STORMWATER POLLUTION PREVENTION PLAN

Sweetland Wind Laydown Yard

Hand County, South Dakota

AUGUST 31, 2022

REVISED: SEPTEMBER 19, 2022

PREPARED FOR:

BLATTNER ENERGY

PREPARED BY:

Westwood

Stormwater Pollution Prevention Plan (SWPPP) Narrative

Sweetland Wind Laydown Yard

Hand County, South Dakota
NPDES Permit Identification #: **SDR10K839**

Prepared For:

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Prepared By:

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Project Number: R0026830.00
Date: August 31, 2022
Revised: September 19, 2022

Westwood

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1.0 Introduction and Purpose

This SWPPP is prepared in accordance with the National Pollutant Discharge Elimination System (NPDES) regulations as established by the Clean Water Act and guided by the State of South Dakota. The South Dakota Department of Environment and Natural Resource's General Permit for Stormwater Discharges Associated with Construction Activity SDR100000 (Expired: March 31, 2023) provides the framework of requirements for compliance to discharge stormwater from a construction site.

This SWPPP is for implementation by the Owner, as listed in Section 5.1 of this SWPPP, at the Sweetland Wind Laydown Yard, with the project location as defined in Section 4.0 of this SWPPP. This report shall be on the site at all times during construction.

The following are outlined in this site specific SWPPP:

- Control measures for stormwater pollution prevention during each phase of construction,
- Control measures for stormwater pollution prevention after construction,
- Sources of stormwater and non-stormwater pollution, and
- Inspection and maintenance procedures.

2.0 SWPPP Certification Statement

"I certify under penalty of law that this document and all Appendices were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

COO

Name & Title

Sep 26, 2022

Date

2022-09-19_Sweetland Laydown Yard SWPPP Binder_7

Final Audit Report 2022-09-26

Created:	2022-09-20
By:	Logan Bell (lbell@scoutcleanenergy.com)
Status:	Signed
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Signature Date: 2022-09-26 - 8:25:01 PM GMT - Time Source: server

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3.0 SWPPP Amendments

This plan and the Appendices must be amended to include additional requirements, or modified requirements, which take place during construction if one or more of the following occur.

1. There is a change in design, construction, operation, maintenance, weather, or seasonal conditions that significantly impacts the discharge of pollutants from the site to surface or groundwater.
2. Inspections or investigations by the site owner, Environmental Protection Agency, or South Dakota Department of Environment and Natural Resources officials indicate this plan is not effective in eliminating or significantly minimizing the discharge of pollutants.
3. This SWPPP is not achieving the general objectives of minimizing pollutants in stormwater discharges or if this plan is not consistent with the SDR100000 General Permit for Stormwater Discharges Associated with Construction Activities.
4. If the South Dakota Department of Environment and Natural Resources notifies the Owner (i.e. permittees) that additional requirements are needed, requirements are not being met for TMDL or other water quality standards, or that the SWPPP did not incorporate the necessary requirements.

3.1 SWPPP Amendment Log

The following table should be completed as necessary during construction to document changes and amendments to this document. Place the Amendment Number next to all application changes, redlines and information in the document to reference back to the changes summarized below. If an additional sheet is necessary, attach the additional sheet to the SWPPP.

Table 1: Amendment Log

Amend #	Date	Reason, location and brief description of modification, or amendment	Requested by:	Prepared by:

3.2 SWPPP Amendment Certification

"I certify under penalty of law that this document and all Appendices were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Amendment #: _____

