

NORTH PLATTE NATURAL RESOURCES DISTRICT
RULES AND REGULATIONS FOR IMPLEMENTING THE
EROSION AND SEDIMENT CONTROL ACT

Adopted by the Board of Directors – (Date) April 12, 2018

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**NORTH PLATTE NATURAL RESOURCES DISTRICT
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EROSION AND SEDIMENT CONTROL ACT**

1. AUTHORITY

These rules and regulations are adopted pursuant to the authority granted in *Neb. Rev. Stat. § 2-4605*.

2. PURPOSE

The purpose of these rules and regulations is to provide an orderly method for implementing the Erosion and Sediment Control Act, *Neb. Rev. Stat. §§ 2-4601 et. seq.*, to provide for the conservation and preservation of the land, water and other resources of the District, and to thereby:

- (a) reduce damages caused from wind erosion;
- (b) reduce stormwater runoff and the danger of flooding;
- (c) reduce sediment damage to lands within the District;
- (d) reduce non-point source pollution from sedimentation and related pollutants;
- (e) preserve the value of land and its productive capability for present and future generations;
and
- (f) safeguard the health, safety and welfare of the District's citizens.

3. APPLICABILITY

These rules and regulations apply to all lands within the District, except those lands which lie within the respective jurisdiction of a county or municipality which has adopted and is implementing erosion and sediment control regulations in substantial conformance with the state erosion and sediment control program. Some non-agricultural land-disturbing activities are also excluded and are identified in Rule 4, Section (h), subsections (2), (3), (4) and (5).

4. DEFINITIONS

- (a) **Alleged violator** means the owner of record and the operator, if any, of land which is the subject of a complaint filed in accordance with Rule 8.
- (b) **Board** means the Board of Directors of the North Platte Natural Resources District.
- (c) **Committee** means the District Operations Committee of the North Platte Natural Resources District,
- (d) **Conservation agreement** means an agreement between the owner and operator, if any, of a farm unit and the District, in which the owner and operator, if any, agrees to implement all or a portion of a farm unit conservation plan or erosion and sediment control plan. The agreement shall include a schedule for implementation and may be conditioned on the District or other public entity furnishing technical, planning or financial assistance in the establishment of the soil and water conservation or erosion and sediment control practices necessary to implement the plan or portion of the plan.

- (e) **District** means the North Platte Natural Resources District.
- (f) **Excess erosion** means the occurrence of erosion in excess of the applicable soil-loss tolerance level which causes or contributes to an accumulation of sediment upon the lands of any other person to the detriment or damage of such other person.
- (g) **Farm unit conservation plan** means a plan jointly developed by the owner and, if appropriate, the operator of a farm unit and the District. Such plan shall be based on the determined conservation needs of the farm unit and identification of practices which may be expected to prevent soil loss by erosion to the applicable soil-loss tolerance level. The plan may also, if practicable, identify alternative practices by which such objective may be attained.
- (h) **Erosion and Sediment Control Plan** means a plan, developed for a parcel of land used for non-agricultural purposes, which identifies the permanent or temporary practices which may be expected to either prevent sediment from leaving that parcel or prevent soil loss/erosion from that parcel in excess of the applicable soil-loss tolerance level.
- (i) **Non-agricultural land-disturbing activity** means a land change including, but not limited to, tilling, clearing, grading, excavating, transporting, or filling land which may result in soil erosion from wind or water and the movement of sediment and sediment-related pollutants into the waters of the state or onto lands in the state, but shall not include:
 - (1) Activities related directly to the production of agricultural, horticultural or silvicultural crops, including, but not limited to, tilling, planting, or harvesting of such crops;
 - (2) Installation of aboveground public utility lines and connections, fence posts, sign posts, telephone poles, electric poles, and other kinds of posts or poles;
 - (3) Emergency work to protect life or property;
 - (4) Activities related to the construction of housing, industrial, and commercial developments on sites under two acres in size; and
 - (5) Activities related to the operation, construction, or maintenance of industrial or commercial public power district or public power and irrigation district facilities or sites when such activity is conducted pursuant to state or federal law or is part of the operational plan for such facility or site.
- (j) **Sediment damage** means:
 - (1) the economic or physical damage to the land or other property of one person resulting from the deposition of sediment, by water or wind, or soil eroded from the lands of another person;
 - (2) the degradation of water quality and/or the reduced beneficial use of the water in the stream or lake involved resulting from soil sedimentation or the deposition of chemical-laden sediments. For the purpose of this program, chemicals shall include, but not be limited to, any agricultural, municipal, or industrial chemicals or waste deposited on the soil.

Physical effects to land or property which are relatively short term in nature and which cause no economic damage and no lasting physical damage shall not constitute sediment damage for the purpose of these rules and regulations.

- (k) **Soil-loss tolerance level** means the maximum amount of soil loss due to erosion by wind or water, expressed in terms of tons per acre per year, which is determined to be acceptable in accordance with the Erosion and Sediment Control Act. Soil loss from water erosion may include:
- (1) sheet and rill erosion which includes relatively uniform soil loss across the entire field slope which may leave small channels located at regular intervals across the slope and
 - (2) ephemeral gully erosion which occurs in well-defined depressions or natural drainageways where concentrated overland flow results in the convergence of rills forming deeper and wider channels.
- (l) **T value** means the average annual tons per acre soil loss that a given soil may experience and still maintain its productivity over an extended period of time.

5. SOIL-LOSS TOLERANCE LEVEL

United States Department of Agriculture (USDA) Soil Survey data provides values of soil loss tolerance (T) for various soil series across the District and are described as Soil-Loss Tolerance Levels in the Natural Resources Conservation Service (NRCS) Field Office Technical Guides. These soil-loss tolerance levels for the soils of the District have been adopted by the Board and are attached hereto as Appendix I. Each soil series listed may contain one or more soil mapping units referred to in Rule 10. The permitted soil-loss tolerance levels for particular lands may not exceed the T value noted in Appendix A.

6. ADMINISTRATION

- (a) The Board delegates the responsibility for administering these rules and regulations to the District manager except to the extent Board action is specifically required by these rules and regulations or by law. The following duties shall be performed by or under the direction of the District manager.
- (1) Keep an accurate record of all complaints received, investigations made, and other official actions.
 - (2) Investigate all complaints made in writing to the District office relating to the application of these rules and regulations and report in writing all alleged violations to the Board.
 - (3) Monitor compliance with all approved farm unit conservation plans, erosion and sediment control plans, and administrative orders issued by the Board.
- (b) Except to the extent jurisdiction has been assumed by a municipality or county in accordance with *Neb. Rev. Stat. § 2-4606*, and after a written and signed complaint has been made, the District manager and such staff as he or she shall designate shall have the following powers and responsibilities:
- (1) At any reasonable time, after notice to the owner and operator, if any, to enter upon any public or private lands within the area affected by these rules and regulations for the purpose of investigating complaints and to make inspections to determine compliance. The owner, operator, if any, and any other necessary technical personnel and representatives of the District may accompany the inspector.
 - (2) Upon reasonable cause, to report to the Board any violations of any administrative order issued by the Board pursuant to *Neb. Rev. Stat. § 2-4608* and these rules and regulations.

- (3) At the direction of the Board, and in accordance with Rules 13(e) and 18, to commence any legal proceedings necessary to enforce these rules and regulations and any order issued pursuant to them.

7. VIOLATION

A violation of these rules and regulations exists if:

- (a) sediment damage is occurring;
- (b) average annual soil losses on the land which is the source of that sediment are exceeding the soil-loss tolerance level adopted in rule 5;
- (c) the activity causing the soil loss is not an exempted non-agricultural land-disturbing activity, as defined in Rule 4(h), subsections (2) through (5); and
- (d) the land which is the source of the damage is not in strict compliance with a conservation agreement approved by the District.

8. COMPLAINT

A complaint alleging that soil erosion is occurring in excess of the soil-loss tolerance level or that sediment damage is occurring, may be filed in the District office by:

- (a) any owner or operator of land damaged by sediment;
- (b) any authorized representative of a state agency or political subdivision whose roads or other public facilities are being damaged by sediment;
- (c) any authorized representative of a state agency or political subdivision with responsibility for water quality maintenance if it is alleged that the soil erosion complained of is adversely affecting water quality; or
- (d) any District staff member, or other person authorized by the Board to file complaints.

Complaints shall be made in writing and signed on a form provided by the Nebraska Department of Natural Resources.

9. INVESTIGATION OF COMPLAINT

Upon receipt of a properly filed complaint, a representative of the District shall notify the alleged violator within ten (10) days that a complaint has been filed and that an investigation will be initiated to determine whether a violation of these rules and regulations has occurred. The investigation shall take place as soon as possible after the complaint has been filed and notice given. The alleged violator shall be given an opportunity to accompany the person conducting the investigation.

If a farm unit conservation plan or erosion and sediment control plan previously approved by the District is being implemented and maintained in strict conformance with a conservation agreement, including the land subject to the complaint, the complaint shall be dismissed. The alleged violator, complainant, and Board shall be notified.

Upon completion of the investigation, the investigator shall file a report of his or her findings with the Committee and shall provide copies to the alleged violator and the complainant. The report shall include:

- (a) the location and estimated acreage involved in the alleged violation;
- (b) the investigator's conclusions concerning the existence of any sediment damage and a description of the location and nature of any sediment damage identified; and

- (c) the location of land(s) which the investigator concludes are the source of the sediment, the nature of the land use on such lands, and the estimated average annual soil losses from such land(s).

The investigator may utilize the services of professional staff, consultants, or technicians of other state or federal agencies, if necessary.

10. DETERMINATION OF SOIL LOSS

Soil losses shall be determined by using the applicable portions of the then-current version of the USDA NRCS Field Office Technical Guide to estimate the average annual sheet and rill erosion, ephemeral erosion or wind erosion.

The soil losses normally will be calculated on a soil survey mapping unit basis. If it is determined that soil loss in excess of the applicable soil-loss tolerance level is occurring in the portion of one or more mapping units under the ownership and control of the alleged violator, they may not be averaged with other non-violating units for the purpose of determining overall soil loss.

If it is determined that the sediment damage complained of is resulting from erosion from a land parcel smaller than the soil mapping unit, the soil loss equation in the Field Office Technical Guide may be applied to such smaller portion only if such portion is two acres or greater.

The cover and crop management factor, "C", used in calculating erosion may incorporate a cropping history of up to five years. Crop rotation patterns longer than five years but not more than ten years may be used for the purpose of planning future compliance with soil-loss tolerance levels, but exceeding these limits may not be planned for more than two consecutive years. Soil losses from irrigation and gully erosion may also be determined by using acceptable scientific procedures and may, if deemed appropriate by the Board, be added to soil losses for sheet and rill, ephemeral and wind erosion. Soil losses from streambank erosion shall not be calculated, and these rules and regulations are not applicable to this type of erosion. Application of the soil-loss equation formulas will be made by someone whose qualifications to make such determinations can be supported in court.

11. COMMITTEE AND BOARD ACTION ON COMPLAINT

The committee shall assist the District staff in administering these rules and regulations and make determinations as to whether a probable violation of these rules and regulations has or has not occurred. Such determination shall be based upon the investigator's report completed pursuant to Rule 9 and an on-site inspection by the committee, if warranted. The committee may also request that both the alleged violator and the complainant appear before them to discuss the complaint. The committee shall report its findings to the Board, the alleged violator and the complainant with a recommendation of further action as follows:

- (a) If the staff and committee determine that no violation of these rules and regulations has occurred, it shall recommend, and the Board may approve, dismissal of the complaint. The complainant shall be given the opportunity to appear before the entire Board before the Board acts on the recommendation.
- (b) If the committee determines that a farm unit conservation plan previously approved by the District is being implemented and maintained in strict conformance with a

conservation agreement, including the land subject to the complaint, it shall recommend, and the Board may approve, dismissal of the complaint.

- (c) If the committee determines that the land which is identified in the complaint is being used for non-agricultural purposes is under an erosion and sediment control plan that has been approved by the District, and is in conformance with any NPDES (National Pollution Discharge Elimination System) permit issued by the Nebraska Department of Environmental Quality (NDEQ) or any political subdivision of the state designated by NDEQ to issue such permits, it shall recommend, and the Board may approve, dismissal of the complaint.
- (d) If the committee determines that a probable violation of these rules and regulations has occurred, it shall proceed in accordance with Rule 12.

12. NOTICE OF VIOLATION

If the committee determines that a probable violation of these rules and regulations has occurred, the alleged violator shall be informed of its findings by letter delivered in person or sent by registered or certified mail. The letter shall specify the options available to the alleged violator, including:

- (a) The alleged violator shall be given an opportunity to contact the District within ten days after receipt of notice concerning the development of a plan and schedule for eliminating excess erosion and sedimentation from the land that generated the complaint. If appropriate at this time, alternative practices for inclusion in a plan may be suggested. Information on cost-share programs and an indication of whether cost-share money is available may also be supplied.
- (b) The alleged violator shall be given an opportunity to contest the committee's findings at a regularly scheduled Board meeting or, if desired, a Board hearing to be held no sooner than fifteen days after receipt of notice. Notice of the date shall be given. The alleged violator may request a formal public hearing within ten (10) days of receipt of notice. The District's rules for formal adjudicatory hearings shall govern the conduct of all such hearings.
- (c) The alleged violator shall be further notified that if he or she does not respond to the notice and does not appear at the Board meeting for which notice was given, the Board shall proceed in accordance with Rule 15 in his or her absence to make a final determination on the complaint and issue an administrative order, if the Board concludes that a violation has occurred.

13. DEVELOPMENT AND APPROVAL OF PLAN FOR COMPLIANCE

(a) If the alleged violator contacts the District pursuant to Rule 12(a) and indicates a desire to jointly develop either a farm unit conservation plan or an erosion and sediment control plan for eliminating excess erosion on or sedimentation from the land that generated the complaint, Board action on the complaint shall be delayed until further action is taken by the committee pursuant to sections (b) or (d) of this Rule. The District manager and the alleged violator shall promptly secure the assistance of the NRCS or such other professional resource planners as are deemed necessary to assist in preparation of such a plan and shall attempt to prepare a mutually acceptable plan in accordance with the NRCS Field Office Technical Guide. Any plan developed in accordance with this section shall identify, as applicable, the soil and water conservation practice(s) or erosion

and sediment control practice(s) to be applied or utilized and shall be accompanied by a proposed conservation agreement setting forth a schedule for compliance.

- (b) Any plan developed by the alleged violator and the District manager shall be presented to the committee. If the committee agrees to the proposed plan and the accompanying conservation agreement, the Board may thereafter approve such plan and agreement. The complainant shall be notified of such action and shall be provided copies of the approved plan and conservation agreement. In considering the schedule for compliance contained within the conservation agreement, the Board may approve a longer time for compliance than would be permissible if an order were issued pursuant to Rule 15, but shall not do so without consideration of the nature and extent of any additional sediment damage the complainant is likely to suffer until the plan has been fully implemented.
- (c) Strict conformance with a plan and agreement approved pursuant to this Rule shall be deemed compliance with these rules and regulations for the lands which are subject to the agreement.
- (d) If no mutually acceptable plan and conservation agreement have been prepared by the alleged violator and the District manager within an acceptable time period, or if the committee concludes at any time that progress is not being made and is no longer likely to be made on preparation of such a plan, the complaint shall be again referred to the Board, and the alleged violator shall be so notified in person or by registered or certified mail and shall be given the information and options described in Rule 12(b). For purposes of this rule, acceptable time period shall mean (1) ninety (90) days for alleged violations involving agricultural, horticultural, or silvicultural activities and (2) fifteen (15) days for alleged violations involving a non-agricultural land-disturbing activity.
- (e) Following refusal of a landowner to discontinue an activity causing erosion which constitutes a violation in Rule 7, and to establish a plan and schedule for eliminating excess erosion pursuant to these rules, and if the immediate discontinuance of such activity is necessary to reduce or eliminate damage to neighboring property, the District may petition the District court for an order to the owner and, if appropriate, the operator, to immediately cease and desist such activity until excess erosion can be brought into conformance with the soil-loss tolerance level, or sediment resulting from excess erosion is prevented from leaving the property.

14. PRACTICES

Practices designed to reduce or control soil erosion and/or sediment damage may be approved in developing a plan under Rule 13 and may be required by the District in an administrative order pursuant to Rule 15.

- (a) Soil and water conservation practices, applicable only to land used for agricultural, horticultural, or silvicultural purposes, may include:
 - (1) permanent practices, such as the planting of perennial grasses, legumes, shrubs, or trees, the establishment of grassed waterways, the construction of terraces, grade control structures, tile outlets, and other practices approved by the District.
 - (2) temporary soil and water conservation practices, such as the planting of annual or biennial crops, use of strip-cropping, contour planting, conservation tillage or residue management system, and other cultural practices approved by the District.

The District shall maintain a complete list of approved permanent and temporary soil and

water conservation practices as part of its local erosion and sediment control program. See Appendix B.

