

HYDRIC SOIL INTERPRETATIONS  
HYDRIC SOILS LIST  
Sheridan County, North Dakota

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed. 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 each 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 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, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (USDA, 1999) and "Keys to Soil Taxonomy" (USDA, 1998) and in the "Soil Survey Manual" (USDA, 1993).

If soils are wet enough for a long enough period 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 in this survey area are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 1996).

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 in the Hydric Soil Interpretations table meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. 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, 1996).

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

These map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
2: MARYSLAND LOAM	MARYSLAND	Yes	flat	2B3	YES	NO	NO
	VALLERS	Yes	flat	2B3	YES	NO	NO
	DIVIDE	No	---	---	---	---	---
	WYRENE	No	---	---	---	---	---
	FRAM	No	---	---	---	---	---
	HAMERLY	No	---	---	---	---	---
6: HARRIET SILT LOAM	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	HARRIET	Yes	flat	2B3	YES	NO	NO
	EASBY	Yes	flat	2B3	YES	NO	NO
	VALLERS	Yes	flat	2B3	YES	NO	NO
	STIRUM	Yes	flat	2B3,3	YES	NO	YES
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	SVEA	No	---	---	---	---	---
	TONKA	Yes	depression	2B3,3	YES	NO	YES
7: FOSSUM LOAMY SAND	FOSSUM	Yes	flat	2B2	YES	NO	NO
	ULEN	No	---	---	---	---	---
	HAMAR	Yes	depression	2B2	YES	NO	NO
	ARVESON	Yes	depression	2B3	YES	NO	NO
	MARYSLAND	Yes	flat	2B3	YES	NO	NO
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	SOUTHAM	Yes	depression	3,2B3	YES	NO	YES
	10: SOUTHAM SILTY CLAY LOAM	SOUTHAM	Yes	depression	3,2B3	YES	NO
PARNELL		Yes	depression	2B3,3	YES	NO	YES
VALLERS		Yes	flat	2B3	YES	NO	NO
HARRIET		Yes	flat	2B3	YES	NO	NO
MINNEWAUKAN		Yes	flat	2B2	YES	NO	NO
11: PARNELL SILT LOAM	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	TONKA	Yes	depression	3,2B3	YES	NO	YES
	VALLERS	Yes	flat	2B3	YES	NO	NO
	HEGNE	Yes	flat	3,2B3	YES	NO	YES
	SOUTHAM	Yes	depression	3,2B3	YES	NO	YES
12: PARNELL-VALLERS COMPLEX, 0 TO 3 PERCENT SLOPES	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	VALLERS	Yes	flat	2B3	YES	NO	NO
	TONKA	Yes	depression	3,2B3	YES	NO	YES
	HAMERLY	No	---	---	---	---	---
	VALLERS, SALINE	Yes	flat	2B3	YES	NO	NO
	FRAM	No	---	---	---	---	---
	SOUTHAM	Yes	depression	3,2B3	YES	NO	YES
15: DIVIDE LOAM, 0 TO 3 PERCENT SLOPES	DIVIDE	No	---	---	---	---	---
	BOWDLE	No	---	---	---	---	---
	MARYSLAND	Yes	flat	2B3	YES	NO	NO
	FORDVILLE	No	---	---	---	---	---
	WARSING	No	---	---	---	---	---
	RENSHAW	No	---	---	---	---	---