_____	_____	_____
Signature	Title	Date
_____	_____	_____
Printed Name	Contact Number	Company

Amendment #: _____

_____	_____	_____
Signature	Title	Date
_____	_____	_____
Printed Name	Contact Number	Company

Amendment #: _____

_____	_____	_____
Signature	Title	Date
_____	_____	_____
Printed Name	Contact Number	Company

4.0 Site Information and Description

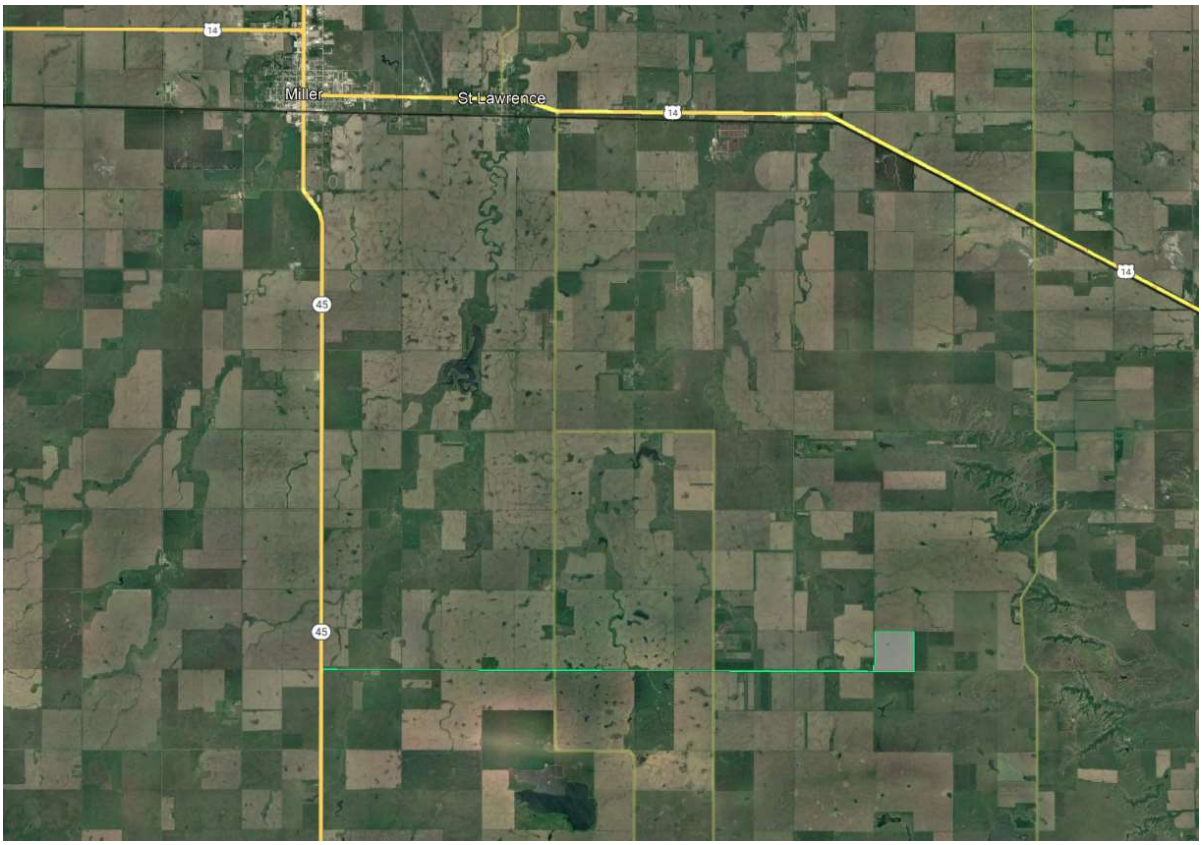
4.1 Site Location and Vicinity Map

This SWPPP is intended for the Laydown Yard portion of the Sweetland Wind Project, while the remainder of the project will be covered by a different SWPPP. The project site is located in Hand County, South Dakota. The nearest census-designated place, Miller, is located approximately 10 miles to the northwest. The nearest intersection is State Highway 45 and County Road 205th Street. The site is bordered on the north, west, and east by agricultural fields, the south by 205th Street. Refer to Attachment D of this SWP3 for the full vicinity map.

Table 2:Project Location

Section #	Township	Range
23	111N	68W
Latitude and Longitude Points (Decimal) #		
Latitude	44.41409	
Longitude	-98.837337	

Vicinity Map:



4.2 Existing Conditions

The slope and terrain of the site generally consists of agricultural fields gently sloping at less than 2%. The site currently has stormwater runoff flowing via overland flow with the bulk of the site draining to the west.

The site area is located in a non-arid area. Miller, SD, located approximately 10 miles to the northwest, has an average yearly precipitation amount of 21.13 inches.

https://www.usclimatedata.com/climate/miller/south-dakota/united-states/ussd0221

4.2.1 Non-vegetative Cover

Prior to construction, there is no non-vegetative cover on site.

4.2.2 Vegetative Cover

Prior to construction, the project area is covered by agricultural row crops.

4.2.3 Land Use

Prior to construction the site area was primarily used for agricultural production. At the time of the writing of this SWPPP a Phase 1 Environmental Assessment (EA) had not been conducted.

4.3 Soil Names and Types

The soils present on the project site consist of loams and clay loams. These soils belong to hydrologic soils groups C. Soils belonging to group C have a moderately high runoff potential when wet. Soils information summarized above and, in the table, below are from the USDA Natural Resources Conservation Service Web Soil Survey (Accessed: 08/23/2022). Source: https://websoilsurvey.nrcs.usda.gov/app/. The project Soils Report is located in Appendix C.

4.3.1 Soil Erosivity

Table 3: Soil K Factors and Erosivity Hazards

Soil Name / Type	Hydrologic Soil Group	K Factor	Erosivity Hazard				Reason(s) for Erosivity Rating
			Slight	Moderate	Severe	Very Severe	
Glenhan-Prosper loams, 1-6% slopes	C	.28/.24	X--	--	--	--	Lack of Slope
Glenhan-Prosper loams, 0-2% slopes	C	.28/.24	X--	--	--	--	Lack of Slope
Houdek-Prosper loams, 0-2% slopes	C	.28/.24	X--	--	--	--	Lack of Slope

Cavo-Glenham loams, nearly level	X	.32/.24	X--	--	--	--	Lack of Slope
Houdek-Dudley complex, 0-2% slopes	C	.28/.37	X--	--	--	--	Lack of Slope

Table 4: Soil Particle Size

Soil Type	% Sand	% Clay	% Silt	% Site Area
Glenhan-Prosper loams, 1-6% slopes	38	22	40	48.3
Glenhan-Prosper loams, 0-2% slopes	38	22	40	39.8
Houdek-Prosper loams, 0-2% slopes	38	22	40	3.8
Cavo-Glenham loams, nearly level	39.5	23	37.5	1.7
Houdek-Dudley complex, 0-2% slopes	38	22	40	1.7

5.0 Project Information

5.1 Owner and Operator Information

Owner Information	Operator Information
Sweetland Wind Farm, LLC	Blattner Company
Logan Bell, Sr. Associate PM	David Blattner, Jr.
5775 Flatiron Pkwy., Suite 120 Boulder, CO 80301	392 County Rd. 50, Avon, MN 56310
(303)284-7566 lbell@scoutcleanenergy.com	(320)356-7351 dblattner@blattnercompany.com

5.1.1 Owner Responsibilities

The owner responsibilities include:

- Developing a SWPPP prior to submitting the Notice of Intent (NOI);
- Submitting a complete and accurate NOI;
- Complying with all terms and conditions of the General Permit for Stormwater Discharges Associated with Construction Activities;
- Keeping the permit up to date (partial, whole, contractor, builders, etc.);
- Submitting the Notice of Termination (NOT) within thirty days of meeting requirement of final stabilization;
- Identifying who has long term operation and maintenance responsibility of the permanent stormwater controls;
- Developing a chain of responsibility with the operators to ensure NPDES and SWPPP compliance;
- Identifying trained personnel to oversee the SWPPP and conduct inspections;
- Identifying trained personnel to develop a SWPPP; and
- Identifying trained personnel to install and maintain best management practices.