- (b) Erosion and sediment control practices, which are applicable to activities other than agricultural, horticultural, or silvicultural activities, may include:
- (1) the construction or installation and maintenance of permanent structures or devices necessary to carry to a suitable outlet away from any building site, any commercial or industrial development or any publicly or privately owned recreational or service facility not served by a central storm sewer system, any water which would otherwise cause erosion in excess of the applicable soil-loss tolerance level, and which does not carry or constitute sewage or industrial or other waste, to a suitable outlet away from any development or facility not served by a central storm sewer system;
 - (2) the use of temporary devices or structures, temporary seeding, mulching (including fiber mats, plastic, straw), diversions, silt fences, sediment traps or other measures adequate either to prevent erosion in excess of the applicable soil-loss tolerable levels or to prevent excessive downstream sedimentation from land which is the site of, or is directly affected by, any non-agricultural land-disturbing activity; or
 - (3) the establishment and maintenance of vegetation upon the right-of-way of any completed portion of any public street, road, highway or the construction or installation thereon of permanent structures or devices or other measures adequate to prevent erosion on the right-of-way in excess of the applicable soil-loss tolerance level.

The District shall maintain a complete list of approved erosion and sediment control practices as part of its local erosion and sediment control program. See Appendix B.

15. ADMINISTRATIVE ORDER

If, after Board consideration of the complaint at a meeting or hearing for which the alleged violator has been given notice in accordance with Rule 12, the Board finds that sediment damage has occurred, that average annual erosion on the land which is the source of the damage is occurring in excess of the applicable soil-loss tolerance level(s), and that a conservation plan or erosion and sediment control plan has not been developed nor is being implemented according to a conservation agreement, it shall issue an administrative order to the violator stating:

- (a) the date of the order.
- (b) the identity of the source of the violation and its location.
- (c) the authority of the Board to issue such order
- (d) the specific findings, including (1) the estimated average annual soil loss and the extent to which erosion exceeds the applicable soil-loss tolerance level, and (2) the nature of the sediment damage or water quality impairment resulting from such excessive erosion;
- (e) if desired by the Board, the alternative soil and water conservation practices or erosion and sediment control practices required to bring the land into conformance with these rules and regulations. When the erosion is the result of agricultural, horticultural, or silvicultural activities, the soil and water conservation practices required shall be those necessary to bring the land into conformance with the applicable soil-loss tolerance level. When the erosion is the result of a non-agricultural land-disturbing activity, the Board may authorize the violator to either bring the land into conformance with applicable soil-loss tolerance level or to prevent sediment resulting from excessive erosion from leaving

the land.

- (f) any requirements concerning the operation, utilization, or maintenance of the alternative practices identified.
- (g) the deadlines for commencing and completing work necessary to comply with this order.
 - (1) The time for initiating work needed to establish the necessary soil and water conservation practices shall not exceed six (6) months after service or mailing of the order to the violator and shall be completed no later than one (1) year after service or mailing of the order to the violator, unless an extension is granted by the Board upon a showing of good cause.
 - (2) A reasonable time for initiating work needed to establish erosion and sediment control practices for non-agricultural land-distributing activities shall not exceed five (5) days after service or mailing of the order. Temporary practices shall be completed not later than fifteen (15) days after service or mailing of the order, and permanent practices shall be completed no later than forty-five (45) days after service or mailing of the order, unless an extension is granted by the Board upon a showing of good cause. An extension shall only be granted after review and affirmative action of the Board.
- (h) the action to be taken by the Board if the violator does not comply.

A copy of the dismissal or administrative order shall be delivered to the owner and to the operator, if any, of the land in question by personal service or certified or registered mail.

16. COST-SHARE ASSISTANCE

To prevent excess erosion and sediment from leaving the land due to any agricultural or non-agricultural land-disturbing activity, cost-share assistance may be available from the District. Such assistance, if available, may be used for any erosion or sediment control practice. The lack of available cost-sharing assistance does not offset the requirement that the owner and, if appropriate, the operator of such land comply with the terms of an approved plan of compliance or an administrative order.

17. SUPPLEMENTAL ORDERS

The Board may issue supplemental orders, as necessary, to extend the time of compliance with an administrative order if, in its judgment, the failure to commence or complete work as required by the administrative order is due to factors beyond the control of the person to whom the order is directed and the person can be relied upon to commence and complete the necessary work at the earliest possible time.

18. NON-COMPLIANCE

Subject to any limitations imposed by the Board, the District manager may cause the District to commence legal proceedings by filing a petition in the name of the District in the District court in which a majority of the land is located, requesting a court order requiring immediate compliance with the administrative order or any supplemental order issued previously, if he or she has reasonable cause to believe after inspection that an administrative order issued

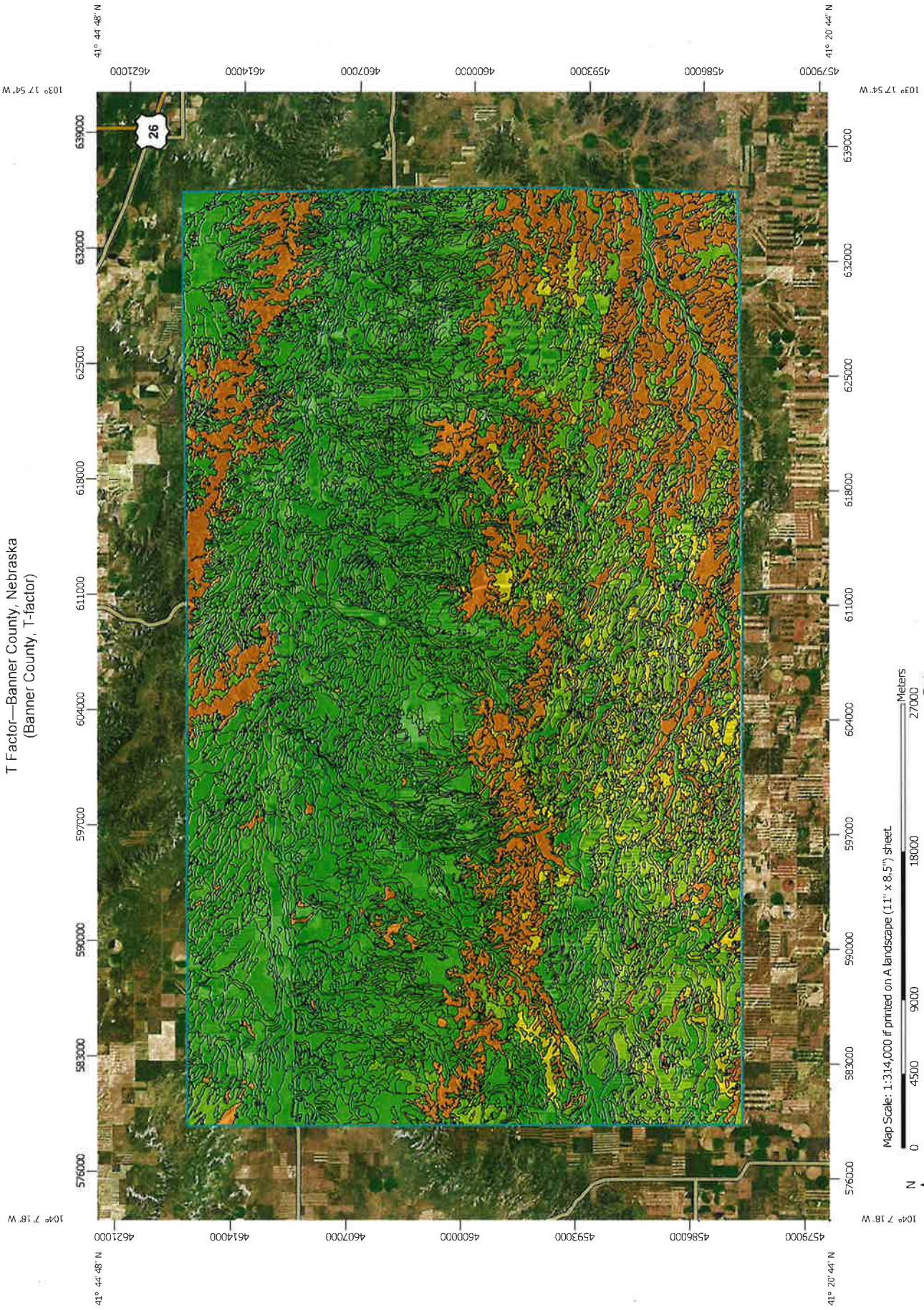
previously by the Board is not being complied with because:

- (1) the work necessary to comply with the order is not commenced on or before the date specified in the order or in any supplemental orders;
- (2) the work is not being performed with due diligence, is not satisfactorily completed by the date specified in the order, or is not being operated, utilized, or maintained in accordance with requirements set forth in the order;
- (3) the work is not of a type or quantity specified by the District, and when completed, it will not or does not reduce soil loss to within the applicable soil-loss tolerance level for the identified land or, in the case of non-agricultural land-disturbing activity, will not or does not prevent sediment resulting from excessive erosion from leaving the land involved; or
- (4) the person to whom the order is directed informs the District that he or she does not intend to comply.

APPENDIX A

Soil-Loss Tolerance Levels

(Insert Soil-Loss Tolerance Levels)



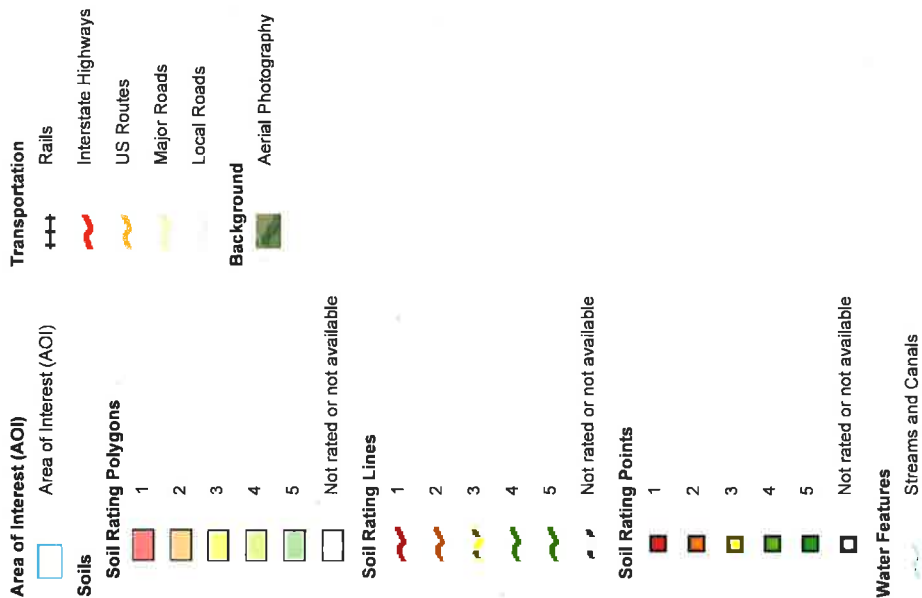
T Factor—Banner County, Nebraska
(Banner County, T-factor)

Map Scale: 1:314,000 if printed on A landscape (11" x 8.5") sheet.



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

MAP LEGEND



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: <http://websoilsurvey.nrcs.usda.gov>
 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: Banner County, Nebraska
 Survey Area Data: Version 22, Sep 12, 2016

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

Date(s) aerial images were photographed: Jan 1, 1999—Dec 31, 2003

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.

T Factor

T Factor— Summary by Map Unit — Banner County, Nebraska (NE007)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1001	Bankard fine sand, channeled, frequently flooded	5	4,596.5	1.0%
1034	Glenberg very fine sandy loam, 0 to 2 percent slopes	5	2,401.3	0.5%
1114	Bankard loamy fine sand, occasionally flooded	5	2,370.4	0.5%
1301	Bayard fine sandy loam, 3 to 6 percent slopes	5	41.9	0.0%
1307	Bayard very fine sandy loam, 1 to 3 percent slopes	5	15,337.1	3.2%
1308	Bayard very fine sandy loam, 3 to 6 percent slopes	5	12,697.4	2.7%
1309	Bayard very fine sandy loam, 6 to 9 percent slopes	5	4,122.6	0.9%
1310	Bayard very fine sandy loam, 9 to 20 percent slopes	5	2,846.6	0.6%
1315	Bayard-Dix complex, 3 to 9 percent slopes	5	7,738.8	1.6%
1316	Bayard-Dix complex, 9 to 20 percent slopes	5	10,772.7	2.3%
1327	Bayard fine sandy loam, 0 to 3 percent slopes	5	118.2	0.0%
1361	Bridget very fine sandy loam, 0 to 1 percent slopes	5	4,206.8	0.9%
1362	Bridget very fine sandy loam, 1 to 3 percent slopes	5	12,572.4	2.6%
1363	Bridget very fine sandy loam, 3 to 6 percent slopes	5	5,167.9	1.1%
1364	Bridget very fine sandy loam, 6 to 9 percent slopes	5	2,020.2	0.4%
1365	Bridget very fine sandy loam, 9 to 20 percent slopes	5	1,208.1	0.3%

T Factor— Summary by Map Unit — Banner County, Nebraska (NE007)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1368	Dix sandy loam, 0 to 3 percent slopes	2	244.0	0.1%
1500	Altvan fine sandy loam, 1 to 3 percent slopes	3	36.3	0.0%
1503	Altvan loam, 3 to 6 percent slopes	3	338.3	0.1%
1508	Altvan-Eckley complex, 3 to 9 percent slopes	3	6,318.5	1.3%
1511	Altvan-Satanta fine sandy loams, 1 to 3 percent slopes	3	19.3	0.0%
1512	Altvan-Satanta loams, 0 to 1 percent slopes	3	340.0	0.1%
1577	Eckley gravelly sandy loam, 3 to 30 percent slopes	2	8,506.3	1.8%
1578	Eckley and Altvan soils, 9 to 50 percent slopes	2	18.5	0.0%
1585	Goshen loam, 0 to 1 percent slopes	5	2,810.0	0.6%
1617	Keith loam, 0 to 1 percent slopes	5	5,640.4	1.2%
1618	Keith loam, 1 to 3 percent slopes	5	9,304.7	1.9%
1621	Keith loam, 3 to 6 percent slopes	5	3,075.9	0.6%
1661	Lodgepole silt loam, frequently ponded	5	271.0	0.1%
1704	Otero loamy very fine sand, 0 to 3 percent slopes	5	12,479.4	2.6%
1707	Otero loamy very fine sand, 9 to 20 percent slopes	5	1,984.5	0.4%
1718	Otero-Epping complex, 9 to 60 percent slopes	5	4,005.3	0.8%
1719	Otero loamy very fine sand, 3 to 9 percent slopes	5	6,010.8	1.3%
1726	Rosebud loam, 1 to 3 percent slopes	3	2,568.0	0.5%
1735	Rosebud-Blanche complex, 1 to 3 percent slopes	3	66.7	0.0%
1739	Rosebud-Canyon loams, 1 to 3 percent slopes	3	194.0	0.0%
1740	Rosebud-Canyon loams, 3 to 6 percent slopes	3	8,997.9	1.9%

T Factor— Summary by Map Unit — Banner County, Nebraska (NE007)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1809	Satanta fine sandy loam, 1 to 3 percent slopes	4	11,501.7	2.4%
1817	Satanta loam, gravelly substratum, 3 to 6 percent slopes	4	23.1	0.0%
1820	Satanta-Altvan complex, 3 to 6 percent slopes	5	9,051.8	1.9%
1839	Sidney-Canyon complex, 3 to 9 percent slopes	4	27.4	0.0%
1842	Sidney-Canyon loams, 3 to 6 percent slopes	4	8,051.7	1.7%
1843	Sidney-Canyon loams, 6 to 9 percent slopes, eroded	4	19,599.9	4.1%
1886	Valent fine sand, 3 to 9 percent slopes	5	2,399.1	0.5%
1889	Valent fine sand, rolling	5	4,135.3	0.9%
1892	Valent loamy fine sand, 3 to 9 percent slopes	5	13,692.2	2.9%
1895	Valent loamy sand, 0 to 3 percent slopes	5	5,192.5	1.1%
5100	Alliance loam, 0 to 1 percent slopes	4	6,455.9	1.4%
5101	Alliance loam, 1 to 3 percent slopes	4	19,055.0	4.0%
5102	Alliance loam, 3 to 6 percent slopes	4	7,371.3	1.5%
5103	Alliance loam, 6 to 9 percent slopes, eroded	4	763.0	0.2%
5140	Busher-Tassel complex, 9 to 20 percent slopes	4	63.7	0.0%
5144	Busher-Tassel loamy very fine sands, 9 to 20 percent slopes	4	6,810.7	1.4%
5150	Canyon fine sandy loam, 6 to 30 percent slopes	2	45.8	0.0%
5151	Canyon loam, 9 to 30 percent slopes	2	6,561.7	1.4%
5158	Canyon-Rock outcrop complex, 20 to 60 percent slopes	2	6,193.8	1.3%
5160	Canyon-Sidney loams, 9 to 20 percent slopes, eroded	2	21,836.3	4.6%
5282	Vetal fine sandy loam, 3 to 6 percent slopes	5	564.6	0.1%

