nonirrigated: 4e
Hydric soil: no
Hydrologic group: B
Potential frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loamy fine sand	rapid	0.9 to 1.1 in	5.6 to 7.3
E -- 9 to 28 in	loamy fine sand	rapid	1.5 to 1.9 in	5.6 to 7.3
2Bt -- 28 to 39 in	sandy clay loam	moderate	1.7 to 2.0 in	5.1 to 7.3
2C -- 39 to 60 in	loam	moderate	3.1 to 3.8 in	7.4 to 8.4

170--Blomford loamy fine sand

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

170--Blomford loamy fine sand

Blomford

Extent: 85 percent of the unit

Landform(s): drainageways on moraines

Slope gradient: 0 to 3 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash over till *Kw (surface layer):* .17

Land capability class, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: B/D

Potential frost action: moderate

Representative soil profile:

Texture

Ap --	0 to 9 in	loamy fine sand
Eg --	9 to 25 in	loamy fine sand
2Btg --	25 to 39 in	sandy clay loam
2C --	39 to 60 in	loam

Permeability

rapid
rapid
moderate
moderate

Available water

capacity

0.7 to 1.1 in	5.1 to 7.3
0.8 to 1.3 in	5.1 to 7.3
1.8 to 2.3 in	5.1 to 7.3
2.1 to 3.1 in	6.6 to 8.4

pH

174C--Gale silt loam, 6 to 15 percent slopes

Gale

Extent: 90 percent of the unit

Landform(s): hills

Slope gradient: 6 to 15 percent

Parent material:

layer): .37

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

loess over sandstone bedrock *Kw (surface*

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential frost action: high

Representative soil profile:

Texture

A --	0 to 8 in	silt loam
Bt1,Bt2 --	8 to 26 in	silt loam
2Bt3 --	26 to 30 in	fine sandy loam
3R --	30 to 60 in	unweathered bedrock

Permeability

moderate
moderate
moderate
moderately slow

Available water

capacity

1.7 to 1.9 in	4.5 to 7.3
3.3 to 4.0 in	4.5 to 6.5
0.3 to 0.7 in	4.5 to 6.5

pH

This report shows only the major soils in each map unit

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Map Unit Description (MN)

Washington 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]

174C--Gale silt loam, 6 to 15 percent slopes

174F--Gale silt loam, 25 to 50 percent slopes

Gale

Extent: 90 percent of the unit

Landform(s): hills

Slope gradient: 25 to 50 percent

Parent material:

layer): .37

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

loess over sandstone bedrock *Kw (surface*

Land capability class, nonirrigated: 7e

Hydric soil: no

Hydrologic group: B

Potential frost action: high

Representative soil profile:

Texture

A --	0 to 8 in	silt loam
Bt1,Bt2 --	8 to 26 in	silt loam
2Bt3 --	26 to 30 in	fine sandy loam
3R --	30 to 60 in	unweathered bedrock

Permeability

moderate
moderate
moderate
moderately slow

Available water

capacity

1.7 to 1.9 in
3.3 to 4.0 in
0.3 to 0.7 in

pH

4.5 to 7.3
4.5 to 6.5
4.5 to 6.5

177B--Gotham loamy sand, 1 to 6 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

177B--Gotham loamy sand, 1 to 6 percent slopes

Gotham

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 1 to 6 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .17

Land capability class, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loamy sand	rapid	0.9 to 1.1 in	5.6 to 7.3
E -- 9 to 20 in	loamy sand	rapid	0.7 to 1.2 in	5.1 to 7.3
Bt -- 20 to 33 in	loamy sand	rapid	1.2 to 1.4 in	5.1 to 7.3
C -- 33 to 60 in	loamy sand	rapid	1.3 to 2.7 in	5.1 to 7.3

177C--Gotham loamy sand, 6 to 12 percent slopes

Gotham

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 6 to 12 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .17

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loamy sand	rapid	0.9 to 1.1 in	5.6 to 7.3
E -- 9 to 20 in	loamy sand	rapid	0.7 to 1.2 in	5.1 to 7.3
Bt -- 20 to 33 in	loamy sand	rapid	1.2 to 1.4 in	5.1 to 7.3
C -- 33 to 60 in	loamy sand	rapid	1.3 to 2.7 in	5.1 to 7.3

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

177C--Gotham loamy sand, 6 to 12 percent slopes

177D--Gotham loamy sand, 12 to 20 percent slopes

Gotham

Extent: 90 percent of the unit

Landform(s): pitted outwash plains

Slope gradient: 12 to 20 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .17

Land capability class, nonirrigated: 6e

Hydric soil: no

Hydrologic group: A

Potential frost action: low

Representative soil profile:

Texture

Ap --	0 to 9 in	loamy sand
E --	9 to 20 in	loamy sand
Bt --	20 to 33 in	loamy sand
C --	33 to 60 in	loamy sand

Permeability

Available water capacity

pH

rapid	0.9 to 1.1 in	5.6 to 7.3
rapid	0.7 to 1.2 in	5.1 to 7.3
rapid	1.2 to 1.4 in	5.1 to 7.3
rapid	1.3 to 2.7 in	5.1 to 7.3

189--Auburndale silt loam

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

189--Auburndale silt loam

Auburndale

Extent: 85 percent of the unit

Landform(s): drainageways on moraines, depressions on moraines

Slope gradient: 0 to 2 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: frequent

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

loess over till *Kw (surface layer):* .37

Land capability class, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: B/D

Potential frost action: high

Representative soil profile:

Texture

A --	0 to 7 in	silt loam
E,B/E --	7 to 17 in	silt loam
Bt --	17 to 45 in	silt loam
2C --	45 to 60 in	sandy loam

Permeability

moderate
moderate
moderate
moderately slow

Available water

capacity

1.6 to 1.7 in
2.0 to 2.4 in
5.6 to 6.1 in
1.2 to 2.4 in

pH

4.5 to 7.3
4.5 to 6.0
4.5 to 6.0
4.5 to 6.5

225--Nessel fine sandy loam, 1 to 4 percent slopes

Nessel

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 1 to 4 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

till *Kw (surface layer):* .24

Land capability class, nonirrigated: 1

Hydric soil: no

Hydrologic group: B

Potential frost action: high

Representative soil profile:

Texture

A --	0 to 4 in	fine sandy loam
E --	4 to 13 in	fine sandy loam
Bt --	13 to 41 in	loam
C --	41 to 60 in	fine sandy loam

Permeability

moderately rapid
moderately rapid
moderate
moderate

Available water

capacity

0.6 to 0.8 in
1.4 to 1.7 in
4.5 to 5.3 in
3.2 to 3.6 in

pH

5.6 to 7.3
5.6 to 7.3
5.1 to 7.3
7.4 to 8.4

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

225--Nessel fine sandy loam, 1 to 4 percent slopes

259B--Grays silt loam, 2 to 6 percent slopes

Grays

Extent: 90 percent of the unit

Landform(s): lake plains

Slope gradient: 2 to 6 percent

Parent material:

Restrictive feature(s):

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

lacustrine *Kw (surface layer):* .32

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential frost action: high

Representative soil profile:

Texture

Ap --	0 to 8 in	silt loam
E --	8 to 11 in	silt loam
Bt --	11 to 48 in	silty clay loam
C --	48 to 60 in	silt loam

Permeability

Available water

capacity

pH

moderate	1.7 to 1.9 in	5.6 to 7.3
moderate	0.7 to 0.8 in	5.6 to 6.5
moderate	6.7 to 7.4 in	5.6 to 6.5
moderate	1.7 to 2.6 in	7.4 to 8.4

264--Freeon silt loam, 1 to 4 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

264--Freeon silt loam, 1 to 4 percent slopes

Freeon

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 1 to 4 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
loess over till Kw (surface layer): .37
Land capability class, nonirrigated: 1
Hydric soil: no
Hydrologic group: C
Potential 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	silt loam	moderate	1.6 to 1.9 in	4.5 to 7.3
E, BE -- 8 to 18 in	silt loam	moderate	1.8 to 2.3 in	4.5 to 7.3
Bt1, Bt2 -- 18 to 30 in	silt loam	moderate	2.1 to 2.6 in	4.5 to 7.3
2Bt3 -- 30 to 54 in	sandy loam	moderately slow	1.9 to 4.3 in	4.5 to 6.5
2BC, 2C -- 54 to 60 in	sandy loam	moderately slow	0.5 to 0.9 in	5.1 to 7.3

265--Soderville loamy fine sand

Soderville

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 0 to 3 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
outwash Kw (surface layer): .17
Land capability class, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	loamy fine sand	rapid	0.8 to 0.9 in	5.1 to 6.5
E -- 8 to 17 in	loamy fine sand	rapid	0.5 to 0.7 in	5.1 to 6.5
E/Bt -- 17 to 47 in	loamy fine sand	rapid	1.8 to 3.3 in	5.1 to 6.5
C -- 47 to 60 in	fine sand	rapid	0.6 to 1.3 in	5.1 to 6.5

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington County, Minnesota

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265--Soderville loamy fine sand

