

Hydric Soils

Goodhue County, Minnesota

[This report lists only those map unit components that are rated as hydric. Dashes (---) in any column indicate that the data were not included in the database. Definitions of hydric criteria codes are included at the end of the report]

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
1003: Udorthents, loamy (cut and fill land)	Udorthents, loamy	100	Till plains	No	---
1007: Udorthents, shallow (sanitary landfill)	Udorthents, shallow	100	Till plains	No	---
1010: Pits, quarry	Pits, quarry	100	Hills, Valley sides	No	---
1027A: Coland-Spillville complex, 0 to 2 percent slopes, flooded	Coland, frequently flooded	50	Flood plains	Yes	2B3
	Spillville, occasionally flooded	40	Flood plains	No	---
	Fluvaquents, frequently flooded, ponded	5	Flood plains	Yes	2B3
	Klum, occasionally flooded	5	Flood plains	No	---
1033A: Spillville loam, 0 to 2 percent slopes, occasionally flooded	Spillville, occasionally flooded	75	Flood plains	No	---
	Lawson, occasionally flooded	15	Flood plains	No	---
	Lawler	10	Stream terraces	No	---
1036A: Udipsammments, 0 to 2 percent slopes, frequently flooded	Udipsammments, frequently flooded	80	Flood plains	Yes	4
1038: Udorthents, earthen dam	Udorthents, earthen dam	100	Valleys	No	---
1051C: Udorthents, loamy (abandoned clay pits), 2 to 45 percent slopes	Udorthents, loamy	95	Till plains		---

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GP:					
Pits, gravel-Udipsamments complex	Pits, gravel	50	Eskers, Moraines, Outwash plains, Stream terraces	No	---
	Udipsamments	45	Eskers, Moraines, Outwash plains, Stream terraces	No	---
	Water	5	---		---
L171A:					
Merton silt loam, 1 to 3 percent slopes	Merton	80	Ground moraines, Rises	No	---
	Maxcreek	10	Ground moraines	Yes	2B3
	Moland	10	Ground moraines	No	---
L177B:					
Moland silt loam, 2 to 6 percent slopes	Moland	90	Ground moraines	No	---
	Merton	10	Ground moraines	No	---
L180A:					
Maxcreek silty clay loam, 0 to 2 percent slopes	Maxcreek	85	Flats, Ground moraines	Yes	2B3
	Canisteo	10	Ground moraines	Yes	2B3
	Maxcreek, swales	3	Ground moraines	Yes	2B3
	Merton	2	Ground moraines	No	---
M505A:					
Klinger silt loam, 1 to 3 percent slopes	Klinger	85	Rises, Till plains	No	---
	Maxfield	10	Till plains	Yes	2B3
	Marquis	5	Till plains	No	---
M506B:					
Kasson silt loam, 1 to 6 percent slopes	Kasson	85	Till plains	No	---
	Oran	15	Till plains	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
M507A:					
Marquis silt loam, 1 to 3 percent slopes	Marquis	85	Till plains	No	---
	Readlyn	15	Till plains	No	---
M507B:					
Marquis silt loam, 2 to 6 percent slopes	Marquis	85	Till plains	No	---
	Readlyn	10	Till plains	No	---
	Kenyon	5	Till plains	No	---
M508A:					
Oran silt loam, 1 to 3 percent slopes	Oran	85	Till plains	No	---
	Kasson	10	Till plains	No	---
	Clyde	5	Till plains	Yes	2B3
M509A:					
Mantorville loam, 0 to 2 percent slopes	Mantorville	80	Terraces, Till plains	No	---
	Mantorville, till substratum	10	Terraces, Till plains	No	---
	Marquis	10	Till plains	No	---
M509B:					
Mantorville loam, 2 to 6 percent slopes	Mantorville	85	Till plains	No	---
	Mantorville, till substratum	10	Till plains	No	---
	Marquis	5	Till plains	No	---
M509C2:					
Mantorville loam, 6 to 12 percent slopes, moderately eroded	Mantorville, moderately eroded	80	Till plains	No	---
	Mantorville, till substratum, moderately eroded	10	Till plains	No	---
	Burkhardt, moderately eroded	5	Till plains	No	---
	Kenyon, moderately eroded	5	Till plains	No	---