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
18: FRAM AND VALLERS LOAMS, SALINE, 0 TO 3 PERCENT SLOPES	VALLERS	Yes	flat	2B3	YES	NO	NO
	FRAM	No	---	---	---	---	---
	COLVIN	Yes	flat	2B3	YES	NO	NO
	PARNELL	Yes	depression	3,2B3	YES	NO	YES
	TONKA	Yes	depression	3,2B3	YES	NO	YES
	EMRICK	No	---	---	---	---	---
	SOUTHAM	Yes	depression	2B3,3	YES	NO	YES
19: TONKA SILT LOAM	SVEA	No	---	---	---	---	---
	TONKA	Yes	depression	2B3,3	YES	NO	YES
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	HAMERLY	No	---	---	---	---	---
	VALLERS	Yes	flat	2B3	YES	NO	NO
23: MARYSLAND SILT LOAM, CHANNELED	FRAM	No	---	---	---	---	---
	CHANNELED	---	---	---	---	---	---
	MARYSLAND	Yes	flood plain	2B3	YES	NO	NO
	LAMOURE	Yes	flood plain	2B3	YES	NO	NO
	HARRIET	Yes	channel	2B3	YES	NO	NO
	SOUTHAM	Yes	depression	2B3,3	YES	NO	YES
	COLVIN	Yes	flat	2B3	YES	NO	NO
24C: BARNES-BUSE LOAMS, 6 TO 9 PERCENT SLOPES	DIVIDE	No	---	---	---	---	---
	BARNES	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
	EMRICK	No	---	---	---	---	---
	SVEA	No	---	---	---	---	---
	TONKA	Yes	depression	3,2B3	YES	NO	YES
	CRESBARD	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
26B: BARNES-CRESBARD LOAMS, 1 TO 6 PERCENT SLOPES	SOUTHAM	Yes	depression	2B3,3	YES	NO	YES
	BARNES	No	---	---	---	---	---
	CRESBARD	No	---	---	---	---	---
	CAVOUR	No	---	---	---	---	---
	SVEA	No	---	---	---	---	---
	TONKA	Yes	depression	3,2B3	YES	NO	YES
	HAMERLY	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
	PARNELL	Yes	depression	3,2B3	YES	NO	YES
	30: SVEA-BARNES LOAMS, 0 TO 3 PERCENT SLOPES	SVEA	No	---	---	---	---
BARNES		No	---	---	---	---	---
CRESBARD		No	---	---	---	---	---
HAMERLY		No	---	---	---	---	---
BUSE		No	---	---	---	---	---
TONKA		Yes	depression	2B3,3	YES	NO	YES
PARNELL		Yes	depression	3,2B3	YES	NO	YES
SOUTHAM		Yes	depression	2B3,3	YES	NO	YES

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
30B: BARNES-SVEA LOAMS, 3 TO 6 PERCENT SLOPES	BARNES	No	---	---	---	---	---
	SVEA	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
	TONKA	Yes	depression	2B3,3	YES	NO	YES
	HAMERLY	No	---	---	---	---	---
	CRESBARD	No	---	---	---	---	---
	NUTLEY	No	---	---	---	---	---
	PARNELL	Yes	depression	3,2B3	YES	NO	YES
32C: BARNES-BUSE-PARNELL COMPLEX, 0 TO 9 PERCENT SLOPES	BARNES	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	HAMERLY	No	---	---	---	---	---
	CRESBARD	No	---	---	---	---	---
	VALLERS	Yes	flat	2B3	YES	NO	NO
	SVEA	No	---	---	---	---	---
	TONKA	Yes	depression	2B3,3	YES	NO	YES
32F: BARNES-BUSE-PARNELL COMPLEX, 0 TO 35 PERCENT SLOPES	SOUTHAM	Yes	depression	2B3,3	YES	NO	YES
	BUSE	No	---	---	---	---	---
	BARNES	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	SVEA	No	---	---	---	---	---
	TONKA	Yes	depression	3,2B3	YES	NO	YES
	HAMERLY	No	---	---	---	---	---
	SIOUX	No	---	---	---	---	---
35B: OVERLY SILTY CLAY LOAM, 0 TO 6 PERCENT SLOPES	SOUTHAM	Yes	depression	3,2B3	YES	NO	YES
	VALLERS	Yes	flat	2B3	YES	NO	NO
	OVERLY	No	---	---	---	---	---
	GREAT BEND	No	---	---	---	---	---
	NUTLEY	No	---	---	---	---	---
	HAMERLY	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	TONKA	Yes	depression	2B3,3	YES	NO	YES
36D: BUSE-BARNES LOAMS, 9 TO 15 PERCENT SLOPES	ZELL	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
	BARNES	No	---	---	---	---	---
	SVEA	No	---	---	---	---	---
	CRESBARD	No	---	---	---	---	---
	TONKA	Yes	depression	3,2B3	YES	NO	YES
	EMRICK	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
36F: BUSE-BARNES LOAMS, 15 TO 35 PERCENT SLOPES	SIOUX	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
	BARNES	No	---	---	---	---	---
	SVEA	No	---	---	---	---	---
	LANGHEI	No	---	---	---	---	---
	SIOUX	No	---	---	---	---	---
	EMRICK	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
TONKA	Yes	depression	3,2B3	YES	NO	YES	