266--Freer silt loam

Freer

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 0 to 2 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

loess over till Kw (surface layer): .37

Land capability class, nonirrigated: 2w

Hydric soil: no

Hydrologic group: C

Potential frost action: high

Representative soil profile:

Texture

Ap --	0 to 8 in	silt loam
E --	8 to 12 in	silt loam
Bt1 --	12 to 23 in	loam
2Bt2 --	23 to 37 in	sandy loam
2C --	37 to 60 in	sandy loam

Permeability

Available water

capacity

pH

moderate	1.6 to 1.9 in	4.5 to 6.0
moderate	0.7 to 0.9 in	4.5 to 6.0
moderate	1.5 to 2.3 in	5.1 to 6.0
moderate	2.4 to 2.7 in	5.1 to 6.0
moderately slow	1.8 to 3.7 in	5.6 to 7.3

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

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

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

Richwood

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 0 to 2 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
loess over outwash Kw (surface layer): .28
Land capability class, nonirrigated: 1
Hydric soil: no
Hydrologic group: B
Potential 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 19 in	silt loam	moderate	4.2 to 4.5 in	5.6 to 7.3
Bt -- 19 to 49 in	silt loam	moderate	5.4 to 6.6 in	5.6 to 7.3
2C -- 49 to 60 in	sand	rapid	0.6 to 0.8 in	6.1 to 7.3

298B--Richwood silt loam, 2 to 6 percent slopes

Richwood

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 2 to 6 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
loess over outwash Kw (surface layer): .28
Land capability class, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential 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 19 in	silt loam	moderate	4.2 to 4.5 in	5.6 to 7.3
Bt -- 19 to 49 in	silt loam	moderate	5.4 to 6.6 in	5.6 to 7.3
2C -- 49 to 60 in	sand	rapid	0.6 to 0.8 in	6.1 to 7.3

301B--Lindstrom silt loam, 2 to 4 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

301B--Lindstrom silt loam, 2 to 4 percent slopes

Lindstrom

Extent: 90 percent of the unit

Landform(s): loess hills

Slope gradient: 2 to 4 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

loess *Kw (surface layer):* .28

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential frost action: high

Representative soil profile:

Texture

Ap --	0 to 9 in	silt loam
A,AB --	9 to 37 in	silt loam
Bw --	37 to 58 in	silt loam
C --	58 to 60 in	silt loam

Permeability

moderate
moderate
moderate
moderate

Available water

capacity

1.8 to 2.0 in	5.6 to 7.3
6.1 to 7.3 in	5.6 to 7.3
4.2 to 4.6 in	5.6 to 7.3
0.3 to 0.4 in	6.6 to 7.8

pH

302B--Rosholt sandy loam, 1 to 6 percent slopes

Rosholt

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 1 to 6 percent

Parent material:

layer): .24

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

loamy sediment over outwash *Kw (surface*

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential frost action: moderate

Representative soil profile:

Texture

Ap --	0 to 11 in	sandy loam
Bt --	11 to 21 in	sandy loam
2Bt --	21 to 31 in	gravelly loamy coarse sand
2C --	31 to 60 in	gravelly sand

Permeability

moderately rapid
moderately rapid
moderately rapid
rapid

Available water

capacity

1.1 to 2.0 in	4.5 to 7.3
1.0 to 2.2 in	4.5 to 6.5
0.4 to 1.6 in	4.5 to 6.5
0.6 to 1.1 in	5.1 to 6.5

pH

This report shows only the major soils in each map unit

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Map Unit Description (MN)

Washington 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]

302B--Rosholt sandy loam, 1 to 6 percent slopes

302C--Rosholt sandy loam, 6 to 15 percent slopes

Rosholt

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 6 to 15 percent

Parent material:

layer): .24

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

loamy sediment over outwash *Kw (surface*

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential frost action: moderate

Representative soil profile:

Texture

Ap --	0 to 11 in	sandy loam
Bt --	11 to 21 in	sandy loam
2Bt --	21 to 31 in	gravelly loamy coarse sand
2C --	31 to 60 in	gravelly sand

Permeability

moderately rapid
moderately rapid
moderately rapid
rapid

Available water

capacity

1.1 to 2.0 in
1.0 to 2.2 in
0.4 to 1.6 in
0.6 to 1.1 in

pH

4.5 to 7.3
4.5 to 6.5
4.5 to 6.5
5.1 to 6.5

325--Prebish loam

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

325--Prebish loam

Prebish

Extent: 85 percent of the unit

Landform(s): depressions on moraines

Slope gradient: 0 to 1 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

till *Kw (surface layer):* .28

Land capability class, nonirrigated: 4w

Hydric soil: yes

Hydrologic group: C/D

Potential frost action: high

Representative soil profile:

Texture

A --	0 to 17 in	loam
Btg --	17 to 48 in	sandy loam
2C --	48 to 60 in	sandy loam

<i>Permeability</i>	<i>Available water</i>	
	<i>capacity</i>	<i>pH</i>
moderate	3.0 to 3.7 in	5.6 to 7.3
moderate	4.4 to 5.0 in	5.6 to 7.3
moderately slow	0.9 to 1.9 in	5.6 to 7.8

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

Dickman

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 0 to 2 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

outwash *Kw (surface layer):* .20

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

Representative soil profile:

Texture

Ap,A --	0 to 14 in	sandy loam
Bw --	14 to 17 in	sandy loam
2BC,2C --	17 to 60 in	sand

<i>Permeability</i>	<i>Available water</i>	
	<i>capacity</i>	<i>pH</i>
moderately rapid	1.8 to 2.1 in	5.6 to 6.5
moderately rapid	0.3 to 0.4 in	5.6 to 7.3
rapid	0.9 to 3.0 in	5.6 to 7.8

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

327B--Dickman sandy loam, 2 to 6 percent slopes

Dickman

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 2 to 6 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

outwash *Kw (surface layer):* .20

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: A

Potential 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 14 in	sandy loam	moderately rapid	1.8 to 2.1 in	5.6 to 6.5
Bw -- 14 to 17 in	sandy loam	moderately rapid	0.3 to 0.4 in	5.6 to 7.3
2BC,2C -- 17 to 60 in	sand	rapid	0.9 to 3.0 in	5.6 to 7.8

327C--Dickman sandy loam, 6 to 12 percent slopes

Dickman

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 6 to 12 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

outwash *Kw (surface layer):* .20

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: A

Potential 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 14 in	sandy loam	moderately rapid	1.8 to 2.1 in	5.6 to 6.5
Bw -- 14 to 17 in	sandy loam	moderately rapid	0.3 to 0.4 in	5.6 to 7.3
2BC,2C -- 17 to 60 in	sand	rapid	0.9 to 3.0 in	5.6 to 7.8

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

329--Chaska silt loam

Chaska

Extent: 90 percent of the unit

Landform(s): flood plains

Slope gradient: 0 to 2 percent

Parent material:

Restrictive feature(s):

Flooding: frequent

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

alluvium *Kw (surface layer):* .28

Land capability class, nonirrigated: 6w

Hydric soil: no

Hydrologic group: B/D

Potential 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 6 in	silt loam	moderate	1.2 to 1.3 in	6.6 to 7.8
C1 -- 6 to 36 in	stratified very fine sandy loam to silt loam	moderate	5.2 to 5.8 in	7.4 to 7.8
C2 -- 36 to 60 in	stratified very fine sandy loam to loamy fine sand	moderately rapid	1.7 to 3.8 in	7.4 to 8.4

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

Whalan

Extent: 90 percent of the unit

Landform(s): loess hills

Slope gradient: 1 to 6 percent

Parent material:

(surface layer): .32

Restrictive feature(s): bedrock (paralithic) 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

loamy sediment over limestone bedrock *Kw*

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential 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	2.4 to 2.6 in	5.6 to 7.3
Bt1 -- 12 to 18 in	loam	moderate	1.1 to 1.2 in	5.1 to 6.5
2Bt2 -- 18 to 26 in	loam	moderate	1.2 to 1.5 in	5.6 to 7.8
3R -- 26 to 30 in	weathered bedrock	moderately slow		

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

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

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

Whalan

Extent: 90 percent of the unit

Landform(s): loess hills

Slope gradient: 6 to 12 percent

Parent material:

(surface layer): .32

Restrictive feature(s): bedrock (paralithic) 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

loamy sediment over limestone bedrock *Kw*

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential frost action: moderate

Representative soil profile:

Texture

A,E --	0 to 12 in	silt loam
Bt1 --	12 to 18 in	loam
2Bt2 --	18 to 26 in	loam
3R --	26 to 30 in	weathered bedrock

Permeability

moderate
moderate
moderate
moderately slow

Available water

capacity

2.4 to 2.6 in	5.6 to 7.3
1.1 to 1.2 in	5.1 to 6.5
1.2 to 1.5 in	5.6 to 7.8

pH

342B--Kingsley sandy loam, 2 to 6 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

