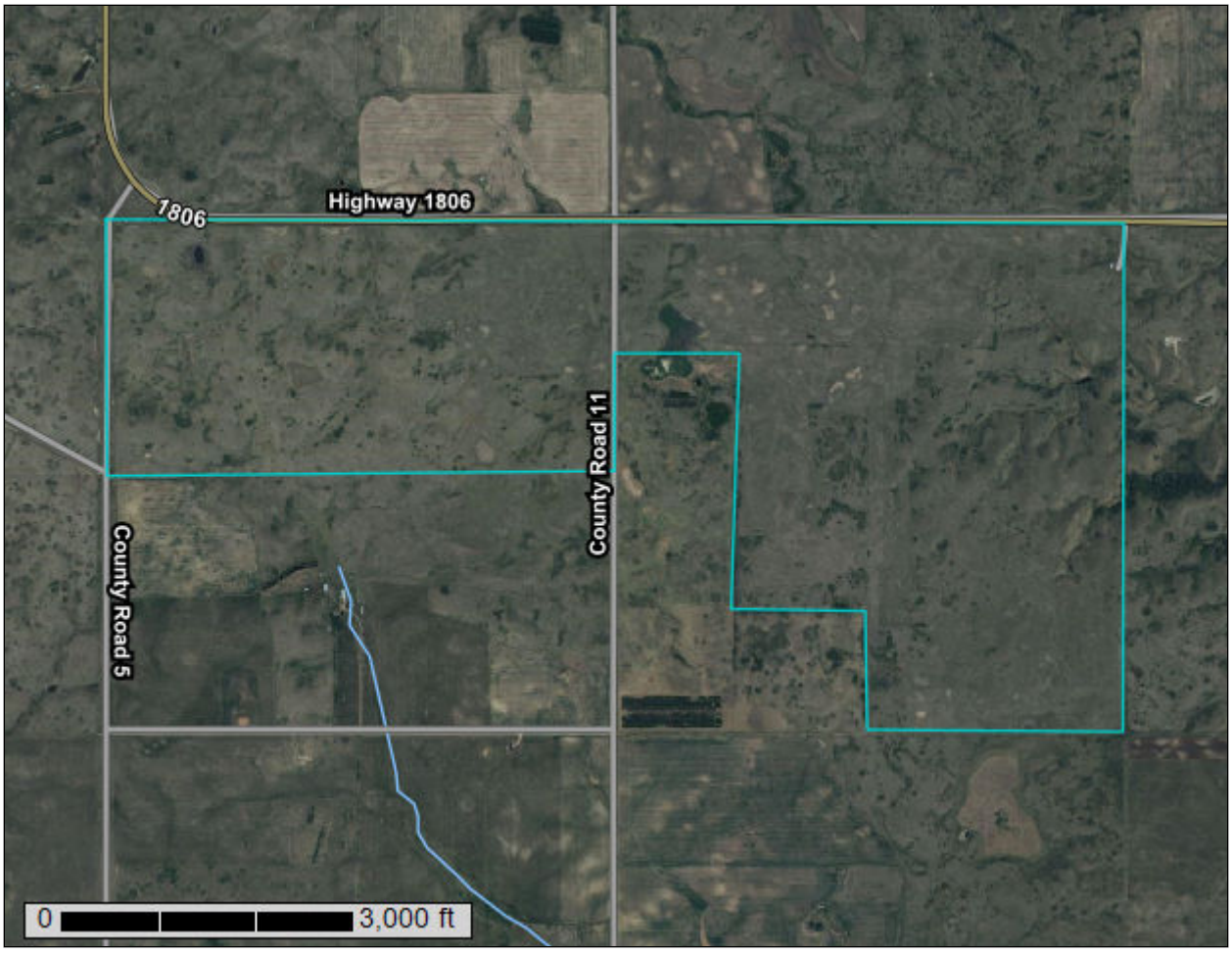
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Mercer County, North Dakota