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M510A:					
Maxfield silty clay loam, 0 to 2 percent slopes	Maxfield	93	Flats, Till plains	Yes	2B3
	Klinger	5	Till plains	No	---
	Maxfield, swales	2	Till plains	Yes	2B3
M511A:					
Readlyn silt loam, 1 to 3 percent slopes	Readlyn	95	Till plains	No	---
	Tripoli	3	Till plains	Yes	2B3
	Marquis	2	Till plains	No	---
M516C2:					
Wangs-Wagen Prairie complex, 6 to 12 percent slopes, moderately eroded	Wangs, moderately eroded	50	Valley sides	No	---
	Wagen Prairie, moderately eroded	40	Valley sides	No	---
	Jacwin	5	Valley sides	No	---
	Kenyon	5	Till plains	No	---
M516D2:					
Wangs-Wagen Prairie complex, 12 to 18 percent slopes, moderately eroded	Wangs, moderately eroded	50	Valley sides	No	---
	Wagen Prairie, moderately eroded	30	Valley sides	No	---
	Jacwin	5	Valley sides	No	---
	Kenyon	5	Till plains	No	---
	Spillville	5	Flood plains	No	---
	Terril	5	Valley sides	No	---
M516E:					
Wangs-Wagen Prairie complex, 18 to 35 percent slopes	Wangs	70	Valley sides	No	---
	Wagen Prairie	20	Valley sides	No	---
	Spillville	5	Flood plains	No	---
	Terril	5	Valley sides	No	---

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M518B:					
Clyde-Floyd complex, 1 to 4 percent slopes	Clyde	55	Drainageways, Till plains	Yes	2B3
	Floyd	40	Till plains	No	---
	Clyde, swales	5	Till plains	Yes	2B3
M520B:					
Rasset sandy loam, 0 to 6 percent slopes	Rasset	85	Terraces	No	---
	Eden Prairie	10	Terraces	No	---
	Warsaw	5	Terraces	No	---
M520C2:					
Rasset sandy loam, 6 to 12 percent slopes, moderately eroded	Rasset, moderately eroded	80	Terraces	No	---
	Eden Prairie	15	Terraces	No	---
	Sparta	5	Terraces	No	---
M521C2:					
Kenyon silt loam, 6 to 12 percent slopes, moderately eroded	Kenyon, moderately eroded	85	Till plains	No	---
	Mantorville	10	Till plains	No	---
	Marquis	5	Till plains	No	---
M522D2:					
Bassett-Racine complex, 12 to 18 percent slopes, moderately eroded	Bassett, moderately eroded	50	Till plains	No	---
	Racine, moderately eroded	40	Till plains	No	---
	Kasson	5	Till plains	No	---
	Oran	5	Till plains	No	---
M522E:					
Bassett-Racine complex, 18 to 25 percent slopes	Bassett	50	Till plains	No	---
	Racine	40	Till plains	No	---
	Kasson	10	Till plains	No	---

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M523C2:					
Bassett-Kasson complex, 6 to 12 percent slopes, moderately eroded	Bassett, moderately eroded	50	Till plains	No	---
	Kasson, moderately eroded	40	Till plains	No	---
	Racine, moderately eroded	10	Till plains	No	---
M525A:					
Dakota silt loam, 0 to 3 percent slopes	Dakota	85	Stream terraces	No	---
	Lawler	10	Stream terraces	No	---
	Marshan	5	Stream terraces	Yes	2B3
M526B:					
Winneshiek silt loam, 2 to 6 percent slopes	Winneshiek	80	Hills	No	---
	Waucoma	10	Hills	No	---
	Channahon	5	Hills	No	---
	Kasson	5	Hills	No	---
M526C2:					
Winneshiek silt loam, 6 to 12 percent slopes, moderately eroded	Winneshiek, moderately eroded	75	Hills	No	---
	Channahon, moderately eroded	15	Hills	No	---
	Kasson, moderately eroded	5	Hills	No	---
	Waucoma, moderately eroded	5	Hills	No	---
M527D2:					
Nasset-Winneshiek complex, 12 to 18 percent slopes, moderately eroded	Nasset, moderately eroded	45	Hills	No	---
	Winneshiek, moderately eroded	35	Hills	No	---
	Channahon, moderately eroded	10	Hills	No	---
	Downs, moderately eroded	10	Hills	No	---

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M532A:					
Maxfield silty clay loam, 0 to 2 percent slopes, occasionally flooded	Maxfield, occasionally flooded	70	Drainageways	Yes	2B3
	Colo, frequently flooded	15	Drainageways	Yes	2B3
	Maxfield	15	Drainageways	Yes	2B3
M534B:					
Estherville-Ridgeport complex, 0 to 6 percent slopes	Estherville	55	Terraces	No	---
	Ridgeport	35	Terraces	No	---
	Moderately Well Drained Soils (>40")	5	Terraces	No	---
	Salida	5	Terraces	No	---
M535B:					
Wagen Prairie silt loam, 2 to 6 percent slopes	Wagen Prairie	75	Structural benches	No	---
	Marquis	15	Till plains	No	---
	Jacwin	10	Structural benches	No	---
M536C2:					
Meridian, till substratum-Bassett complex, 6 to 12 percent slopes, moderately eroded	Meridian, till substratum, moderately eroded	45	Till plains	No	---
	Bassett, moderately eroded	35	Till plains	No	---
	Meridian, moderately eroded	15	Till plains	No	---
	Lilah, moderately eroded	5	Till plains	No	---
M536D2:					
Meridian, till substratum-Bassett complex, 12 to 18 percent slopes, moderately eroded	Meridian, till substratum, moderately eroded	40	Till plains	No	---
	Bassett, moderately eroded	35	Till plains	No	---
	Meridian	15	Till plains	No	---
	Lilah, moderately eroded	5	Till plains	No	---