342B--Kingsley sandy loam, 2 to 6 percent slopes

Kingsley

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 2 to 6 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
 till *Kw (surface layer):* .20
Land capability class, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential 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 8 in	sandy loam	moderate	0.8 to 1.4 in	5.6 to 6.5
Bt -- 8 to 39 in	sandy loam	moderately slow	4.0 to 5.0 in	5.1 to 7.3
C -- 39 to 60 in	sandy loam	moderately slow	2.3 to 2.9 in	5.6 to 7.3

342C--Kingsley sandy loam, 6 to 12 percent slopes

Kingsley

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
 till *Kw (surface layer):* .20
Land capability class, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential 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 8 in	sandy loam	moderate	0.8 to 1.4 in	5.6 to 6.5
Bt -- 8 to 39 in	sandy loam	moderately slow	4.0 to 5.0 in	5.1 to 7.3
C -- 39 to 60 in	sandy loam	moderately slow	2.3 to 2.9 in	5.6 to 7.3

342D--Kingsley sandy loam, 12 to 18 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

342D--Kingsley sandy loam, 12 to 18 percent slopes

Kingsley

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 12 to 18 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

till *Kw (surface layer):* .20

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential 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 8 in	sandy loam	moderate	0.8 to 1.4 in	5.6 to 6.5
Bt -- 8 to 39 in	sandy loam	moderately slow	4.0 to 5.0 in	5.1 to 7.3
C -- 39 to 60 in	sandy loam	moderately slow	2.3 to 2.9 in	5.6 to 7.3

342E--Kingsley sandy loam, 18 to 30 percent slopes

Kingsley

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 18 to 30 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

till *Kw (surface layer):* .20

Land capability class, nonirrigated: 6e

Hydric soil: no

Hydrologic group: B

Potential 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 8 in	sandy loam	moderate	0.8 to 1.4 in	5.6 to 6.5
Bt -- 8 to 39 in	sandy loam	moderately slow	4.0 to 5.0 in	5.1 to 7.3
C -- 39 to 60 in	sandy loam	moderately slow	2.3 to 2.9 in	5.6 to 7.3

367B--Campia silt loam, 0 to 8 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

367B--Campia silt loam, 0 to 8 percent slopes

Campia

Extent: 90 percent of the unit
Landform(s): lake plains
Slope gradient: 0 to 8 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
lacustrine Kw (surface layer): .37
Land capability class, nonirrigated: 2e
Hydric soil: no
Hydrologic group: B
Potential 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	1.6 to 1.9 in	4.5 to 7.3
E -- 8 to 12 in	silt loam	moderate	0.8 to 0.9 in	4.5 to 6.5
B/E -- 12 to 15 in	silt loam	moderate	0.5 to 0.7 in	4.5 to 6.5
Bt -- 15 to 40 in	silt loam	moderate	4.0 to 5.5 in	4.5 to 6.5
C -- 40 to 60 in	silt loam	moderate	2.8 to 3.9 in	5.1 to 7.3

408--Faxon silt loam

Faxon

Extent: 85 percent of the unit
Landform(s): drainageways on terraces
Slope gradient: 0 to 2 percent
Parent material:
layer): .28
Restrictive feature(s): bedrock (lithic) at 20 to 40 inches
Flooding: frequent
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
loamy sediment over bedrock Kw (surface
Land capability class, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: B/D
Potential 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 19 in	silt loam	moderate	3.8 to 4.5 in	6.6 to 7.8
Bg -- 19 to 34 in	silt loam	moderate	1.8 to 2.8 in	6.6 to 7.8
2R -- 34 to 38 in	unweathered bedrock	moderately slow		

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

408--Faxon silt loam

411--Waukegan silt loam, 0 to 2 percent slopes

Waukegan

Extent: 90 percent of the unit

Landform(s): outwash plains, outwash terraces

Slope gradient: 0 to 2 percent

Parent material:

(surface layer): .32

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

glaciofluvial sediments over outwash *Kw*

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential frost action: low

Representative soil profile:

Texture

Ap --	0 to 10 in	silt loam
Bw --	10 to 24 in	silt loam
2BC,2C --	24 to 60 in	coarse sand

Permeability

Available water

capacity

pH

moderate	2.2 to 2.4 in	5.6 to 7.3
moderate	2.8 to 3.1 in	5.1 to 7.3
rapid	0.7 to 1.4 in	5.6 to 7.8

411B--Waukegan silt loam, 2 to 6 percent slopes

Waukegan

Extent: 90 percent of the unit

Landform(s): outwash plains, outwash terraces

Slope gradient: 2 to 6 percent

Parent material:

(surface layer): .32

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

glaciofluvial sediments over outwash *Kw*

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential frost action: low

Representative soil profile:

Texture

Ap --	0 to 10 in	silt loam
Bw --	10 to 24 in	silt loam
2BC,2C --	24 to 60 in	coarse sand

Permeability

Available water

capacity

pH

moderate	2.2 to 2.4 in	5.6 to 7.3
moderate	2.8 to 3.1 in	5.1 to 7.3
rapid	0.7 to 1.4 in	5.6 to 7.8

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

411B--Waukegan silt loam, 2 to 6 percent slopes

411C--Waukegan silt loam, 6 to 12 percent slopes

Waukegan

Extent: 90 percent of the unit

Landform(s): outwash plains, outwash terraces

Slope gradient: 6 to 12 percent

Parent material:

(surface layer): .32

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

glaciofluvial sediments over outwash *Kw*

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential frost action: low

Representative soil profile:

Texture

Ap --	0 to 10 in	silt loam
Bw --	10 to 24 in	silt loam
2BC,2C --	24 to 60 in	coarse sand

Permeability

moderate
moderate
rapid

Available water

capacity

2.2 to 2.4 in
2.8 to 3.1 in
0.7 to 1.4 in

pH

5.6 to 7.3
5.1 to 7.3
5.6 to 7.8

449--Crystal Lake silt loam, 1 to 3 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

449--Crystal Lake silt loam, 1 to 3 percent slopes

Crystal Lake

Extent: 90 percent of the unit

Landform(s): lake plains

Slope gradient: 1 to 3 percent

Parent material:

Restrictive feature(s):

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

loess *Kw (surface layer):* .37

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential frost action: high

Representative soil profile:

	<i>Texture</i>
Ap -- 0 to 9 in	silt loam
B/E -- 9 to 23 in	silt loam
Bt -- 23 to 38 in	silt loam
C -- 38 to 60 in	silt loam

Texture

Permeability

moderate
moderate
moderate
moderate

Available water

capacity

1.8 to 2.2 in	4.5 to 7.3
2.5 to 3.0 in	4.5 to 6.0
2.7 to 3.3 in	4.5 to 6.0
4.4 to 4.9 in	4.5 to 7.3

pH

452--Comstock silt loam

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

452--Comstock silt loam

Comstock

Extent: 90 percent of the unit

Landform(s): lake plains

Slope gradient: 0 to 3 percent

Parent material:

Restrictive feature(s):

Flooding: occasional

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

lacustrine *Kw (surface layer):* .37

Land capability class, nonirrigated: 2w

Hydric soil: no

Hydrologic group: B

Potential 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	silt loam	moderate	2.0 to 2.4 in	4.5 to 7.3
A -- 10 to 19 in	silt loam	moderate	1.8 to 2.0 in	4.5 to 6.0
B/E -- 19 to 24 in	silt loam	moderate	0.9 to 1.1 in	4.5 to 6.0
Bt -- 24 to 40 in	silt loam	moderate	2.9 to 3.6 in	4.5 to 6.0
BC -- 40 to 52 in	silt loam	moderate	1.4 to 2.6 in	4.5 to 6.0
C -- 52 to 60 in	silt loam	moderate	0.9 to 1.7 in	5.1 to 7.3

453B--DeMontreville loamy fine sand, 2 to 6 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

453B--DeMontreville loamy fine sand, 2 to 6 percent slopes

DeMontreville

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 2 to 6 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash over till Kw (surface layer): .17

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: B

Potential frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	loamy fine sand	rapid	0.7 to 0.9 in	5.1 to 7.3
E, BE -- 7 to 24 in	loamy sand	rapid	1.0 to 1.7 in	5.1 to 7.3
2Bt -- 24 to 41 in	sandy loam	moderately slow	1.7 to 2.4 in	5.6 to 6.5
2C -- 41 to 60 in	sandy loam	moderately slow	1.5 to 2.5 in	5.6 to 7.3

453C--DeMontreville loamy fine sand, 6 to 12 percent slopes

DeMontreville

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 6 to 12 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash over till Kw (surface layer): .17

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential 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 6 in	loamy fine sand	rapid	0.6 to 0.7 in	5.1 to 7.3
E, BE -- 6 to 24 in	loamy sand	rapid	1.1 to 1.8 in	5.1 to 7.3
2Bt -- 24 to 40 in	sandy loam	moderately slow	1.6 to 2.3 in	5.6 to 6.5
2C -- 40 to 60 in	sandy loam	moderately slow	1.6 to 2.6 in	5.6 to 7.3

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

453C--DeMontreville loamy fine sand, 6 to 12 percent slopes

453D--DeMontreville loamy fine sand, 12 to 25 percent slopes

DeMontreville

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 12 to 25 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash over till Kw (surface layer): .17

