



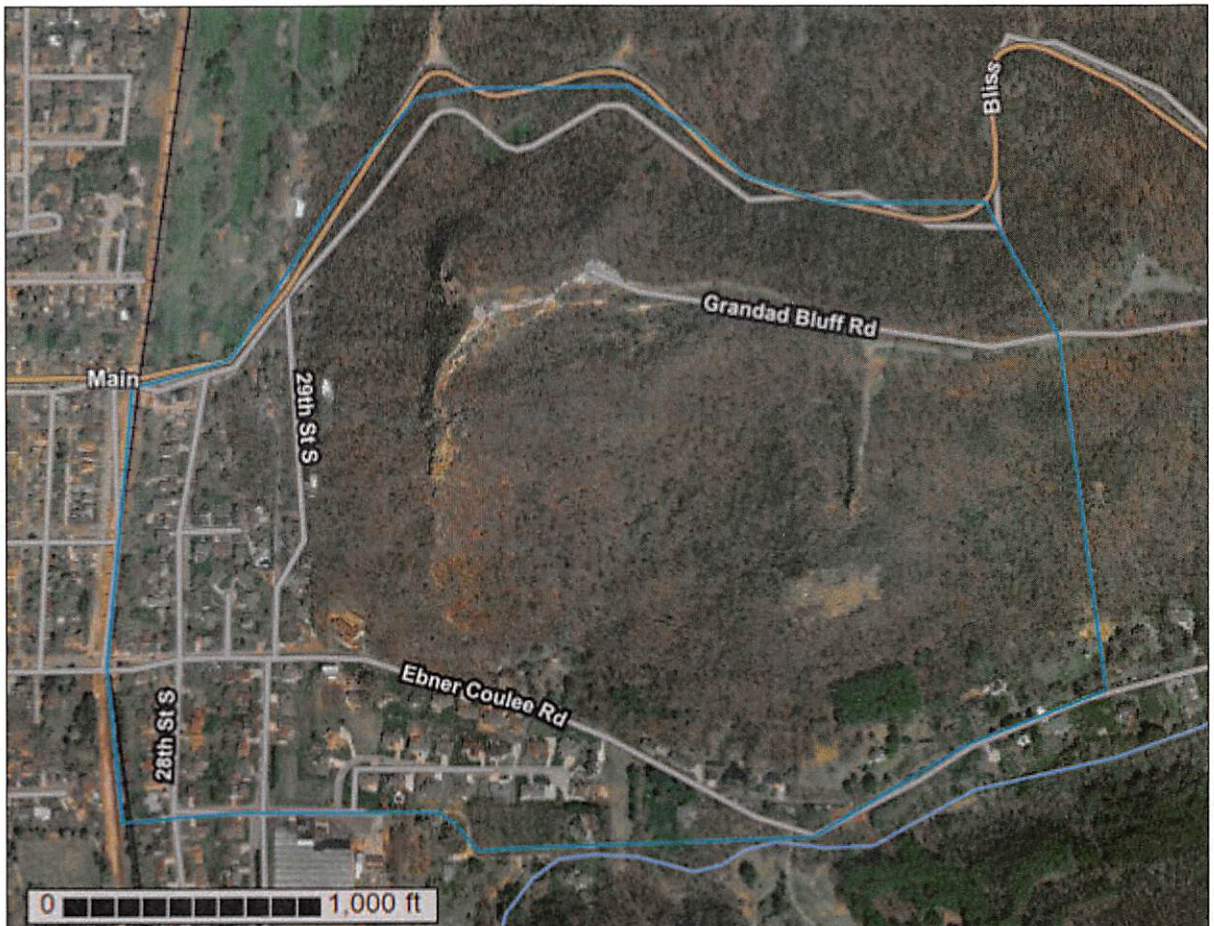
United States
Department of
Agriculture

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 **La Crosse County, Wisconsin**



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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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

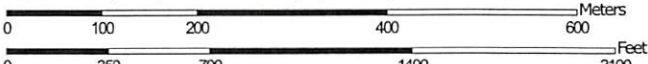
Soil Map

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.

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Map Scale: 1:7,640 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

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MAP LEGEND

Area of Interest (AOI)		 Spoil Area	
	Area of Interest (AOI)	 Stony Spot	
Soils		 Very Stony Spot	
	Soil Map Unit Polygons	 Wet Spot	
	Soil Map Unit Lines	 Other	
	Soil Map Unit Points	 Special Line Features	
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI are at a scale of 1:12,000.

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

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: [http://websoilsurvey.sc.egov.usda.gov](#)
 Coordinate System: Web Mercator (EPSG:3858)

Maps from the Web Soil Survey are based on a map projection, which preserves direction and distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used for accurate calculations of distance or area.

This product is generated from the USDA National Soil Survey Data Base of the version date(s) listed below.

Soil Survey Area: La Crosse County, WI
 Survey Area Data: Version 18, Sep 14, 2011

Soil map units are labeled (as space allows) at a scale of 1:50,000 or larger.

Date(s) aerial images were photographed: 28, 2016

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
116C2	Churchtown silt loam, 6 to 12 percent slopes, moderately eroded	6.5	3.2%
116D2	Churchtown silt loam, 12 to 20 percent slopes, moderately eroded	17.6	8.6%
116E2	Churchtown silt loam, 20 to 30 percent slopes, moderately eroded	29.4	14.4%
126B	Barremills silt loam, 1 to 6 percent slopes	5.0	2.4%
133D2	Valton silt loam, 12 to 20 percent slopes, moderately eroded	9.0	4.4%
254E2	Norden silt loam, 20 to 30 percent slopes, moderately eroded	1.1	0.6%
626A	Arenzville silt loam, 0 to 3 percent slopes, occasionally flooded	1.1	0.5%
1125F	Dorerton, very stony-Elbaville complex, 30 to 60 percent slopes	98.9	48.5%
2014	Pits, quarry, hard bedrock	3.1	1.5%
2020	Urban land, valley trains	20.5	10.1%
N1155G	Brodale-Bellechester-Rock outcrop complex, 60 to 90 percent slopes	11.8	5.8%
Totals for Area of Interest		203.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made

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up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

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An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

La Crosse County, Wisconsin

116C2—Churchtown silt loam, 6 to 12 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: 2v3fr
Elevation: 800 to 1,400 feet
Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 120 to 190 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Churchtown and similar soils: 97 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Churchtown

Setting

Landform: Valley sides
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy slope alluvium over loess

Typical profile

Ap - 0 to 9 inches: silt loam
Bt - 9 to 30 inches: silt loam
2Bt - 30 to 60 inches: silt loam
2BC - 60 to 79 inches: silt loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 12.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Forage suitability group: High AWC, adequately drained (G105XY008WI)
Hydric soil rating: No