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M537E:					
Meridian-Bassett complex, 18 to 35 percent slopes	Meridian	45	Valley sides	No	---
	Bassett	20	Valley sides	No	---
	Hawick	15	Valley sides	No	---
	Meridian, till substratum	15	Valley sides	No	---
	Fort Dodge	5	Valley sides	No	---
M538A:					
Waukegan silt loam, 0 to 2 percent slopes	Waukegan	95	Terraces	No	---
	Soils That are Shallow to Sand	5	Terraces	No	---
M539F:					
Bellechester loamy sand, 18 to 45 percent slopes	Bellechester	60	Valley sides	No	---
	Boone	10	Valley sides	No	---
	Etter	10	Valley sides	No	---
	Eyota	10	Valley sides	No	---
	Brodale, channery	5	Valley sides	No	---
	Copaston	5	Valley sides	No	---
M540F:					
Frontenac-Bellechester complex, 18 to 45 percent slopes	Frontenac	40	Valley sides	No	---
	Bellechester	25	Valley sides	No	---
	Etter	10	Valley sides	No	---
	Eyota	10	Valley sides	No	---
	Lacrescent, flaggy	10	Valley sides	No	---
	Copaston	5	Valley sides	No	---

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M541C2:					
Copaston loam, 6 to 12 percent slopes, moderately eroded	Copaston, moderately eroded	70	Hills	No	---
	Winneshiek, moderately eroded	15	Hills	No	---
	Waucoma, moderately eroded	10	Hills	No	---
	Emeline	5	Hills	No	---
M541D:					
Copaston loam, 12 to 18 percent slopes	Copaston	70	Valley sides	No	---
	Winneshiek	15	Valley sides	No	---
	Waucoma	10	Valley sides	No	---
	Emeline	5	Valley sides	No	---
M-W:					
Water, miscellaneous	Water, miscellaneous	100	---		---
N501B:					
Downs silt loam, 2 to 6 percent slopes	Downs	95	Loess hills	No	---
	Newvienna	5	Loess hills	No	---
N501C2:					
Downs silt loam, 6 to 12 percent slopes, moderately eroded	Downs, moderately eroded	90	Loess hills	No	---
	Barremills, drainageway	5	Drainageways, Loess hills	No	---
	Newvienna	5	Loess hills	No	---
N501D2:					
Downs silt loam, 12 to 18 percent slopes, moderately eroded	Downs, moderately eroded	90	Loess hills	No	---
	Barremills, drainageway	10	Drainageways, Loess hills	No	---
N507B:					
Timula-Mt. Carroll complex, 2 to 6 percent slopes	Timula	60	Loess hills	No	---
	Mt. Carroll	40	Loess hills	No	---

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N507C2:					
Timula-Mt. Carroll complex, 6 to 12 percent slopes, moderately eroded	Timula, moderately eroded	65	Loess hills	No	---
	Mt. Carroll, moderately eroded	30	Loess hills	No	---
N507D2:					
Timula-Mt. Carroll complex, 12 to 18 percent slopes, moderately eroded	Timula, moderately eroded	70	Loess hills	No	---
	Mt. Carroll, moderately eroded	20	Loess hills	No	---
N507E:					
Timula-Mt. Carroll complex, 18 to 25 percent slopes	Timula	65	Loess hills	No	---
	Mt. Carroll	20	Loess hills	No	---
N508E:					
Seaton silt loam, 18 to 25 percent slopes	Seaton	85	Valley sides	No	---
N514B:					
Joy-Ossian, occasionally flooded, complex, 1 to 5 percent slopes	Joy	60	Drainageways	No	---
	Ossian, occasionally flooded	20	Drainageways	Yes	2B3
	Buckhart	10	Loess hills	No	---
	Barremills, drainageway	5	Drainageways	No	---
	Otter, drainageway, frequently flooded	5	Drainageways	Yes	2B3
N517A:					
Oak Center-Mt. Carroll complex, 0 to 2 percent slopes	Oak Center	55	Structural benches	No	---
	Mt. Carroll	35	Structural benches	No	---
N518B:					
Lindstrom silt loam, 2 to 6 percent slopes	Lindstrom	75	Valley sides	No	---
N518C2:					
Lindstrom silt loam, 6 to 12 percent slopes, moderately eroded	Lindstrom, moderately eroded	75	Valley sides	No	---