Land capability class, nonirrigated: 6e

Hydric soil: no

Hydrologic group: B

Potential frost action: low

Representative soil profile:

Texture

Ap --	0 to 4 in	loamy fine sand
E, BE --	4 to 24 in	loamy sand
2Bt --	24 to 39 in	sandy loam
2C --	39 to 60 in	sandy loam

Permeability

rapid
rapid
moderately slow
moderately slow

Available water

capacity

0.4 to 0.5 in
1.2 to 2.0 in
1.5 to 2.1 in
1.7 to 2.7 in

pH

5.1 to 7.3
5.1 to 7.3
5.6 to 6.5
5.6 to 7.3

454B--Mahtomedi loamy sand, 0 to 6 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

454B--Mahtomedi loamy sand, 0 to 6 percent slopes

Mahtomedi

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 6 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .15

Land capability class, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential 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 8 in	loamy sand	rapid	0.8 to 0.9 in	5.1 to 6.5
Bw -- 8 to 30 in	gravelly coarse sand	rapid	1.1 to 1.5 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.2 to 2.7 in	5.1 to 7.8

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

Mahtomedi

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 6 to 12 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .15

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential 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 8 in	loamy sand	rapid	0.8 to 0.9 in	5.1 to 6.5
Bw -- 8 to 30 in	gravelly coarse sand	rapid	1.1 to 1.5 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.2 to 2.7 in	5.1 to 7.8

454D--Mahtomedi loamy sand, 12 to 25 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

454D--Mahtomedi loamy sand, 12 to 25 percent slopes

Mahtomedi

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 12 to 25 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .15

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential 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 5 in	loamy sand	rapid	0.5 to 0.6 in	5.1 to 6.5
E -- 5 to 8 in	sand	rapid	0.1 to 0.3 in	5.1 to 6.5
Bw -- 8 to 30 in	gravelly coarse sand	rapid	1.1 to 1.5 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.2 to 2.7 in	5.1 to 7.8

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

Mahtomedi

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 25 to 40 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .15

Land capability class, nonirrigated: 7s

Hydric soil: no

Hydrologic group: A

Potential 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 3 in	loamy sand	rapid	0.3 to 0.4 in	5.1 to 6.5
Bw -- 3 to 23 in	gravelly coarse sand	rapid	1.0 to 1.4 in	5.1 to 6.5
C -- 23 to 60 in	gravelly sand	rapid	1.5 to 3.3 in	5.1 to 7.8

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

456--Barronett silt loam

Barronett

Extent: 85 percent of the unit

Soil loss tolerance (T factor): 5

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

Wind erodibility

group (WEG): 5
plains

Slope gradient: 0 to 2 percent

Wind erodibility index (WEI): 56

Parent material:

lacustrine *Kw (surface layer):* .28

Restrictive feature(s):

Land capability class, nonirrigated: 3w

Flooding: none

Hydric soil: yes

Ponding: occasional

Hydrologic group: B/D

Drainage class: poorly drained

Potential frost action: high

Representative soil profile:

Texture

Permeability

Available water

capacity

pH

A --	0 to 7 in	silt loam	moderate	1.4 to 1.8 in	4.5 to 7.3
E --	7 to 12 in	silt loam	moderate	0.9 to 1.0 in	4.5 to 6.5
Bt --	12 to 30 in	silty clay loam	moderate	3.3 to 4.0 in	4.5 to 6.5
BC --	30 to 39 in	silt loam	moderate	1.6 to 2.0 in	6.1 to 7.8
C --	39 to 60 in	silt loam	moderately slow	3.3 to 4.6 in	6.1 to 7.8

460B--Baytown silt loam, 1 to 6 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

460B--Baytown silt loam, 1 to 6 percent slopes

Baytown

<p><i>Extent:</i> 90 percent of the unit <i>Landform(s):</i> hills <i>Slope gradient:</i> 1 to 6 percent <i>Parent material:</i> <i>layer):</i> .32 <i>Restrictive feature(s):</i> bedrock (paralithic) at 20 to 40 inches <i>Flooding:</i> none <i>Ponding:</i> none <i>Drainage class:</i> well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 3 <i>Wind erodibility group (WEG):</i> 6 <i>Wind erodibility index (WEI):</i> 48 loess over sandstone bedrock <i>Kw (surface</i></p> <p><i>Land capability class, nonirrigated:</i> 2e <i>Hydric soil:</i> no <i>Hydrologic group:</i> B <i>Potential frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A1 -- 0 to 19 in	silt loam	moderate	4.2 to 4.5 in	5.1 to 7.3
Bw -- 19 to 32 in	loam	moderate	2.2 to 2.9 in	4.5 to 6.5
2BC -- 32 to 36 in	loamy sand	rapid	0.2 to 0.4 in	5.1 to 6.5
3Cr -- 36 to 46 in	unweathered bedrock	moderate		

460C--Baytown silt loam, 6 to 12 percent slopes

Baytown

<p><i>Extent:</i> 90 percent of the unit <i>Landform(s):</i> hills <i>Slope gradient:</i> 6 to 12 percent <i>Parent material:</i> <i>layer):</i> .32 <i>Restrictive feature(s):</i> bedrock (paralithic) at 20 to 40 inches <i>Flooding:</i> none <i>Ponding:</i> none <i>Drainage class:</i> well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 3 <i>Wind erodibility group (WEG):</i> 6 <i>Wind erodibility index (WEI):</i> 48 loess over sandstone bedrock <i>Kw (surface</i></p> <p><i>Land capability class, nonirrigated:</i> 3e <i>Hydric soil:</i> no <i>Hydrologic group:</i> B <i>Potential frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A1 -- 0 to 19 in	silt loam	moderate	4.2 to 4.5 in	5.1 to 7.3
Bw -- 19 to 32 in	loam	moderate	2.2 to 2.9 in	4.5 to 6.5
2BC -- 32 to 36 in	loamy sand	rapid	0.2 to 0.4 in	5.1 to 6.5
3Cr -- 36 to 46 in	unweathered bedrock	moderate		

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

460C--Baytown silt loam, 6 to 12 percent slopes

468--Otter silt loam

Otter

Extent: 85 percent of the unit
Landform(s): drainageways on loess hills
Slope gradient: 0 to 2 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: frequent
Drainage class: poorly drained

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

Representative soil profile:

Ap,A1 --	0 to 38 in	silt loam
AC --	38 to 60 in	silt loam

Texture

Permeability

moderate
 moderate

Available water

capacity *pH*

8.3 to 9.1 in 6.1 to 7.8
 3.3 to 4.4 in 6.1 to 8.4

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

Channahon

Extent: 90 percent of the unit
Landform(s): hills, terraces
Slope gradient: 1 to 6 percent
Parent material:
(surface layer): .37
Restrictive feature(s): bedrock (lithic) 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
 silt sediments over limestone bedrock *Kw*
Land capability class, nonirrigated: 3e
Hydric soil: no
Hydrologic group: D
Potential frost action: moderate

Representative soil profile:

Ap --	0 to 8 in	silt loam
Bt --	8 to 18 in	silt loam
2R --	18 to 60 in	unweathered bedrock

Texture

Permeability

moderate
 moderate
 moderately slow

Available water

capacity *pH*

1.2 to 1.8 in 6.1 to 8.4
 1.5 to 2.3 in 6.1 to 8.4

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

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

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

Channahon

Extent: 90 percent of the unit

Landform(s): hills, terraces

Slope gradient: 6 to 12 percent

Parent material:

(surface layer): .37

Restrictive feature(s): bedrock (lithic) 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

silty sediments over limestone bedrock *Kw*

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: D

Potential frost action: moderate

Representative soil profile:

Texture

Ap --	0 to 8 in	silt loam
Bt --	8 to 18 in	silt loam
2R --	18 to 60 in	unweathered bedrock

Permeability

moderate
moderate
moderately slow

Available water

capacity

1.2 to 1.8 in
1.5 to 2.3 in

pH

6.1 to 8.4
6.1 to 8.4

472D--Channahon silt loam, 12 to 18 percent slopes

Channahon

Extent: 90 percent of the unit

Landform(s): hills, terraces

Slope gradient: 12 to 18 percent

Parent material:

(surface layer): .37

Restrictive feature(s): bedrock (lithic) 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

silty sediments over limestone bedrock *Kw*

Land capability class, nonirrigated: 6e

Hydric soil: no

Hydrologic group: D

Potential frost action: moderate

Representative soil profile:

Texture

Ap --	0 to 8 in	silt loam
Bt --	8 to 18 in	silt loam
2R --	18 to 60 in	unweathered bedrock

Permeability

moderate
moderate
moderately slow

Available water

capacity

1.2 to 1.8 in
1.5 to 2.3 in

pH

6.1 to 8.4
6.1 to 8.4

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

472D--Channahon silt loam, 12 to 18 percent slopes

481--Kratka fine sandy loam

Kratka

Extent: 90 percent of the unit

Landform(s): drainageways on moraines, depressions on moraines

Slope gradient: 0 to 1 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: frequent