January 8, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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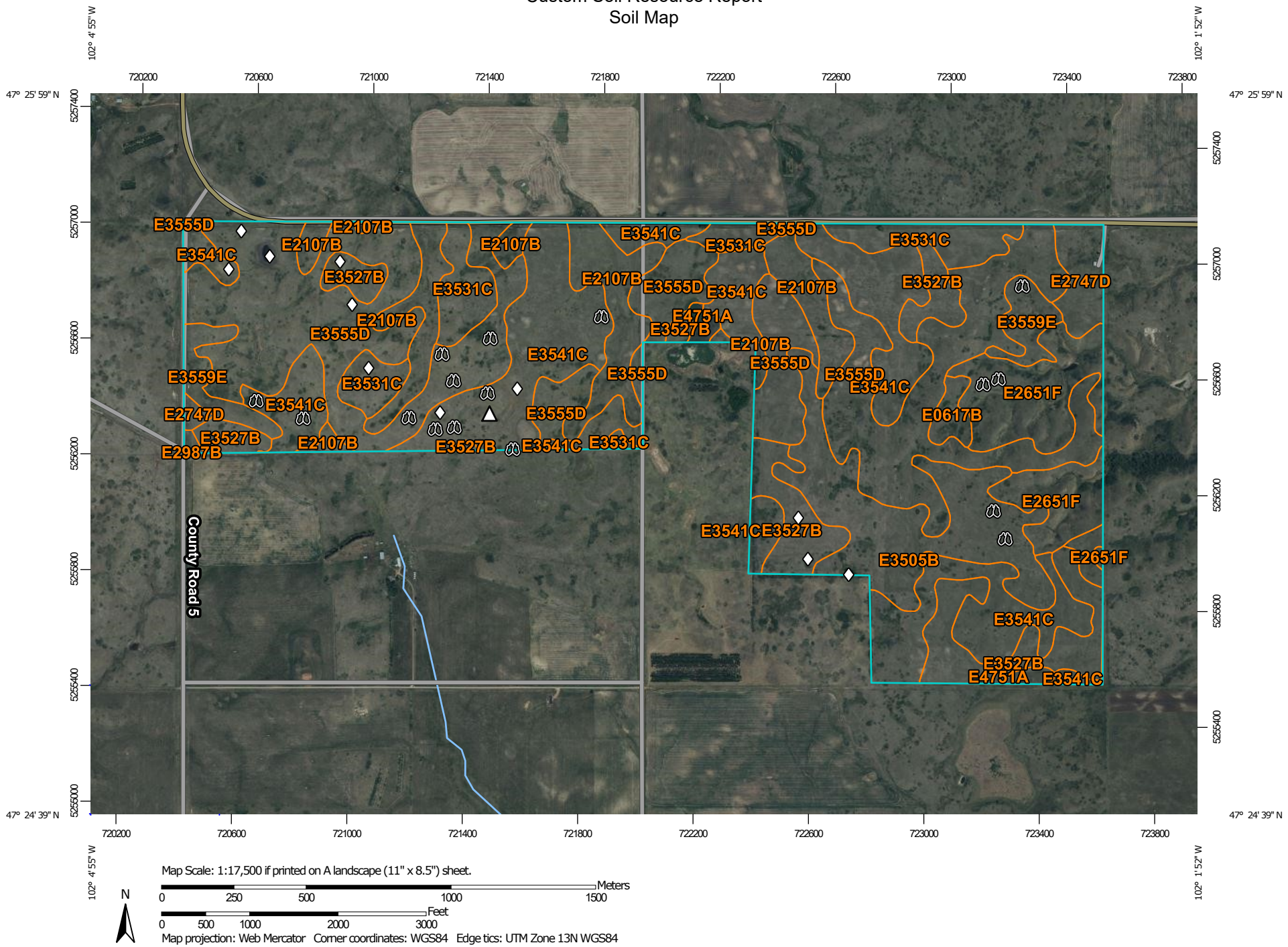
Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:17,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 250 500 1000 1500