5.2 Project Type and Proposed Conditions

5.2.1 Non-Vegetative Cover

Post-construction, there will be no additional non-vegetative cover on site.

5.2.2 Vegetative Cover

Post-construction, vegetative cover on site will be returned to pre-construction conditions wherever feasible. Areas not returned to pre-construction conditions will be stabilized as outlined in this SWPPP.

5.2.3 Land Use

The proposed land use will consist of a temporary laydown yard to be used throughout the construction of the Sweetland Wind Project. Following completion of the wind project, the laydown area will be returned to pre-construction conditions or stabilized as outlined in this SWPPP.

5.3 Pre and Post Project Estimates

Table 5: Project Area Estimates

Project Area	Disturbed Area	Existing Impervious Area	Post Construction Impervious Area
40.3 Acres	40.3 Acres	0.0 Acres	0.0 Acres

5.4 Construction Activity Description

The project consists of constructing a temporary laydown yard in support of the Sweetland Wind Project, which will be covered under a separate SWPPP and NPDES Permit. Removal and restoration of the laydown area should be completed in one phase with concurrent stabilization occurring by returning the disturbed area to a farmable and tillable condition and returned to operational control of the agricultural landowner.

NOTE: All sensitive areas shall be marked prior to start of earth disturbance activities. If any subsurface and/or surface drainage features are altered during construction, restore to pre-construction conditions and drainage patterns. Coordinate the work with the Landowner.

1. Turning radius and temporary intersections construction activity and phasing should include:
   a. Stripping and stockpiling topsoil;
   b. Applying seed and erosion control blanket, turf reinforcement mat, mulch cover or similar methods for restoration to pre-construction conditions;
   c. Installing culverts as necessary and according to the plan for the accesses;
   d. Filling with native material to grade;
   e. Applying gravel base;
   f. Removing turning radius (removing gravel and fill soils) following turbine component delivery;
   g. Removing any extra culvert lengths; and
   h. Reapplying topsoil and final grade.

2. Laydown yard construction activity and phasing should include:

   a. Providing stable accesses to area and installing culverts according to the plans;

   b. Installing silt fence and other sediment controls as necessary and as detailed in the plans;

   c. Stripping and stockpiling topsoil around the up-gradient perimeter of the laydown yard for a diversion of water or downgrade perimeter of the yard for runoff control;

   d. Applying rock base to designed thickness;

   e. Temporarily covering the stockpiles with hydromulch or weed-free straw/hay after seeding with temporary seed mix;

   f. Providing necessary secondary containment, secure storage, and maintenance activities during operation;

   g. Removing rock and decompacting and reapplying topsoil to the area after the laydown yard is no longer needed; and

   h. Returning disturbed areas to pre-construction conditions, which may include applying seed and mulch cover for restoration.

5.5 Project Activity Schedule

Table 6: Project Schedule

Activity	Start Date	End Date
Overall Project	09/07/2022	09/06/2023
Access Roads	09/07/2022	09/06/2023
Laydown Yard / Batch Plant	09/07/2022	09/06/2023

5.6 Project Phasing

The temporary laydown yard will be completed multiple phases and current stabilization. Phases should limit exposed soil to under 10 acres while aggregate base is applied to stabilize the laydown pad area. The overall Sweetland Wind Project will be covered under a separate SWPPP and NPDES Permit. Removal and restoration of the laydown area should be completed in one phase with concurrent stabilization occurring by returning the disturbed area to a farmable and tillable condition and returned to operational control of the agricultural landowner. Alternatively, the laydown yard could be permitted with the future overall wind project and this SWPPP and associated permit could be terminated once the laydown yard is permitted for the future project.

5.7 Project Contacts and Chain of Responsibility

Table 7: Project Contacts

Company*	Name or Position	Responsibility	Contact Number
Blattner Company	Cole Stocker	Site Development	320-241-1079
Blattner Company	Cole Stocker	Laydown / Batch Plant	320-241-1079
Blattner Company	Cole Stocker	Project Environmental Contact	320-241-1079
		Routine SWPPP Inspections	
Westwood Professional Services	Aaron Mlynek, CPESC	SWPPP development	952-697-5710
Blattner Company	Cole Stocker	Restoration	320-241-1079
Blattner Company	Cole Stocker	BMP installation	320-241-1079
Blattner Company	Cole Stocker	BMP Maintenance	320-241-1079

6.0 Additional Site or Project Considerations

6.1 Chemical Treatments

At the time of SWPPP completion the use of chemical additives or polymers for purposes of sediment flocculation are not anticipated for this project. Should chemical treatment become necessary based upon inspection results, weather conditions or construction means and methods the table below must be updated to reflect the chemical used. **IMPORTANT: Prior approval from the SDDENR is necessary for any chemical additive for discharging**

Table 8: Flocculation Plan Summary

Flocculation Chemical	Application Location	Primary Soil Types	Settling BMPs Used	Application Method	Receiving Water	Mfr Dosing Rate

6.2 Environmental Review Document

At the time of SWPPP completion, there are no known environmental review documents which apply to this project.

7.0 Receiving Waters

The table below summarizes the immediate receiving waters from the site. Where necessary the receiving waters has been designated immediate (for the first surface water receiving drainage from the site) and ultimate (for the surface water receiving runoff from site after the immediate receiving waters). The receiving waters listed are located within a mile, and receive water from the site discharge location(s).

The site currently has stormwater runoff flowing via overland flow with the bulk of the site draining to the west within the East Pearl Creek watershed. Other existing discharge locations are associated with county road culverts along 20th Street. Refer to Attachment D for drainage maps.