T Factor— Summary by Map Unit — Banner County, Nebraska (NE007)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5290	Vetal very fine sandy loam, 0 to 3 percent slopes	5	10,437.8	2.2%
5607	Broadwater loamy sand, channeled, occasionally flooded	5	1,584.7	0.3%
5643	Janise loam, occasionally flooded	5	2,373.6	0.5%
5655	Lisco fine sandy loam, 0 to 2 percent slopes	5	810.7	0.2%
5670	Yockey loam, alkali, occasionally flooded	5	1,939.7	0.4%
5800	Albinas-Cheyenne loams, rarely flooded	4	167.2	0.0%
5843	Mitchell very fine sandy loam, 0 to 1 percent slopes	5	1,553.3	0.3%
5844	Mitchell very fine sandy loam, 1 to 3 percent slopes	5	2,264.1	0.5%
5845	Mitchell very fine sandy loam, 3 to 6 percent slopes	5	4,494.4	0.9%
5846	Mitchell very fine sandy loam, 6 to 9 percent slopes	5	3,383.2	0.7%
5848	Mitchell-Epping complex, 3 to 9 percent slopes	5	1,974.1	0.4%
5849	Mitchell-Epping complex, 9 to 30 percent slopes	5	9,744.7	2.0%
5868	Tripp loamy very fine sand, overblown, 0 to 3 percent slopes	5	6,632.6	1.4%
5869	Tripp loamy very fine sand, overblown, 3 to 6 percent slopes	5	426.0	0.1%
5873	Tripp very fine sandy loam, 0 to 1 percent slopes	5	3,607.9	0.8%
5874	Tripp very fine sandy loam, 1 to 3 percent slopes	5	11,009.6	2.3%
5876	Tripp very fine sandy loam, 3 to 6 percent slopes	5	6,135.7	1.3%
5878	Tripp very fine sandy loam, 6 to 9 percent slopes	5	1,401.8	0.3%

T Factor— Summary by Map Unit — Banner County, Nebraska (NE007)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5901	Alice fine sandy loam, 0 to 3 percent slopes	5	5,836.3	1.2%
5902	Alice fine sandy loam, 3 to 6 percent slopes	5	6,942.9	1.5%
5903	Alice fine sandy loam, 6 to 9 percent slopes, eroded	5	2,644.3	0.6%
5934	Creighton very fine sandy loam, 1 to 3 percent slopes	5	426.5	0.1%
5935	Creighton very fine sandy loam, 3 to 6 percent slopes	5	1,720.4	0.4%
5942	Duroc loam, 0 to 1 percent slopes	5	1,613.1	0.3%
5943	Duroc loam, 1 to 3 percent slopes	5	7,295.8	1.5%
5966	Jayem fine sandy loam, 3 to 6 percent slopes	5	25.4	0.0%
6010	Sarben very fine sandy loam, 1 to 3 percent slopes	5	16.0	0.0%
6030	Tassel-Ashollow-Rock outcrop complex, 20 to 60 percent slopes	2	690.4	0.1%
6032	Tassel-Blanche complex, 9 to 30 percent slopes	2	2,880.7	0.6%
6034	Tassel-Busher-Rock outcrop complex, 9 to 60 percent slopes	2	361.6	0.1%
6035	Tassel-Busher-Rock outcrop complex, 20 to 60 percent slopes	2	28,571.7	6.0%
6041	Tassel-Blanche sandy loams, 3 to 9 percent slopes	2	736.2	0.2%
6044	Tassel-Rock outcrop complex, 20 to 60 percent slopes	2	14,413.1	3.0%
6050	Rock outcrop-Epping complex, 20 to 60 percent slopes	2	3,041.8	0.6%
6102	Sarben loamy very fine sand, 0 to 3 percent slopes	5	6,735.1	1.4%
6105	Sarben loamy very fine sand, 3 to 9 percent slopes	5	7,686.1	1.6%

T Factor— Summary by Map Unit — Banner County, Nebraska (NE007)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
6202	Epping silt loam, 9 to 30 percent slopes	2	5,099.2	1.1%
9970	Aquolls	5	65.9	0.0%
9971	Arents, earthen dam		30.4	0.0%
9983	Gravel pit		12.7	0.0%
9999	Water		122.6	0.0%
Totals for Area of Interest			477,754.6	100.0%

Description

The T factor is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Rating Options

Units of Measure: tons per acre per year

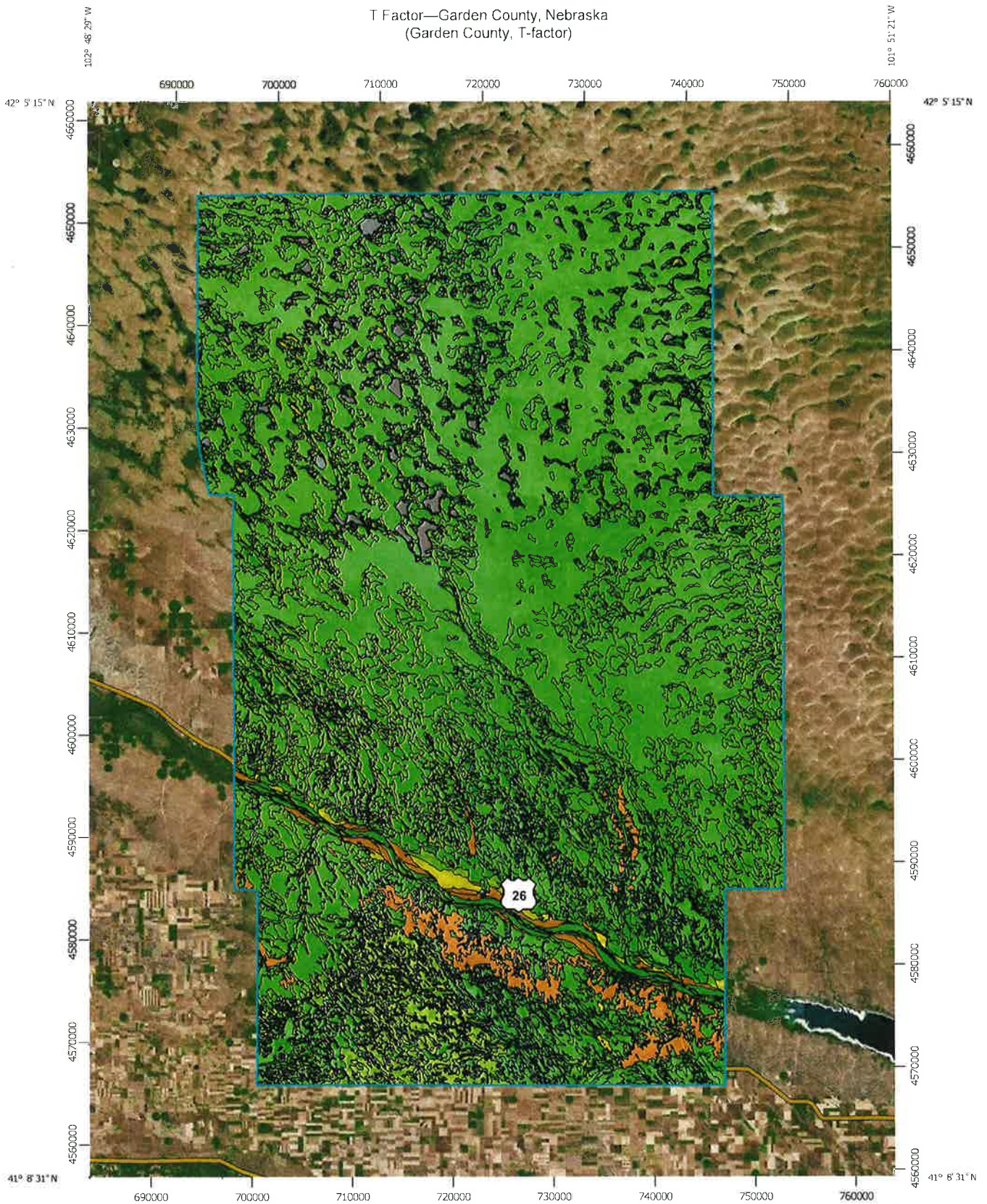
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

T Factor—Garden County, Nebraska
(Garden County, T-factor)



Map Scale: 1:512,000 if printed on A portrait (8.5" x 11") sheet.

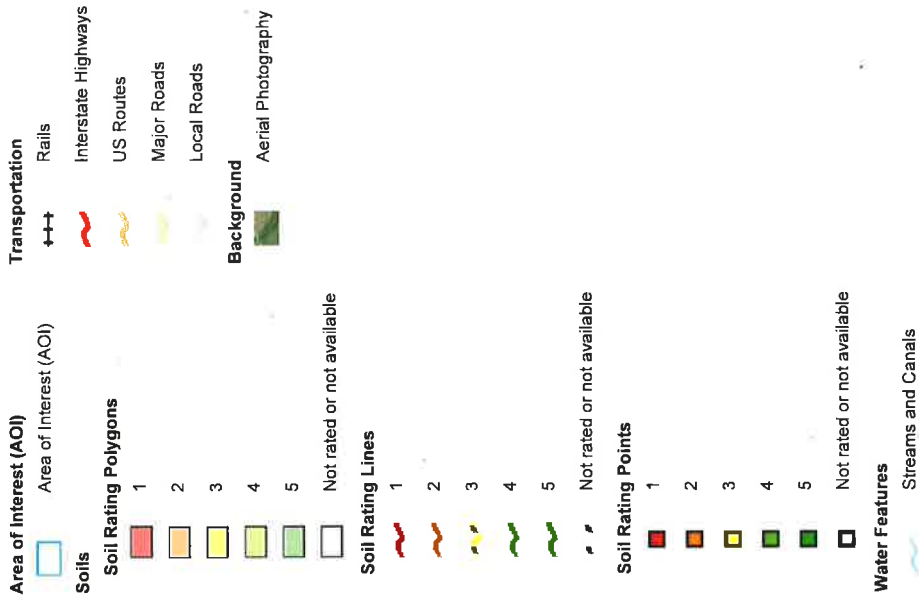
0 5000 10000 20000 30000 Meters

0 20000 40000 80000 120000 Feet

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



MAP LEGEND



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: <http://websoilsurvey.nrcs.usda.gov>
 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: Garden County, Nebraska
 Survey Area Data: Version 15, Sep 12, 2016

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

Date(s) aerial images were photographed: Jan 1, 1999—Dec 31, 2003

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.

T Factor

T Factor— Summary by Map Unit — Garden County, Nebraska (NE069)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1002	Bankard loamy coarse sand, occasionally flooded	5	4.9	0.0%
1301	Bayard fine sandy loam, 3 to 6 percent slopes	5	1,487.3	0.1%
1305	Bayard loam, 0 to 1 percent slopes	5	1,583.8	0.1%
1307	Bayard very fine sandy loam, 1 to 3 percent slopes	5	261.2	0.0%
1326	Bayard fine sandy loam, 0 to 1 percent slopes	5	2,638.9	0.2%
1327	Bayard fine sandy loam, 0 to 3 percent slopes	5	4,789.0	0.4%
1526	Blanche loamy fine sand, 1 to 3 percent slopes	3	444.1	0.0%
1618	Keith loam, 1 to 3 percent slopes	5	24,153.2	2.2%
1621	Keith loam, 3 to 6 percent slopes	5	6,380.8	0.6%
1650	Kuma loam, 0 to 1 percent slopes	5	10,282.0	0.9%
1661	Lodgepole silt loam, frequently ponded	5	661.6	0.1%
1662	Lodgepole silt loam, occasionally ponded	5	5.7	0.0%
1830	Sulco-McConaughy loams, 9 to 30 percent slopes	5	13,024.2	1.2%
1831	Sulco-McConaughy loams, 6 to 9 percent slopes, eroded	5	3,072.6	0.3%
1838	Sidney loam, 3 to 6 percent slopes	4	11,004.4	1.0%
1841	Sidney-Canyon complex, 6 to 9 percent slopes	4	3,078.9	0.3%
1847	Sulco loam, 30 to 60 percent slopes	5	1,603.4	0.1%
1850	Sulco-McConaughy complex, 3 to 6 percent slopes, eroded	5	4,697.5	0.4%

T Factor— Summary by Map Unit — Garden County, Nebraska (NE069)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1886	Valent fine sand, 3 to 9 percent slopes	5	9,133.5	0.8%
1889	Valent fine sand, rolling	5	15,606.3	1.4%
1890	Valent fine sand, rolling and hilly	5	2,133.4	0.2%
1892	Valent loamy fine sand, 3 to 9 percent slopes	5	79.2	0.0%
1893	Valent loamy fine sand, 6 to 9 percent slopes	5	29.1	0.0%
1895	Valent loamy sand, 0 to 3 percent slopes	5	266.1	0.0%
4200	Almeria fine sandy loam, channeled, frequently flooded	5	3,846.2	0.3%
4450	Valentine severely eroded-Valentine complex, 0 to 60 percent slopes	4	4.9	0.0%
4455	Crowther loam, 0 to 1 percent slopes	3	1,211.1	0.1%
4456	Crowther mucky peat	3	852.4	0.1%
4470	Doughboy fine sandy loam, 0 to 3 percent slopes	5	75.4	0.0%
4485	Dunday loamy fine sand, 0 to 3 percent slopes	5	2,616.3	0.2%
4486	Dunday loamy fine sand, 0 to 3 percent slopes, dry	5	2,075.6	0.2%
4524	Els fine sand, calcareous, 0 to 3 percent slopes	5	4,681.6	0.4%
4556	Elsmere loamy fine sand, calcareous, 0 to 3 percent slopes	5	9.6	0.0%
4635	Hoffland fine sandy loam, 0 to 1 percent slopes	5	6,173.5	0.6%
4636	Hoffland fine sandy loam, frequently ponded	5	2,704.3	0.2%
4641	lpage fine sand, 0 to 3 percent slopes	5	12.2	0.0%
4643	lpage fine sand, calcareous, 0 to 3 percent slopes	5	11,451.1	1.0%
4683	Marlake fine sandy loam, frequently ponded	5	224.4	0.0%

T Factor— Summary by Map Unit — Garden County, Nebraska (NE069)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
4691	Marlake mucky peat	5	7,360.1	0.7%
4711	Nenzel loamy fine sand, calcareous, 0 to 3 percent slopes	5	100.1	0.0%
4712	Nenzel loamy fine sand, 0 to 3 percent slopes	5	59.6	0.0%
4791	Valentine fine sand, 3 to 9 percent slopes	5	31,179.0	2.8%
4793	Valentine fine sand, 3 to 9 percent slopes, dry	5	50,788.9	4.6%
4807	Valentine fine sand, rolling, 9 to 24 percent slopes	5	68,900.6	6.2%
4808	Valentine fine sand, rolling, 9 to 24 percent slopes, dry	5	86,053.0	7.8%
4810	Valentine fine sand, rolling and hilly, 9 to 60 percent slopes	5	281,503.7	25.4%
4811	Valentine fine sand, rolling and hilly, 9 to 60 percent slopes, dry	5	143,810.4	13.0%
4812	Valentine loamy fine sand, 0 to 3 percent slopes, dry	5	1,832.7	0.2%
4814	Valentine loamy fine sand, 0 to 3 percent slopes	5	559.7	0.1%
4819	Valentine loamy fine sand, 3 to 9 percent slopes, dry	5	834.2	0.1%
4894	Wildhorse fine sand, 0 to 3 percent slopes	5	9,150.7	0.8%
4897	Wildhorse-Hoffland complex, 0 to 3 percent slopes	5	8,520.0	0.8%
4898	Wildhorse-lpage, calcareous complex, 0 to 3 percent slopes	5	22,968.7	2.1%
5100	Alliance loam, 0 to 1 percent slopes	4	3,160.3	0.3%
5101	Alliance loam, 1 to 3 percent slopes	4	17,444.8	1.6%
5108	Alliance-Rosebud loams, 1 to 3 percent slopes	4	4,357.0	0.4%
5138	Busher-Tassel complex, 3 to 9 percent slopes	4	1,347.4	0.1%
5140	Busher-Tassel complex, 9 to 20 percent slopes	4	1,533.7	0.1%

T Factor— Summary by Map Unit — Garden County, Nebraska (NE069)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5281	Vetal fine sandy loam, 0 to 3 percent slopes	5	4,956.9	0.4%
5606	Broadwater loamy sand, channeled, frequently flooded	5	10,228.2	0.9%
5648	Jankosh loam, rarely flooded	3	4,920.1	0.4%
5650	Lemoyne sand, rarely flooded	5	1,575.0	0.1%
5651	Lewellen loam, rarely flooded	2	6,055.9	0.5%
5652	Lewellen-McCuligan complex, rarely flooded	2	2,623.9	0.2%
5668	Rushcreek loam, rarely flooded	4	2,044.8	0.2%
5845	Mitchell very fine sandy loam, 3 to 6 percent slopes	5	268.8	0.0%
5846	Mitchell very fine sandy loam, 6 to 9 percent slopes	5	148.1	0.0%
5849	Mitchell-Epping complex, 9 to 30 percent slopes	5	1,266.9	0.1%
5858	Scoville loamy fine sand, 0 to 3 percent slopes	5	9,617.5	0.9%
5917	Ashollow-Tassel complex, 9 to 30 percent slopes	5	29,755.6	2.7%
5925	Blueridge coarse sand, 6 to 30 percent slopes	5	12,115.2	1.1%
5940	Dankworth loamy sand, 3 to 6 percent slopes	5	2,815.2	0.3%
5942	Duroc loam, 0 to 1 percent slopes	5	14,599.7	1.3%
5965	Jayem fine sandy loam, 0 to 3 percent slopes	5	5,085.3	0.5%
5966	Jayem fine sandy loam, 3 to 6 percent slopes	5	5,528.9	0.5%
5970	Jayem loamy fine sand, 0 to 3 percent slopes	5	11,484.0	1.0%
5972	Jayem loamy fine sand, 3 to 6 percent slopes	5	2,401.3	0.2%
6030	Tassel-Ashollow-Rock outcrop complex, 20 to 60 percent slopes	2	21,154.4	1.9%