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N518D2: Lindstrom silt loam, 12 to 18 percent slopes, moderately eroded	Lindstrom, moderately eroded	80	Valley sides	No	---
N519B: Vasa silt loam, 1 to 4 percent slopes	Vasa	70	Loess hills	No	---
N521B: Mt. Carroll silt loam, 2 to 6 percent slopes	Mt. Carroll	95	Loess hills	No	---
N521C2: Mt. Carroll silt loam, 6 to 12 percent slopes, moderately eroded	Mt. Carroll, moderately eroded	90	Loess hills	No	---
N521D2: Mt. Carroll silt loam, 12 to 18 percent slopes, moderately eroded	Mt. Carroll, moderately eroded	85	Loess hills	No	---
N522A: Otter silt loam, channeled upland, 0 to 2 percent slopes, frequently flooded	Otter, channeled upland, frequently flooded	85	Drainageways	Yes	2B3
	Littleton, occasionally flooded	10	Drainageways	No	---
	Barremills, drainageway	5	Drainageways	No	---
N526B: Gale-Oak Center complex, 1 to 6 percent slopes	Gale	50	Hills	No	---
	Oak Center	40	Hills	No	---
N526F: Gale-Oak Center complex, 18 to 45 percent slopes	Gale	45	Valley sides	No	---
	Oak Center	30	Valley sides	No	---
N534E: Downs-Nasset complex, 18 to 25 percent slopes	Downs	50	Valley sides	No	---
	Nasset	30	Valley sides	No	---
	Barremills, drainageway	10	Drainageways	No	---
	Winneshiek	10	Valley sides	No	---

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N535B:					
Hesch-Rasset complex, 1 to 6 percent slopes	Hesch	50	---	No	---
	Rasset	40	Strath terraces	No	---
N537E2:					
Fayette-Hersey, bedrock substratum, complex, 18 to 25 percent slopes, moderately eroded	Fayette, moderately eroded	60	Loess hills	No	---
	Hersey, bedrock substratum, moderately eroded	25	Loess hills	No	---
	Pepin	10	Loess hills	No	---
	Barremills, drainageway	5	Drainageways	No	---
N538C2:					
Waubeeek and Massbach soils, 6 to 12 percent slopes, moderately eroded	Massbach, moderately eroded	40	Hills	No	---
	Waubeeek, moderately eroded	40	Hills	No	---
	Mantorville, till substratum, moderately eroded	10	Hills	No	---
	Haverhill	5	Structural benches	Yes	2B3
	Shullsburg	5	Hills	No	---
N552B:					
Schapville-Winneshiek complex, 2 to 6 percent slopes	Schapville	40	Hills	No	---
	Winneshiek	40	Hills	No	---
	Massbach	15	Hills	No	---
	Shullsburg	5	Hills	No	---
N553B:					
Frankville-Nasset-Mt. Carroll complex, 2 to 6 percent slopes	Frankville	60	Hills	No	---
	Mt. Carroll	20	Hills	No	---
	Nasset	20	Hills	No	---

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N553C2:					
Frankville-Nasset-Mt. Carroll complex, 6 to 12 percent slopes, moderately eroded	Frankville, moderately eroded	60	Hills	No	---
	Mt. Carroll, moderately eroded	20	Hills	No	---
	Nasset, moderately eroded	20	Hills	No	---
N553D2:					
Frankville-Nasset-Mt. Carroll complex, 12 to 18 percent slopes, moderately eroded	Frankville, moderately eroded	55	Hills	No	---
	Mt. Carroll, moderately eroded	20	Hills	No	---
	Nasset, moderately eroded	20	Hills	No	---
N553E:					
Frankville-Nasset-Mt. Carroll complex, 18 to 35 percent slopes	Frankville	40	Valley sides	No	---
	Nasset	30	Valley sides	No	---
	Mt. Carroll	10	Valley sides	No	---
N555B:					
Tama-Dinsmore complex, 2 to 6 percent slopes	Tama	50	Loess hills	No	---
	Dinsmore	45	Loess hills	No	---
	Klingmore	5	Loess hills	No	---
N572B:					
Downs-Hersey, bedrock substratum, complex, 2 to 6 percent slopes	Downs	75	Loess hills	No	---
	Hersey, bedrock substratum	20	Loess hills	No	---
	Nasset	5	Loess hills	No	---