Drainage class: poorly drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

outwash over till *K_w (surface layer):* .20

Land capability class, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: B/D

Potential frost action: moderate

Representative soil profile:

Texture

A1 --	0 to 11 in	fine sandy loam
A2 --	11 to 14 in	loamy fine sand
Bg --	14 to 29 in	fine sand
2Cg --	29 to 60 in	sandy clay loam

Permeability

Available water

capacity

pH

moderately rapid	1.4 to 2.0 in	5.6 to 6.5
rapid	0.2 to 0.4 in	5.6 to 6.5
rapid	0.7 to 1.5 in	5.6 to 7.3
moderate	3.4 to 5.8 in	6.1 to 8.4

488F--Brodale flaggy loam, 20 to 50 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

488F--Brodale flaggy loam, 20 to 50 percent slopes

Brodale

Extent: 90 percent of the unit

Landform(s): hills, terraces

Slope gradient: 20 to 50 percent

Parent material:

(*surface layer*): .17

Restrictive feature(s): bedrock (lithic) at 40 to 80 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

colluvium over limestone bedrock *Kw*

Land capability class, nonirrigated: 7s

Hydric soil: no

Hydrologic group: B

Potential frost action: low

Representative soil profile:

Texture

A --	0 to 7 in	flaggy loam
Bw --	7 to 13 in	flaggy very fine sandy loam
C --	13 to 50 in	very flaggy very fine sandy loam
2R --	50 to 60 in	unweathered bedrock

Permeability

moderate
moderately rapid
moderately rapid
rapid

Available water

capacity

0.4 to 0.9 in
0.2 to 0.5 in
1.5 to 3.3 in

pH

6.6 to 8.4
6.6 to 8.4
7.4 to 8.4

504B--Duluth silt loam, 1 to 6 percent slopes

Duluth

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 1 to 6 percent

Parent material:

Restrictive feature(s):

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

till *Kw (surface layer):* .37

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential frost action: moderate

Representative soil profile:

Texture

Ap --	0 to 9 in	silt loam
B/E --	9 to 14 in	loam
Bt --	14 to 50 in	loam
C --	50 to 60 in	loam

Permeability

moderate
moderately slow
slow
slow

Available water

capacity

1.8 to 2.2 in
0.8 to 1.0 in
5.4 to 6.8 in
1.4 to 1.9 in

pH

5.6 to 6.5
5.6 to 6.5
5.1 to 6.5
6.1 to 7.8

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

504B--Duluth silt loam, 1 to 6 percent slopes

504C--Duluth silt loam, 6 to 12 percent slopes

Duluth

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 6 to 12 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
 till *Kw (surface layer):* .37
Land capability class, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential frost action: moderate

Representative soil profile:

Texture

Ap --	0 to 9 in	silt loam
B/E --	9 to 14 in	loam
Bt --	14 to 50 in	loam
C --	50 to 60 in	loam

<i>Permeability</i>	<i>Available water</i>	
	<i>capacity</i>	<i>pH</i>
moderate	1.8 to 2.2 in	5.6 to 6.5
moderately slow	0.8 to 1.0 in	5.6 to 6.5
slow	5.4 to 6.8 in	5.1 to 6.5
slow	1.4 to 1.9 in	6.1 to 7.8

504D--Duluth silt loam, 12 to 25 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

504D--Duluth silt loam, 12 to 25 percent slopes

Duluth

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 25 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
 till *Kw (surface layer):* .37
Land capability class, nonirrigated: 6e
Hydric soil: no
Hydrologic group: B
Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water</i>	
			<i>capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	silt loam	moderate	1.8 to 2.2 in	5.6 to 6.5
B/E -- 9 to 14 in	loam	moderately slow	0.8 to 1.0 in	5.6 to 6.5
Bt -- 14 to 50 in	loam	slow	5.4 to 6.8 in	5.1 to 6.5
C -- 50 to 60 in	loam	slow	1.4 to 1.9 in	6.1 to 7.8

507--Poskin silt loam

Poskin

Extent: 90 percent of the unit
Landform(s): drainageways on outwash plains
Slope gradient: 0 to 2 percent
Parent material:
 .37
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 4
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
 alluvium over outwash *Kw (surface layer):*
Land capability class, nonirrigated: 2w
Hydric soil: no
Hydrologic group: B
Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water</i>	
			<i>capacity</i>	<i>pH</i>
Ap,A -- 0 to 13 in	silt loam	moderate	2.7 to 3.1 in	5.1 to 7.3
Bt -- 13 to 28 in	silt loam	moderate	2.5 to 3.3 in	5.1 to 6.5
BC -- 28 to 33 in	loam	moderately rapid	0.3 to 1.1 in	5.6 to 6.5
2C -- 33 to 60 in	gravelly coarse sand	rapid	0.5 to 1.9 in	5.6 to 7.3

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

507--Poskin silt loam

529--Ripon silt loam, 1 to 2 percent slopes

Ripon

<p><i>Extent:</i> 90 percent of the unit <i>Landform(s):</i> hills, terraces <i>Slope gradient:</i> 1 to 2 percent <i>Parent material:</i> <i>layer):</i> .28 <i>Restrictive feature(s):</i> bedrock (lithic) at 20 to 40 inches <i>Flooding:</i> none <i>Ponding:</i> none <i>Drainage class:</i> well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2 <i>Wind erodibility group (WEG):</i> 5 <i>Wind erodibility index (WEI):</i> 56 loess over limestone bedrock <i>Kw (surface</i></p> <p><i>Land capability class, nonirrigated:</i> 2s <i>Hydric soil:</i> no <i>Hydrologic group:</i> B <i>Potential frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 13 in	silt loam	moderate	2.9 to 3.1 in	5.6 to 7.8
Bt -- 13 to 26 in	silt loam	moderate	2.9 to 3.1 in	5.6 to 7.8
2R -- 26 to 30 in	unweathered bedrock	moderate		

529B--Ripon silt loam, 2 to 6 percent slopes

Ripon

<p><i>Extent:</i> 90 percent of the unit <i>Landform(s):</i> hills, terraces <i>Slope gradient:</i> 2 to 6 percent <i>Parent material:</i> <i>layer):</i> .28 <i>Restrictive feature(s):</i> bedrock (lithic) at 20 to 40 inches <i>Flooding:</i> none <i>Ponding:</i> none <i>Drainage class:</i> well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2 <i>Wind erodibility group (WEG):</i> 5 <i>Wind erodibility index (WEI):</i> 56 loess over limestone bedrock <i>Kw (surface</i></p> <p><i>Land capability class, nonirrigated:</i> 2e <i>Hydric soil:</i> no <i>Hydrologic group:</i> B <i>Potential frost action:</i> high</p>
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<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	2.2 to 2.4 in	5.6 to 7.8
Bt -- 10 to 28 in	silt loam	moderate	4.0 to 4.3 in	5.6 to 7.8
2R -- 28 to 32 in	unweathered bedrock	moderate		

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

529B--Ripon silt loam, 2 to 6 percent slopes

529C--Ripon silt loam, 6 to 12 percent slopes

Ripon

<p><i>Extent:</i> 90 percent of the unit <i>Landform(s):</i> hills, terraces <i>Slope gradient:</i> 6 to 12 percent <i>Parent material:</i> <i>layer):</i> .28 <i>Restrictive feature(s):</i> bedrock (lithic) at 20 to 40 inches <i>Flooding:</i> none <i>Ponding:</i> none <i>Drainage class:</i> well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 2 <i>Wind erodibility group (WEG):</i> 5 <i>Wind erodibility index (WEI):</i> 56 loess over limestone bedrock <i>Kw (surface</i></p> <p><i>Land capability class, nonirrigated:</i> 3e <i>Hydric soil:</i> no <i>Hydrologic group:</i> B <i>Potential frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 11 in	silt loam	moderate	2.4 to 2.6 in	5.6 to 7.8
Bt -- 11 to 24 in	silt loam	moderate	2.9 to 3.1 in	5.6 to 7.8
2R -- 24 to 28 in	unweathered bedrock	moderate		

540--Seelyeville muck

Seelyeville

<p><i>Extent:</i> 85 percent of the unit <i>Landform(s):</i> depressions <i>Slope gradient:</i> 0 to 1 percent <i>Parent material:</i> <i>Restrictive feature(s):</i> <i>Flooding:</i> none <i>Ponding:</i> frequent <i>Drainage class:</i> very poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 3 <i>Wind erodibility group (WEG):</i> 2 <i>Wind erodibility index (WEI):</i> 134 organic material <i>Kw (surface layer):</i> .02 <i>Land capability class, nonirrigated:</i> 6w <i>Hydric soil:</i> yes <i>Hydrologic group:</i> A/D <i>Potential frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 60 in	muck	moderately rapid	20.9 to 26.9 in	

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

541--Rifle muck

Rifle

Extent: 85 percent of the unit

Landform(s): depressions

Slope gradient: 0 to 2 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

organic material Kw (surface layer): .02

Land capability class, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: A/D

Potential frost action: high

Representative soil profile:

Texture

Oa -- 0 to 9 in muck
Oe -- 9 to 60 in mucky peat

Permeability

moderately rapid
rapid

Available water capacity

3.2 to 4.3 in
24.4 to 29.5 in

pH

543--Markey muck

Markey

Extent: 85 percent of the unit

Landform(s): depressions

Slope gradient: 0 to 2 percent

Parent material:

layer): .02

Restrictive feature(s):

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

organic material over outwash Kw (surface

Land capability class, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: A/D

Potential frost action: high

Representative soil profile:

Texture

Oa -- 0 to 30 in muck
2A,2Cg -- 30 to 60 in stratified sand to fine sand to loamy very fine sand

Permeability

moderately rapid
rapid

Available water capacity

10.5 to 13.5 in
0.9 to 2.4 in

pH

6.1 to 8.4

544--Cathro muck

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

544--Cathro muck

Cathro

Extent: 85 percent of the unit

Landform(s): depressions

Slope gradient: 0 to 2 percent

Parent material:

(surface layer): .02

Restrictive feature(s):

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

organic material over loamy sediment *Kw*

Land capability class, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: A/D

Potential frost action: high

Representative soil profile:

Texture

Permeability

Available water capacity

pH

Oa1 --	0 to 13 in	muck
Oa2 --	13 to 38 in	muck
2A,2Cg --	38 to 60 in	loam

moderately rapid	5.8 to 7.1 in	
moderately rapid	8.7 to 11.2 in	
moderate	2.4 to 4.2 in	6.6 to 8.4

852B--Urban land-Copaston complex, 0 to 8 percent slopes

Urban land

Extent: 65 percent of the unit

Landform(s): terraces

Slope gradient: 0 to 8 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential frost action:

Representative soil profile:

Texture

Permeability

Available water capacity

pH

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

852B--Urban land-Copaston complex, 0 to 8 percent slopes

Copaston

Extent: 35 percent of the unit
Landform(s): terraces
Slope gradient: 0 to 8 percent
Parent material:
 layer): .28
Restrictive feature(s): bedrock (lithic) at 12 to 20 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
 loamy sediment over bedrock *Kw (surface*
Land capability class, nonirrigated: 3e
Hydric soil: no
Hydrologic group: D
Potential 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	1.6 to 1.7 in	5.6 to 7.3
Bw1 -- 8 to 14 in	sandy loam	moderately rapid	0.9 to 1.1 in	5.6 to 7.3
Bw2 -- 14 to 18 in	sandy loam	moderately rapid	0.5 to 0.6 in	5.6 to 7.8
2R -- 18 to 22 in	unweathered bedrock	moderate		

857--Urban land-Waukegan complex, 0 to 3 percent slopes

Urban land

Extent: 65 percent of the unit
Landform(s): outwash plains, outwash terraces
Slope gradient: 0 to 3 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class:

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

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

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

857--Urban land-Waukegan complex, 0 to 3 percent slopes

Waukegan

Extent: 35 percent of the unit

Landform(s): outwash plains, outwash terraces

Slope gradient: 0 to 3 percent

Parent material:

(surface layer): .32

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

glaciofluvial sediments over outwash *Kw*

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential frost action: low

Representative soil profile:

Texture

Permeability

Available water

capacity

pH

Ap --	0 to 10 in	silt loam	moderate	2.2 to 2.4 in	5.6 to 7.3
Bw --	10 to 24 in	silt loam	moderate	2.8 to 3.1 in	5.1 to 7.3
2BC,2C --	24 to 60 in	coarse sand	rapid	0.7 to 1.4 in	5.6 to 7.8

857C--Urban land-Waukegan complex, 3 to 15 percent slopes

Urban land

Extent: 65 percent of the unit

Landform(s): outwash plains, outwash terraces

Slope gradient: 3 to 15 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential frost action:

Representative soil profile:

Texture

Permeability

Available water

capacity

pH

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

857C--Urban land-Waukegan complex, 3 to 15 percent slopes

Waukegan

Extent: 35 percent of the unit

Landform(s): outwash plains, outwash terraces

Slope gradient: 3 to 15 percent

Parent material:

(surface layer): .32

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

glaciofluvial sediments over outwash *Kw*

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential frost action: low

Representative soil profile:

Texture

Permeability

Available water

capacity

pH

Ap --	0 to 10 in	silt loam	moderate	2.2 to 2.4 in	5.6 to 7.3
Bw --	10 to 24 in	silt loam	moderate	2.8 to 3.1 in	5.1 to 7.3
2BC,2C --	24 to 60 in	coarse sand	rapid	0.7 to 1.4 in	5.6 to 7.8

858--Urban land-Chetek complex, 0 to 3 percent slopes

Urban land

Extent: 65 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 3 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: unranked

Hydrologic group:

Potential frost action:

Representative soil profile:

Texture

Permeability

Available water

capacity

pH

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

858--Urban land-Chetek complex, 0 to 3 percent slopes

Chetek

Extent: 35 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 3 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

outwash *Kw (surface layer):* .24

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: B

Potential frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water</i>	
			<i>capacity</i>	<i>pH</i>
Ap -- 0 to 6 in	sandy loam	moderate	0.6 to 0.9 in	5.1 to 7.3
Bt -- 6 to 20 in	gravelly sandy loam	rapid	0.6 to 1.8 in	5.1 to 7.3
2C -- 20 to 60 in	gravelly coarse sand	rapid	0.8 to 1.6 in	5.1 to 7.3

858C--Urban land-Chetek complex, 3 to 15 percent slopes

Urban land

Extent: 65 percent of the unit

Landform(s): outwash plains

Slope gradient: 3 to 15 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential frost action:

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

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

858C--Urban land-Chetek complex, 3 to 15 percent slopes

Chetek

Extent: 35 percent of the unit

Landform(s): outwash plains

Slope gradient: 3 to 15 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

outwash *Kw (surface layer):* .24

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential 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 6 in	sandy loam	moderate	0.6 to 0.9 in	5.1 to 7.3
Bt -- 6 to 18 in	gravelly sandy loam	rapid	0.5 to 1.6 in	5.1 to 7.3
2C -- 18 to 60 in	gravelly coarse sand	rapid	0.8 to 1.7 in	5.1 to 7.3

859B--Urban land-Zimmerman complex, 1 to 8 percent slopes

Urban land

Extent: 60 percent of the unit

Landform(s): outwash plains

Slope gradient: 1 to 8 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential 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 shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

859B--Urban land-Zimmerman complex, 1 to 8 percent slopes

Zimmerman

Extent: 35 percent of the unit

Landform(s): outwash plains

Slope gradient: 1 to 8 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .17

Land capability class, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,E -- 0 to 15 in	loamy fine sand	rapid	1.5 to 1.8 in	5.1 to 6.5
E/Bt -- 15 to 60 in	fine sand	rapid	2.7 to 4.5 in	5.1 to 7.3

860C--Urban land-Hayden-Kingsley complex, 3 to 15 percent slopes

Urban land

Extent: 55 percent of the unit

Landform(s): moraines

Slope gradient: 3 to 15 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential 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 shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

860C--Urban land-Hayden-Kingsley complex, 3 to 15 percent slopes

Hayden

Extent: 25 percent of the unit
Landform(s): moraines
Slope gradient: 3 to 15 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
 till *Kw (surface layer):* .24
Land capability class, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water</i>	
			<i>capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderately rapid	1.3 to 1.6 in	5.6 to 7.3
E -- 9 to 15 in	fine sandy loam	moderately rapid	0.7 to 1.1 in	5.6 to 7.3
Bt -- 15 to 50 in	clay loam	moderate	5.3 to 6.7 in	5.1 to 7.3
C -- 50 to 60 in	loam	moderate	1.4 to 1.9 in	7.4 to 8.4

Kingsley

Extent: 15 percent of the unit
Landform(s): moraines
Slope gradient: 3 to 15 percent
Parent material:
Restrictive feature(s):
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 (surface layer): .20
Land capability class, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water</i>	
			<i>capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	sandy loam	moderate	0.8 to 1.4 in	5.6 to 6.5
Bt -- 8 to 39 in	sandy loam	moderately slow	4.0 to 5.0 in	5.1 to 7.3
C -- 39 to 60 in	sandy loam	moderately slow	2.3 to 2.9 in	5.6 to 7.3

860D--Urban land-Hayden-Kingsley complex, 15 to 25 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

860D--Urban land-Hayden-Kingsley complex, 15 to 25 percent slopes

Urban land

Extent: 50 percent of the unit
Landform(s): moraines
Slope gradient: 15 to 25 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class:

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

Extent: 25 percent of the unit
Landform(s): moraines
Slope gradient: 15 to 25 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
till Kw (surface layer): .24
Land capability class, nonirrigated: 6e
Hydric soil: no
Hydrologic group: B
Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderately rapid	1.3 to 1.6 in	5.6 to 7.3
E -- 9 to 15 in	fine sandy loam	moderately rapid	0.7 to 1.1 in	5.6 to 7.3
Bt -- 15 to 50 in	clay loam	moderate	5.3 to 6.7 in	5.1 to 7.3
C -- 50 to 60 in	loam	moderate	1.4 to 1.9 in	7.4 to 8.4