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Minor Components

Greenridge

Percent of map unit: 2 percent
Landform: Valley sides
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Chaseburg, occasionally flooded

Percent of map unit: 1 percent
Landform: Valley sides
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

116D2—Churchtown silt loam, 12 to 20 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: 2v3fq
Elevation: 800 to 1,400 feet
Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 120 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Churchtown and similar soils: 92 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Churchtown

Setting

Landform: Valley sides
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy slope alluvium over loess

Typical profile

Ap - 0 to 9 inches: silt loam
Bt - 9 to 30 inches: silt loam
2Bt - 30 to 60 inches: silt loam

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2BC - 60 to 79 inches: silt loam

Properties and qualities

Slope: 12 to 20 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Very high (about 12.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Forage suitability group: High AWC, adequately drained (G105XY008WI)

Hydric soil rating: No

Minor Components

La farge

Percent of map unit: 4 percent

Landform: Valley sides

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Brownchurch

Percent of map unit: 2 percent

Landform: Valley sides

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Beavercreek

Percent of map unit: 2 percent

Landform: Valley sides

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

116E2—Churchtown silt loam, 20 to 30 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: 2v3fp
Elevation: 800 to 1,400 feet
Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 120 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Churchtown and similar soils: 94 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Churchtown

Setting

Landform: Valley sides
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy slope alluvium over loess

Typical profile

A - 0 to 9 inches: silt loam
Bt - 9 to 30 inches: silt loam
2Bt - 30 to 60 inches: silt loam
2BC - 60 to 79 inches: silt loam

Properties and qualities

Slope: 20 to 30 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 12.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B

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Forage suitability group: High AWC, adequately drained (G105XY008WI)
Hydric soil rating: No

Minor Components

Brownchurch

Percent of map unit: 2 percent
Landform: Valley sides
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Norden

Percent of map unit: 2 percent
Landform: Knolls
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, nose slope, interfluvium
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Elbaville

Percent of map unit: 2 percent
Landform: Valley sides
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

126B—Barremills silt loam, 1 to 6 percent slopes

Map Unit Setting

National map unit symbol: 1q9mv
Elevation: 2,460 to 2,620 feet
Mean annual precipitation: 28 to 33 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 135 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Barremills and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Barremills

Setting

Landform: Hills

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Landform position (two-dimensional): Toeslope

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Silty slope alluvium over loess

Typical profile

Ap,A,AB - 0 to 27 inches: silt loam

Bt - 27 to 65 inches: silt loam

BC - 65 to 80 inches: silt loam

Properties and qualities

Slope: 1 to 6 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: About 42 to 72 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Very high (about 13.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 1

Hydrologic Soil Group: B

Forage suitability group: High AWC, adequately drained (G105XY008WI)

Hydric soil rating: No

Minor Components

Toddville

Percent of map unit: 6 percent

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Arenzville

Percent of map unit: 4 percent

Landform: Drainageways on stream terraces

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: No

133D2—Valton silt loam, 12 to 20 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: 2v3g3

Elevation: 800 to 1,300 feet

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Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 135 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Valton and similar soils: 93 percent
Minor components: 7 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Valton

Setting

Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over clayey pedisediment derived from dolomite

Typical profile

Ap - 0 to 8 inches: silt loam
Bt1 - 8 to 14 inches: silt loam
Bt2 - 14 to 30 inches: silt loam
2Bt3 - 30 to 38 inches: silty clay
2Bt4 - 38 to 48 inches: silty clay
2Bt5 - 48 to 55 inches: clay
2Bt6 - 55 to 79 inches: clay

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high (0.01 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Forage suitability group: Mod AWC, adequately drained (G105XY005WI)
Hydric soil rating: No

Minor Components

Lamoille

Percent of map unit: 5 percent
Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve

Custom Soil Resource Report

Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: No

Wildale

Percent of map unit: 1 percent
Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluvium
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Pepin

Percent of map unit: 1 percent
Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluvium
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

254E2—Norden silt loam, 20 to 30 percent slopes, moderately eroded

Map Unit Setting

National map unit symbol: 2wtr5
Elevation: 560 to 1,740 feet
Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 120 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Norden and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Norden

Setting

Landform: Knolls
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, nose slope, interfluvium
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Loess over loamy residuum weathered from glauconitic sandstone

Typical profile

Ap - 0 to 8 inches: silt loam
Bt - 8 to 20 inches: silt loam

Custom Soil Resource Report

2Bt - 20 to 37 inches: fine sandy loam

2Cr - 37 to 79 inches: bedrock

Properties and qualities

Slope: 20 to 30 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Natural drainage class: Well drained

*Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.06 to 2.00 in/hr)*

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

*Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0
mmhos/cm)*

Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

*Forage suitability group: Mod AWC, adequately drained with limitations
(G105XY006WI)*

Hydric soil rating: No

Minor Components

Urne

Percent of map unit: 6 percent

Landform: Knolls

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Nose slope, side slope, interfluvium

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Greenridge

Percent of map unit: 2 percent

Landform: Knolls

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Side slope, interfluvium

Down-slope shape: Convex, linear

Across-slope shape: Convex, linear

Hydric soil rating: No

Churchtown

Percent of map unit: 2 percent

Landform: Knolls

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

626A—Arenzville silt loam, 0 to 3 percent slopes, occasionally flooded

Map Unit Setting

National map unit symbol: 2wtqs
Elevation: 560 to 1,740 feet
Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 120 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Arenzville, occasionally flooded, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arenzville, Occasionally Flooded

Setting

Landform: Drainageways, flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, talf, rise
Down-slope shape: Linear, convex
Across-slope shape: Linear
Parent material: Silty alluvium

Typical profile

A - 0 to 10 inches: silt loam
C - 10 to 25 inches: stratified silt loam
Ab - 25 to 40 inches: silt loam
C' - 40 to 79 inches: stratified silt loam to very fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 12.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Forage suitability group: High AWC, adequately drained (G105XY008WI)
Hydric soil rating: No

Custom Soil Resource Report

Minor Components

Orion, occasionally flooded

Percent of map unit: 3 percent
Landform: Flood plains, drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Ettrick, frequently flooded

Percent of map unit: 2 percent
Landform: Depressions on flood plains
Landform position (three-dimensional): Dip
Microfeatures of landform position: Swales
Down-slope shape: Concave, linear
Across-slope shape: Linear
Hydric soil rating: Yes