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
37B: CRESBARD-CAVOUR LOAMS, 0 TO 6 PERCENT SLOPES	CRESBARD	No	---	---	---	---	---
	CAVOUR	No	---	---	---	---	---
	HAMERLY	No	---	---	---	---	---
	BARNES	No	---	---	---	---	---
	MIRANDA	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
	PARNELL	Yes	depression	3,2B3	YES	NO	YES
38: MIRANDA LOAM, 0 TO 3 PERCENT SLOPES	TONKA	Yes	depression	3,2B3	YES	NO	YES
	MIRANDA	No	---	---	---	---	---
	EXLINE	No	---	---	---	---	---
	LARSON	No	---	---	---	---	---
	HARRIET	Yes	flat	2B3	YES	NO	NO
	CAVOUR	No	---	---	---	---	---
	NOONAN	No	---	---	---	---	---
40F: ORTHENTS, LOAMY, 1 TO 75 PERCENT SLOPES	CRESBARD	No	---	---	---	---	---
	ORTHENTS	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
41C: TOWNER-MADDOCK-BUSE COMPLEX, 1 TO 9 PERCENT SLOPES	LANGHEI	No	---	---	---	---	---
	MADDOCK	No	---	---	---	---	---
	TOWNER	No	---	---	---	---	---
41E: TOWNER-MADDOCK-BUSE COMPLEX, 9 TO 25 PERCENT SLOPES	BUSE	No	---	---	---	---	---
	DICKEY	No	---	---	---	---	---
	HEIMDAL	No	---	---	---	---	---
	FLAXTON	No	---	---	---	---	---
	LARSON	No	---	---	---	---	---
	SWENODA	No	---	---	---	---	---
	TONKA	Yes	depression	2B3, 3	YES	NO	YES
	MADDOCK	No	---	---	---	---	---
	TOWNER	No	---	---	---	---	---
42B: TOWNER LOAMY FINE SAND, 0 TO 6 PERCENT SLOPES	BUSE	No	---	---	---	---	---
	DICKEY	No	---	---	---	---	---
	SIOUX	No	---	---	---	---	---
	SWENODA	No	---	---	---	---	---
	TOWNER	No	---	---	---	---	---
	DICKEY	No	---	---	---	---	---
44B: SWENODA SANDY LOAM, 0 TO 6 PERCENT SLOPES	MADDOCK	No	---	---	---	---	---
	HEIMDAL	No	---	---	---	---	---
	FOSSUM	Yes	depression	2B2	YES	NO	NO
	SWENODA	No	---	---	---	---	---
	EMRICK	No	---	---	---	---	---
	LANONA	No	---	---	---	---	---
44B: SWENODA SANDY LOAM, 0 TO 6 PERCENT SLOPES	ARVILLA	No	---	---	---	---	---
	HEIMDAL	No	---	---	---	---	---
	LARSON	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3, 3	YES	NO	YES