Table 9: Receiving Waters

Name of Receiving Waterbody	Immediate (I) or Ultimate (U)	Type (wetland, lake, stream, ditch)	Impaired? Y/N	MS4? Y/N
East Pearl Creek	U	Stream	N	N
Pearl Lake-Pearl Creek	U	Stream	N	N
Headwaters – Turtle Creek	U	Stream	N	N

7.1 Impaired and/or TMDL Waters

There are no impaired waterbodies which receiving stormwater discharge within one mile of the site disturbed area according to the Construction Stormwater Impaired Water Search, South Dakota Department of Environment and Natural Resources website: http://denr.sd.gov/dfta/wp/tmdl.aspx (accessed 08/24/2022) and the 2022 South Dakota Integrated Report for Surface Water Quality Assessment website: https://danr.sd.gov/Conservation/WatershedProtection/ReportsPublications/SDDANR_2022_IR_approved.pdf.

8.0 Stormwater Management

8.1 Temporary Practices

There are no anticipated temporary stormwater management practices at the time of SWPPP completion due to no contiguous 10-acre drainage areas discharging to a common point.

8.1.1 Calculations

Calculations are not applicable to this project as there are no temporary stormwater management practices requiring calculations.

Table 10: Temporary Sediment Basin Calculations, if required.

Basin #	Storm Frequency	Rainfall Amount	Runoff Area	Runoff Volume	Capacity Needed
1	2 yr. / 24 hr.	2.23"	Acres	ac ft.	ac ft.
2	2 yr. / 24 hr.	2.23"	Acres	ac ft.	ac ft.
3	2 yr. / 24 hr.	2.23"	Acres	ac ft.	ac ft.

8.2 Permanent Practices

There are no permanent stormwater practices anticipated for this project activity.

8.2.1 Calculations

Calculations are not applicable to this project as there are no permanent stormwater management practices requiring calculations.

9.0 Implementation of Temporary and Permanent Control Measures

9.1 Soil Management and Compaction Minimization

After clearing and grubbing, the grading contractor will strip and stockpile topsoil material for reapplication on all future permanent pervious surface areas. During development, grading and utility construction the subsoils will be compacted as necessary for construction using typical excavation techniques. During final grade, reapplication of minimum six inches of topsoil will be done by a wide-pad dozer and other equipment to minimize compaction of the topsoil material.

9.2 Natural Buffers and No-Disturbance Areas

9.2.1 Natural Buffers

The use of natural buffers is not applicable to this project as there are no existing natural buffers due to the site area being a previous agricultural field.

9.3 Erosion Prevention Practices

The following controls are anticipated to minimize soil loss from the construction site area. The controls should help to minimize soil from being transported from water and wind as well as aide in establishment of temporary and permanent vegetation. Prior to grading and during clearing and grubbing, the areas of vegetation preservation, buffers and other areas of no-disturbance should be flagged, staked or otherwise delineated.

9.3.1 Timing for disturbed areas and slopes

Temporary erosion prevention practices should be initiated immediately after construction activity disturbing soil in an area is temporarily or permanently ceased for a period of 14 days. The application of temporary erosion control management practices should be completed prior to the fourteenth day of temporarily or permanently ceasing construction activity in an area of the project.

9.3.2 Stockpile Management

- Locate the stockpiles and debris outside of any natural buffers established and away from any stormwater conveyances, drain inlets, and areas where stormwater flow is concentrated;
- Protect the stockpile debris from contact with stormwater run-on by using temporary sediment controls, berms, or other best management practices;
- Properly maintain and position stockpiles to minimize dust generation and wind transport of sediment; and
- Minimize stormwater runoff from the piles by properly positioning stockpiles and debris or installing effective sediment controls.
- Operators shall not place stockpiles in surface waters of the state.

Table 11: Erosion Controls

Potential BMPs	Construction Phase or Activity		Application Notes	
	Temp Laydown Yard	Turning Radii/ Roadway		
Construction Phasing	X	X	Minimize soil disturbance, as feasible, per phase. Stake/flag areas that are to be left undisturbed.	
Buffer Strips	X	X	See Section 9.2 for more information.	
Straw / Hay Mulch	X	X	Apply at two tons/acre. Disc anchor to soil. Weed Free mulch should be used.	
Dust Control	X	X	Contractor to apply water or dust palliatives.	
Erosion Control Blanket	X	X	Straw or wood fiber, double-sided netting blanket should be installed per manufacturer's recommendations.	
Hydroseed	X	X	Apply at a minimum of 1,800 pounds per acre from two directions to prevent shadowing. Could use in lieu of mulch.	
Temporary Seed Mix	X	X	Application Rate = See mix.	Prepare soil prior to seeding. Broadcast and rake seed into soil prior to mulch or blanket.
Permanent Seed Mix	X	X	Application Rate = See mix.	

9.3.3 Potential Seed Mix

South Dakota Department of Transportation Type B Permanent Seed Mixture:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	7
Switchgrass	Dacotah, Forestburg, Nebraska 28, Pathfinder, Summer, Sunburst, Trailblazer	3
Indiangrass	Holt, Tomahawk, Chief, Nebraska 54	3
Big Bluestem	Bison, Bonilla, Champ, Sunnyview, Rountree, Bonanza	3
Canada Wildrye	Mandan	2
	Total:	18

9.4 Sediment Control Practices

The following controls are anticipated to minimize sediment discharge, capture sediment in suspension and minimize sedimentation off site.

Table 12: Sediment Controls

Potential BMPs	Construction Phase or Activity		Application Notes
	Temp Laydown Yard	Turning Radii/Roadway	
Silt fence	X	X	Machine sliced install with wood posts at six foot spacing. Install perimeter silt fence prior to grading
Fiber rolls	X	X	Install on contour, minimum of nine-inch roll, wood or straw fiber. Trench in approximately 2 inches and secure with two inch posts every two feet on center.

9.5 Run-on and Runoff Controls

The following controls are anticipated to minimize scour, transport water across or down steep slopes or critical areas, divert clean water, and / or provide temporary conveyances to maintain drainage.