1125F—Dorerton, very stony-Elbaville complex, 30 to 60 percent slopes

Map Unit Setting

National map unit symbol: 2v3f0
Elevation: 800 to 1,400 feet
Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 120 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Dorerton, very stony, and similar soils: 60 percent
Elbaville and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dorerton, Very Stony

Setting

Landform: Valley sides
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mantle of mixed loess and loamy slope alluvium over skeletal materail from fragmental loamy colluvium derived from dolomite

Typical profile

A - 0 to 3 inches: loam
E - 3 to 10 inches: loam

Custom Soil Resource Report

BE - 10 to 15 inches: loam
Bt1 - 15 to 18 inches: loam
2Bt2 - 18 to 30 inches: very flaggy clay loam
2C - 30 to 79 inches: very flaggy loamy sand

Properties and qualities

Slope: 30 to 60 percent
Percent of area covered with surface fragments: 2.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Elbaville

Setting

Landform: Valley sides
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loess over clayey rountree sediments colluvium over loamy sketetal material colluvium derived from dolomite

Typical profile

A - 0 to 5 inches: silt loam
E - 5 to 11 inches: silt loam
B/E - 11 to 17 inches: silt loam
Bt1 - 17 to 21 inches: silt loam
2Bt2 - 21 to 26 inches: silty clay
3Bt3 - 26 to 37 inches: very flaggy silty clay loam
3C - 37 to 79 inches: extremely flaggy sandy loam

Properties and qualities

Slope: 30 to 45 percent
Percent of area covered with surface fragments: 0.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Custom Soil Resource Report

Frequency of ponding: None

Calcium carbonate, maximum in profile: 10 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Churchtown

Percent of map unit: 6 percent

Landform: Valley sides

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Dorerton, nonstony

Percent of map unit: 3 percent

Landform: Valley sides

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Rockbluff

Percent of map unit: 3 percent

Landform: Valley sides

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Brodale

Percent of map unit: 3 percent

Landform: Valley sides

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: Dolomite Colluvium Bluff Prairie (R105XY001WI)

Hydric soil rating: No

2014—Pits, quarry, hard bedrock

Map Unit Composition

Pits, quarry, hard bedrock: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pits, Quarry, Hard Bedrock

Setting

Parent material: Sandstone

2020—Urban land, valley trains

Map Unit Composition

Urban land, valley train: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Finchford

Percent of map unit: 5 percent

Landform: Valley trains, valley trains

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Chelsea

Percent of map unit: 5 percent

Landform: Dunes on valley trains

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Rasset

Percent of map unit: 5 percent

Landform: Valley trains

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

N1155G—Brodale-Bellechester-Rock outcrop complex, 60 to 90 percent slopes

Map Unit Setting

National map unit symbol: 2t7zg
Elevation: 590 to 1,310 feet
Mean annual precipitation: 31 to 39 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 120 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Brodale and similar soils: 40 percent
Bellechester and similar soils: 30 percent
Rock outcrop, sandstone: 15 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brodale

Setting

Landform: Valley sides
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy colluvium derived from dolomite

Typical profile

A1 - 0 to 7 inches: flaggy fine sandy loam
A2 - 7 to 12 inches: flaggy loam
C1 - 12 to 20 inches: very flaggy loam
C2 - 20 to 31 inches: very flaggy loam
C3 - 31 to 79 inches: very flaggy loam

Properties and qualities

Slope: 60 to 90 percent
Percent of area covered with surface fragments: 15.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 60 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.5 inches)

Custom Soil Resource Report

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: Dolomite Colluvium Bluff Prairie (R105XY001WI)
Forage suitability group: Low AWC, adequately drained with limitations (G105XY003WI), Not Suited (G105XS024MN)
Other vegetative classification: Not Assigned (non-wooded, goat prairie) (Ngp)
Hydric soil rating: No

Description of Bellechester

Setting

Landform: Valley sides
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy colluvium derived from sandstone

Typical profile

A1 - 0 to 7 inches: sand
A2 - 7 to 16 inches: sand
BA - 16 to 23 inches: sand
Bw - 23 to 28 inches: sand
BC - 28 to 42 inches: sand
Cr - 42 to 79 inches: bedrock

Properties and qualities

Slope: 60 to 90 percent
Depth to restrictive feature: 39 to 59 inches to paralithic bedrock
Natural drainage class: Excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 13.05 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: Sandstone Colluvium Bluff Prairie (R105XY002WI)
Forage suitability group: Low AWC, adequately drained with limitations (G105XY003WI), Not Suited (G105XS024MN)
Other vegetative classification: Not Assigned (non-wooded, goat prairie) (Ngp)
Hydric soil rating: No

Custom Soil Resource Report

Description of Rock Outcrop, Sandstone

Setting

Landform: Valley sides

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Free face

Down-slope shape: Convex

Across-slope shape: Linear

Typical profile

Cr - 0 to 79 inches: bedrock

Properties and qualities

Depth to restrictive feature: 0 inches to paralithic bedrock

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.14 to 13.05 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydric soil rating: No

Minor Components

Brodale, siltstone

Percent of map unit: 12 percent

Landform: Valley sides

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Convex

Ecological site: Dolomite Colluvium Bluff Prairie (R105XY001WI)

Other vegetative classification: Not Assigned (non-wooded, goat prairie) (Ngp)

Hydric soil rating: No

Rubble land

Percent of map unit: 3 percent

Landform: Valley sides

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

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.

Building Site Development

Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Unpaved Local Roads and Streets (Grand Dad's Bluff)

Unpaved local roads and streets are those roads and streets that carry traffic year round but have a graded surface of local soil material or aggregate.

Description:

Unpaved local roads and streets are those roads and streets that carry traffic year round but have a graded surface of local soil material or aggregate.