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				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
45B: CATHAY-EMRICK LOAMS, 0 TO 6 PERCENT SLOPES	CATHAY	No	---	---	---	---	---
	EMRICK	No	---	---	---	---	---
	FRAM	No	---	---	---	---	---
	HEIMDAL	No	---	---	---	---	---
	TONKA	Yes	depression	3,2B3	YES	NO	YES
	LARSON	No	---	---	---	---	---
	MIRANDA	No	---	---	---	---	---
46: LARSON-CATHAY LOAMS, 0 TO 3 PERCENT SLOPES	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	LARSON	No	---	---	---	---	---
	CATHAY	No	---	---	---	---	---
	MIRANDA	No	---	---	---	---	---
	HEIMDAL	No	---	---	---	---	---
	EMRICK	No	---	---	---	---	---
	FRAM	No	---	---	---	---	---
53B: RENSHAW LOAM, 0 TO 6 PERCENT SLOPES	TONKA	Yes	depression	3,2B3	YES	NO	YES
	HARRIET	Yes	flat	2B3	YES	NO	NO
	RENSHAW	No	---	---	---	---	---
	ARVILLA	No	---	---	---	---	---
	SIOUX	No	---	---	---	---	---
	FORDVILLE	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
54B: ARVILLA SANDY LOAM, 0 TO 6 PERCENT SLOPES	MARYSLAND	Yes	depression	2B3	YES	NO	NO
	DIVIDE	No	---	---	---	---	---
	ARVILLA	No	---	---	---	---	---
	SIOUX	No	---	---	---	---	---
	FORDVILLE	No	---	---	---	---	---
	MADDOCK	No	---	---	---	---	---
	DIVIDE	No	---	---	---	---	---
57: HAMERLY-TONKA COMPLEX, 0 TO 3 PERCENT SLOPES	FOSSUM	Yes	depression	2B3	YES	NO	NO
	RENSHAW	No	---	---	---	---	---
	HAMERLY	No	---	---	---	---	---
	TONKA	Yes	depression	2B3,3	YES	NO	YES
	BEARDEN	No	---	---	---	---	---
	VALLERS	Yes	depression	2B3	YES	NO	NO
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
62: HEIMDAL-EMRICK LOAMS, 0 TO 3 PERCENT SLOPES	SVEA	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
	SOUTHAM	Yes	depression	2B3,3	YES	NO	YES
	HEIMDAL	No	---	---	---	---	---
	EMRICK	No	---	---	---	---	---
	SVEA	No	---	---	---	---	---
	SWENODA	No	---	---	---	---	---
62: HEIMDAL-EMRICK LOAMS, 0 TO 3 PERCENT SLOPES	CATHAY	No	---	---	---	---	---
	ESMOND	No	---	---	---	---	---
	PARNELL	Yes	depression	3,2B3	YES	NO	YES
	TONKA	Yes	depression	2B3,3	YES	NO	YES

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				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
62B: HEIMDAL-EMRICK LOAMS, 3 TO 6 PERCENT SLOPES	HEIMDAL	No	---	---	---	---	---
	EMRICK	No	---	---	---	---	---
	ESMOND	No	---	---	---	---	---
	CATHAY	No	---	---	---	---	---
	EMBDEN	No	---	---	---	---	---
	FRAM	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
63D: ESMOND-HEIMDAL LOAMS, 9 TO 15 PERCENT SLOPES	TONKA	Yes	depression	2B3,3	YES	NO	YES
	ESMOND	No	---	---	---	---	---
	HEIMDAL	No	---	---	---	---	---
	EMRICK	No	---	---	---	---	---
	DICKEY	No	---	---	---	---	---
	FRAM	No	---	---	---	---	---
	MADDOCK	No	---	---	---	---	---
63F: ESMOND-HEIMDAL LOAMS, 15 TO 35 PERCENT SLOPES	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	SIoux	No	---	---	---	---	---
	ESMOND	No	---	---	---	---	---
	HEIMDAL	No	---	---	---	---	---
	EMRICK	No	---	---	---	---	---
	MADDOCK	No	---	---	---	---	---
	FRAM	No	---	---	---	---	---
64C: HEIMDAL-ESMOND LOAMS, 6 TO 9 PERCENT SLOPES	PARNELL	Yes	depression	3,2B3	YES	NO	YES
	SOUTHAM	Yes	depression	3,2B3	YES	NO	YES
	HEIMDAL	No	---	---	---	---	---
	ESMOND	No	---	---	---	---	---
	EMRICK	No	---	---	---	---	---
	EGELAND	No	---	---	---	---	---
	ARVILLA	No	---	---	---	---	---
65B: MADDOCK LOAMY FINE SAND, 0 TO 6 PERCENT SLOPES	PARNELL	Yes	depression	3,2B3	YES	NO	YES
	SOUTHAM	Yes	depression	2B3,3	YES	NO	YES
	TONKA	Yes	depression	2B3,3	YES	NO	YES
	MADDOCK	No	---	---	---	---	---
	DICKEY	No	---	---	---	---	---
	EGELAND	No	---	---	---	---	---
	EMBDEN	No	---	---	---	---	---
67B: LEHR LOAM, 0 TO 6 PERCENT SLOPES	HECLA	No	---	---	---	---	---
	CLAIRE	No	---	---	---	---	---
	FOSSUM LFS	Yes	depression	2B2	YES	NO	NO
	LEHR	No	---	---	---	---	---
	STADY	No	---	---	---	---	---
	WABEK	No	---	---	---	---	---
	DIVIDE	No	---	---	---	---	---

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All mapunits are displayed regardless of hydric status and are listed in alpha-numeric order by mapunit symbol. The "Hydric Soils Criteria" columns indicate the conditions that caused the mapunit component to be classified as "Hydric" or "Non-Hydric". These criteria are defined in "Hydric Soils of the United States" (USDA Miscellaneous Publication No. 1491, June, 1991). See the "Criteria for Hydric Soils" endnote to determine the meaning of these columns. Spot symbols are footnoted at the end of the table.

Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
73D: ZAHL-WILLIAMS LOAMS, 9 TO 15 PERCENT SLOPES	ZAHL	No	---	---	---	---	---
	WILLIAMS	No	---	---	---	---	---
	BOWBELLS	No	---	---	---	---	---
	HAMERLY	No	---	---	---	---	---
	PARNELL	Yes	depression	3,2B3	YES	NO	YES
	SOUTHAM	Yes	depression	2B3,3	YES	NO	YES
	TONKA	Yes	depression	3,2B3	YES	NO	YES
73F: ZAHL-WILLIAMS LOAMS, 15 TO 35 PERCENT SLOPES	WABEK	No	---	---	---	---	---
	ZAHL	No	---	---	---	---	---
	WILLIAMS	No	---	---	---	---	---
	BOWBELLS	No	---	---	---	---	---
	VIDA	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	SOUTHAM	Yes	depression	2B3,3	YES	NO	YES
74: FRAM LOAM, 0 TO 3 PERCENT SLOPES	TONKA	Yes	depression	2B3,3	YES	NO	YES
	EMRICK	No	---	---	---	---	---
	VALLERS	Yes	depression	2B3	YES	NO	NO
	CATHAY	No	---	---	---	---	---
	PARNELL	Yes	depression	3,2B3	YES	NO	YES
	SOUTHAM	Yes	depression	3,2B3	YES	NO	YES
	FRAM	No	---	---	---	---	---
75: FRAM-TONKA COMPLEX, 0 TO 3 PERCENT SLOPES	TONKA	Yes	depression	2B3,3	YES	NO	YES
	VALLERS	Yes	depression	2B3	YES	NO	NO
	HAMLET	No	---	---	---	---	---
	WYARD	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	SOUTHAM	Yes	depression	2B3,3	YES	NO	YES
	FRAM	No	---	---	---	---	---
76C: SIOUX-ARVILLA COMPLEX, 1 TO 9 PERCENT SLOPES	SIOUX	No	---	---	---	---	---
	ARVILLA	No	---	---	---	---	---
	DIVIDE	No	---	---	---	---	---
	LOHNES	No	---	---	---	---	---
	FOSSUM	Yes	depression	2B3	YES	NO	NO
	MARYSLAND	Yes	depression	2B3	YES	NO	NO
	RENSHAW	No	---	---	---	---	---
77B: NUTLEY SILTY CLAY, 0 TO 6 PERCENT SLOPES	NUTLEY	No	---	---	---	---	---
	GREAT BEND	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
	CRESBARD	No	---	---	---	---	---
	GRANO	Yes	depression	2B3,3	YES	NO	YES
	OVERLY	No	---	---	---	---	---
	TONKA	Yes	depression	2B3,3	YES	NO	YES