Table 13: Run-on and Runoff Controls

Potential BMPs	Construction Phase or Activity		Application Notes
	Temp Laydown Yard	Turning radii/Roadway	
Riprap Apron / Energy Dissipation	X	X	See detail in plans. Install within twenty-four hours of connection to surface waters.
Culvert Protection	X	X	See details in plan set. Install within twenty-four hours of installation of culverts.
Topsoil Stockpile Berms	X	X	See detail in plans.

9.6 Tracking Controls

The following controls are anticipated to minimize or prevent sediment track-out from construction site exits to paved surfaces or to retrieve material tracked onto paved surfaces to minimize or prevent the material from being washed into surface waters or stormwater inlets.

Table 14: Tracking Controls

Potential BMPs	Construction Phase or Activity		Application Notes
	Temp Laydown Yard	Access Roads	
Rock Pad	X	X	See detail in plans. Install at all site exits prior to grading. Maintain for duration of project.
Gravel or Aggregate Road Base	X	X	See detail and notes in plans.
Street Scraping	X	X	Scrape large clumps/amounts of material with soft tracked or wheeled equipment prior to sweeping.
Street Sweeping	X	X	Sweep paved surfaces within twenty-four hours of discovery.

9.7 Dewatering and Basin Draining Practices

Dewatering Accumulated Water (via pulp, trench, temporary ditch or grade cuts):

Dewatering of turbid water (water that is visibly cloudy or brown in color) should be discharged via pump and hose or overland flow to a temporary sediment basin for pretreatment. The use of riprap apron (energy dissipation) should be used for the discharge location. If riprap is not used, an alternative form of energy dissipation should be used to prevent scour and re-suspension of soil at the discharge point of the hose. If discharge to a temporary sediment basin is not feasible, the use of dewatering dumpsters, dewatering bags or other prefabricated product should be used. The use of rock checks, erosion control blanket and sumps or traps may be considered for overland flow. After the use of BMPs, the water could be discharged through a vegetated buffer and energy dissipation. The discharge of water from the site should be visibly clear in appearance.

The discharge of accumulated water should not:

- Contain oil, grease, a sheen, odor, or concrete washout;
- Adversely impact adjacent properties with water or sediment;
- Adversely impact waters of the state;
- Cause erosion of slopes and channels;
- Cause nuisance conditions; or
- Contribute to inundation of wetlands which negatively impact the wetlands.

NOTE: the permittee may be required to obtain a Temporary Water Right. Contact the SDDENR at 605-773-3351 for more information. It is the operator and permittee responsibility to obtain necessary water rights.

9.8 Sampling Requirements

If the discharge observed contains suspended solids the following must be implemented:

- Installation of additional best management practices and update this SWPPP.
- Sample the dewatering discharge for total suspended solids on a daily basis until there is no longer a discharge of visible solids.
- Samples must be analyzed in accordance with 40 CFR, Part 136 which may require sending the samples to an off-site laboratory for analysis.
- If the sample results exceed 53 mg/L in any sample or measurement you must cease the dewatering discharge to surface waters of the state until the operator can demonstrate additional best management practices are sufficient to eliminate visible pollutants.
- Document sampling and results or any updates in this SWPPP.

10.0 Pollution Prevention Management

10.1 Storage, Handling and Disposal of Construction Materials

10.1.1 Storage and Handling

- All products shall be kept in their original container, with original labels still attached, unless the container is not re-sealable.
- Storage of all diesel fuel, oil, hydraulic fluids, other petroleum products and other chemical and products must be within water-tight containers.
- Hazardous materials shall be returned to the hazardous material storage area at the end of each day and be contained within sealed containers and provide secondary containment as applicable. .
- An effort should be made to store only enough products to do the required job.
- The contractor shall provide tanks or barrels to collect liquid byproducts that pose a pollution hazard.
- The pollutants shall be removed from the site on a weekly basis and disposed of in accordance with federal, state and local regulations.
- All spills shall be cleaned up immediately after discovery, in accordance with the manufacture's recommended methods.
- Hazardous materials shall be properly stored to prevent vandalism or unauthorized access.
- Containment units shall be installed in accordance with federal, state, and local regulations.
- No hazardous material shall be stored within 200 feet of an identified critical area.
- If building materials, chemicals, or general refuse is being used, stored, disposed of, or otherwise managed inappropriately, the contractor shall correct such defects within twenty-four hours of detection or notification.

10.1.2 Disposal (Dumpsters)

- Locate dumpsters away from watercourses, streams, creeks and other surface waters or conveyances.
- Site inspector shall regularly observe for and report excess litter and solid waste and request pickup and retrieval of wastes.
- Wastes, litter, debris shall be deposited into dumpsters in a central location and / or in various satellite locations where work is active.
- Dumpsters should be supplied by and regularly maintained, emptied and removed by a waste management company.

10.2 Fueling and Maintenance of Equipment and Vehicles; Spill Response

- Routine maintenance of vehicles may occur in staging areas only if necessary.

- Avoid maintaining equipment and vehicles on site and perform maintenance off site where feasible.
- If fueling is done by mobile tank and dispenser, provide close supervision for the transfer of fuel, use drip pans, and make spill containment and cleanup materials readily available.
- If fueling is done via temporary tank, store the tank within a bermed, area and away from surface waters.
- Make Spill Kits with absorbent materials available on site for use in cleaning up small spills.
- In the event of a spill or discharge of hazardous material of reportable quantity, contact the South Dakota Notification Center (605-773-3296), the South Dakota After Hours Center (605-773-3231), If the hazardous condition involves the release of an EPA regulated material or an oil as defined by the EPA, the release may also need to be reported to the National Response Center. Federal Reporting is required within 15 minutes of event occurrence or discovery. Contact the National Response Center at (800) 424-8802. The NRC is staffed twenty-four hours a day. For more information reference the following website: https://www.epa.gov/emergency-response/when-are-you-required-report-oil-spill-and-hazardous-substance-release.