The roads and streets consist of

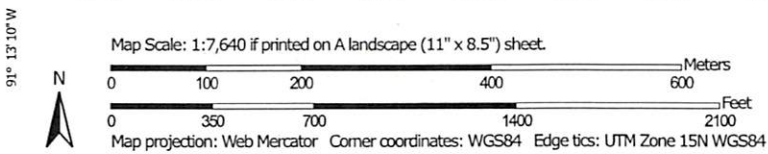
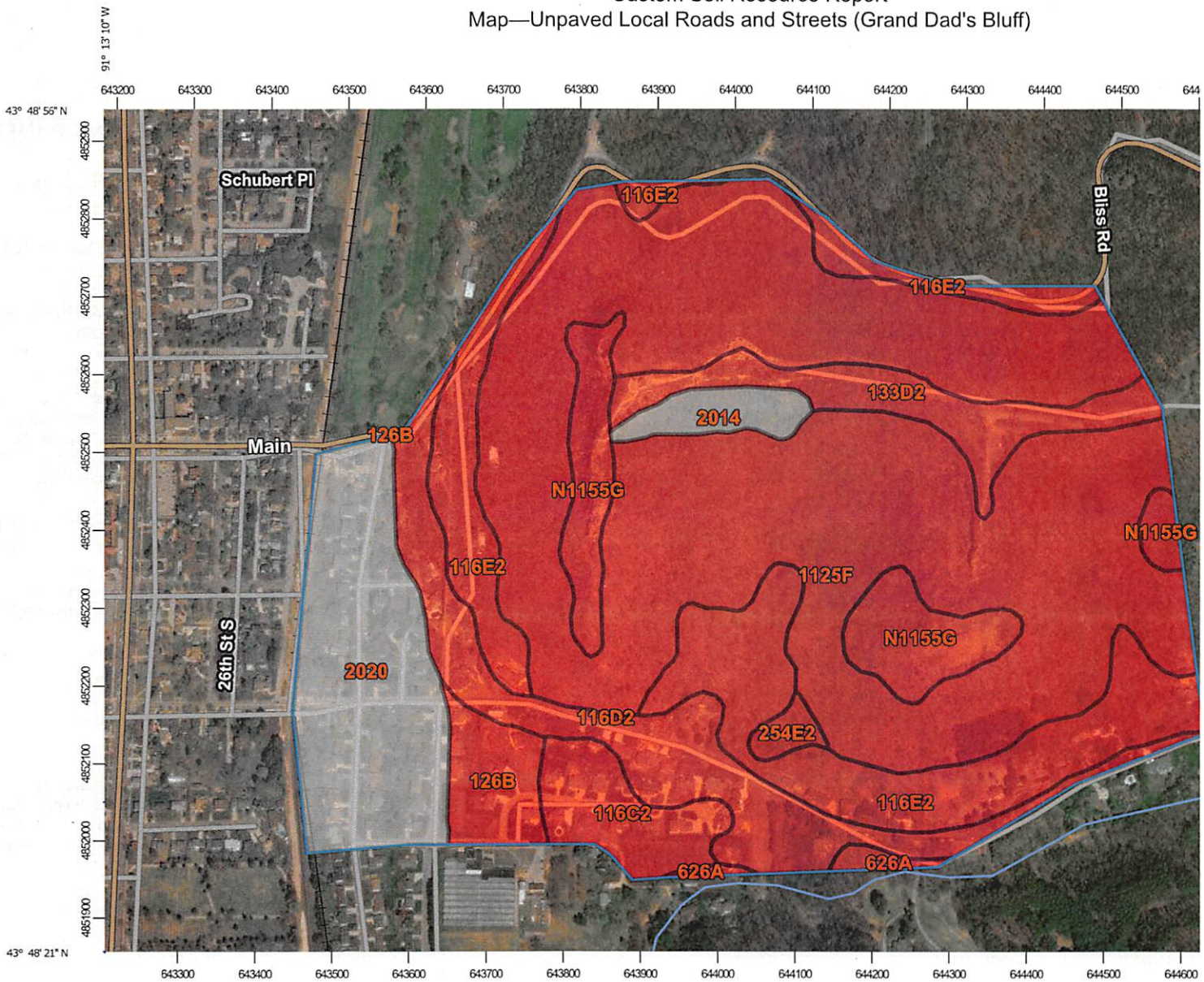
(1) the underlying local soil material, either cut or fill, which is called "the sub-grade";

(2) the surface, which may be the same as the subgrade or may have aggregate such as crushed limestone added.

Custom Soil Resource Report





















They are graded to shed water, and conventional drainage measures are provided. These roads and streets are built mainly from the soil at the site. Soil interpretations for local roads and streets are used as a tool in evaluating soil suitability and identifying soil limitations for the practice. The rating is for soils in their present condition and does not consider present land use. Soil properties and qualities that affect local roads and streets are those that influence the ease of excavation and grading and the traffic-supporting capacity. The properties and qualities that affect the ease of excavation and grading are hardness of bedrock or a cemented pan, depth to bedrock or a cemented pan, depth to a water table, flooding, the amount of large stones, and slope. The properties that affect traffic-supporting capacity are soil strength as inferred from the AASHTO group index and the Unified classification, subsidence, shrink-swell behavior, potential frost action, and depth to the seasonal high water table. The dust generating tendency of the soil is also considered.

Custom Soil Resource Report
 Map—Unpaved Local Roads and Streets (Grand Dad's Bluff)



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MAP LEGEND

Area of Interest (AOI)		Background	
	Area of Interest (AOI)		Aerial Photography
Soils			
Soil Rating Polygons			
	Very limited		
	Somewhat limited		
	Not limited		
	Not rated or not available		
Soil Rating Lines			
	Very limited		
	Somewhat limited		
	Not limited		
	Not rated or not available		
Soil Rating Points			
	Very limited		
	Somewhat limited		
	Not limited		
	Not rated or not available		
Water Features			
	Streams and Canals		
Transportation			
	Rails		
	Interstate Highways		
	US Routes		
	Major Roads		
	Local Roads		

MAP INFORMATION

The soil surveys that comprise your AOI were digitized at a scale of 1:12,000.

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

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.sc.egov.usda.gov>
 Coordinate System: Web Mercator (EPSG:3855)

Maps from the Web Soil Survey are based on a map projection, which preserves direction and distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used for accurate calculations of distance or area.

This product is generated from the USDA National Soil Survey Data Base of the version date(s) listed below.

Soil Survey Area: La Crosse County, WI
 Survey Area Data: Version 18, Sep 14, 2016

Soil map units are labeled (as space allows) at a scale of 1:50,000 or larger.

Date(s) aerial images were photographed: 28, 2016

The orthophoto or other base map on which this map was compiled and digitized probably differs from the imagery displayed on these maps. As a result, shifting of map unit boundaries may be observed.