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N572C2:					
Downs-Hersey, bedrock substratum, complex, 6 to 12 percent slopes, moderately eroded	Downs, moderately eroded	65	Loess hills	No	---
	Hersey, bedrock substratum, moderately eroded	25	Loess hills	No	---
	Barremills, drainageway	5	Drainageways, Loess hills	No	---
	Nasset, moderately eroded	5	Loess hills	No	---
N572D2:					
Downs-Hersey, bedrock substratum, complex, 12 to 18 percent slopes, moderately eroded	Downs, moderately eroded	65	Loess hills	No	---
	Hersey, bedrock substratum, moderately eroded	25	Loess hills	No	---
	Barremills, drainageway	5	Drainageways, Loess hills	No	---
	Nasset, moderately eroded	5	Loess hills	No	---
N574B:					
Downs-Hersey complex, 2 to 6 percent slopes	Downs	50	Loess hills	No	---
	Hersey	45	Loess hills	No	---
	Somewhat poorly drained soils	5	Loess hills, Swales	No	---
N574C2:					
Downs-Hersey complex, 6 to 12 percent slopes, moderately eroded	Downs, moderately eroded	50	Loess hills	No	---
	Hersey, moderately eroded	40	Loess hills	No	---
	Barremills, drainageway	5	Drainageways, Loess hills	No	---
	Muscatune, till substratum	5	Loess hills, Swales	No	---

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N574D2:					
Downs-Hersey complex, 12 to 18 percent slopes, moderately eroded	Downs, moderately eroded	45	Loess hills	No	---
	Hersey, moderately eroded	40	Loess hills	No	---
	Barremills, drainageway	5	Drainageways, Loess hills	No	---
	Newwienna, till substratum	5	Loess hills	No	---
	Racine, moderately eroded	5	Hills	No	---
N576B:					
Rasset fine sandy loam, 0 to 6 percent slopes	Rasset	90	Terraces	No	---
N577A:					
Shandep-Cylinder complex, 0 to 2 percent slopes	Shandep	50	Outwash plains, Swales	Yes	2B3
	Cylinder	30	Outwash plains, Stream terraces	No	---
N578B:					
Barremills silt loam, drainageway, 1 to 5 percent slopes, occasionally flooded	Barremills, drainageway, occasionally flooded	85	Drainageways	No	---
	Osco	10	Drainageways	No	---
	Huntsville, drainageway, frequently flooded	5	Drainageways	No	---
N579A:					
Dakota silt loam, 0 to 3 percent slopes	Dakota	90	Stream terraces	No	---
N580G:					
Brodale, very flaggy-Bellechester-Rock outcrop complex, 45 to 90 percent slopes	Brodale, very flaggy	40	Valley sides	No	---
	Bellechester	25	Valley sides	No	---
	Rock outcrop	10	Valley sides	No	---
N581B:					
Rockton-Atkinson complex, strath terrace, 0 to 6 percent slopes	Rockton, strath terrace	50	Strath terraces	No	---
	Atkinson, strath terrace	30	Strath terraces	No	---

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N581C2:					
Rockton-Atkinson complex, strath terrace, 6 to 12 percent slopes, moderately eroded	Rockton, strath terrace, moderately eroded	50	Strath terraces	No	---
	Atkinson, strath terrace, moderately eroded	30	Strath terraces	No	---
N582B:					
Newhouse-Valton complex, 2 to 6 percent slopes	Newhouse	35	Hills	No	---
	Valton	25	Hills	No	---
N582C2:					
Newhouse-Valton complex, 6 to 12 percent slopes, moderately eroded	Newhouse, moderately eroded	35	Hills	No	---
	Valton, moderately eroded	25	Hills	No	---
N582D2:					
Newhouse-Valton complex, 12 to 18 percent slopes, moderately eroded	Newhouse, moderately eroded	35	Hills	No	---
	Valton, moderately eroded	25	Hills	No	---
N584E:					
Downs silt loam, valleys, 18 to 25 percent slopes	Downs, valleys	65	Valley sides	No	---
N585B:					
Mt. Carroll-Hersey complex, 2 to 6 percent slopes	Mt. Carroll	50	Loess hills	No	---
	Hersey	45	Loess hills	No	---
N585C2:					
Mt. Carroll-Hersey complex, 6 to 12 percent slopes, moderately eroded	Mt. Carroll, moderately eroded	50	Loess hills	No	---
	Hersey, moderately eroded	40	Loess hills	No	---
N585D2:					
Mt. Carroll-Hersey complex, 12 to 18 percent slopes, moderately eroded	Mt. Carroll, moderately eroded	45	Loess hills	No	---
	Hersey, moderately eroded	40	Loess hills	No	---