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Mercer County, North Dakota
Survey Area Data: Version 31, Sep 5, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 29, 2021—Jun 14, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
E0617B	Belfield-Wyola-Daglum complex, 2 to 6 percent slopes	6.0	0.8%
E2107B	Arnegard loam, 2 to 6 percent slopes	69.6	8.8%
E2651F	Werner-Amor-Arnegard loams, 9 to 50 percent slopes	56.5	7.1%
E2747D	Werner-Chama-Sen silt loams, 9 to 15 percent slopes	15.4	1.9%
E2987B	Sen-Chama silt loams, 3 to 6 percent slopes	1.0	0.1%
E3505B	Bowbells-Zahl loams, 3 to 6 percent slopes	69.7	8.8%
E3527B	Williams-Bowbells loams, 3 to 6 percent slopes	70.9	9.0%
E3531C	Williams loam, 6 to 9 percent slopes	45.3	5.7%
E3541C	Williams-Zahl loams, 6 to 9 percent slopes	175.8	22.2%
E3555D	Zahl-Williams loams, 9 to 15 percent slopes	255.9	32.3%
E3559E	Zahl-Max loams, 15 to 25 percent slopes	21.3	2.7%
E4751A	Parnell silt loam, 0 to 1 percent slopes	4.7	0.6%
Totals for Area of Interest		**792.2**	**100.0%**