Custom Soil Resource Report

Tables—Unpaved Local Roads and Streets (Grand Dad's Bluff)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
116C2	Churchtown silt loam, 6 to 12 percent slopes, moderately eroded	Very limited	Churchtown (97%)	Frost action (1.00)	6.5	3.2%
				Low strength (1.00)		
				Slope (0.04)		
				Dusty (0.03)		
			Greenridge (2%)	Frost action (1.00)		
				Low strength (1.00)		
				Slope (0.04)		
				Dusty (0.03)		
			Chaseburg, occasionally flooded (1%)	Frost action (1.00)		
				Flooding (1.00)		
				Low strength (0.25)		
				Dusty (0.03)		
116D2	Churchtown silt loam, 12 to 20 percent slopes, moderately eroded	Very limited	Churchtown (92%)	Frost action (1.00)	17.6	8.6%
				Low strength (1.00)		
				Slope (1.00)		
				Dusty (0.03)		
			La Farge (4%)	Frost action (1.00)		
				Slope (1.00)		
				Low strength (1.00)		
				Dusty (0.03)		
			Brownchurch (2%)	Slope (1.00)		
				Frost action (0.50)		
				Dusty (0.00)		
			Beavercreek (2%)	Flooding (1.00)		
				Frost action (0.50)		
				Large stones (0.06)		
				Dusty (0.00)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
116E2	Churchtown silt loam, 20 to 30 percent slopes, moderately eroded	Very limited	Churchtown (94%)	Slope (1.00)	29.4	14.4%
				Frost action (1.00)		
				Low strength (1.00)		
				Dusty (0.03)		
			Brownchurch (2%)	Slope (1.00)		
				Frost action (0.50)		
				Dusty (0.00)		
			Norden (2%)	Slope (1.00)		
				Frost action (0.50)		
				Dusty (0.03)		
			Elbaville (2%)	Slope (1.00)		
				Low strength (1.00)		
				Frost action (0.50)		
Dusty (0.03)						
126B	Barremills silt loam, 1 to 6 percent slopes	Very limited	Barremills (90%)	Frost action (1.00)	5.0	2.4%
				Low strength (1.00)		
				Dusty (0.10)		
			Toddville (6%)	Frost action (1.00)		
				Low strength (1.00)		
				Dusty (0.10)		
				Shrink-swell (0.05)		
			Arenzville (4%)	Frost action (1.00)		
				Flooding (1.00)		
Low strength (0.72)						
133D2	Valton silt loam, 12 to 20 percent slopes, moderately eroded	Very limited	Valton (93%)	Frost action (1.00)	9.0	4.4%
				Low strength (1.00)		
				Slope (1.00)		
				Dusty (0.03)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Shrink-swell (0.02)		
			Lamoille (5%)	Slope (1.00)		
				Low strength (1.00)		
				Shrink-swell (0.70)		
				Frost action (0.50)		
				Dusty (0.03)		
			Pepin (1%)	Frost action (1.00)		
				Low strength (1.00)		
				Slope (1.00)		
				Dusty (0.03)		
			Wildale (1%)	Slope (1.00)		
				Low strength (1.00)		
				Shrink-swell (0.87)		
				Frost action (0.50)		
				Dusty (0.03)		
254E2	Norden silt loam, 20 to 30 percent slopes, moderately eroded	Very limited	Norden (90%)	Slope (1.00)	1.1	0.6%
				Frost action (0.50)		
				Dusty (0.03)		
			Urne (6%)	Slope (1.00)		
				Frost action (0.50)		
				Dusty (0.00)		
			Greenridge (2%)	Slope (1.00)		
				Frost action (1.00)		
				Low strength (1.00)		
				Dusty (0.03)		
			Churchtown (2%)	Slope (1.00)		
				Frost action (1.00)		
				Low strength (1.00)		
				Dusty (0.03)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
626A	Arenzville silt loam, 0 to 3 percent slopes, occasionally flooded	Very limited	Arenzville, occasionally flooded (95%)	Frost action (1.00)	1.1	0.5%
				Flooding (1.00)		
				Low strength (1.00)		
				Dusty (0.03)		
			Orion, occasionally flooded (3%)	Frost action (1.00)		
				Flooding (1.00)		
				Low strength (1.00)		
				Depth to saturated zone (0.75)		
			Ettrick, frequently flooded (2%)	Dusty (0.03)		
				Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Flooding (1.00)		
				Low strength (1.00)		
Dusty (0.03)						
1125F	Dorerton, very stony-Elbaville complex, 30 to 60 percent slopes	Very limited	Dorerton, very stony (60%)	Slope (1.00)	98.9	48.5%
				Frost action (0.50)		
				Large stones (0.05)		
				Dusty (0.02)		
			Elbaville (25%)	Slope (1.00)		
				Low strength (1.00)		
				Frost action (0.50)		
				Dusty (0.03)		
			Churchtown (6%)	Slope (1.00)		
				Frost action (1.00)		
				Low strength (1.00)		
				Dusty (0.03)		
			Rockbluff (3%)	Slope (1.00)		
			Brodale (3%)	Slope (1.00)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Large stones (1.00)		
				Frost action (0.50)		
				Dusty (0.01)		
			Dorerton, nonstony (3%)	Slope (1.00)		
				Frost action (0.50)		
				Dusty (0.01)		
2014	Pits, quarry, hard bedrock	Not rated	Pits, quarry, hard bedrock (100%)		3.1	1.5%
2020	Urban land, valley trains	Not rated	Urban land, valley train (85%)		20.5	10.1%
			Chelsea (5%)			
			Rasset (5%)			
			Finchford (5%)			
N1155G	Brodale-Bellechester-Rock outcrop complex, 60 to 90 percent slopes	Very limited	Brodale (40%)	Slope (1.00)	11.8	5.8%
				Large stones (0.92)		
				Frost action (0.50)		
				Dusty (0.01)		
			Bellechester (30%)	Slope (1.00)		
			Brodale, siltstone (12%)	Slope (1.00)		
				Large stones (0.92)		
				Frost action (0.50)		
				Dusty (0.01)		
Totals for Area of Interest					203.8	100.0%

Rating	Acres in AOI	Percent of AOI
Very limited	180.2	88.4%
Null or Not Rated	23.6	11.6%
Totals for Area of Interest	203.8	100.0%

Rating Options—Unpaved Local Roads and Streets (Grand Dad's Bluff)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Land Management

Land management interpretations are tools designed to guide the user in evaluating existing conditions in planning and predicting the soil response to various land management practices, for a variety of land uses, including cropland, forestland, hayland, pastureland, horticulture, and rangeland. Example interpretations include suitability for a variety of irrigation practices, log landings, haul roads and major skid trails, equipment operability, site preparation, suitability for hand and mechanical planting, potential erosion hazard associated with various practices, and ratings for fencing and waterline installation.