Table 15: Reportable Spill Quantities

Material	Where Discharged	Reportable Spill Quantities
Petroleum Material	25 Gallons	Petroleum Material
PCB Oil	1 Pound	PCB Oil
Other Material	Quantity that causes odor, color, sheen, foam, or other obvious indicator of pollutants.	Other Material

10.3 Vehicle and Equipment Washing

If necessary, the contractor shall develop a designated wash area with basin containment to prevent the untreated water from discharging from the site to surface waters. BMPs include, temporary basins, inspecting the vehicles and equipment for leaks prior to washing, and prohibiting washing activity until discovered leaks are repaired and maintenance is completed of the equipment or vehicle. The area shall be identified on the site plan. Contain the water, and pump from the site into a truck for proper disposal at a wastewater facility. No engine degreasing may be done on site.

10.4 Concrete Washout and Other Washout

10.4.1 Mobile Concrete and Mortar Mixers

Implement the following BMPs with the use of mortar or concrete mixers.

- Store bags of concrete and mortar in dry storage.
- Position mixers a minimum of 100 feet from the nearest watercourse or conveyance.

- If mixers must be positioned closer than 100 feet from a conveyance, install a temporary berm to prevent runoff from the mixer from flowing into the conveyance.
- Use Tarpaulins or plastic sheeting as a liner to prevent concrete or mortar from contacting the soil.
- Use buckets to contain washout /rinse water when cleaning the mobile mixer.
- Dump buckets of washout water in a designated concrete washout area.

10.4.2 Concrete Washout

Implement the following BMPs implemented for concrete washout areas.

- Contain washout water from the tools, equipment, and the chutes of concrete trucks, mobile mixers, or other containers with concrete material, and do not allow it to be discharged into waters of the state or drain onto adjacent properties.
- Define the washout area with signage notifying the contactors of the location and use.
- The washout area should be a sufficient size to contain the expected washout material. 10'x10'x3' area should suffice for most activities. Additionally: the washout area shall have a sign demarking the area as a washout.
- Multiple washout areas may be needed. Locations of the washouts should be shown on the construction plans by the contractor.
- When identifying the location of the concrete washout areas, include the date of install, date of last maintenance, and date of removal.
- Use thick poly sheeting to prevent contamination of the soil and prevent infiltration of the washout material.

Once the material is hardened it can be disposed of in a dumpster. If the material is liquid or not hardened, vacuum the material up, haul it off site to properly disposed of or recycle at an approved facility. Some sites will not need the separate washout area if a truck chute washout is available from the concrete supplier.

10.4.3 Truck Chute Washout

Where available, all trucks with self-contained washout and water recycle systems must be used for every truck chute, tool, and equipment rinse and washout. Position the truck in a flat area, away from inlets and surface waters where feasible.

10.5 Portable Sanitary Facilities

- Locate facilities away from watercourses, streams, creeks, and other surface waters or conveyances.
- Place facilities upgradient of perimeter sediment controls, and not on paved or other impervious surfaces.
- Secure facilities to the soil with stakes or tether to other non-movable structure to prevent tipping from wind or other factors.
- Schedule routine and regular cleanout and maintenance of facility from a reliable company.

11.0 Inspection, Maintenance and Corrective Actions

Construction activity and all support activities must be inspected (using the inspection form found in Attachment F or an alternative form) within the parameters of the schedule below. The inspector shall be a person trained and familiar with the requirements of this SWPPP and the SDR100000 Permit. This person is delegated by the owner.

Scope of inspections* should include:

- Date and time of inspections;
- Inspector's name;
- Findings of the inspection;
- Locations of corrective actions needed;
- Corrective actions taken (date/time/ who);
- Date and amount of rainfall**
- Observed discharges Locations;
- Description of discharges with color, odor, floating, settled, solids, foam, or oil sheen;
- Photographs of discharges

Amendments from inspections need to be completed within seven days (see SWPPP section 3.1).

*All inspections should be documented within twenty-four hours after completing the field inspection, and available in paper or electronic form on site.

**Rainfall amounts should be taken from an onsite rain gauge. If a rain gauge is not feasible, the rain fall data should be observed from the following website:

https://www.wunderground.com/weather/us/sd/miller/KSDMILLE12

11.1 Inspection Schedule

Table 16: Inspection Schedule

If the site is:	Then an inspection is needed:	Notes and Information
Active	☐ Once every fourteen calendar days and within twenty-four hours of a rainfall ≥ 0.25", OR ☒ Once every seven calendar days	A rain gauge should be used, or rain data should be taken from the link listed above.
Partial final stabilization	• Once every month	Allowed in areas where work is completed, and vegetation is established. Other/active areas must follow above.
Subject to Winter/Frozen Conditions	• Once every month	Disturbed areas of the site have been temporarily or permanently stabilized. Resuming "active" inspection frequency is required no later than March 1st of each year.