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N586C2:					
Ridgeton, sandy substratum-Eden Prairie complex, 6 to 12 percent slopes, moderately eroded	Ridgeton, sandy substratum, moderately eroded	65	Valley sides	No	---
	Eden Prairie, moderately eroded	30	---	No	---
N586D2:					
Ridgeton, sandy substratum-Eden Prairie complex, 12 to 20 percent slopes, moderately eroded	Ridgeton, sandy substratum, moderately eroded	65	Valley sides	No	---
	Eden Prairie, moderately eroded	30	---	No	---
N590C2:					
Tama silt loam, valleys, 6 to 12 percent slopes, moderately eroded	Tama, valleys, moderately eroded	75	Valley sides	No	---
N590D2:					
Tama silt loam, valleys, 12 to 18 percent slopes, moderately eroded	Tama, valleys, moderately eroded	75	Valley sides	No	---
N591A:					
Port Byron silt loam, 0 to 2 percent slopes	Port Byron	85	Loess hills	No	---
N591B:					
Port Byron silt loam, 2 to 6 percent slopes	Port Byron	95	Loess hills	No	---
N591C2:					
Port Byron silt loam, 6 to 12 percent slopes, moderately eroded	Port Byron, moderately eroded	90	Loess hills	No	---
N592B:					
Crescent-Eden Prairie complex, 2 to 6 percent slopes	Crescent	50	---	No	---
	Eden Prairie	45	---	No	---
N593B:					
Sparta loamy sand, 0 to 6 percent slopes	Sparta	90	Terraces	No	---
N593C:					
Sparta loamy sand, 6 to 12 percent slopes	Sparta	85	Terraces	No	---
N594B:					
Chelsea loamy sand, 2 to 6 percent slopes	Chelsea	80	Valley trains	No	---

Hydric Soils

Goodhue County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
N594C:					
Chelsea loamy sand, 6 to 12 percent slopes	Chelsea	75	Valley trains	No	---
N594E:					
Chelsea loamy sand, 12 to 35 percent slopes	Chelsea	75	Valley trains	No	---
N596B:					
Eleva sandy loam, 2 to 6 percent slopes	Eleva	55	Knolls	No	---
N596C2:					
Eleva sandy loam, 6 to 12 percent slopes, moderately eroded	Eleva, moderately eroded	60	Knolls	No	---
N596D2:					
Eleva sandy loam, 12 to 18 percent slopes, moderately eroded	Eleva, moderately eroded	70	Knolls	No	---
N597C2:					
Waucoma-Winneshiek complex, 6 to 12 percent slopes, moderately eroded	Waucoma, moderately eroded	50	Hills	No	---
	Winneshiek, moderately eroded	40	Hills	No	---
N598D2:					
Winneshiek-Waucoma complex, 12 to 18 percent slopes, moderately eroded	Winneshiek, moderately eroded	45	Valley sides	No	---
	Waucoma, moderately eroded	30	Valley sides	No	---
N598E:					
Winneshiek-Waucoma complex, 18 to 35 percent slopes	Winneshiek	35	Valley sides	No	---
	Waucoma	25	Valley sides	No	---
N599B:					
Winneshiek loam, sinkhole karst, 2 to 6 percent slopes	Winneshiek, sinkhole karst	72	Hills	No	---
N599C2:					
Winneshiek loam, sinkhole karst, 6 to 12 percent slopes, moderately eroded	Winneshiek, sinkhole karst, moderately eroded	67	Hills	No	---
N600C2:					
Eleva-Alvin complex, 6 to 12 percent slopes, moderately eroded	Eleva, moderately eroded	60	Strath terraces	No	---
	Alvin, moderately eroded	30	Strath terraces	No	---

Hydric Soils

Goodhue County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
N601C2:					
Oak Center-Hersey complex, 6 to 12 percent slopes, moderately eroded	Oak Center, moderately eroded	40	Hills	No	---
	Hersey, moderately eroded	20	Hills	No	---
N601D2:					
Oak Center-Hersey complex, 12 to 18 percent slopes, moderately eroded	Oak Center, moderately eroded	40	Hills	No	---
	Hersey, moderately eroded	20	Hills	No	---
N602A:					
Joy silt loam, 1 to 3 percent slopes	Joy	70	Drainageways	No	---
N603C2:					
Lilah-Billett complex, 6 to 12 percent slopes, moderately eroded	Lilah, moderately eroded	45	Hills	No	---
	Billett, moderately eroded	30	Hills	No	---
N603D2:					
Lilah-Billett complex, 12 to 18 percent slopes, moderately eroded	Lilah, moderately eroded	50	Hills	No	---
	Billett, moderately eroded	25	Hills	No	---
N604B:					
Billett sandy loam, 2 to 6 percent slopes	Billett	65	Hills	No	---
N604C2:					
Billett sandy loam, 6 to 12 percent slopes, moderately eroded	Billett, moderately eroded	75	Hills	No	---
N605B:					
Rasset sandy loam, strath terrace, 2 to 6 percent slopes	Rasset, strath terrace	85	Strath terraces	No	---
N605C2:					
Rasset sandy loam, strath terrace, 6 to 12 percent slopes, moderately eroded	Rasset, strath terrace, moderately eroded	70	Strath terraces	No	---
N606A:					
Tama silt loam, sandy substratum, 0 to 3 percent slopes	Tama, sandy substratum	60	Stream terraces	No	---
N607A:					
Meridian silt loam, 0 to 3 percent slopes	Meridian	85	Terraces	No	---
N607C2:					
Meridian silt loam, 6 to 12 percent slopes, moderately eroded	Meridian, moderately eroded	95	Terraces	No	---