T Factor— Summary by Map Unit — Garden County, Nebraska (NE069)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
6034	Tassel-Busher-Rock outcrop complex, 9 to 60 percent slopes	2	40.3	0.0%
6094	Sarben loamy fine sand, 0 to 3 percent slopes	5	2,372.4	0.2%
6095	Sarben loamy fine sand, 3 to 6 percent slopes	5	11,945.3	1.1%
6096	Sarben loamy fine sand, 6 to 9 percent slopes	5	11,966.5	1.1%
6097	Sarben loamy fine sand, 9 to 20 percent slopes	5	9,319.0	0.8%
6206	Epping-Badland complex, 3 to 60 percent slopes	2	5,540.5	0.5%
8493	Gothenburg loamy sand, frequently flooded	5	7,888.4	0.7%
9903	Fluvaquents, sandy, frequently flooded	5	1,596.4	0.1%
9970	Aquolls	5	174.6	0.0%
9983	Gravel pit		45.2	0.0%
9986	Miscellaneous water, sewage lagoon		47.4	0.0%
9999	Water		14,324.1	1.3%
Totals for Area of Interest			1,107,729.9	100.0%

Description

The T factor is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Rating Options

Units of Measure: tons per acre per year

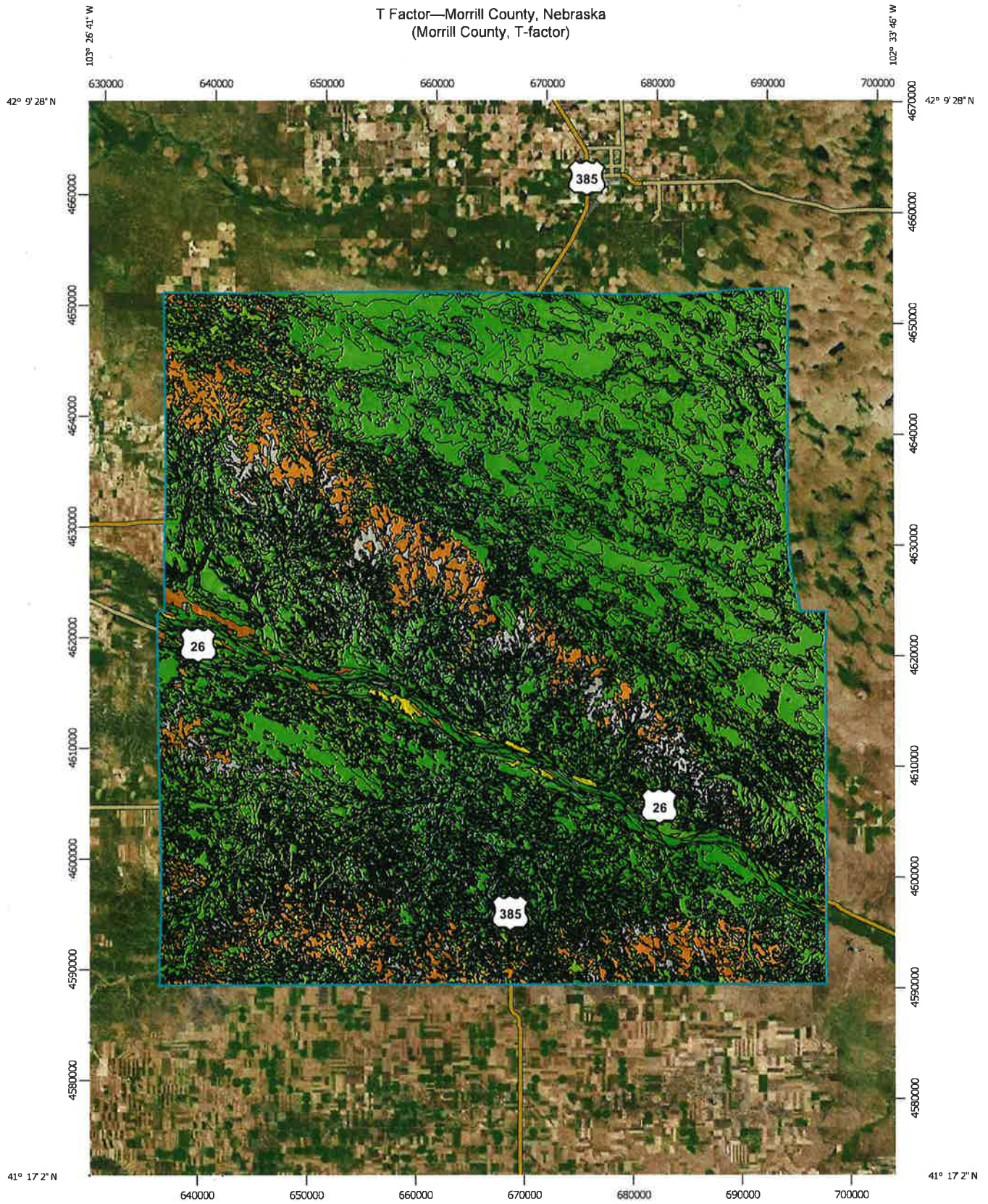
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

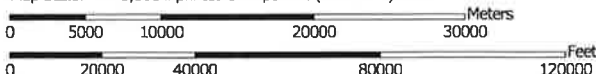
Tie-break Rule: Lower

Interpret Nulls as Zero: No

T Factor—Morrill County, Nebraska
(Morrill County, T-factor)



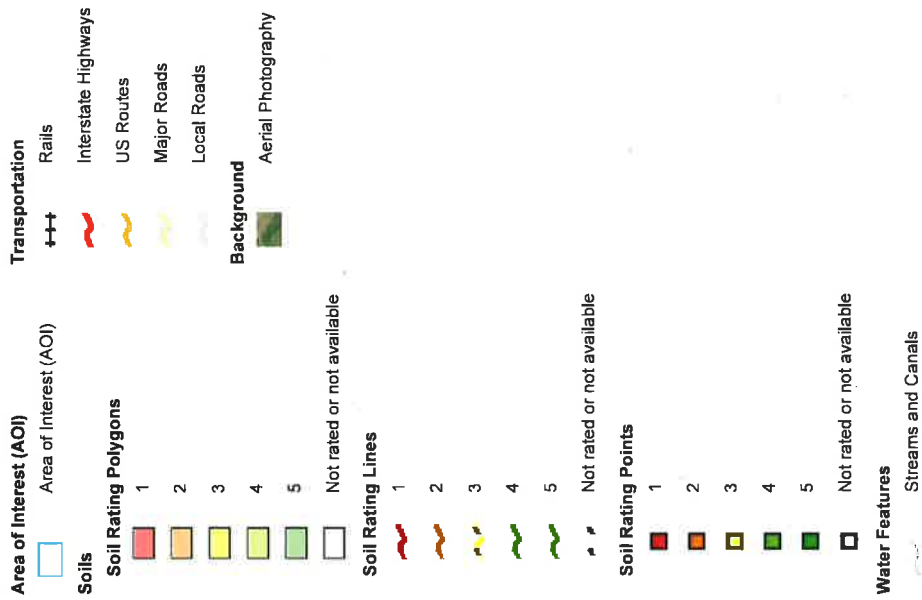
Map Scale: 1:473,000 if printed on A portrait (8.5" x 11") sheet.



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



MAP LEGEND



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: <http://websoilsurvey.nrcs.usda.gov>
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: Morrill County, Nebraska
Survey Area Data: Version 16, Sep 12, 2016

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

Date(s) aerial images were photographed: Jan 1, 1999—Dec 31, 2003

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.

T Factor

T Factor— Summary by Map Unit — Morrill County, Nebraska (NE123)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1001	Bankard fine sand, channeled, frequently flooded	5	13,871.3	1.5%
1002	Bankard loamy coarse sand, occasionally flooded	5	1,417.6	0.2%
1006	Bankard loamy fine sand, channeled, frequently flooded	5	1,549.4	0.2%
1030	Glenberg fine sandy loam, 0 to 2 percent slopes	5	43.8	0.0%
1034	Glenberg very fine sandy loam, 0 to 2 percent slopes	5	5,463.4	0.6%
1035	Glenberg loamy fine sand, 0 to 2 percent slopes	5	1,544.4	0.2%
1114	Bankard loamy fine sand, occasionally flooded	5	3,967.3	0.4%
1309	Bayard very fine sandy loam, 6 to 9 percent slopes	5	19.3	0.0%
1316	Bayard-Dix complex, 9 to 20 percent slopes	5	86.7	0.0%
1327	Bayard fine sandy loam, 0 to 3 percent slopes	5	201.1	0.0%
1361	Bridget very fine sandy loam, 0 to 1 percent slopes	5	2,290.1	0.3%
1362	Bridget very fine sandy loam, 1 to 3 percent slopes	5	3,282.4	0.4%
1363	Bridget very fine sandy loam, 3 to 6 percent slopes	5	3,378.9	0.4%
1364	Bridget very fine sandy loam, 6 to 9 percent slopes	5	3,635.1	0.4%
1365	Bridget very fine sandy loam, 9 to 20 percent slopes	5	3,469.3	0.4%
1406	Craft very fine sandy loam, rarely flooded	5	1,287.1	0.1%

T Factor— Summary by Map Unit — Morrill County, Nebraska (NE123)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1506	Altvan-Dix complex, 3 to 9 percent slopes	3	1,807.6	0.2%
1545	Dailey loamy fine sand, 0 to 3 percent slopes	5	4,115.9	0.4%
1546	Dailey loamy fine sand, 3 to 9 percent slopes	5	2,396.7	0.3%
1571	Dix gravelly loam, 9 to 50 percent slopes	2	265.9	0.0%
1574	Dix loamy coarse sand, 6 to 50 percent slopes	5	14,980.1	1.6%
1617	Keith loam, 0 to 1 percent slopes	5	1,988.0	0.2%
1618	Keith loam, 1 to 3 percent slopes	5	5,263.3	0.6%
1621	Keith loam, 3 to 6 percent slopes	5	1,998.9	0.2%
1622	Keith loam, 3 to 6 percent slopes, eroded	5	921.5	0.1%
1623	Keith loam, 6 to 9 percent slopes, eroded	5	1,023.8	0.1%
1704	Otero loamy very fine sand, 0 to 3 percent slopes	5	183.0	0.0%
1705	Otero loamy very fine sand, 0 to 6 percent slopes	5	4,791.6	0.5%
1707	Otero loamy very fine sand, 9 to 20 percent slopes	5	13,686.2	1.5%
1708	Otero variant very fine sandy loam, 0 to 1 percent slopes	5	1,511.2	0.2%
1709	Otero very fine sandy loam, 0 to 3 percent slopes	5	12,842.2	1.4%
1710	Otero very fine sandy loam, 3 to 6 percent slopes	5	7,587.6	0.8%
1711	Otero very fine sandy loam, 6 to 9 percent slopes	5	8,021.1	0.9%
1718	Otero-Epping complex, 9 to 60 percent slopes	5	152.6	0.0%
1719	Otero loamy very fine sand, 3 to 9 percent slopes	5	119.9	0.0%
1886	Valent fine sand, 3 to 9 percent slopes	5	9,381.1	1.0%

T Factor— Summary by Map Unit — Morrill County, Nebraska (NE123)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1889	Valent fine sand, rolling	5	45,383.2	5.0%
1890	Valent fine sand, rolling and hilly	5	2,672.6	0.3%
1892	Valent loamy fine sand, 3 to 9 percent slopes	5	20,068.8	2.2%
1895	Valent loamy sand, 0 to 3 percent slopes	5	19,414.2	2.1%
2306	McCook very fine sandy loam, 0 to 1 percent slopes	5	2,753.7	0.3%
4486	Dunday loamy fine sand, 0 to 3 percent slopes, dry	5	6,070.3	0.7%
4491	Dunday loamy fine sand, 3 to 9 percent slopes, dry	5	6,032.8	0.7%
4521	Els fine sand, 0 to 3 percent slopes	5	12,980.7	1.4%
4524	Els fine sand, calcareous, 0 to 3 percent slopes	5	267.6	0.0%
4527	Els loamy fine sand, 0 to 3 percent slopes	5	1,927.0	0.2%
4635	Hoffland fine sandy loam, 0 to 1 percent slopes	5	7,331.3	0.8%
4636	Hoffland fine sandy loam, frequently ponded	5	1,651.1	0.2%
4683	Marlake fine sandy loam, frequently ponded	5	1,823.3	0.2%
4691	Marlake mucky peat	5	3.3	0.0%
4693	Marlake very fine sandy loam, frequently ponded	2	53.3	0.0%
4793	Valentine fine sand, 3 to 9 percent slopes, dry	5	22,582.9	2.5%
4801	Valentine fine sand, hilly, 24 to 60 percent slopes, dry	5	9,792.4	1.1%
4808	Valentine fine sand, rolling, 9 to 24 percent slopes, dry	5	129,114.0	14.1%
4811	Valentine fine sand, rolling and hilly, 9 to 60 percent slopes, dry	5	68,574.2	7.5%
4812	Valentine loamy fine sand, 0 to 3 percent slopes, dry	5	2,623.6	0.3%

T Factor— Summary by Map Unit — Morrill County, Nebraska (NE123)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
4819	Valentine loamy fine sand, 3 to 9 percent slopes, dry	5	12,028.9	1.3%
4894	Wildhorse fine sand, 0 to 3 percent slopes	5	10,917.7	1.2%
4898	Wildhorse-lpage, calcareous complex, 0 to 3 percent slopes	5	26.6	0.0%
5123	Busher loamy very fine sand, 1 to 6 percent slopes	4	6,586.3	0.7%
5129	Busher loamy very fine sand, 9 to 20 percent slopes	4	1,739.4	0.2%
5130	Busher very fine sandy loam, 1 to 6 percent slopes	4	3,248.6	0.4%
5131	Busher very fine sandy loam, 6 to 9 percent slopes	4	3,631.7	0.4%
5132	Busher very fine sandy loam, 9 to 20 percent slopes	4	1,033.9	0.1%
5134	Busher-Jayem loamy very fine sands, 3 to 6 percent slopes	4	41.9	0.0%
5138	Busher-Tassel complex, 3 to 9 percent slopes	4	673.8	0.1%
5140	Busher-Tassel complex, 9 to 20 percent slopes	4	567.5	0.1%
5144	Busher-Tassel loamy very fine sands, 9 to 20 percent slopes	4	11,609.2	1.3%
5145	Busher-Tassel loamy very fine sand, 3 to 9 percent slopes	4	7,813.1	0.9%
5212	Oglala-Canyon very fine sandy loams, 3 to 9 percent slopes	4	3,838.9	0.4%
5281	Vetal fine sandy loam, 0 to 3 percent slopes	5	7,071.5	0.8%
5606	Broadwater loamy sand, channeled, frequently flooded	5	419.0	0.0%
5607	Broadwater loamy sand, channeled, occasionally flooded	5	1,210.2	0.1%
5613	Craft loamy very fine sand, 0 to 2 percent slopes	5	1,530.0	0.2%

T Factor— Summary by Map Unit — Morrill County, Nebraska (NE123)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5617	Craft very fine sandy loam, alkali, 0 to 2 percent slopes	5	2,232.3	0.2%
5631	Gering loam, alkali, occasionally flooded	3	3,498.6	0.4%
5643	Janise loam, occasionally flooded	5	11,047.5	1.2%
5648	Jankosh loam, rarely flooded	3	31.3	0.0%
5652	Lewellen-McCuligan complex, rarely flooded	2	74.9	0.0%
5656	Lisco very fine sandy loam, occasionally flooded	4	5,461.6	0.6%
5665	Minatare-Janise complex, rarely flooded	2	2,469.0	0.3%
5668	Rushcreek loam, rarely flooded	4	3.1	0.0%
5670	Yockey loam, alkali, occasionally flooded	5	20.9	0.0%
5671	Yockey silt loam, occasionally flooded	5	6,189.4	0.7%
5672	Yockey silt loam, alkali, occasionally flooded	5	7,460.9	0.8%
5673	Yockey very fine sandy loam, channeled, occasionally flooded	5	1,955.6	0.2%
5843	Mitchell very fine sandy loam, 0 to 1 percent slopes	5	2,742.5	0.3%
5844	Mitchell very fine sandy loam, 1 to 3 percent slopes	5	10,335.2	1.1%
5845	Mitchell very fine sandy loam, 3 to 6 percent slopes	5	8,036.7	0.9%
5846	Mitchell very fine sandy loam, 6 to 9 percent slopes	5	5,118.8	0.6%
5847	Mitchell very fine sandy loam, 9 to 20 percent slopes	5	3,592.4	0.4%
5850	Mitchell-Epping very fine sandy loams, 3 to 9 percent slopes	5	2,948.5	0.3%