11.2 Maintenance Schedule

Table 17: Maintenance Schedule

BMP	Observed Condition for Maintenance	Maintenance Interval
All non-functional BMPs	Sediment overtopping, under water, scoured ends, undermined, destroyed, non-functional as designed, etc.	Maintenance must be done by the end of the next workday or if the BMP requires replacement: it should be done within seven calendar days or prior to forecast rainfall, whichever is sooner. If sediment escapes the construction site: begin removing the offsite accumulations by the end of the same workday.
Vegetative Buffer	Silt covered, rill erosion observed or otherwise ineffective	Repair by the end of the next working day.
Stabilized Areas (temporary or permanently)	Rill erosion, gulley erosion is observed. Mulch washed away or erosion control blanket is undermined.	Repair and stabilize eroded areas and non-functional stabilization BMPs by the end of the same workday.
Perimeter Sediment Control (silt fence, fiber logs, berms, etc.)	½ full of sediment, flattened to ½ height, driven over, undermined, scoured, moved for access etc.	Maintenance of the BMP: by the end of the next workday or if replacement is required: complete replacement within seven days of discovery or notice or prior to forecast rainfall, whichever is soonest.
Inlet protection BMPs, conveyances, surface waters	Sediment deposition, sediment deltas and accumulation of sediment material.	Removal/cleanout of accumulated sediment and deltas to be removed within seven days. Stabilize as needed if soils are exposed during removal/cleanout.
Temp sed basins and traps; permanent sediment basins	Sediment deposition and accumulation to ½ of the storage volume.	Cleanout, remove accumulated sediment material within seven calendar days or prior to forecast rainfall, whichever is sooner.
Site exit locations, rock exit pads, other anti-tracking practices	Accumulated sediment in rock or other anti-tracking BMP, tracking of sediment from the site onto paved surfaces	Top dress rock, maintain rock exit or other anti-tracking controls, scrap paved surfaces, sweep paved surfaces by the end of the same workday.
Paved surfaces; adjacent streets	Tracked sediment and soil material from the site hauling or access	Sweep within the same workday of discovery; additional and/or more frequent sweeping may be needed to maintain public safety or prevent washing from forecast rains.

12.0 Final Stabilization

Final stabilization is achieved for the project when permanent erosion control BMPs are applied to the site. The permanent erosion control BMPs may be a combination of vegetative and no vegetative cover types. Additional requirements to achieving final stabilization include:

- All soil disturbing activity is complete;
- Permanent stormwater treatment system (if required) is constructed and accumulated sediment from construction activity has been removed;
- All temporary, synthetic BMPs have been removed from the site;
- In agricultural areas (as applicable), the construction activity area has been restored to the pre-construction agricultural use; and
- The vegetative cover for the site is at a density, with a uniform perennial cover of 70 percent of the expected final growth density.

12.1 Vegetative Cover / Permanent Erosion Control

The planned permanent erosion control vegetative cover BMPs for this site include:

Permanent vegetative establishment will be placed on all areas of the site once construction activities have ceased utilizing the permanent seed mix provided in Section 9.3.3., or as selected by the contractor. Minimization of the presence of invasive species is required. The following seven weeds are declared to be noxious in South Dakota: Canada thistle, hoary cress, leafy spurge, perennial sow thistle, purple loosestrife, Russian knapweed, and salt cedar.

12.2 Non-vegetative Cover / Permanent Erosion Control

The planned permanent erosion control non-vegetative cover BMPs for this site include:

Aggregate rock for county road.

13.0 Training Requirements and Documentation

Prior to commencement of construction activity each person of the stormwater team must be trained and understand the requirements of the Construction General Permit (CGP) specific to their responsibility.

The following topics must be covered in the training and at a minimum training should include:

- Permit requirements and deadlines with installation, maintenance, and removal of BMPs
- Site Stabilization
- Location of stormwater controls;
- Maintenance requirements and maintenance needs for BMPs;
- Procedures and permit requirements for pollution prevention;
- When and how to conduct inspections;
- Record keeping; and
- Corrective Actions.

Training requirements specific to conducting inspections should include (at a minimum):

- Completed EPA construction inspection certification or license OR
- Hold a current valid construction inspection certification or license from a program that covers the following.
    - Principles and practices of erosion and sediment control and pollution prevention practices at construction sites
    - Proper installation and maintenance of erosion and sediment controls and pollution prevention practices used at construction sites
    - Performance of inspections, including the proper completion of required reports and documentation.

Documentation of training or certifications is included in **Attachment G**.

14.0 Notice of Termination

The project permit may be terminated in one of the following scenarios.

- All construction activity is complete, temporary synthetic BMPs are removed, accumulated sediment from construction is removed, and final stabilization is completed with vegetative and/or non-vegetative cover. The Notice of Termination form from the South Dakota Department of Environment and Natural Resources should be completed within thirty days of meeting the conditions above. Upon midnight of the post marked date, the permit coverage is terminated unless otherwise notified by the SDDENR.
- Within thirty days of selling or otherwise legally transferring ownership of the site in its entirety (including street sweeping and stormwater infrastructure) from the original owner to another party taking responsibility of ownership.
- Where the project obtained permit coverage but never started construction activity due to cancellation or other reasons. Documentation should be sent to the SDDENR with the NOT form and is subject to SDDENR approval.

15.0 Record Retention

15.1 During construction

This report, amendments and Appendices, inspections, and maintenance records should be kept on site during normal business hours. The records should be kept by the owner or operator listed on the permit application. The records should be in a mailbox, in a vehicle or in an on-site office trailer or model home.

15.2 Post Construction / Notice of Termination (NOT)

The site owner must retain all the following records for a period of at least three years after the submittal of the NOT:

- The final SWPPP with all field notes/amendments;
- Other stormwater related permits in addition to the NPDES permit from SDDENR;
- Inspection and maintenance records;
- All permanent operation and maintenance agreements; and
- All required calculations for design of the temporary and permanent stormwater management systems

Attachment A

South Dakota General Permit for Stormwater Discharges Associated with Construction Activities SDR100000

Permit Number: SDR100000

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

General Permit Authorizing Stormwater Discharges Associated with Construction Activities Under the South Dakota Surface Water Discharge System

In compliance with the provisions of the South Dakota Water Pollution Control Act and the Administrative Rules of South Dakota (ARSD), Article 74:52, owners and operators of stormwater discharges from **construction activities**, located in the state of South Dakota are authorized to discharge in accordance with the conditions and requirements set forth herein.

This General Permit shall become effective on April 1, 2018.

General permit coverage for the [PERMITTEE] shall become effective [EFFECTIVE DATE].