Erosion Hazard (Off-Road, Off-Trail) (Grand Dad's Bluff)

The ratings in this interpretation indicate the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. The ratings are based on slope, soil erosion factor K, and an index of rainfall erosivity (R). The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

The ratings are both verbal and numerical. The hazard is described as "slight," "moderate," "severe," or "very severe." A rating of "slight" indicates that erosion is unlikely under ordinary climatic conditions; "moderate" indicates that some erosion is likely and that erosion-control measures may be needed; "severe" indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and "very severe" indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

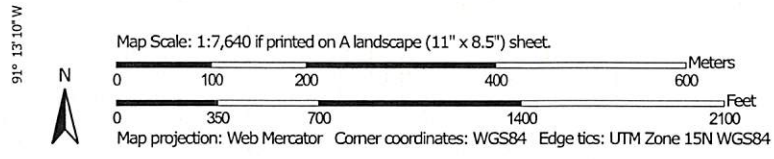
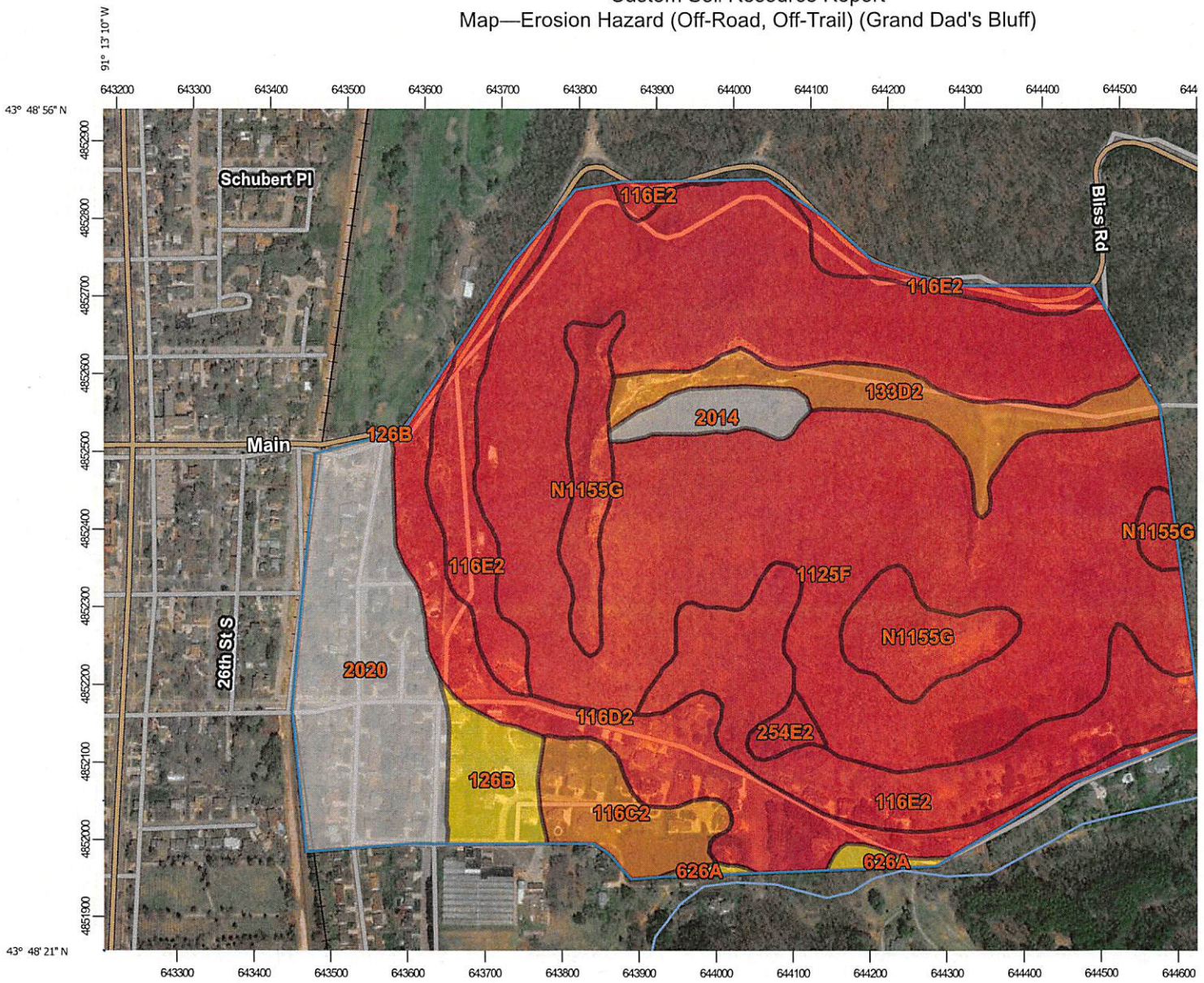
The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be

Custom Soil Resource Report

viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.


Custom Soil Resource Report
 Map—Erosion Hazard (Off-Road, Off-Trail) (Grand Dad's Bluff)



Custom Soil Resource Report






MAP LEGEND

Area of Interest (AOI)






 Area of Interest (AOI)

Soils




Soil Rating Polygons

-  Very severe
-  Severe
-  Moderate
-  Slight
-  Not rated or not available


Soil Rating Lines

-  Very severe
-  Severe
-  Moderate
-  Slight
-  Not rated or not available

Soil Rating Points

-  Very severe
-  Severe
-  Moderate
-  Slight
-  Not rated or not available

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 are at a scale of 1:12,000.

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

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.sc.egov.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on a map projection, which preserves direction and distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used for accurate calculations of distance or area.

This product is generated from the USDA Web Soil Survey version date(s) listed below.

Soil Survey Area: La Crosse County, WI
 Survey Area Data: Version 18, Sep 14, 2016

Soil map units are labeled (as space allows) at a scale of 1:50,000 or larger.

Date(s) aerial images were photographed: 28, 2016

The orthophoto or other base map on which this map was compiled and digitized probably differs from the imagery displayed on these maps. As a result, shifting of map unit boundaries may be observed.

Custom Soil Resource Report

Tables—Erosion Hazard (Off-Road, Off-Trail) (Grand Dad's Bluff)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
116C2	Churchtown silt loam, 6 to 12 percent slopes, moderately eroded	Severe	Churchtown (97%)	Surface kw times slope times R index (0.93)	6.5	3.2%
			Greenridge (2%)	Surface kw times slope times R index (0.93)		
116D2	Churchtown silt loam, 12 to 20 percent slopes, moderately eroded	Very Severe	Churchtown (92%)	Surface kw times slope times R index (1.00)	17.6	8.6%
			La Farge (4%)	Surface kw times slope times R index (1.00)		
116E2	Churchtown silt loam, 20 to 30 percent slopes, moderately eroded	Very Severe	Churchtown (94%)	Surface kw times slope times R index (1.00)	29.4	14.4%
			Norden (2%)	Surface kw times slope times R index (1.00)		
			Elbaville (2%)	Surface kw times slope times R index (1.00)		
126B	Barremills silt loam, 1 to 6 percent slopes	Moderate	Barremills (90%)	Surface kw times slope times R index (0.41)	5.0	2.4%
			Toddsville (6%)	Surface kw times slope times R index (0.66)		
			Arenzville (4%)	Surface kw times slope times R index (0.16)		
133D2	Valton silt loam, 12 to 20 percent slopes, moderately eroded	Severe	Valton (93%)	Surface kw times slope times R index (1.00)	9.0	4.4%
254E2	Norden silt loam, 20 to 30 percent slopes, moderately eroded	Very Severe	Norden (90%)	Surface kw times slope times R index (1.00)	1.1	0.6%
			Greenridge (2%)	Surface kw times slope times R index (1.00)		
			Churchtown (2%)	Surface kw times slope times R index (1.00)		
626A	Arenzville silt loam, 0 to 3 percent slopes, occasionally flooded	Moderate	Arenzville, occasionally flooded (95%)	Surface kw times slope times R index (0.16)	1.1	0.5%