T Factor— Summary by Map Unit — Morrill County, Nebraska (NE123)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5851	Mitchell-Epping very fine sandy loams, 9 to 20 percent slopes	5	1,938.5	0.2%
5873	Tripp very fine sandy loam, 0 to 1 percent slopes	5	7,228.2	0.8%
5874	Tripp very fine sandy loam, 1 to 3 percent slopes	5	8,670.3	0.9%
5875	Tripp very fine sandy loam, 3 to 6 percent slopes, eroded	5	1,975.5	0.2%
5876	Tripp very fine sandy loam, 3 to 6 percent slopes	5	3,775.8	0.4%
5877	Tripp very fine sandy loam, 6 to 9 percent slopes, eroded	5	2,339.5	0.3%
5878	Tripp very fine sandy loam, 6 to 9 percent slopes	5	872.7	0.1%
5901	Alice fine sandy loam, 0 to 3 percent slopes	5	8,958.0	1.0%
5902	Alice fine sandy loam, 3 to 6 percent slopes	5	5,237.3	0.6%
5903	Alice fine sandy loam, 6 to 9 percent slopes, eroded	5	4,060.6	0.4%
5904	Alice loamy fine sand, 0 to 3 percent slopes	5	2,783.6	0.3%
5905	Alice-Dix complex, 0 to 3 percent slopes	5	915.0	0.1%
5906	Alice-Dix complex, 3 to 6 percent slopes	5	950.4	0.1%
5907	Alice-Dix complex, 6 to 20 percent slopes	5	7,943.2	0.9%
5910	Angora very fine sandy loam, 1 to 6 percent slopes	5	2,430.6	0.3%
5911	Angora very fine sandy loam, 6 to 20 percent slopes	5	3,071.8	0.3%
5917	Ashollow-Tassel complex, 9 to 30 percent slopes	5	297.7	0.0%
5925	Blueridge coarse sand, 6 to 30 percent slopes	5	297.5	0.0%

T Factor— Summary by Map Unit — Morrill County, Nebraska (NE123)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5929	Blueridge gravelly sandy loam, 20 to 30 percent slopes	5	43.0	0.0%
5935	Creighton very fine sandy loam, 3 to 6 percent slopes	5	4,660.8	0.5%
5942	Duroc loam, 0 to 1 percent slopes	5	6,195.2	0.7%
5943	Duroc loam, 1 to 3 percent slopes	5	7,662.2	0.8%
5944	Duroc loam, 1 to 6 percent slopes	5	8.5	0.0%
5948	Duroc loam, 3 to 6 percent slopes	5	1,022.0	0.1%
5965	Jayem fine sandy loam, 0 to 3 percent slopes	5	11,759.6	1.3%
5966	Jayem fine sandy loam, 3 to 6 percent slopes	5	9,279.1	1.0%
5967	Jayem fine sandy loam, 6 to 9 percent slopes	5	6,333.0	0.7%
5968	Jayem fine sandy loam, 9 to 20 percent slopes	5	2,832.1	0.3%
5970	Jayem loamy fine sand, 0 to 3 percent slopes	5	2,674.5	0.3%
5972	Jayem loamy fine sand, 3 to 6 percent slopes	5	8,443.6	0.9%
5983	Rock outcrop-Tassel complex, 6 to 70 percent slopes		22,220.5	2.4%
6010	Sarben very fine sandy loam, 1 to 3 percent slopes	5	5,522.0	0.6%
6011	Sarben very fine sandy loam, 3 to 9 percent slopes	5	6,733.8	0.7%
6022	Tassel-Busher complex, 3 to 30 percent slopes	2	4,842.1	0.5%
6025	Tassel loamy very fine sand, 20 to 50 percent slopes	2	20,440.8	2.2%
6030	Tassel-Ashollow-Rock outcrop complex, 20 to 60 percent slopes	2	39.7	0.0%
6033	Tassel-Busher loamy very fine sands, 3 to 30 percent slopes	2	42,787.0	4.7%
6034	Tassel-Busher-Rock outcrop complex, 9 to 60 percent slopes	2	3,507.9	0.4%

T Factor— Summary by Map Unit — Morrill County, Nebraska (NE123)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
6035	Tassel-Busher-Rock outcrop complex, 20 to 60 percent slopes	2	686.2	0.1%
6044	Tassel-Rock outcrop complex, 20 to 60 percent slopes	2	1,281.8	0.1%
6050	Rock outcrop-Epping complex, 20 to 60 percent slopes	2	2,234.1	0.2%
6095	Sarben loamy fine sand, 3 to 6 percent slopes	5	4.7	0.0%
6096	Sarben loamy fine sand, 6 to 9 percent slopes	5	34.0	0.0%
6102	Sarben loamy very fine sand, 0 to 3 percent slopes	5	393.1	0.0%
6105	Sarben loamy very fine sand, 3 to 9 percent slopes	5	3,411.0	0.4%
6107	Sarben loamy very fine sand, 9 to 20 percent slopes	5	1,786.2	0.2%
6204	Epping-Keota silt loams, 3 to 30 percent slopes	2	5,552.0	0.6%
6312	Barney loam, frequently flooded	5	7,838.4	0.9%
8493	Gothenburg loamy sand, frequently flooded	5	6,940.9	0.8%
8563	Platte loam, occasionally flooded	2	1,495.5	0.2%
9967	Sanitary landfill		37.9	0.0%
9970	Aquolls	5	547.5	0.1%
9971	Arents, earthen dam		35.1	0.0%
9976	Borrow pit		7.7	0.0%
9983	Gravel pit		399.1	0.0%
9986	Miscellaneous water, sewage lagoon		155.3	0.0%
9999	Water		4,485.9	0.5%
Totals for Area of Interest			914,954.1	100.0%

Description

The T factor is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Rating Options

Units of Measure: tons per acre per year

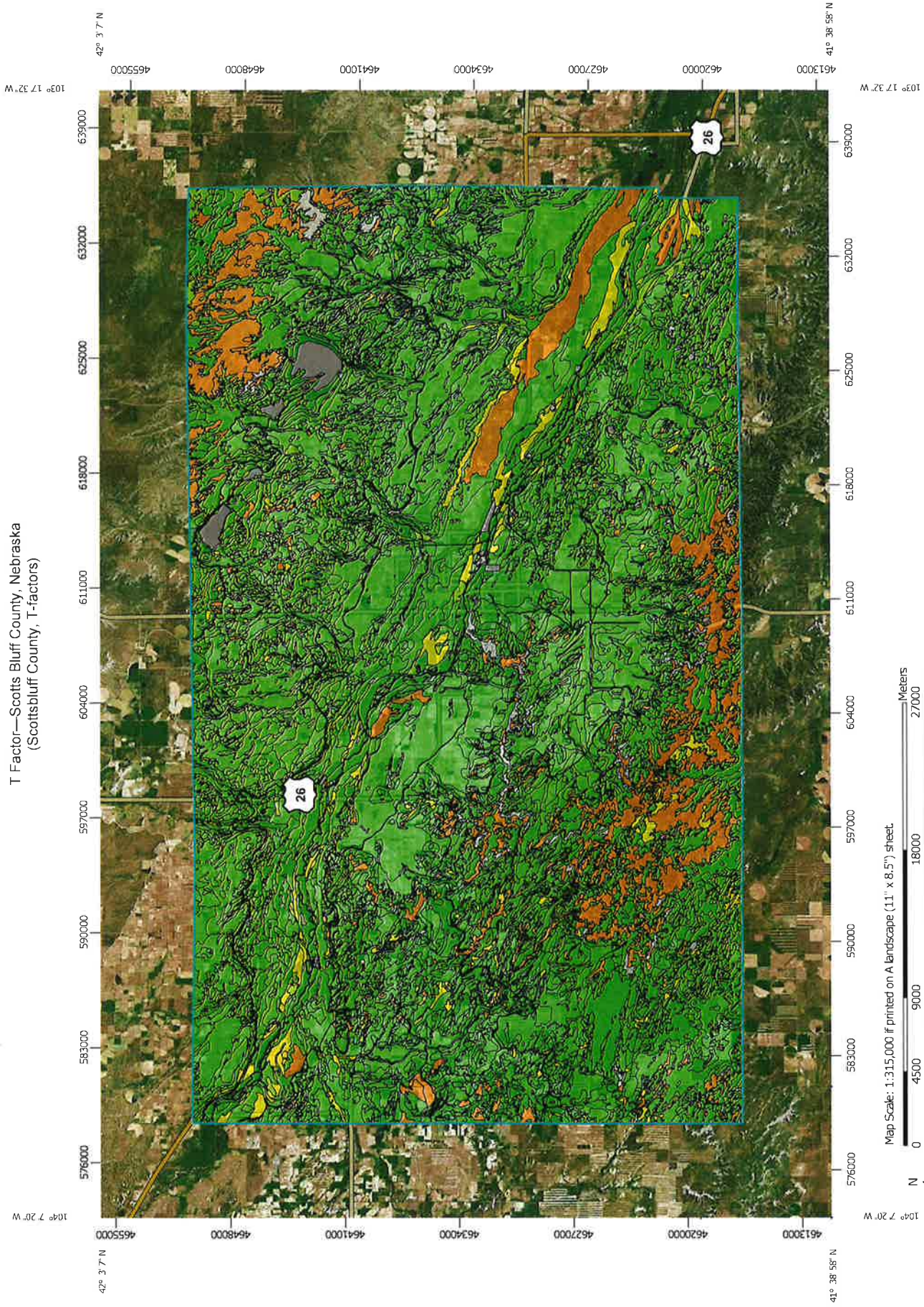
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

T Factor—Scotts Bluff County, Nebraska
(Scottsbluff County, T-factors)

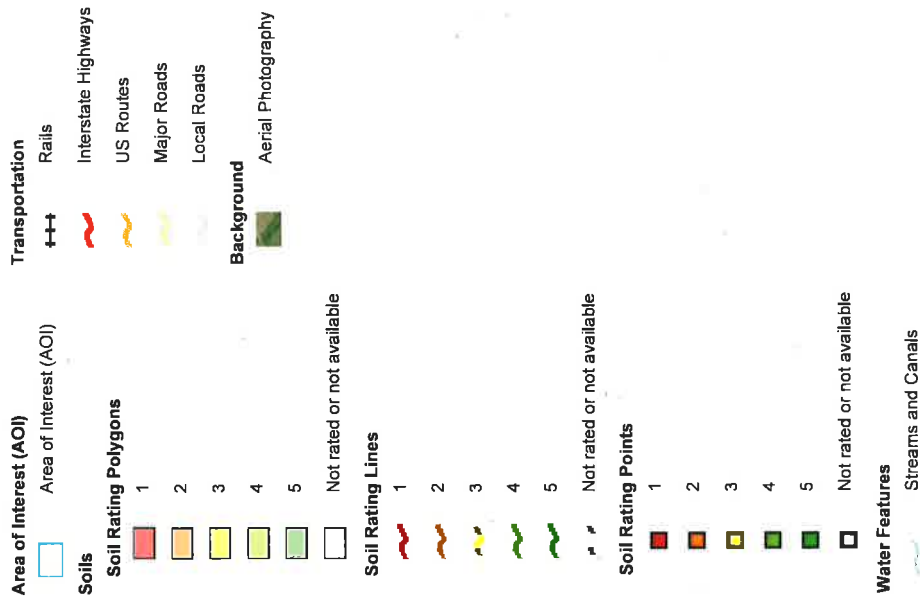


Map Scale: 1:315,000 if printed on A landscape (11" x 8.5") sheet.

0 4500 9000 18000 27000 Meters
0 15000 30000 60000 90000 Feet

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

MAP LEGEND



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: <http://websoilsurvey.nrcs.usda.gov>
 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: Scotts Bluff County, Nebraska
 Survey Area Data: Version 15, Sep 12, 2016

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

Date(s) aerial images were photographed: Jan 1, 1999—Dec 31, 2003

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.

T Factor

T Factor— Summary by Map Unit — Scotts Bluff County, Nebraska (NE157)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1001	Bankard fine sand, channeled, frequently flooded	5	319.8	0.1%
1004	Bankard loamy fine sand, 0 to 2 percent slopes	5	198.4	0.0%
1008	Bankard loamy fine sand, wet variant	5	875.3	0.2%
1030	Glenberg fine sandy loam, 0 to 2 percent slopes	5	4,648.8	1.0%
1033	Glenberg fine sandy loam, frequently flooded	5	621.4	0.1%
1114	Bankard loamy fine sand, occasionally flooded	5	23.3	0.0%
1180	Las Animas fine sandy loam, occasionally flooded	4	3,121.0	0.7%
1181	Las Animas fine sandy loam, channeled, frequently flooded	5	3.4	0.0%
1182	Las Animas loam, occasionally flooded	4	592.8	0.1%
1301	Bayard fine sandy loam, 3 to 6 percent slopes	5	6,329.3	1.3%
1302	Bayard fine sandy loam, 6 to 9 percent slopes	5	4,962.1	1.0%
1303	Bayard fine sandy loam, 9 to 20 percent slopes	5	3,075.6	0.6%
1307	Bayard very fine sandy loam, 1 to 3 percent slopes	5	341.8	0.1%
1308	Bayard very fine sandy loam, 3 to 6 percent slopes	5	1,235.6	0.3%
1309	Bayard very fine sandy loam, 6 to 9 percent slopes	5	1,580.9	0.3%
1310	Bayard very fine sandy loam, 9 to 20 percent slopes	5	81.5	0.0%

T Factor— Summary by Map Unit — Scotts Bluff County, Nebraska (NE157)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1315	Bayard-Dix complex, 3 to 9 percent slopes	5	10.0	0.0%
1327	Bayard fine sandy loam, 0 to 3 percent slopes	5	773.4	0.2%
1361	Bridget very fine sandy loam, 0 to 1 percent slopes	5	2,784.6	0.6%
1362	Bridget very fine sandy loam, 1 to 3 percent slopes	5	15,624.1	3.3%
1363	Bridget very fine sandy loam, 3 to 6 percent slopes	5	6,071.1	1.3%
1364	Bridget very fine sandy loam, 6 to 9 percent slopes	5	3,221.1	0.7%
1365	Bridget very fine sandy loam, 9 to 20 percent slopes	5	2,240.5	0.5%
1366	Bridget-Otero complex, 3 to 6 percent slopes, eroded	5	1,989.3	0.4%
1367	Bridget-Otero complex, 6 to 9 percent slopes	5	1,445.8	0.3%
1373	Chappell-Dix complex, 1 to 3 percent slopes	3	320.4	0.1%
1375	Chappell-Dix complex, 3 to 6 percent slopes	3	1,103.9	0.2%
1506	Altvan-Dix complex, 3 to 9 percent slopes	3	204.1	0.0%
1545	Dailey loamy fine sand, 0 to 3 percent slopes	5	421.3	0.1%
1549	Dailey and Valent loamy fine sands, 0 to 3 percent slopes	5	8,172.0	1.7%
1550	Dailey and Valent loamy fine sands, 3 to 6 percent slopes	5	10,321.7	2.2%
1570	Dix complex, 6 to 30 percent slopes	5	1,349.0	0.3%
1574	Dix loamy coarse sand, 6 to 50 percent slopes	5	42.1	0.0%
1575	Dix-Bayard complex, 6 to 20 percent slopes	5	3,418.5	0.7%
1624	Keith loam, alkali substratum variant, 0 to 3 percent slopes	5	600.5	0.1%
1656	Laird fine sandy loam, 0 to 2 percent slopes	3	530.7	0.1%

T Factor— Summary by Map Unit — Scotts Bluff County, Nebraska (NE157)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1700	Otero loamy fine sand, 0 to 6 percent slopes	5	1,060.0	0.2%
1701	Otero fine sandy loam, 1 to 6 percent slopes	5	4,125.6	0.9%
1702	Otero fine sandy loam, 6 to 12 percent slopes	5	1,491.3	0.3%
1704	Otero loamy very fine sand, 0 to 3 percent slopes	5	556.7	0.1%
1708	Otero variant very fine sandy loam, 0 to 1 percent slopes	5	100.9	0.0%
1709	Otero very fine sandy loam, 0 to 3 percent slopes	5	293.6	0.1%
1710	Otero very fine sandy loam, 3 to 6 percent slopes	5	99.7	0.0%
1711	Otero very fine sandy loam, 6 to 9 percent slopes	5	37.4	0.0%
1712	Otero-Bayard fine sandy loams, 0 to 3 percent slopes	5	16,702.9	3.5%
1713	Otero-Bayard fine sandy loams, 3 to 6 percent slopes	5	4,356.8	0.9%
1714	Otero-Bayard fine sandy loams, 6 to 9 percent slopes	5	2,528.4	0.5%
1715	Otero-Bayard very fine sandy loams, 0 to 1 percent slopes	5	1,244.2	0.3%
1718	Otero-Epping complex, 9 to 60 percent slopes	5	291.2	0.1%
1729	Rosebud loam, 6 to 9 percent slopes	3	1,201.4	0.3%
1809	Satanta fine sandy loam, 1 to 3 percent slopes	5	439.0	0.1%
1826	Sulco complex, 9 to 60 percent slopes	5	2,799.0	0.6%
1880	Valent and Dwyer fine sands, rolling	5	7,596.7	1.6%
1883	Valent and Dwyer loamy fine sands, rolling	5	7,404.0	1.6%
1886	Valent fine sand, 3 to 9 percent slopes	5	1,677.1	0.4%
1889	Valent fine sand, rolling	5	2,116.8	0.4%