Hydric Soils

Goodhue County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
N607D2:					
Meridian silt loam, 12 to 18 percent slopes, moderately eroded	Meridian, moderately eroded	85	Terraces	No	---
N608A:					
Malardi loam, 0 to 3 percent slopes	Malardi	80	Terraces	No	---
N608C2:					
Malardi loam, 6 to 12 percent slopes, moderately eroded	Malardi, moderately eroded	75	Terraces	No	---
N609D:					
Hawick sandy loam, 12 to 18 percent slopes	Hawick	70	Terraces	No	---
N609E:					
Hawick sandy loam, 18 to 45 percent slopes	Hawick	70	Terraces	No	---
N610B:					
Waucoma loam, 2 to 6 percent slopes	Waucoma	65	Hills	No	---
N611A:					
Calco silt loam, ponded, 0 to 1 percent slopes, frequently flooded	Calco, ponded, frequently flooded	85	Flood plains	Yes	2B3, 3, 4
N612A:					
Calco silt loam, 0 to 2 percent slopes, frequently flooded	Calco, frequently flooded	95	Flood plains	Yes	2B3, 4
N613A:					
Calco-Udifulvents, loamy complex, 0 to 18 percent slopes, frequently flooded	Calco, frequently flooded	85	Flood plains	Yes	2B3, 4
	Udifulvents, loamy, frequently flooded	10	Flood plains	No	---
N614A:					
Kalmarville-Radford complex, 0 to 3 percent slopes, frequently flooded	Kalmarville, frequently flooded	50	Flood plains	Yes	2B3
	Radford, frequently flooded	30	Flood plains	No	---
N615A:					
Otter silt loam, 0 to 2 percent slopes, occasionally flooded	Otter, occasionally flooded	75	---	Yes	2B3
N616A:					
Littleton silt loam, 0 to 2 percent slopes, occasionally flooded	Littleton, occasionally flooded	60	Flood plains	No	---

Hydric Soils

Goodhue County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
N617A: Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded	Kennebec, occasionally flooded	70	Flood plains	No	---
N618A: McPaul silt loam, 0 to 3 percent slopes, frequently flooded	McPaul, frequently flooded	70	Flood plains	No	---
N619A: Kennebec-Lawson, channeled, complex, 0 to 3 percent slopes, flooded	Kennebec, occasionally flooded	50	Flood plains	No	---
	Lawson, channeled, frequently flooded	35	Flood plains	No	---
N620B: Chaseburg silt loam, 2 to 12 percent slopes, frequently flooded	Chaseburg, frequently flooded	85	Drainageways	No	---
N621B: Udifulvents, loamy, 2 to 12 percent slopes, frequently flooded	Udifulvents, loamy, frequently flooded	80	Drainageways	No	---
N622A: Ankeny-Zumbro complex, 0 to 3 percent slopes, occasionally flooded	Ankeny, occasionally flooded	70	Flood plains	No	---
	Zumbro, occasionally flooded	25	Flood plains	No	---
N623B: Burkhardt sandy loam, 0 to 6 percent slopes	Burkhardt	85	Terraces	No	---
N624B: Lilah sandy loam, 0 to 6 percent slopes	Lilah	85	Terraces	No	---
N624C2: Lilah sandy loam, 6 to 12 percent slopes, moderately eroded	Lilah, moderately eroded	85	Terraces	No	---
N625B: Coloma loamy sand, 0 to 6 percent slopes	Coloma	80	Terraces	No	---
N626C: Plainfield loamy sand, 6 to 12 percent slopes	Plainfield	80	Terraces	No	---
N626D: Plainfield loamy sand, 12 to 18 percent slopes	Plainfield	80	Terraces	No	---