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
1125F	Dorerton, very stony-Elbaville complex, 30 to 60 percent slopes	Very Severe	Dorerton, very stony (60%)	Surface kw times slope times R index (1.00)	98.9	48.5%
			Elbaville (25%)	Surface kw times slope times R index (1.00)		
			Churchtown (6%)	Surface kw times slope times R index (1.00)		
			Rockbluff (3%)	Surface kw times slope times R index (1.00)		
			Brodale (3%)	Surface kw times slope times R index (1.00)		
			Dorerton, nonstony (3%)	Surface kw times slope times R index (1.00)		
2014	Pits, quarry, hard bedrock	Not rated	Pits, quarry, hard bedrock (100%)		3.1	1.5%
2020	Urban land, valley trains	Not rated	Urban land, valley train (85%)		20.5	10.1%
			Chelsea (5%)			
			Rasset (5%)			
			Finchford (5%)			
N1155G	Brodale-Bellechester-Rock outcrop complex, 60 to 90 percent slopes	Very Severe	Brodale (40%)	Surface kw times slope times R index (1.00)	11.8	5.8%
			Brodale, siltstone (12%)	Surface kw times slope times R index (1.00)		
Totals for Area of Interest					203.8	100.0%

Rating	Acres in AOI	Percent of AOI
Very Severe	158.7	77.9%
Severe	15.5	7.6%
Moderate	6.0	3.0%
Null or Not Rated	23.6	11.6%
Totals for Area of Interest	203.8	100.0%

Rating Options—Erosion Hazard (Off-Road, Off-Trail) (Grand Dad's Bluff)

Aggregation Method: Dominant Condition

Custom Soil Resource Report

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Recreational Development

Recreational Development interpretations are tools designed to guide the user in identifying and evaluating the suitability of the soil for specific recreational uses. Example interpretations include camp areas, picnic areas, playgrounds, paths and trails, and off-road motorcycle trails.

Paths and Trails (Grand Dad's Bluff)

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling.

The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

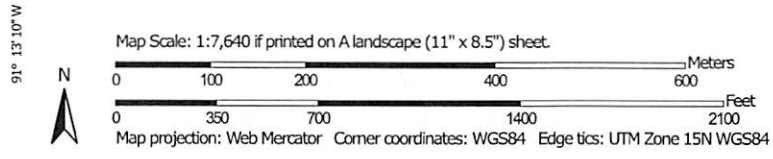
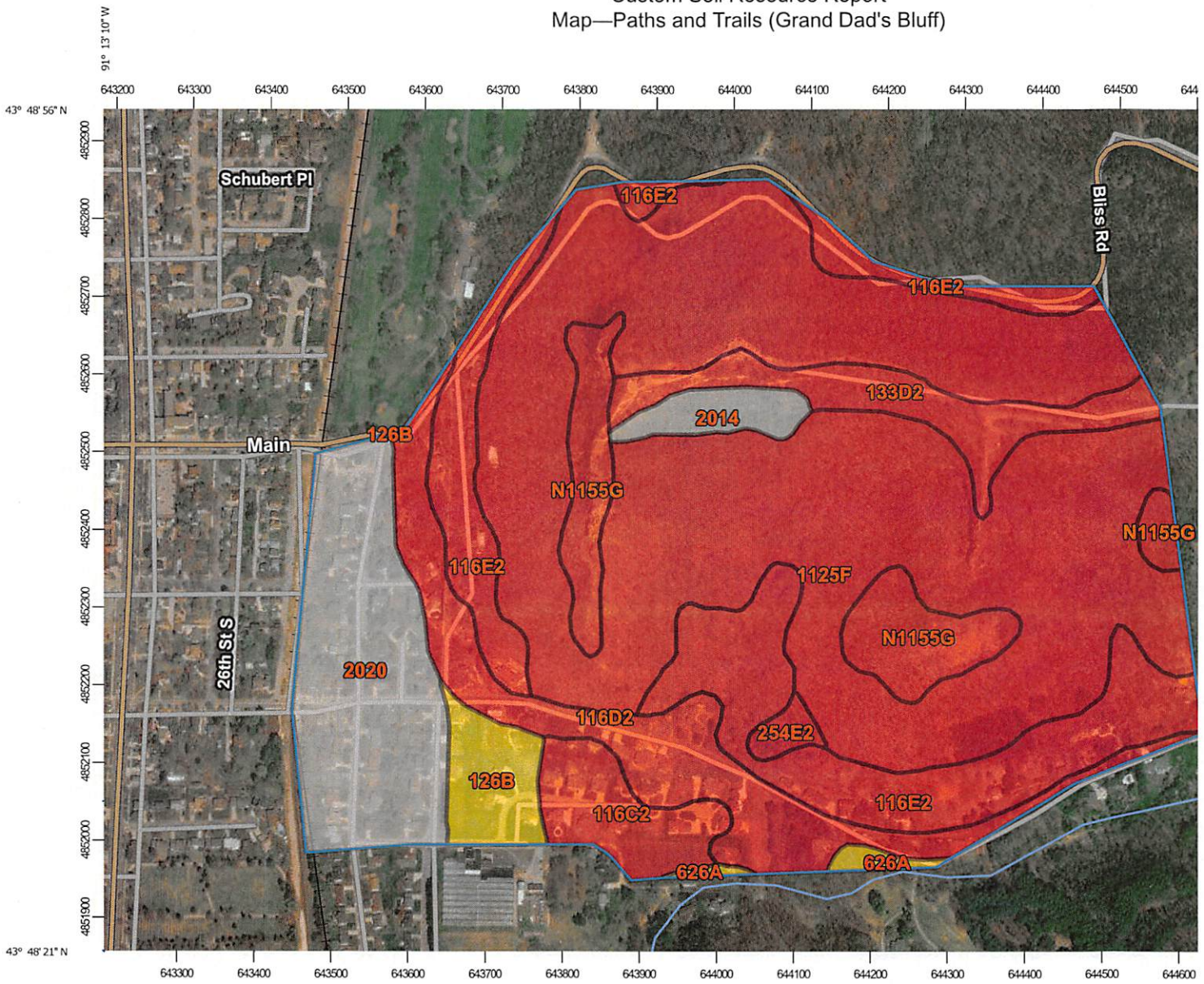
The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil

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Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.