T Factor— Summary by Map Unit — Scotts Bluff County, Nebraska (NE157)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1892	Valent loamy fine sand, 3 to 9 percent slopes	5	1,007.3	0.2%
1895	Valent loamy sand, 0 to 3 percent slopes	5	249.2	0.1%
2302	McCook loam, rarely flooded	5	8,476.5	1.8%
2307	McCook silty clay loam, gravel substratum variant	3	237.2	0.0%
4680	Marlake, frequently ponded	5	327.3	0.1%
4895	Wildhorse loamy fine sand, 0 to 3 percent slopes	5	871.5	0.2%
5025	Pathfinder loamy fine sand, rarely flooded	5	328.8	0.1%
5051	Arvada clay loam, 0 to 1 percent slopes	2	409.9	0.1%
5123	Busher loamy very fine sand, 1 to 6 percent slopes	4	671.3	0.1%
5133	Busher-Jayem loamy very fine sands, 0 to 3 percent slopes	4	173.1	0.0%
5134	Busher-Jayem loamy very fine sands, 3 to 6 percent slopes	4	226.2	0.0%
5137	Busher-Tassel complex, 0 to 6 percent slopes	4	31.0	0.0%
5143	Busher-Tassel loamy very fine sands, 6 to 30 percent slopes	4	258.0	0.1%
5144	Busher-Tassel loamy very fine sands, 9 to 20 percent slopes	4	734.2	0.2%
5185	Keota-Epping silt loams, 6 to 9 percent slopes	3	1,367.9	0.3%
5281	Vetal fine sandy loam, 0 to 3 percent slopes	5	28.4	0.0%
5630	Gering loam, rarely flooded	3	821.1	0.2%
5631	Gering loam, alkali, occasionally flooded	3	1,304.9	0.3%
5632	Platte soils, occasionally flooded	5	1,673.1	0.4%
5636	Haverson fine sandy loam, rarely flooded	5	2,948.1	0.6%

T Factor— Summary by Map Unit — Scotts Bluff County, Nebraska (NE157)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5643	Janise loam, occasionally flooded	5	48.9	0.0%
5647	Janise soils, rarely flooded	5	8,274.0	1.7%
5660	McGrew fine sandy loam	3	569.5	0.1%
5661	McGrew loam	3	1,074.0	0.2%
5662	McGrew loam, alkali, occasionally flooded	3	2,675.7	0.6%
5665	Minatare-Janise complex, rarely flooded	2	6,270.8	1.3%
5666	Minatare-Janise soils, rarely flooded	2	1,745.8	0.4%
5671	Yockey silt loam, occasionally flooded	5	186.8	0.0%
5672	Yockey silt loam, alkali, occasionally flooded	5	165.6	0.0%
5674	Yockey fine sandy loam, occasionally flooded	5	2,631.6	0.6%
5675	Yockey loam, occasionally flooded	5	11,486.0	2.4%
5811	Buffington silty clay loam, 0 to 1 percent slopes	5	1,193.7	0.3%
5812	Buffington silty clay loam, 1 to 3 percent slopes	5	323.3	0.1%
5813	Buffington silty clay loam, alkali, 0 to 1 percent slopes	5	565.2	0.1%
5830	Mitchell and Buffington soils, alkali, 0 to 3 percent slopes	5	3,280.4	0.7%
5831	Mitchell fine sandy loam, 0 to 3 percent slopes	5	2,611.3	0.5%
5832	Mitchell fine sandy loam, 3 to 6 percent slopes	5	1,208.7	0.3%
5833	Mitchell fine sandy loam, 6 to 9 percent slopes	5	640.3	0.1%
5834	Mitchell silt loam, 0 to 1 percent slopes	5	34,661.1	7.3%
5835	Mitchell silt loam, 1 to 3 percent slopes	5	28,751.3	6.0%
5837	Mitchell silt loam, 3 to 6 percent slopes	5	17,322.7	3.6%
5838	Mitchell silt loam, 6 to 9 percent slopes	5	12,757.3	2.7%

T Factor— Summary by Map Unit — Scotts Bluff County, Nebraska (NE157)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5839	Mitchell silt loam, 9 to 20 percent slopes	5	3.4	0.0%
5840	Mitchell silt loam, thin, 1 to 6 percent slopes	5	2,235.4	0.5%
5841	Mitchell silt loam, thin, 6 to 9 percent slopes	5	4,556.4	1.0%
5842	Mitchell silt loam, thin, 9 to 20 percent slopes	5	3,951.4	0.8%
5843	Mitchell very fine sandy loam, 0 to 1 percent slopes	5	391.9	0.1%
5844	Mitchell very fine sandy loam, 1 to 3 percent slopes	5	330.0	0.1%
5845	Mitchell very fine sandy loam, 3 to 6 percent slopes	5	26.9	0.0%
5846	Mitchell very fine sandy loam, 6 to 9 percent slopes	5	319.3	0.1%
5848	Mitchell-Epping complex, 3 to 9 percent slopes	5	30.0	0.0%
5849	Mitchell-Epping complex, 9 to 30 percent slopes	5	662.0	0.1%
5852	Mitchell silt loam, wet variant, 0 to 1 percent slopes	5	1,780.1	0.4%
5855	Scoville fine sand, 0 to 1 percent slopes	5	1,472.3	0.3%
5856	Scoville fine sand, 1 to 3 percent slopes	5	35.4	0.0%
5857	Scoville loamy fine sand, 0 to 1 percent slopes	5	87.9	0.0%
5858	Scoville loamy fine sand, 0 to 3 percent slopes	5	1,136.5	0.2%
5864	Tripp fine sandy loam, 0 to 3 percent slopes	5	3,630.7	0.8%
5873	Tripp very fine sandy loam, 0 to 1 percent slopes	5	23,709.4	5.0%
5874	Tripp very fine sandy loam, 1 to 3 percent slopes	5	5,762.4	1.2%
5875	Tripp very fine sandy loam, 3 to 6 percent slopes, eroded	5	2,445.4	0.5%

T Factor— Summary by Map Unit — Scotts Bluff County, Nebraska (NE157)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5877	Tripp very fine sandy loam, 6 to 9 percent slopes, eroded	5	331.6	0.1%
5900	Alice fine sandy loam, 0 to 1 percent slopes	5	565.1	0.1%
5901	Alice fine sandy loam, 0 to 3 percent slopes	5	13,755.7	2.9%
5902	Alice fine sandy loam, 3 to 6 percent slopes	5	3,673.8	0.8%
5904	Alice loamy fine sand, 0 to 3 percent slopes	5	2,385.7	0.5%
5906	Alice-Dix complex, 3 to 6 percent slopes	5	659.9	0.1%
5910	Angora very fine sandy loam, 1 to 6 percent slopes	5	73.3	0.0%
5915	Ashollow loamy very fine sand, 3 to 9 percent slopes	5	1,029.9	0.2%
5916	Ashollow loamy very fine sand, 9 to 20 percent slopes	5	381.3	0.1%
5926	Blueridge gravelly loamy sand, 20 to 50 percent slopes	5	319.5	0.1%
5928	Blueridge-Bayard complex, 6 to 20 percent slopes	5	444.6	0.1%
5929	Blueridge gravelly sandy loam, 20 to 30 percent slopes	5	3,170.8	0.7%
5935	Creighton very fine sandy loam, 3 to 6 percent slopes	5	1,037.9	0.2%
5936	Creighton very fine sandy loam, 6 to 11 percent slopes	5	1,725.3	0.4%
5944	Duroc loam, 1 to 6 percent slopes	5	1,401.9	0.3%
5965	Jayem fine sandy loam, 0 to 3 percent slopes	5	2,579.6	0.5%
5966	Jayem fine sandy loam, 3 to 6 percent slopes	5	3,383.5	0.7%
5967	Jayem fine sandy loam, 6 to 9 percent slopes	5	4,698.1	1.0%
5968	Jayem fine sandy loam, 9 to 20 percent slopes	5	3,439.5	0.7%

T Factor— Summary by Map Unit — Scotts Bluff County, Nebraska (NE157)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5976	Jayem loamy very fine sand, 0 to 3 percent slopes	5	16.8	0.0%
5979	Jayem loamy very fine sand, 3 to 6 percent slopes	5	266.2	0.1%
5980	Jayem loamy very fine sand, 6 to 9 percent slopes	5	453.7	0.1%
5983	Rock outcrop-Tassel complex, 6 to 70 percent slopes		4,238.6	0.9%
5986	Orella clay, 0 to 3 percent slopes	2	814.6	0.2%
5989	Rock outcrop-Epping complex	2	2,993.1	0.6%
6021	Shingle complex, 3 to 9 percent slopes	2	171.8	0.0%
6022	Tassel-Busher complex, 3 to 30 percent slopes	2	7,257.9	1.5%
6025	Tassel loamy very fine sand, 20 to 50 percent slopes	2	439.1	0.1%
6027	Tassel soils, 20 to 50 percent slopes	2	14,213.7	3.0%
6031	Tassel-Ashollow-Rock outcrop complex, 9 to 60 percent slopes	2	3,048.3	0.6%
6033	Tassel-Busher loamy very fine sands, 3 to 30 percent slopes	2	1,460.1	0.3%
6035	Tassel-Busher-Rock outcrop complex, 20 to 60 percent slopes	2	2,934.7	0.6%
6044	Tassel-Rock outcrop complex, 20 to 60 percent slopes	2	230.7	0.0%
6050	Rock outcrop-Epping complex, 20 to 60 percent slopes	2	83.1	0.0%
6105	Sarben loamy very fine sand, 3 to 9 percent slopes	5	192.4	0.0%
6200	Epping silt loam, 1 to 3 percent slopes	2	808.0	0.2%
6201	Epping silt loam, 3 to 30 percent slopes	2	6,275.6	1.3%

T Factor— Summary by Map Unit — Scotts Bluff County, Nebraska (NE157)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
6203	Epping-Badland complex, 3 to 60 percent slopes	2	33.9	0.0%
6204	Epping-Keota silt loams, 3 to 30 percent slopes	2	6.6	0.0%
6240	Keota silt loam, 1 to 3 percent slopes	3	743.5	0.2%
6241	Keota silt loam, 3 to 6 percent slopes	3	1,315.1	0.3%
6312	Barney loam, frequently flooded	5	7,459.5	1.6%
8493	Gothenburg loamy sand, frequently flooded	5	85.0	0.0%
8495	Gothenburg soils, frequently flooded	5	7,047.4	1.5%
9826	Slickspots-Keith complex	5	925.9	0.2%
9970	Aquolls	5	1,061.7	0.2%
9971	Arents, earthen dam		62.0	0.0%
9973	Badland		1,150.9	0.2%
9976	Borrow pit		60.5	0.0%
9983	Gravel pit		438.8	0.1%
9986	Miscellaneous water, sewage lagoon		419.9	0.1%
9999	Water		7,292.7	1.5%
Totals for Area of Interest			476,992.7	100.0%

Description

The T factor is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Rating Options

Units of Measure: tons per acre per year

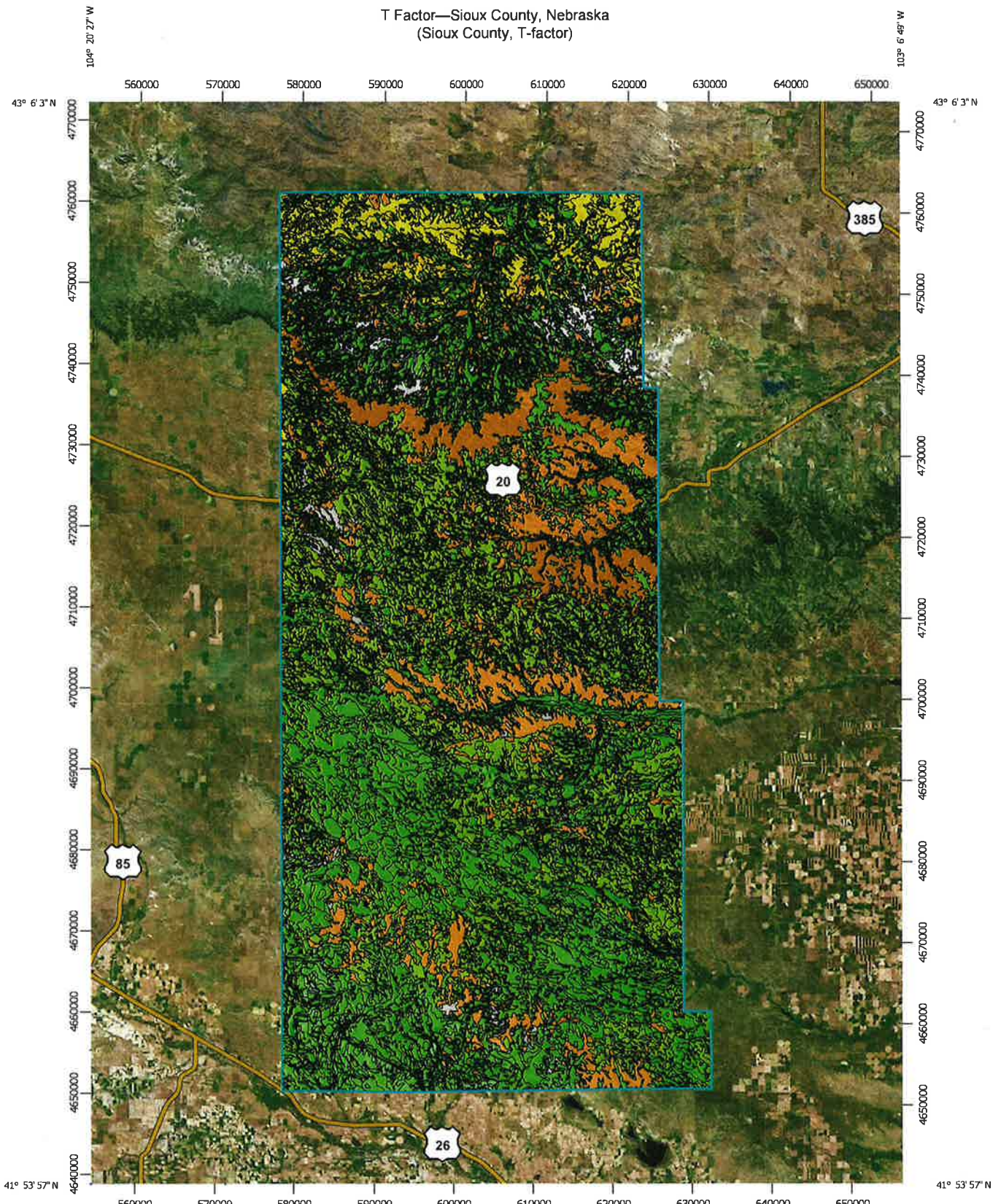
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

T Factor—Sioux County, Nebraska
(Sioux County, T-factor)



Map Scale: 1:650,000 if printed on A portrait (8.5" x 11") sheet.

0 5000 10000 20000 30000 Meters

0 30000 60000 120000 180000 Feet

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






























Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

12/22/2016
Page 1 of 9

MAP LEGEND

 Area of Interest (AOI)	 Railroads
 1	 Interstate Highways
 2	 US Routes
 3	 Major Roads
 4	 Local Roads
 5	 Local Roads
 Not rated or not available	 Aerial Photography
 1	
 2	
 3	
 4	
 5	
 Not rated or not available	
 1	
 2	
 3	
 4	
 5	
 Not rated or not available	
 Streams and Canals	

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: <http://websoilsurvey.nrcs.usda.gov>
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: Sioux County, Nebraska
Survey Area Data: Version 18, Sep 12, 2016

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

Date(s) aerial images were photographed: Jan 1, 1999—Dec 31, 2003

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.