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

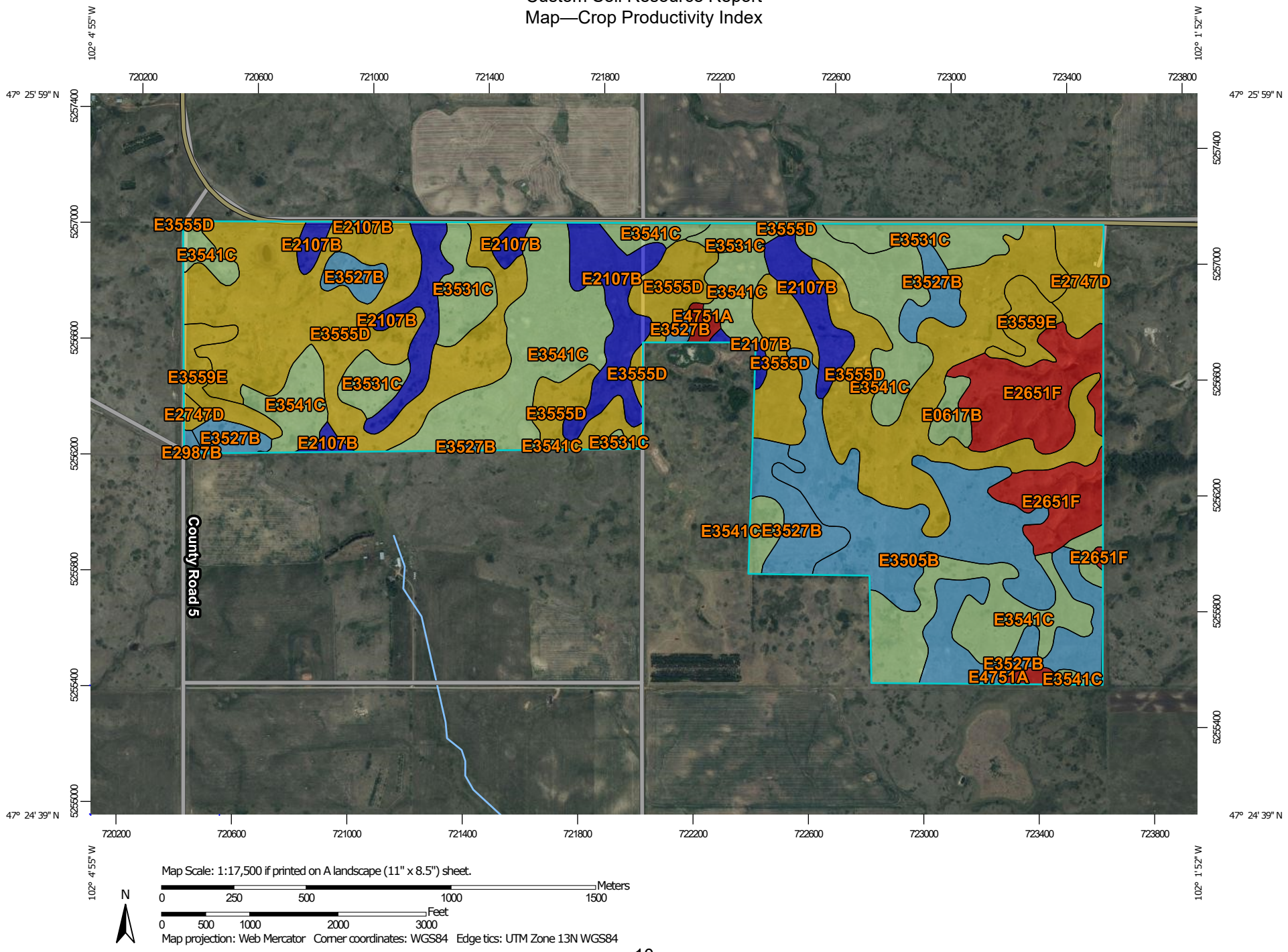
Vegetative Productivity

Vegetative productivity includes estimates of potential vegetative production for a variety of land uses, including cropland, forestland, hayland, pastureland, horticulture and rangeland. In the underlying database, some states maintain crop yield data by individual map unit component. Other states maintain the data at the map unit level. Attributes are included for both, although only one or the other is likely to contain data for any given geographic area. For other land uses, productivity data is shown only at the map unit component level. Examples include potential crop yields under irrigated and nonirrigated conditions, forest productivity, forest site index, and total rangeland production under of normal, favorable and unfavorable conditions.

Crop Productivity Index

Crop productivity index ratings provide a relative ranking of soils based on their potential for intensive crop production. An index can be used to rate the potential yield of one soil against that of another over a period of time. Ratings range from 0 to 100. The higher numbers indicate higher production potential. The rating is not crop specific. Minnesota inquiries must use the 'Map Unit Cropland Productivity Report (MN)' soils report from the Soil Reports tab under 'Vegetative Productivity'.

When the soils are rated, the following assumptions are made: a) adequate management, b) natural weather conditions (no irrigation), c) artificial drainage where required, d) no frequent flooding on the lower lying soils, and e) no land leveling or terracing. Even though predicted average yields will change with time, the productivity indices are expected to remain relatively constant in relation to one another over time.


102° 4' 55" W
102° 1' 52" W
47° 25' 59" N
47° 24' 39" N
720200
720600
721000
721400
721800
722200
722600
723000
723400
723800
5257400
5257000
5256600
5256200
5255800
5255400
5255000
E3555D
E2107B
E3541C
E3527B
E3531C
E4751A
E3559E
E2747D
E2987B
E0617B
E2651F
E3505B
County Road 5
Map Scale: 1:17,500 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 250 500 1000 1500
Feet
0 500 1000 2000 3000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- <= 25
- > 25 and <= 44
- > 44 and <= 69
- > 69 and <= 84
- > 84 and <= 93
- Not rated or not available

Soil Rating Lines

- <= 25
- > 25 and <= 44
- > 44 and <= 69
- > 69 and <= 84
- > 84 and <= 93
- Not rated or not available

Soil Rating Points

- <= 25
- > 25 and <= 44
- > 44 and <= 69
- > 69 and <= 84
- > 84 and <= 93
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
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Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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Table—Crop Productivity Index

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
E0617B	Belfield-Wyola-Daglum complex, 2 to 6 percent slopes	65	6.0	0.8%
E2107B	Arnegard loam, 2 to 6 percent slopes	93	69.6	8.8%
E2651F	Werner-Amor-Arnegard loams, 9 to 50 percent slopes	25	56.5	7.1%
E2747D	Werner-Chama-Sen silt loams, 9 to 15 percent slopes	38	15.4	1.9%
E2987B	Sen-Chama silt loams, 3 to 6 percent slopes	76	1.0	0.1%
E3505B	Bowbells-Zahl loams, 3 to 6 percent slopes	80	69.7	8.8%
E3527B	Williams-Bowbells loams, 3 to 6 percent slopes	84	70.9	9.0%
E3531C	Williams loam, 6 to 9 percent slopes	69	45.3	5.7%
E3541C	Williams-Zahl loams, 6 to 9 percent slopes	60	175.8	22.2%
E3555D	Zahl-Williams loams, 9 to 15 percent slopes	44	255.9	32.3%
E3559E	Zahl-Max loams, 15 to 25 percent slopes	34	21.3	2.7%
E4751A	Parnell silt loam, 0 to 1 percent slopes	25	4.7	0.6%
Totals for Area of Interest			**792.2**	**100.0%**

Rating Options—Crop Productivity Index

Aggregation Method: Weighted Average

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Interpret Nulls as Zero: Yes