Hydric Soils

Goodhue County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
N627A: Billett fine sandy loam, 0 to 4 percent slopes	Billett	90	Terraces	No	---
N628A: Burkhardt sandy loam, very gravelly substratum, 0 to 3 percent slopes	Burkhardt, very gravelly substratum	90	Terraces	No	---
N629F: Mt. Carroll and Timula soils, 20 to 40 percent slopes	Mt. Carroll	35	Valley sides	No	---
	Timula	35	Valley sides	No	---
N630B: Schapville-Shullsburg complex, 2 to 6 percent slopes	Schapville	55	Hills	No	---
	Shullsburg	25	Hills	No	---
N630C2: Schapville-Shullsburg complex, 6 to 12 percent slopes, moderately eroded	Schapville, moderately eroded	55	Hills	No	---
	Shullsburg, moderately eroded	25	Hills	No	---
N631D2: Schapville silt loam, 12 to 18 percent slopes, moderately eroded	Schapville, moderately eroded	60	Hills	No	---
N631E: Schapville silt loam, 18 to 35 percent slopes	Schapville	60	Valley sides	No	---
N632G: Brodale, flaggy-Schapville complex, 18 to 80 percent slopes	Brodale, flaggy	25	Valley sides	No	---
	Schapville	20	Valley sides	No	---
N633C2: Massbach silt loam, 6 to 12 percent slopes, moderately eroded	Massbach, moderately eroded	65	Hills	No	---
N633D2: Massbach silt loam, 12 to 18 percent slopes, moderately eroded	Massbach, moderately eroded	65	Hills	No	---

Hydric Soils

Goodhue County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
N634E:					
Massbach-Schapville complex, 18 to 35 percent slopes	Massbach	45	Valley sides	No	---
	Schapville	35	Valley sides	No	---
N635B:					
Frankville-Nasset-Downs complex, 2 to 6 percent slopes	Frankville	60	Hills	No	---
	Downs	20	Hills	No	---
	Nasset	20	Hills	No	---
N635C2:					
Frankville-Nasset-Downs complex, 6 to 12 percent slopes, moderately eroded	Frankville, moderately eroded	60	Hills	No	---
	Downs, moderately eroded	20	Hills	No	---
	Nasset, moderately eroded	20	Hills	No	---
N635D2:					
Frankville-Nasset-Downs complex, 12 to 18 percent slopes, moderately eroded	Frankville, moderately eroded	55	Hills	No	---
	Downs, moderately eroded	20	Hills	No	---
	Nasset, moderately eroded	20	Hills	No	---
N635E:					
Frankville-Nasset-Downs complex, 18 to 35 percent slopes	Frankville	40	Valley sides	No	---
	Nasset	30	Valley sides	No	---
	Downs	10	Valley sides	No	---
N636A:					
Houghton muck, ponded, 0 to 1 percent slopes	Houghton, ponded	80	Depressions	Yes	1, 3
N637B:					
Klossner muck, seepy, 1 to 8 percent slopes	Klossner, seepy	75	Seeps	Yes	1
N638G:					
Brodale, flaggy-Bellechester complex, 30 to 70 percent slopes	Brodale, flaggy	45	Valley sides	No	---
	Bellechester	25	Valley sides	No	---

Hydric Soils

Goodhue County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
N639F:					
Frontenac-Lacrescent complex, 20 to 45 percent slopes	Frontenac	55	Valley sides	No	---
	Lacrescent	25	Valley sides	No	---
N639G:					
Frontenac-Lacrescent complex, 30 to 70 percent slopes	Frontenac	55	Valley sides	No	---
	Lacrescent	30	Valley sides	No	---
N640G:					
Lacrescent, flaggy-Frontenac-Rock outcrop complex, 45 to 90 percent slopes	Lacrescent, flaggy	50	Valley sides	No	---
	Frontenac	30	Valley sides	No	---
	Rock outcrop	10	Valley sides	No	---
N641F:					
Brodale channery loam, 20 to 45 percent slopes, flaggy	Brodale, flaggy	70	Valley sides	No	---
N642E:					
Frankville-Nasset complex, Oneota formation, 18 to 35 percent slopes	Frankville, oneota formation	40	Valley sides	No	---
	Nasset, oneota formation	25	Valley sides	No	---
N643B:					
Port Byron-Dinsmore complex, 2 to 6 percent slopes	Port Byron	50	Loess hills	No	---
	Dinsmore	45	Loess hills	No	---
N643C2:					
Port Byron-Dinsmore complex, 6 to 12 percent slopes, moderately eroded	Port Byron, moderately eroded	55	Loess hills	No	---
	Dinsmore, moderately eroded	35	Loess hills	No	---
N644A:					
Abscota loamy sand, 0 to 3 percent slopes, occasionally flooded	Abscota, occasionally flooded	75	Flood plains	No	---
W:					
Water	Water	100	---		---

Hydric Soils

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
 - B. are poorly drained or very poorly drained and have either:
 - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
 - 2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
 - 3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

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