T Factor

T Factor— Summary by Map Unit — Sioux County, Nebraska (NE165)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1006	Bankard loamy fine sand, channeled, 0 to 2 percent slopes, frequently flooded	5	2,456.6	0.2%
1030	Glenberg fine sandy loam, 0 to 2 percent slopes	5	1,937.1	0.1%
1031	Glenberg fine sandy loam, channeled, frequently flooded	5	7,350.1	0.6%
1114	Bankard loamy fine sand, occasionally flooded	5	1,444.0	0.1%
1180	Las Animas fine sandy loam, occasionally flooded	5	2,276.7	0.2%
1181	Las Animas fine sandy loam, channeled, frequently flooded	5	602.4	0.0%
1188	Las Animas-Lisco complex, occasionally flooded	5	5,481.8	0.4%
1301	Bayard fine sandy loam, 3 to 6 percent slopes	5	4,081.2	0.3%
1326	Bayard fine sandy loam, 0 to 1 percent slopes	5	136.7	0.0%
1327	Bayard fine sandy loam, 0 to 3 percent slopes	5	1,449.8	0.1%
1363	Bridget very fine sandy loam, 3 to 6 percent slopes	5	1,396.4	0.1%
1364	Bridget very fine sandy loam, 6 to 9 percent slopes	5	1,999.1	0.2%
1365	Bridget very fine sandy loam, 9 to 20 percent slopes	5	1,722.6	0.1%
1618	Keith loam, 1 to 3 percent slopes	5	724.6	0.1%
1621	Keith loam, 3 to 6 percent slopes	5	1,037.2	0.1%
1704	Otero loamy very fine sand, 0 to 3 percent slopes	5	22,025.5	1.7%

T Factor— Summary by Map Unit — Sioux County, Nebraska (NE165)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
1818	Satanta very fine sandy loam, 1 to 3 percent slopes	5	4,735.1	0.4%
1819	Satanta very fine sandy loam, 3 to 6 percent slopes	5	1,304.9	0.1%
1884	Valent complex, rolling and hilly	5	31,966.4	2.4%
1885	Valent fine sand, 0 to 3 percent slopes	5	3,229.6	0.2%
1886	Valent fine sand, 3 to 9 percent slopes	5	33,721.3	2.5%
1887	Valent fine sand, 9 to 20 percent slopes	5	48,284.4	3.6%
1891	Valent loamy fine sand, 0 to 3 percent slopes	5	22,661.1	1.7%
1892	Valent loamy fine sand, 3 to 9 percent slopes	5	70,129.8	5.3%
4895	Wildhorse loamy fine sand, 0 to 3 percent slopes	5	1,190.9	0.1%
5000	Interior silty clay, channeled, frequently flooded	5	4,003.2	0.3%
5004	Lohmiller silty clay loam, rarely flooded	5	810.5	0.1%
5005	Lohmiller silty clay loam, channeled, 0 to 2 percent slopes, frequently flooded	5	4,915.8	0.4%
5006	Lohmiller silty clay, occasionally flooded	5	1,488.0	0.1%
5025	Pathfinder loamy fine sand, rarely flooded	5	481.3	0.0%
5050	Arvada loam, 0 to 3 percent slopes	2	9,234.4	0.7%
5055	Buften clay loam, 0 to 1 percent slopes	5	3,676.8	0.3%
5056	Buften clay loam, 1 to 3 percent slopes	5	16,314.5	1.2%
5101	Alliance loam, 1 to 3 percent slopes	4	1,766.8	0.1%
5102	Alliance loam, 3 to 6 percent slopes	4	1,153.6	0.1%
5111	Bahl clay, 0 to 6 percent slopes	5	94.2	0.0%
5112	Buften clay loam, 3 to 9 percent slopes	5	24,265.0	1.8%

T Factor— Summary by Map Unit — Sioux County, Nebraska (NE165)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5113	Buften clay loam, 9 to 20 percent slopes	5	6,887.3	0.5%
5122	Busher loamy very fine sand, 0 to 3 percent slopes	4	7,916.9	0.6%
5125	Busher loamy very fine sand, 3 to 6 percent slopes	4	26,876.0	2.0%
5126	Busher loamy very fine sand, 6 to 9 percent slopes	4	9,613.6	0.7%
5136	Busher-Phiferson complex, 0 to 6 percent slopes	4	752.0	0.1%
5137	Busher-Tassel complex, 0 to 6 percent slopes	4	31,939.0	2.4%
5143	Busher-Tassel loamy very fine sands, 6 to 30 percent slopes	4	131,340.2	9.9%
5191	Norrest clay loam, 1 to 3 percent slopes	3	1,005.2	0.1%
5192	Norrest clay loam, 3 to 9 percent slopes	3	2,365.2	0.2%
5197	Norrest silty clay loam, 9 to 20 percent slopes	3	3.1	0.0%
5201	Oglala very fine sandy loam, 1 to 3 percent slopes	4	20,310.7	1.5%
5202	Oglala very fine sandy loam, 3 to 6 percent slopes	4	12,753.1	1.0%
5203	Oglala very fine sandy loam, 6 to 9 percent slopes	4	1,119.1	0.1%
5206	Oglala-Canyon complex, 3 to 9 percent slopes	4	48,432.1	3.7%
5215	Oglala-Canyon very fine sandy loams, 9 to 30 percent slopes	4	31,521.1	2.4%
5225	Pierre clay, 2 to 6 percent slopes	3	5,795.2	0.4%
5226	Pierre clay, 6 to 20 percent slopes	3	33,492.3	2.5%
5230	Ponderosa loamy very fine sand, 6 to 9 percent slopes	5	2,775.9	0.2%
5231	Ponderosa loamy very fine sand, 9 to 20 percent slopes	5	5,451.2	0.4%

T Factor— Summary by Map Unit — Sioux County, Nebraska (NE165)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5234	Ponderosa-Tassel-Vetal complex, 6 to 30 percent slopes	5	26,098.6	2.0%
5241	Pierre-Samsil, moderately deep silty clays, 6 to 25 percent slopes	3	33,883.1	2.6%
5242	Samsil-Rock outcrop complex, 10 to 50 percent slopes	2	2,759.9	0.2%
5247	Savo silty clay loam, 0 to 2 percent slopes	5	1,290.7	0.1%
5248	Savo silty clay loam, 2 to 6 percent slopes	5	787.4	0.1%
5253	Schamber gravelly sandy loam, 3 to 30 percent slopes	5	2,823.2	0.2%
5260	Thirtynine loam, 1 to 3 percent slopes	5	5,779.6	0.4%
5261	Thirtynine loam, 3 to 6 percent slopes	5	6,562.5	0.5%
5262	Thirtynine loam, 6 to 9 percent slopes	5	6,460.1	0.5%
5281	Vetal fine sandy loam, 0 to 3 percent slopes	5	1,177.5	0.1%
5291	Vetal very fine sandy loam, 1 to 3 percent slopes	5	15,292.8	1.2%
5292	Vetal very fine sandy loam, 3 to 6 percent slopes	5	7,938.6	0.6%
5355	Hisle-Slickspots complex, 0 to 6 percent slopes	2	2,376.8	0.2%
5358	Kyle silty clay, 0 to 2 percent slopes	5	2,873.6	0.2%
5359	Kyle silty clay, 2 to 6 percent slopes	5	7,397.5	0.6%
5600	Bigwinder fine sandy loam, frequently flooded	5	1,368.5	0.1%
5610	Craft loam, 0 to 2 percent slopes	5	2,530.5	0.2%
5611	Craft loam, occasionally flooded	5	1,399.6	0.1%
5612	Craft loam, channeled, frequently flooded	5	5,422.6	0.4%

T Factor— Summary by Map Unit — Sioux County, Nebraska (NE165)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5620	Draknab loamy fine sand, 0 to 3 percent slopes	5	106.9	0.0%
5640	Haverson loam, 0 to 3 percent slopes, frequently flooded	5	6.6	0.0%
5656	Lisco very fine sandy loam, occasionally flooded	5	2,917.4	0.2%
5834	Mitchell silt loam, 0 to 1 percent slopes	5	1,441.8	0.1%
5835	Mitchell silt loam, 1 to 3 percent slopes	5	2,147.1	0.2%
5837	Mitchell silt loam, 3 to 6 percent slopes	5	3,255.1	0.2%
5838	Mitchell silt loam, 6 to 9 percent slopes	5	888.4	0.1%
5839	Mitchell silt loam, 9 to 20 percent slopes	5	3,572.9	0.3%
5843	Mitchell very fine sandy loam, 0 to 1 percent slopes	5	1,169.8	0.1%
5844	Mitchell very fine sandy loam, 1 to 3 percent slopes	5	5,370.8	0.4%
5845	Mitchell very fine sandy loam, 3 to 6 percent slopes	5	2,911.9	0.2%
5848	Mitchell-Epping complex, 3 to 9 percent slopes	5	2,635.7	0.2%
5849	Mitchell-Epping complex, 9 to 30 percent slopes	5	4,288.5	0.3%
5855	Scoville fine sand, 0 to 1 percent slopes	5	3,724.8	0.3%
5856	Scoville fine sand, 1 to 3 percent slopes	5	2,438.5	0.2%
5857	Scoville loamy fine sand, 0 to 1 percent slopes	5	3,600.9	0.3%
5858	Scoville loamy fine sand, 0 to 3 percent slopes	5	1,766.7	0.1%
5862	Skilak silty clay loam, 6 to 20 percent slopes	5	1,230.4	0.1%
5873	Tripp very fine sandy loam, 0 to 1 percent slopes	5	4,476.6	0.3%

T Factor— Summary by Map Unit — Sioux County, Nebraska (NE165)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
5874	Tripp very fine sandy loam, 1 to 3 percent slopes	5	1,148.8	0.1%
5900	Alice fine sandy loam, 0 to 1 percent slopes	5	2,842.6	0.2%
5901	Alice fine sandy loam, 0 to 3 percent slopes	5	2,546.6	0.2%
5902	Alice fine sandy loam, 3 to 6 percent slopes	5	1,040.6	0.1%
5915	Ashollow loamy very fine sand, 3 to 9 percent slopes	5	33,505.9	2.5%
5916	Ashollow loamy very fine sand, 9 to 20 percent slopes	5	8,596.4	0.6%
5926	Blueridge gravelly loamy sand, 20 to 50 percent slopes	5	3,159.2	0.2%
5928	Blueridge-Bayard complex, 6 to 20 percent slopes	5	12,380.6	0.9%
5976	Jayem loamy very fine sand, 0 to 3 percent slopes	5	42,213.0	3.2%
5979	Jayem loamy very fine sand, 3 to 6 percent slopes	5	21,453.2	1.6%
5980	Jayem loamy very fine sand, 6 to 9 percent slopes	5	2,390.7	0.2%
5983	Rock outcrop-Tassel complex, 6 to 70 percent slopes		15,641.5	1.2%
5984	Olney loam, 3 to 9 percent slopes	5	2,932.7	0.2%
5985	Phiferson-Tassel-Rock outcrop complex, 6 to 30 percent slopes	3	1,171.4	0.1%
5987	Orella clay, 1 to 30 percent slopes	2	6,302.8	0.5%
6012	Sarben-Busher complex, 0 to 3 percent slopes	5	1,079.3	0.1%
6013	Sarben-Busher complex, 3 to 9 percent slopes	5	596.8	0.0%
6031	Tassel-Ashollow-Rock outcrop complex, 9 to 60 percent slopes	2	72,997.3	5.5%

T Factor— Summary by Map Unit — Sioux County, Nebraska (NE165)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
6036	Tassel-Busher-Rock outcrop complex, 6 to 30 percent slopes	2	43,643.1	3.3%
6043	Tassel-Ponderosa-Rock outcrop association, 9 to 70 percent slopes	2	83,771.2	6.3%
6048	Orella-Badland complex, 9 to 30 percent slopes	2	7,734.3	0.6%
6105	Sarben loamy very fine sand, 3 to 9 percent slopes	5	23,974.4	1.8%
6109	Sarben loamy very fine sand, 9 to 30 percent slopes	5	1,356.4	0.1%
6201	Epping silt loam, 3 to 30 percent slopes	2	4,323.5	0.3%
6203	Epping-Badland complex, 3 to 60 percent slopes	2	8,176.8	0.6%
9903	Fluvaquents, sandy, frequently flooded	5	219.1	0.0%
9970	Aquolls	5	25.0	0.0%
9971	Arents, earthen dam		11.3	0.0%
9973	Badland		11,374.8	0.9%
9986	Miscellaneous water, sewage lagoon		4.4	0.0%
9999	Water		2,367.7	0.2%
Totals for Area of Interest			1,323,054.0	100.0%

Description

The T factor is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Rating Options

Units of Measure: tons per acre per year

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Appendix B

Recommended Practices for Controlling Erosion and Sedimentation

The following practices are listed in three general categories: permanent agricultural, temporary agricultural, and non-agricultural. The lists are not mutually exclusive, in that some practices are on more

than one list. All practices on the lists are deemed to be suitable, under proper circumstances, for controlling erosion and sedimentation within the District. Many are potential components of resource management systems for lands in the District. Actual application depends on the particular circumstances and needs being addressed. The Soil Conservation Service (SCS) has plans, specifications, or technical guides for most of these practices.

1. Permanent Soil and Water Conservation Practices for Controlling Erosion and Sedimentation on Agricultural Lands

Permanent soil and water conservation practices are activities which often are part of an ongoing (i.e., longer than one year) resource management system. Many of these practices require some construction or installation, which usually involves a capital investment. For that reason, permanent practices may be recommended and adopted as part of a conservation plan but cannot be required unless cost share assistance is made available. For those practices found on both this list and the "Temporary Soil and Water Conservation Practices" lists, the District will determine on a case-by-case basis whether the practice is required as a permanent or temporary measure.

- Channel Vegetation
- Area Planting
- Diversions
- Field Borders
- Field Windbreaks
- Gabions
- Grade Stabilization Structures
- Grassed Waterways or Outlets
- Pasture and Hayland Planting
- Sediment Retention Basins
- Terraces
- Tree Plantings
- Underground Outlets
- Water and Sediment Control Structures

2. Temporary Soil and Water Conservation Practices for Controlling Erosion and Sedimentation on Agricultural Lands

Temporary soil and water conservation practices range from one-time-only actions to activities which could continue for a number of years. Those ongoing activities generally involve management decisions where a practice may be maintained, modified, or eliminated on an annual basis, rather than practices involving more permanent construction or installation activities. These practices generally require no, or lower, capital investments, and the availability of cost share assistance is not required.

Conservation Cropping Systems

- Conservation Tillage Systems
- Contour Farming
- Cover and Green Manure Crop
- Crop Residue Management

Livestock Exclusion
Mulching
Pasture and Hayland Management
Contour Strip Cropping

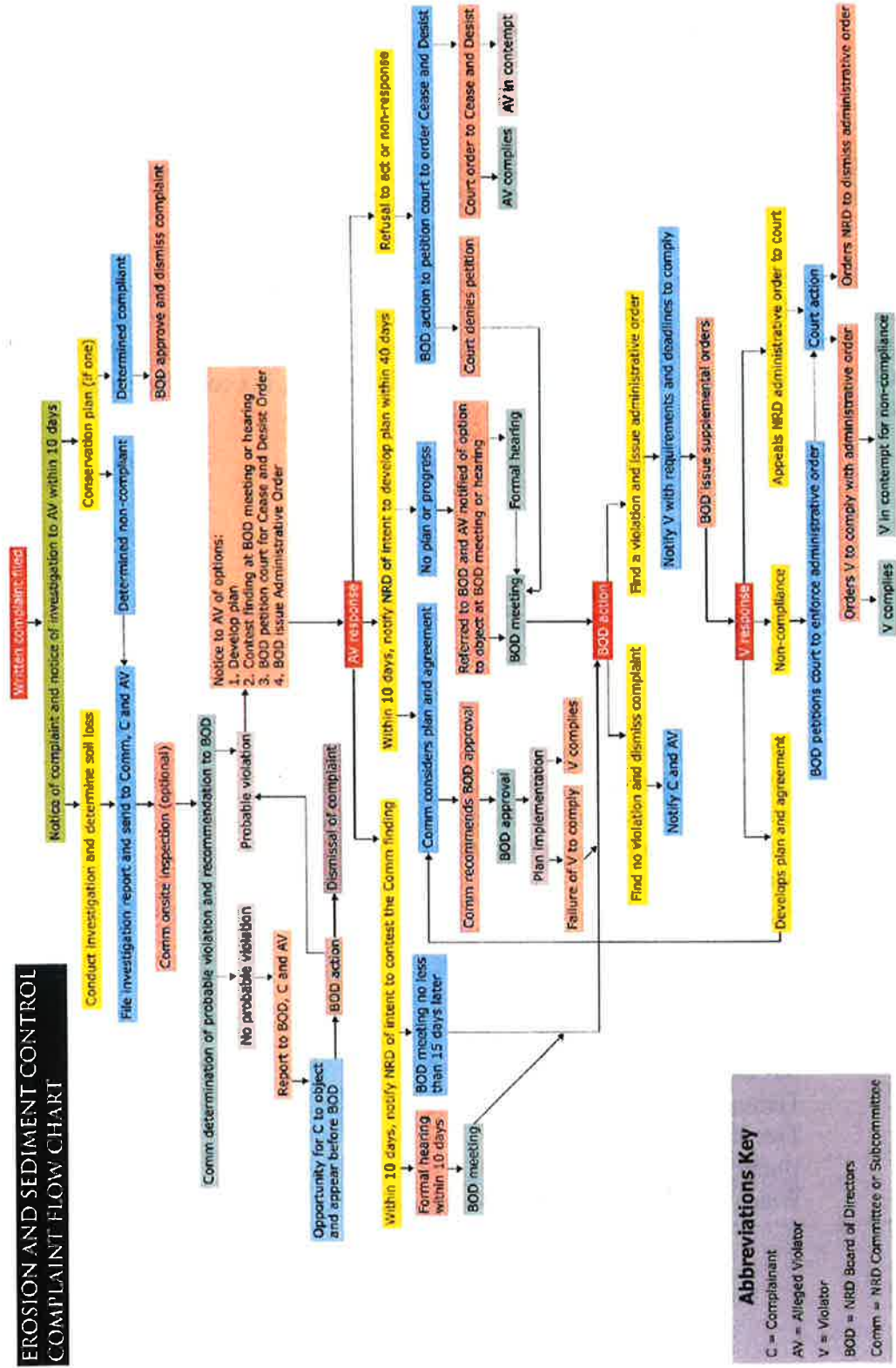
3. Erosion and Sediment Control Practices for Controlling Erosion and Sedimentation on Land Not used for Agriculture, Horticulture, or Silvicultural Purposes

There are many land-disturbing activities which, are not related to agriculture, horticulture, or silviculture. Erosion and sedimentation as a result of these activities can be a significant problem. The following practices include permanent and temporary structures and devices that may be required to treat erosion on, *and* sedimentation from, these lands, but cost share assistance need not be made available.