HYDRIC SOIL INTERPRETATIONS  
HYDRIC SOILS LIST  
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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
79F: ARVILLA AND SIOUX SOILS, 9 TO 35 PERCENT SLOPES	ARVILLA	No	---	---	---	---	---
	SIOUX DIVIDE	No	---	---	---	---	---
	MARYSLAND	No	---	---	---	---	---
	RENSHAW	Yes	depression	2B3	YES	NO	NO
	FOSSUM	No	---	---	---	---	---
81C: WABEK SANDY LOAM, 1 TO 9 PERCENT SLOPES	WABEK	Yes	depression	2B3	YES	NO	NO
	LEHR	No	---	---	---	---	---
	ARVILLA	No	---	---	---	---	---
	LIHEN	No	---	---	---	---	---
	RUSO	No	---	---	---	---	---
81F: WABEK SANDY LOAM, 9 TO 35 PERCENT SLOPES	WABEK	No	---	---	---	---	---
	LEHR	No	---	---	---	---	---
	PARSHALL	No	---	---	---	---	---
	BOWDLE	No	---	---	---	---	---
	BOWBELLS	No	---	---	---	---	---
	ARVILLA	No	---	---	---	---	---
	STADY	No	---	---	---	---	---
83B: WILLIAMS-BOWBELLS LOAMS, 3 TO 6 PERCENT SLOPES	WILLIAMS	No	---	---	---	---	---
	BOWBELLS	No	---	---	---	---	---
	ZAHL	No	---	---	---	---	---
	HAMERLY	No	---	---	---	---	---
	TONKA	Yes	depression	2B3, 3	YES	NO	YES
	CATHAY	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3, 3	YES	NO	YES
SOUTHAM	Yes	depression	2B3, 3	YES	NO	YES	
86C: WILLIAMS-ZAHL LOAMS, 6 TO 9 PERCENT SLOPES	WILLIAMS	No	---	---	---	---	---
	ZAHL	No	---	---	---	---	---
	BOWBELLS	No	---	---	---	---	---
	HAMERLY	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3, 3	YES	NO	YES
	LEHR	No	---	---	---	---	---
	SOUTHAM	Yes	depression	3, 2B3	YES	NO	YES
95: PITS, SAND AND GRAVEL	VALLERS	Yes	flat	2B3	YES	NO	NO
	PITS, SAND AND GRAVEL	No	---	---	---	---	---
	BUSE	No	---	---	---	---	---
99C: WILLIAMS-ZAHL-PARNELL COMPLEX, 0 TO 9 PERCENT SLOPES	SIOUX	No	---	---	---	---	---
	WILLIAMS	No	---	---	---	---	---
	ZAHL	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3, 3	YES	NO	YES
	BOWBELLS	No	---	---	---	---	---
	SOUTHAM	Yes	depression	2B3, 3	YES	NO	YES
	TONKA	Yes	depression	2B3, 3	YES	NO	YES
	HAMERLY	No	---	---	---	---	---
VALLERS	Yes	depression	2B3	YES	NO	NO	
WABEK	No	---	---	---	---	---	

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Map symbol and map unit name	Component	Hydric	Local landform	Hydric soils criteria			
				Hydric criteria code	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria
99F: ZAHL-WILLIAMS-PARNELL COMPLEX, 0 TO 35 PERCENT SLOPES	ZAHL	No	---	---	---	---	---
	WILLIAMS	No	---	---	---	---	---
	PARNELL	Yes	depression	2B3,3	YES	NO	YES
	BOWBELLS	No	---	---	---	---	---
	HAMERLY	No	---	---	---	---	---
	NIOBELL	No	---	---	---	---	---
	SOUTHAM	Yes	depression	3,2B3	YES	NO	YES
	TONKA	Yes	depression	2B3,3	YES	NO	YES
M-W: MISCELLANEOUS WATER	VALLERS	Yes	depression	2B3	YES	NO	NO
	MISCELLANEOUS WATER	Yes	depression	2B3,3	YES	NO	YES
W: WATER	WATER	Yes	depression	2B3,3	YES	NO	YES

FOOTNOTE: There may be small areas of included soils or miscellaneous areas that are significant to use and management of the soil; yet are too small to delineate on the soil map at the map's original scale. These may be designated as spot symbols and are defined in the published Soil Survey Report or the USDA-NRCS Technical Guide, Part II.

Areas mapped as water or any map unit that contains one of the following conventional symbols is considered a hydric soil map unit: marshes or swamps; wet spots; depressions; streams, lakes and ponds.

1. All Histosols except Folists, or
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Aquisalids, Pachic subgroups, or Cumulic subgroups that are:
  - a. Somewhat poorly drained with a water table equal to 0.0 foot (ft) from the surface during the growing season, or
  - b. poorly drained or very poorly drained and have either:
    - (1) water table equal to 0.0 ft during the growing season if textures are coarse sand, sand, or fine sand in all layers within 20 inches (in),  
or for other soils
    - (2) water table at less than or equal to 0.5 ft from the surface during the growing season if permeability is equal to or greater than 6.0 in/hour (h) in all layers within 20 in, or
    - (3) water table at less than or equal to 1.0 ft from the surface during the growing season if permeability is less than 6.0 in/h in any layer within 20 in, or
3. Soils that are frequently ponded for long duration or very long duration during the growing season, or
4. Soils that are frequently flooded for long duration or very long duration during the growing season.