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

860D--Urban land-Hayden-Kingsley complex, 15 to 25 percent slopes

Kingsley

Extent: 20 percent of the unit

Landform(s): moraines

Slope gradient: 15 to 25 percent

Parent material:

Restrictive feature(s):

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 (surface layer): .20

Land capability class, nonirrigated: 6e

Hydric soil: no

Hydrologic group: B

Potential 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 8 in	sandy loam	moderate	0.8 to 1.4 in	5.6 to 6.5
Bt -- 8 to 39 in	sandy loam	moderately slow	4.0 to 5.0 in	5.1 to 7.3
C -- 39 to 60 in	sandy loam	moderately slow	2.3 to 2.9 in	5.6 to 7.3

861C--Urban land-Kingsley complex, 3 to 15 percent slopes

Urban land

Extent: 60 percent of the unit

Landform(s): moraines

Slope gradient: 3 to 15 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential 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 shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

861C--Urban land-Kingsley complex, 3 to 15 percent slopes

Kingsley

Extent: 35 percent of the unit
Landform(s): moraines
Slope gradient: 3 to 15 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
 till *Kw (surface layer):* .20
Land capability class, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential 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 8 in	sandy loam	moderate	0.8 to 1.4 in	5.6 to 6.5
Bt -- 8 to 39 in	sandy loam	moderately slow	4.0 to 5.0 in	5.1 to 7.3
C -- 39 to 60 in	sandy loam	moderately slow	2.3 to 2.9 in	5.6 to 7.3

861D--Urban land-Kingsley complex, 15 to 25 percent slopes

Urban land

Extent: 60 percent of the unit
Landform(s): moraines
Slope gradient: 15 to 25 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw (surface layer):
Land capability class, nonirrigated:
Hydric soil: no
Hydrologic group:
Potential 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 shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

861D--Urban land-Kingsley complex, 15 to 25 percent slopes

Kingsley

Extent: 35 percent of the unit

Landform(s): moraines

Slope gradient: 15 to 25 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

till *Kw (surface layer):* .20

Land capability class, nonirrigated: 6e

Hydric soil: no

Hydrologic group: B

Potential 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 8 in	sandy loam	moderate	0.8 to 1.4 in	5.6 to 6.5
Bt -- 8 to 39 in	sandy loam	moderately slow	4.0 to 5.0 in	5.1 to 7.3
C -- 39 to 60 in	sandy loam	moderately slow	2.3 to 2.9 in	5.6 to 7.3

862--Urban land-Dundas complex, 1 to 4 percent slopes

Urban land

Extent: 60 percent of the unit

Landform(s): drainageways on moraines

Slope gradient: 1 to 4 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential 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 shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

862--Urban land-Dundas complex, 1 to 4 percent slopes

Dundas

Extent: 40 percent of the unit

Landform(s): drainageways on moraines

Slope gradient: 1 to 4 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

till *Kw (surface layer):* .28

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: B/D

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderate	1.4 to 1.8 in	5.6 to 6.5
E -- 9 to 13 in	sandy clay loam	moderate	0.6 to 0.7 in	5.6 to 7.3
Btg -- 13 to 45 in	sandy clay loam	moderate	4.8 to 6.1 in	5.6 to 7.3
Cg -- 45 to 60 in	loam	moderate	2.1 to 2.8 in	7.4 to 8.4

863--Urban land-Lino complex, 0 to 3 percent slopes

Urban land

Extent: 60 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 3 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential frost action:

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

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

863--Urban land-Lino complex, 0 to 3 percent slopes

Lino

Extent: 35 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 3 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .17

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: A

Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 9 in	loamy fine sand	rapid	0.9 to 1.1 in	5.1 to 6.0
Bw -- 9 to 36 in	loamy fine sand	rapid	1.6 to 2.1 in	5.1 to 6.0
C -- 36 to 60 in	fine sand	rapid	1.2 to 1.7 in	5.1 to 6.5

896C--Mahtomedi-Kingsley complex, 3 to 12 percent slopes

Mahtomedi

Extent: 60 percent of the unit

Landform(s): moraines

Slope gradient: 3 to 12 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .15

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential 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 8 in	loamy sand	rapid	0.8 to 0.9 in	5.1 to 6.5
Bw -- 8 to 30 in	gravelly coarse sand	rapid	1.1 to 1.5 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.2 to 2.7 in	5.1 to 7.8

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

896C--Mahtomedi-Kingsley complex, 3 to 12 percent slopes

Kingsley

Extent: 35 percent of the unit
Landform(s): moraines
Slope gradient: 3 to 12 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
 till *Kw (surface layer):* .20
Land capability class, nonirrigated: 3e
Hydric soil: no
Hydrologic group: B
Potential 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 8 in	sandy loam	moderate	0.8 to 1.4 in	5.6 to 6.5
Bt -- 8 to 39 in	sandy loam	moderately slow	4.0 to 5.0 in	5.1 to 7.3
C -- 39 to 60 in	sandy loam	moderately slow	2.3 to 2.9 in	5.6 to 7.3

896D--Mahtomedi-Kingsley complex, 12 to 25 percent slopes

Mahtomedi

Extent: 60 percent of the unit
Landform(s): moraines
Slope gradient: 12 to 25 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
 outwash *Kw (surface layer):* .15
Land capability class, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential 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 5 in	loamy sand	rapid	0.5 to 0.6 in	5.1 to 6.5
E -- 5 to 8 in	sand	rapid	0.1 to 0.3 in	5.1 to 6.5
Bw -- 8 to 30 in	gravelly coarse sand	rapid	1.1 to 1.5 in	5.1 to 6.5
C -- 30 to 60 in	gravelly sand	rapid	1.2 to 2.7 in	5.1 to 7.8

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

896D--Mahtomedi-Kingsley complex, 12 to 25 percent slopes

Kingsley

Extent: 35 percent of the unit

Landform(s): moraines

Slope gradient: 12 to 25 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

till *Kw (surface layer):* .20

Land capability class, nonirrigated: 6e

Hydric soil: no

Hydrologic group: B

Potential 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 8 in	sandy loam	moderate	0.8 to 1.4 in	5.6 to 6.5
Bt -- 8 to 39 in	sandy loam	moderately slow	4.0 to 5.0 in	5.1 to 7.3
C -- 39 to 60 in	sandy loam	moderately slow	2.3 to 2.9 in	5.6 to 7.3

896F--Mahtomedi-Kingsley complex, 25 to 40 percent slopes

Mahtomedi

Extent: 65 percent of the unit

Landform(s): moraines

Slope gradient: 25 to 40 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .15

Land capability class, nonirrigated: 7s

Hydric soil: no

Hydrologic group: A

Potential 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 3 in	loamy sand	rapid	0.3 to 0.4 in	5.1 to 6.5
Bw -- 3 to 23 in	gravelly coarse sand	rapid	1.0 to 1.4 in	5.1 to 6.5
C -- 23 to 60 in	gravelly sand	rapid	1.5 to 3.3 in	5.1 to 7.8

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

896F--Mahtomedi-Kingsley complex, 25 to 40 percent slopes

Kingsley

Extent: 30 percent of the unit

Landform(s): moraines

Slope gradient: 25 to 40 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

till *Kw (surface layer):* .20

Land capability class, nonirrigated: 7e

Hydric soil: no

Hydrologic group: B

Potential frost action: low

Representative soil profile:

Texture

Ap --	0 to 8 in	sandy loam
Bt --	8 to 39 in	sandy loam
C --	39 to 60 in	sandy loam

<i>Permeability</i>	<i>Available water</i>	
	<i>capacity</i>	<i>pH</i>
moderate	0.8 to 1.4 in	5.6 to 6.5
moderately slow	4.0 to 5.0 in	5.1 to 7.3
moderately slow	2.3 to 2.9 in	5.6 to 7.3

1013--Pits,quarry

Pits, quarry

Extent: 100 percent of the unit

Landform(s): moraines

Slope gradient: 0 to 50 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil:

Hydrologic group:

Potential frost action:

Representative soil profile:

Texture

<i>Permeability</i>	<i>Available water</i>	
	<i>capacity</i>	<i>pH</i>

1027--Udorthents, wet substratum

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

1027--Udorthents, wet substratum

Udorthents, wet substratum

Extent: 90 percent of the unit

Landform(s): moraines

Slope gradient: 0 to 6 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential 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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1029--Pits, gravel

Pits, gravel

Extent: 100 percent of the unit

Landform(s): outwash plains

Slope gradient: 0 to 25 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil:

Hydrologic group:

Potential 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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1033--Udifluvents

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

1033--Udifluvents

Udifluvents

Extent: 90 percent of the unit
Landform(s): shorelines
Slope gradient: 0 to 6 percent
Parent material:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
sandy beach sediments *Kw (surface*

layer):

Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Land capability class, nonirrigated: 4w
Hydric soil: no
Hydrologic group:
Potential frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

1039--Urban land

Urban land

Extent: 100 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 6 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class:

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

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

1040--Udorthents

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

1040--Udorthents

Udorthents

Extent: 90 percent of the unit
Landform(s): moraines
Slope gradient: 0 to 6 percent
Parent material:
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw (surface layer):
Land capability class, nonirrigated:
Hydric soil: no
Hydrologic group:
Potential 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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1055--Aquolls and histosols, ponded

Histosols, ponded

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

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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1 -- 0 to 8 in	muck	moderately rapid	2.8 to 3.5 in	
Oa2 -- 8 to 60 in	muck	moderately rapid	18.2 to 23.4 in	

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

1055--Aquolls and histosols, ponded

Aquolls, ponded

Extent: 50 percent of the unit

Landform(s): depressions on moraines

Slope gradient: 0 to 1 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

till *Kw (surface layer):* .28

Land capability class, nonirrigated: 8w

Hydric soil: yes

Hydrologic group: B/D

Potential 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 42 in	silty clay loam	moderate	7.6 to 9.3 in	6.1 to 7.8
Bg -- 42 to 50 in	clay loam	moderate	1.2 to 1.5 in	6.6 to 7.8
Cg -- 50 to 60 in	loam	moderate	1.5 to 1.9 in	7.4 to 8.4

1813B--Lino variant loamy fine sand, 2 to 6 percent slopes

Lino

Extent: 90 percent of the unit

Landform(s): outwash plains

Slope gradient: 2 to 6 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

outwash *Kw (surface layer):* .17

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: A

Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	loamy fine sand	rapid	0.7 to 0.9 in	5.1 to 7.3
E/Bt -- 7 to 60 in	fine sand	rapid	3.2 to 4.2 in	6.1 to 7.3

1819F--Dorerton-Rock outcrop complex, 25 to 65 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

1819F--Dorerton-Rock outcrop complex, 25 to 65 percent slopes

Dorerton

Extent: 80 percent of the unit

Landform(s): escarpments on terraces, hills

Slope gradient: 25 to 65 percent

Parent material:

(surface layer): .24

Restrictive feature(s): bedrock (lithic) at 45 to 70 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

loamy sediment over limestone bedrock *Kw*

Land capability class, nonirrigated: 7e

Hydric soil: no

Hydrologic group: B

Potential frost action: low

Representative soil profile:

Texture

A,E --	0 to 10 in	sandy loam
2Bt --	10 to 30 in	flaggy clay loam
2C --	30 to 45 in	very flaggy loamy sand
3R --	45 to 60 in	bedrock

Available water

<i>Permeability</i>	<i>capacity</i>	<i>pH</i>
moderately rapid	1.0 to 1.8 in	5.1 to 7.3
moderate	1.6 to 3.8 in	5.1 to 7.3
moderately rapid	0.4 to 2.1 in	5.6 to 7.3
moderately rapid	0.4 to 1.3 in	7.4 to 8.4

Rock outcrop

Extent: 15 percent of the unit

Landform(s): escarpments on terraces, hills

Slope gradient: 25 to 65 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential frost action:

Representative soil profile:

Texture

Available water

<i>Permeability</i>	<i>capacity</i>	<i>pH</i>
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1820F--Mahtomedi variant-Rock outcrop complex, 25 to 60 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

1820F--Mahtomedi variant-Rock outcrop complex, 25 to 60 percent slopes

Mahtomedi

Extent: 80 percent of the unit

Landform(s): escarpments on terraces

Slope gradient: 25 to 60 percent

Parent material:

Kw (surface layer):

Restrictive feature(s): bedrock (paralithic) at 40 to 80 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

outwash over sandstone residuum or bedrock
.20

Land capability class, nonirrigated: 7s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

Representative soil profile:

Texture

A --	0 to 3 in	sandy loam
Bw --	3 to 32 in	loamy sand
2BC --	32 to 42 in	sand
3Cr --	42 to 60 in	weathered bedrock

Available water

<i>Permeability</i>	<i>capacity</i>	<i>pH</i>
moderately rapid	0.4 to 0.5 in	5.1 to 6.5
rapid	2.6 to 3.2 in	5.1 to 6.0
rapid	0.5 to 0.7 in	5.1 to 6.5
moderately slow		

Rock outcrop

Extent: 15 percent of the unit

Landform(s): escarpments on terraces

Slope gradient: 25 to 60 percent

Parent material:

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential frost action:

Representative soil profile:

Texture

<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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1821--Alganssee loamy sand

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

1821--Alganssee loamy sand

Alganssee

Extent: 90 percent of the unit

Landform(s): flood plains

Slope gradient: 0 to 2 percent

Parent material:

Restrictive feature(s):

Flooding: occasional

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

sandy alluvium *Kw (surface layer):* .17

Land capability class, nonirrigated: 3w

Hydric soil: no

Hydrologic group: B

Potential 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 6 in	loamy sand	rapid	0.6 to 0.7 in	4.5 to 7.8
C -- 6 to 60 in	sand	rapid	2.7 to 5.4 in	4.5 to 8.4

1827--Waukegan variant silt loam, 0 to 2 percent slopes

Waukegan

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 0 to 2 percent

Parent material:

(*surface layer*): .32

Restrictive feature(s): bedrock (lithic) at 30 to 45 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

loess over outwash over bedrock *Kw*

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential 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	silt loam	moderate	2.4 to 2.8 in	5.6 to 6.5
Bw -- 12 to 23 in	silt loam	moderate	2.2 to 2.6 in	5.6 to 6.5
2Bw -- 23 to 40 in	gravelly sand	rapid	1.0 to 1.4 in	5.6 to 7.3
3R -- 40 to 50 in	unweathered bedrock	rapid		

1827B--Waukegan variant silt loam, 2 to 9 percent slopes

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

1827B--Waukegan variant silt loam, 2 to 9 percent slopes

Waukegan

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 2 to 9 percent

Parent material:

(surface layer): .32

Restrictive feature(s): bedrock (lithic) at 30 to 45 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

loess over outwash over bedrock *Kw*

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential frost action: low

Representative soil profile:

Texture

A --	0 to 12 in	silt loam
Bw --	12 to 23 in	silt loam
2Bw --	23 to 40 in	gravelly sand
3R --	40 to 50 in	unweathered bedrock

Permeability

Available water

capacity

pH

moderate	2.4 to 2.8 in	5.6 to 6.5
moderate	2.2 to 2.6 in	5.6 to 6.5
rapid	1.0 to 1.4 in	5.6 to 7.3
rapid		

1847--Barronett silt loam, sandy substratum

Barronett, sandy substratum

Extent: 85 percent of the unit

Landform(s): drainageways on outwash plains

Slope gradient: 0 to 2 percent

Parent material:

.28

Restrictive feature(s):

Flooding: none

Ponding: occasional

Drainage class: poorly drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

alluvium over outwash *Kw (surface layer):*

Land capability class, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: B/D

Potential frost action: high

Representative soil profile:

Texture

A --	0 to 17 in	silt loam
Bt --	17 to 42 in	silt loam
2BC --	42 to 50 in	loamy sand
2C --	50 to 60 in	sand

Permeability

Available water

capacity

pH

moderate	3.4 to 4.1 in	5.1 to 6.5
moderate	4.0 to 5.5 in	5.1 to 6.5
rapid	0.2 to 0.6 in	5.1 to 6.5
very rapid	0.2 to 0.7 in	5.1 to 7.3

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

1847--Barronett silt loam, sandy substratum

1848B--Sparta loamy sand, bedrock substratum, 0 to 6 percent slopes

Sparta, bedrock substratum

Extent: 90 percent of the unit

Landform(s): outwash terraces

Slope gradient: 0 to 6 percent

Parent material:

Kw (surface layer):

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

sandy glaciofluvial deposits over bedrock
.17

Land capability class, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

Representative soil profile:

Texture

A --	0 to 5 in	loamy sand
Bw --	5 to 40 in	fine sand
2C --	40 to 44 in	clay loam
3R --	44 to 54 in	unweathered bedrock

Permeability

Available water

capacity

pH

rapid	0.5 to 0.6 in	5.6 to 6.0
rapid	2.1 to 2.8 in	5.6 to 6.0
moderate	0.6 to 0.6 in	5.1 to 7.8
moderately slow		

M-W--Water, miscellaneous

Water, miscellaneous

Extent: 100 percent of the unit

Landform(s):

Slope gradient:

Parent material:

Restrictive feature(s):

Flooding:

Ponding:

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil:

Hydrologic group:

Potential frost action:

Representative soil profile:

Texture

Permeability

Available water

capacity

pH

This report shows only the major soils in each map unit

Map Unit Description (MN)

Washington 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]

M-W--Water, miscellaneous

W--Water

Water

Extent: 100 percent of the unit

Landform(s):

Slope gradient:

Parent material:

Restrictive feature(s):

Flooding:

Ponding:

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil:

Hydrologic group:

Potential frost action:

Representative soil profile:

Texture

Permeability

*Available water
capacity*

pH

This report provides a semi tabular listing of some soil and site properties and interpretations valuable in communicating the concept of a map unit. It also includes commonly used conservation planning information in one place for easy access. Major soil components are always displayed and minor components are also displayed if they are included in the database and they are selected at the time the report is generated.