Channel Vegetation
Check Dams
Chutes/Flumes
Cover Crops
Critical Area Planting
Dams
Dikes
Diversions
Gabions
Grade Stabilization Structures
Grassed Waterways or Outlets
Interceptor or Perimeter Swales
Lining of Waterways or Outlets
Mulching
Riprap
Roadside Seeding
Sandbag Sediment Barriers
Silt Fences
Straw Bale Sediment Barriers
Stream Channel Stabilization
Terraces
Tree Plantings
Underground Outlets
Water and Sediment Control Structures

Appendix C

EROSION AND SEDIMENT CONTROL COMPLAINT FLOW CHART



Abbreviations Key

- C = Complainant
- AV = Alleged Violator
- V = Violator
- BOD = NRD Board of Directors
- Comm = NRD Committee or Subcommittee

North Platte NRD Erosion & Sediment Control Program

NOTICE OF FILING OF COMPLAINT AND INSPECTION DATE

COMPLAINT NO. _____

DATE: _____

NAME: _____ ADDRESS: _____

A complaint has been filed with the North Platte Natural Resources District by (name of complainant) stating that sediment damage has occurred on (his/her/their) property and alleging that this sediment is originating for soil erosion occurring on your lands at an excess rate. The tract of land against which the complaint was filed is described as follows: (legal description).

In order to determine the validity of this complaint, it will be necessary for the District Board of Directors and their agents to inspect this tract of land to ascertain whether such excess soil loss is actually occurring. This inspection will be made on (date) at (time). You are invited to accompany the inspection team.

This letter is sent in compliance with the notice requirements of *Neb. Rev. Stat. § 2-4608* and Rule () of the Rules and Regulations for Implementing the Erosion and Sediment Control Act of the North Platte Natural Resources District. You will be sent a copy of the inspection report when completed. If you have any questions, please contact me at our District office, 308-632-2749 or by email at jberge@npnrd.org.

Signature: _____, General Manager
North Platte Natural Resources District

North Platte NRD Erosion & Sediment Control Program

NOTICE OF VIOLATION

COMPLAINT NO. _____

DATE: _____

NAME: _____ ADDRESS: _____

You were notified on (date) that a complaint had been filed with the North Platte Natural Resources District by (name), alleging that sediment originating from excess rates of soil erosion on your land was causing sediment damage on (his/her/their) property. An inspection of these lands was conducted on (date).

Based on this inspection and the report of the investigator, the District Operations Committee, designated by the District Board for this purpose, has determined that there is reasonable cause to believe that sediment damage has occurred and was the result of soil loss from your land in excess of the soil-loss tolerance level established by the District, in violation of the Rules and Regulations for Implementing the Erosion and Sediment Control Act.

The portions of your land believed to be in violation are identified on the map which is included in the investigator's report accompanying this notice.

You are further advised that you have two options at this point.

1. Should you develop an acceptable conservation plan or erosion and sediment control plan to eliminate excess erosion on the areas of your land which are in violation, and sign a conservation agreement with the District, no further action will be taken on this complaint, provided that you remain in compliance with the plan and agreement. Cost-share assistance may be available for installation of permanent soil and water conservation practices at a cost-share rate set by the county FSA board or the District. If you are interested in pursuing this option, you must contact the District office within ten (10) days after receiving this notice. We are ready to assist you in developing a plan.
2. Should you wish to contest the findings in the report and/or the conclusions of the Committee, you are entitled to do so at a meeting of the District Board, which will take place on (date and time) at (location). If you wish to have a formal adjudicatory hearing, you must request such hearing within ten (10) days after receiving this notice. Hearing information will be provided to you.

Finally, you are advised that if you do not respond to this notice in either of the preceding ways, the District Board shall proceed to make a final determination on the complaint and, if appropriate, issue an administrative order requiring you to correct the excess erosion, which may be enforced by court action as prescribed by law.

We encourage you to select the first option, and we remain ready to assist you in eliminating the excess erosion on your land.

Signature: _____

Print: _____

North Platte NRD Erosion & Sediment Control Program

CONSERVATION AGREEMENT

COMPLAINT NO. _____

DATE: _____

NAME: _____ ADDRESS: _____

LEGAL: _____ COUNTY: _____

This agreement is made and entered into this _____ day of _____, 20____, by and between the North Platte Natural Resources District, hereinafter DISTRICT, and _____, hereinafter COOPERATOR; and is executed to satisfy the requirements of *Neb. Rev. Stat. § 2-4603(2)* and should be interpreted and performed in a manner which promotes the policies of the Nebraska Erosion and Sediment Control Act, *Neb. Rev. Stat. §§ 2-4601 to 2-4613*.

WITNESSETH:

COOPERATOR agrees to implement the farm unit conservation plan (or a portion of the farm unit conservation plan), or, in the case of non-agricultural land-disturbing activities, the erosion and sediment control plan, attached to this agreement according to the Schedule for Completion accompanying the plan. Both the plan and schedule are incorporated herein by reference.

DISTRICT agrees to provide assistance to COOPERATOR in applying the plan to COOPERATOR'S farm and to furnish, as available, technical and financial assistance, equipment, and materials to COOPERATOR at rates established by DISTRICT.

DISTRICT AND COOPERATOR mutually agree that:

1. Compliance with this agreement shall be deemed compliance with the requirements of the Nebraska Erosion and Sediment Control Act and the erosion and sediment control program approved by the District.
2. Cost-share for erosion and sediment control practices may be available from the DISTRICT. However, lack of available cost-share assistance does not offset the requirement that the COOPERATOR implement this farm unit conservation plan in the time prescribed.
3. Neither DISTRICT nor COOPERATOR shall be liable for damages to the other in connection with the performance of this agreement, unless such damages are caused by negligence or misconduct.
4. This agreement may be amended upon thirty (30) days' written notice.

This agreement shall be in effect when signed by both parties and remain in effect unless it is terminated by either party by giving sixty (60) days' notice in writing to the other party.

Owner/Operator

Date: _____

Address

North Platte Natural Resources District

Date: _____

North Platte NRD Erosion & Sediment Control Program
CONSERVATION PLAN SCHEDULE OF COMPLETION
AND
COOPERATOR'S RECORD OF COMPLIANCE

COMPLAINT NO. _____

DATE: _____

NAME: _____ ADDRESS: _____

LEGAL: _____ COUNTY: _____

Attach photograph, map, or diagram designating fields or tracts involved by number.

A. Planned

1. *Record land use planned by field or tracts listing conservation practice(s) and/or resource management systems to be applied. Describe briefly, what will be done and how it will be done.*
2. *Indicate the amount of conservation practices planned and completion date(s).*

B. Practice(s) Completion

1. *Indicate conservation practice(s) completed and completion date(s).*

Cooperator: _____ Date: _____

Preparer: _____ Date: _____

North Platte NRD Erosion & Sediment Control Program

ADMINISTRATIVE ORDER

COMPLAINT NO. _____

DATE: _____

NAME: _____ ADDRESS: _____

The Board of the North Platte Natural Resources District has considered this complaint and makes the following findings:

1. On (date), this complaint was filed in the District office by (complainant), alleging that sediment damage (has occurred/was occurring) on (his/her/their) property and further alleged that sediment originating from excess erosion on the land of (alleged violator) was causing this damage. The District notified (alleged violator) of this complaint by letter dated (date).
2. On (date), as requested by the District investigator, (inspector) inspected the lands of (complainant) and (alleged violator) and filed a report with the District Operations Committee of the Board, designated for this purpose.
3. On (date), the Committee notified (alleged violator) of its preliminary finding of probable violation of the District's Rules and Regulations for Implementing the Erosion and Sediment Control Act.
4. The District General Manager or designee and (alleged violator) have attempted to develop mutually a conservation plan or erosion and sediment control plan for the lands which are the subject of this complaint but have been unable to reach agreement. The Committee properly concluded that no progress was being made or likely to be made on preparation of an acceptable plan.

-or-

4a. The District Board held a public hearing on this complaint on (date), as requested by (alleged violator). (Summarize).

-or-

4b. (alleged violator) did not respond to the Notice of Violation.

The Board further FINDS:

1. Sediment damage has occurred on the land of (complainant). (Describe).
2. The source of this sediment damage is the land of (alleged violator). The average annual soil loss on (alleged violator's) land, as determined using the Natural Resources Conservation Service Field Office Technical Guides, is estimated to be (rate), which is in excess of the applicable soil-

loss tolerance level(s) of (established rate) for soil series (_____) adopted in Rule 5 of the District's Rules and Regulations for Implementing the Erosion and Sediment Control Act.

Based on the foregoing findings, the District Board CONCLUDES:

1. The land of (alleged violator) is in violation of the District's Rules and Regulations for Implementing the Erosion and Sediment Control Act and the Nebraska Erosion and Sediment Control Act.

Therefore, by virtue of the authority vested in the District Board by *Neb. Rev. Stat. § 2-4608*, the Board ORDERS:

(For agricultural land)

1. (alleged violator) shall bring those areas of (his/her/their) land which exceed the applicable soil-loss tolerance level(s) into conformance with the Rules and Regulations of the District. The Board has determined that implementation of the following alternative soil and water conservation practices will bring the land into conformance and may be used to comply with this order. (List two or more practices).

Work needed to establish these practices must be commenced not later than (date) (no later than six (6) months after service or mailing of this order) and satisfactorily completed by (date) (no later than one year after service of mailing of this order).

2. (alleged violator) is hereby advised that, should the work required by this order to correct the erosion which is occurring not be initiated and satisfactorily completed by the time specified in this order, or should (alleged violator) advise the District that (he/she/they) (does/do) not intend to comply with this order, the Board will commence proceedings to enforce this order as prescribed by law.

-or-

(For non-agricultural Land-Disturbing Activity)

1. (alleged violator) shall either bring those areas of (his/her/their) land which exceed the applicable soil-loss tolerance level(s) into conformance with the District Rules and Regulations or prevent sediment resulting from excess erosion from leaving said land areas. The following erosion and sediment control practices will accomplish this and may be used to comply with this order. (List two or more practices).

Work necessary to establish these practices must be initiated by (date) (shall not exceed five (5) days after service or mailing of the order). Temporary practices shall be satisfactorily completed by (date) (no later than fifteen (15) days after service or mailing of this order), and permanent practices shall be satisfactorily completed by (date) (no later than forty-five (45) days after service or mailing of the order unless an extension has been granted upon a showing of good cause. An extension shall only be granted after review and affirmative action of the Board.

2. (alleged violator) is hereby advised that, should the work required by this order to correct the erosion which is occurring not be initiated and satisfactorily completed by the time specified in this order, or should (alleged violator) advise the District that (he/she/they) (does/do) not intend to comply with this order, the Board will commence proceedings to enforce this order as prescribed by law.

Chairperson: _____

North Platte Natural Resources District

North Platte NRD Erosion & Sediment Control Program

DISMISSAL OF COMPLAINT, CONSERVATION AGREEMENT IMPLEMENTED

COMPLAINT NO. _____

DATE: _____

NAME: _____ ADDRESS: _____

The North Platte Natural Resources District's Investigator finds that (name):

1. Has land which was the subject to the complaint filed by (name) on (date), from which soil loss is not exceeding soil-loss tolerance levels, or
2. Has a farm unit conservation plan or erosion and sediment control plan covering the land subject to the complaint filed by (name) on (date), and
3. Is implementing said plan in strict compliance with a conservation agreement signed with the District on (date).

Based on the foregoing information, Complaint No. _____ is hereby dismissed.

Signature: _____

Print: _____

Title: _____

North Platte NRD Erosion & Sediment Control Program

DISMISSAL OF COMPLAINT, NO VIOLATION

COMPLAINT NO. _____

DATE: _____

NAME: _____ ADDRESS: _____

The Board of the North Platte Natural Resources District has considered this complaint and makes the following FINDINGS:

1. On (date), this complaint was filed in the District office by (complainant), alleging that sediment damage (has occurred/was occurring) on (his/her/their) property and further alleged that sediment originating from excess erosion on the land of (alleged violator) was causing this damage. The District notified (alleged violator) of this complaint by letter dated (date).
2. On (date), the District investigator (inspector), inspected the lands of (complainant) and (alleged violator) and filed a report with the District Operations Committee of the Board, designated for this purpose.
3. On (date), the Committee notified (alleged violator) of its preliminary findings of no probable violation of the Rules and Regulations of the District.

Based on the foregoing proceedings, the Board CONCLUDES:

1. Sediment damage has not occurred on the land of (complainant).
2. The average annual soil loss on (alleged violator's) land, determined by using the NRCS Field Office Technical Guides, is estimated to be (rate), which is not in excess of the applicable soil-loss tolerance level(s) of (established rate) for soil series () adopted in Rule 5 of the District's Rules and Regulations.
3. The land of (alleged violator) is not in violation of the District's Rules and Regulations for Implementing the Erosion and Sediment Control Act and the Nebraska Erosion and Sediment Control Act.

The Board hereby dismisses Complaint No. _____.

Chairperson: _____
North Platte Natural Resources District

North Platte Natural Resources District
Erosion & Sediment Control Program
COMPLAINT CHECKLIST

Complaint #: _____	Complainant: _____
Date Filed: _____	Alleged Violator: _____

- Pre-inspection _____ Review rules & regulations/statutes for timetables - procedures
 _____ Verify ownership/lienholder of land where problem is originating
 _____ Contact NRCS re: conservation plan or erosion and sediment control plan status, average annual soil loss, etc.
 _____ Certified letter to alleged violator sent within 10-day period
 a. Include notification of alleged violation
 b. Copy of applicable statutes pertaining to the Erosion and Sediment Control Program
 c. Invitation to be present for the investigation
 _____ Letter to complainant, alleged violator, NRCS and other agencies regarding inspection date, time and other pertinent information

- Inspection _____ Pertinent inspection equipment as necessary
 _____ Location of alleged violation: verified legal description and acres involved
 _____ Sources - land use, soil loss, soil types and other pertinent information
 _____ Damages - measurements of extent of damage, photograph, copies of costs, invoices of damaged property and other pertinent documentation
 _____ Prepare documentation report with the Committee designated by the Board

- Follow-up _____ Notify all parties of NRD board recommendation
 a. Recommendation of dismissal (Complainant may appeal)
 b. Recommendation of Action
 _____ Certified letter informing violator of probable violation and recommended Action
 a. Violator has 10 days after receipt of letter to respond re: conservation plan
 b. District cost-share assistance is not required but may be available
 _____ Prepared conservation agreement with schedule of compliance
 _____ If violator disagrees with probable violation, give opportunity to contest finding at a board meeting, board hearing or other formal public hearing
 _____ If violator refuses conservation plan or erosion and sediment control plan the NRD board issues administrative order.
 a. May be stricter than conservation agreement
 b. Violator has 30 days to appeal
 _____ If violator continues to refuse to cooperate, seek a District court order.

NEBRASKA

Good Life. Great Water.

DEPT. OF NATURAL RESOURCES

May 23, 2018

John Berge, General Manager
North Platte Natural Resources District
100547 Airport Road
P O Box 280
Scottsbluff, NE 69363-0280



Pete Ricketts, Governor

Dear Mr. Berge:

Thank you for filing the North Platte NRD's amended Erosion and Sediment Control program. After review, the Nebraska Natural Resources Commission, on May 17, 2018, recommended approval.

My staff and I have also reviewed your district's program and I find it to be reasonable, attainable, and in conformance with the state Erosion and Sediment Control program. Therefore, in accordance with §2-4605, I hereby approve the North Platte NRD's amended Erosion and Sediment Control program.

Please feel free to contact Kent Zimmerman from the Department's staff if you have any questions regarding these matters.

With best regards,

A handwritten signature in blue ink that reads "Gordon W. Fassett".

Gordon W. Fassett, P.E.
Director

Gordon W. "Jeff" Fassett, P.E., Director

Department of Natural Resources

301 Centennial Mall South
P.O. Box 94676
Lincoln, Nebraska 68509

OFFICE 402-471-2363
FAX 402-471-2900

dnr.nebraska.gov