Custom Soil Resource Report
 Map—Paths and Trails (Grand Dad's Bluff)




Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)





 Area of Interest (AOI)

Background





 Aerial Photography

Soils





Soil Rating Polygons

-  Very limited
-  Somewhat limited
-  Not limited
-  Not rated or not available


Soil Rating Lines

-  Very limited
-  Somewhat limited
-  Not limited
-  Not rated or not available






Soil Rating Points

-  Very limited
-  Somewhat limited
-  Not limited
-  Not rated or not available

Water Features

 Streams and Canals

Transportation

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

MAP INFORMATION

The soil surveys that comprise your AOI are at a scale of 1:12,000.

Please rely on the bar scale on each map for distance 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 a base map projection, which preserves direction and distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used for accurate calculations of distance or area.

This product is generated from the USDA National Soil Survey Data of the version date(s) listed below.

Soil Survey Area: La Crosse County, WI
Survey Area Data: Version 18, Sep 14, 2011

Soil map units are labeled (as space allows) at a scale of 1:50,000 or larger.

Date(s) aerial images were photographed: 28, 2016

The orthophoto or other base map on which this map is compiled and digitized probably differs from the imagery displayed on these maps. As a result, shifting of map unit boundaries may be observed.

Custom Soil Resource Report

Tables—Paths and Trails (Grand Dad's Bluff)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
116C2	Churchtown silt loam, 6 to 12 percent slopes, moderately eroded	Very limited	Churchtown (97%)	Water erosion (1.00)	6.5	3.2%
				Dusty (0.03)		
			Greenridge (2%)	Water erosion (1.00)		
				Dusty (0.03)		
116D2	Churchtown silt loam, 12 to 20 percent slopes, moderately eroded	Very limited	Churchtown (92%)	Water erosion (1.00)	17.6	8.6%
				Dusty (0.03)		
				Slope (0.02)		
			La Farge (4%)	Water erosion (1.00)		
				Dusty (0.03)		
				Slope (0.02)		
116E2	Churchtown silt loam, 20 to 30 percent slopes, moderately eroded	Very limited	Churchtown (94%)	Water erosion (1.00)	29.4	14.4%
				Slope (1.00)		
				Dusty (0.03)		
			Brownchurch (2%)	Slope (1.00)		
				Dusty (0.00)		
			Norden (2%)	Water erosion (1.00)		
				Slope (1.00)		
				Dusty (0.03)		
			Elbaville (2%)	Slope (1.00)		
				Dusty (0.03)		
126B	Barremills silt loam, 1 to 6 percent slopes	Somewhat limited	Barremills (90%)	Dusty (0.10)	5.0	2.4%
			Toddsville (6%)	Dusty (0.10)		
			Arenzville (4%)	Dusty (0.10)		
133D2	Valton silt loam, 12 to 20 percent slopes, moderately eroded	Very limited	Valton (93%)	Water erosion (1.00)	9.0	4.4%
				Dusty (0.03)		
				Slope (0.02)		
			Lamoille (5%)	Water erosion (1.00)		
				Dusty (0.03)		
				Slope (0.02)		
			Pepin (1%)	Water erosion (1.00)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Dusty (0.03)		
				Slope (0.02)		
			Wildale (1%)	Water erosion (1.00)		
				Dusty (0.03)		
				Slope (0.02)		
254E2	Norden silt loam, 20 to 30 percent slopes, moderately eroded	Very limited	Norden (90%)	Water erosion (1.00)	1.1	0.6%
				Slope (1.00)		
				Dusty (0.03)		
			Urne (6%)	Slope (1.00)		
				Dusty (0.00)		
			Greenridge (2%)	Water erosion (1.00)		
				Slope (1.00)		
				Dusty (0.03)		
			Churchtown (2%)	Water erosion (1.00)		
				Slope (1.00)		
				Dusty (0.03)		
626A	Arenzville silt loam, 0 to 3 percent slopes, occasionally flooded	Somewhat limited	Arenzville, occasionally flooded (95%)	Dusty (0.03)	1.1	0.5%
			Orion, occasionally flooded (3%)	Depth to saturated zone (0.44)		
				Dusty (0.03)		
1125F	Dorerton, very stony-Elbaville complex, 30 to 60 percent slopes	Very limited	Dorerton, very stony (60%)	Slope (1.00)	98.9	48.5%
				Large stones content (0.76)		
				Dusty (0.02)		
			Elbaville (25%)	Slope (1.00)		
				Dusty (0.03)		
			Churchtown (6%)	Water erosion (1.00)		
				Slope (1.00)		
				Dusty (0.03)		
			Rockbluff (3%)	Slope (1.00)		
				Too sandy (0.50)		
			Brodale (3%)	Large stones content (1.00)		
				Slope (1.00)		
				Dusty (0.01)		

Custom Soil Resource Report

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
			Dorerton, nonstony (3%)	Slope (1.00) Dusty (0.01)		
2014	Pits, quarry, hard bedrock	Not rated	Pits, quarry, hard bedrock (100%)		3.1	1.5%
2020	Urban land, valley trains	Not rated	Urban land, valley train (85%)		20.5	10.1%
			Chelsea (5%)			
			Rasset (5%)			
			Finchford (5%)			
N1155G	Brodale-Bellechester-Rock outcrop complex, 60 to 90 percent slopes	Very limited	Brodale (40%)	Large stones content (1.00) Slope (1.00) Dusty (0.01)	11.8	5.8%
			Bellechester (30%)	Slope (1.00) Too sandy (1.00)		
			Brodale, siltstone (12%)	Large stones content (1.00) Slope (1.00) Dusty (0.01)		
Totals for Area of Interest					203.8	100.0%

Rating	Acres in AOI	Percent of AOI
Very limited	174.2	85.5%
Somewhat limited	6.0	3.0%
Null or Not Rated	23.6	11.6%
Totals for Area of Interest	203.8	100.0%

Rating Options—Paths and Trails (Grand Dad's Bluff)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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