This General Permit and the authorization to discharge shall expire at midnight, **March 31, 2023.**

Signed this **23rd** day of **March, 2018,**

Authorized Permitting Official

Steven M. Pirner
Secretary
Department of Environment and Natural Resources

Note: *This page will be replaced with a copy containing the assigned permit number once coverage has been authorized.*

TABLE OF CONTENTS

1.0 DEFINITIONS

ARSD – Administrative Rules of South Dakota.

Best Management Practices (**BMPs**) – the schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants from the construction site. BMPs also include treatment requirements, operating procedures, and practices to control construction site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Borrow Areas – the areas where materials are dug for use as fill, either onsite or offsite.

Commencement of Construction Activities – the initial disturbance of soils (or 'breaking ground') associated with clearing, grading, or excavating activities or other construction-related activities (e.g., stockpiling of fill material).

Construction Site – the land or water area where construction activities will occur and where control measures will be installed and maintained. The construction site includes construction support activities, which may be located at a different part of the property from where the primary construction activity will take place, or on a different piece of property altogether. The construction site is often a smaller subset of the lot or parcel within which the project is taking place.

Construction Site Washout – as used in this general permit, refers to any wash waters derived from the cleaning of construction trucks and/or equipment including, but not limited to, concrete, mortar, grout, stucco, form release oils, paints, curing compounds, and other construction materials.

Construction Support Activity – a construction-related activity that specifically supports the construction activity and can include activities associated with concrete or asphalt batch plants, equipment staging yards, materials storage areas, excavated material disposal areas, and borrow areas.

Construction Waste – discarded material including, but not limited to, packaging materials, scrap construction materials, masonry products, timber, steel, pipe, electrical cuttings, plastics, and Styrofoam.

Control Measures – as used in this general permit, refer to any best management practice or other method, including narrative effluent limits, used to minimize erosion and sedimentation, and thereby prevent or reduce the discharge of pollutants to surface waters of the state.

Corrective Action – as used in this general permit, refers to any action taken to (1) repair, modify, or replace any control measure used at the site; (2) clean up and dispose of spills, releases, or other deposits found on the site; or (3) remedy a permit violation.

Dewatering – the act of draining or pumping rain water, ground water, or surface waters from building foundations, vaults, trenches, and other areas of the construction site.

Discharge – the addition of any pollutant or combination of pollutants to surface waters of the state from any point source.

Earth-Disturbing Activities – as used in this general permit, means actions taken to alter the existing vegetation and/or underlying soil of a site.

Effective Operating Condition – as used in this general permit, means a control measure is kept in effective operating condition if it has been implemented and maintained in such a manner that it is working as designed to minimize pollutant discharges.

Final Stabilization – on areas not covered by permanent structures, means either (1) vegetation has been established that provides a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the natural background vegetative cover, (2) permanent non-vegetative stabilization methods have been implemented to provide effective cover for exposed portions of the site, or (3) disturbed portions of a construction site on land used for agricultural purposes must be returned to pre-construction agricultural use.

Historic Property – any building, structure, object, district, area, or site that is significant in the history, architecture, archaeology, paleontology, or culture of the state, its communities or the nation as stated in SDCL 1-19A-2.

Infeasible – as used in this general permit, means not technologically possible or not economically practicable and achievable in light of best industry practices.

Larger Common Plan of Development or Sale – a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. "One plan" is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating construction activities may occur on a specific plot.

Minimize – to reduce and/or eliminate to the extent achievable using control measures that are technologically available and economically achievable and practicable in light of best industry practices.

Municipal Separate Storm Sewer System – a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that is owned or operated by the state or a municipality and is designed or used for collecting or conveying stormwater. This definition does not include combined sewers or conveyances that are part of a publicly-owned treatment works, as defined by ARSD 74:52:01:01(36).

Municipality – a city, town, county, district, sanitary district, or other public body created by or under state law with jurisdiction over the disposal of sewage, industrial wastes, or other wastes.

Natural Buffer – as used in this general permit, means an area of undisturbed natural cover surrounding surface waters within which construction activities are restricted. Natural cover

includes the vegetation, exposed rock, or barren ground that exists prior to commencement of construction activities.

Nonpoint Source – a source of pollution that is not defined as a point source.

Non-Stormwater Discharges – discharges that do not originate from runoff events. They can include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, sanitary wastes, construction washout water, paint wash water, irrigation water, or pipe testing water.

Notice of Intent or **NOI** – the form (electronic or paper) provided by the Secretary required for authorization of coverage under this general permit (Appendix A).

Notice of Termination or **NOT** – the form (electronic or paper) provided by the Secretary required for terminating coverage under this general permit (Appendix B).

Operator – as used in this general permit and in the context of stormwater discharges associated with construction activity means any party associated with a construction project that meets either of the following two criteria:

1. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
2. The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the general permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the general permit).

The operator, along with the owner, is responsible for ensuring compliance with all conditions of this general permit and with development and implementation of the stormwater pollution prevention plan.

Pesticide – any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pests, or any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

Note: drugs used to control diseases of humans or animals (such as livestock and pets) are not considered pesticides; such drugs are regulated by the Food and Drug Administration. Fertilizers, nutrients, and other substances used to promote plant survival and health are not considered plant growth regulators and thus are not pesticides. Biological control agents, except for certain microorganisms, are exempted from regulation as pesticides under FIFRA. (Biological control agents include beneficial predators such as birds or ladybugs that eat insect pests, parasitic wasps, fish, etc.)

Point Source – any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharge. Construction sites disturbing one (1) or more acres are point sources. Therefore, any

water flowing off the construction site constitutes a discharge and must be covered by a Surface Water Discharge permit.

Pollutant-Generating Activities – at construction sites, as used in this general permit, means those activities that lead to or could lead to the generation of pollutants, either as a result of earth-disturbance or a related construction support activity. Some of the types of pollutants that are typically found at construction sites are:

1. Sediment;
2. Nutrients;
3. Heavy metals;
4. Pesticides and herbicides;
5. Oil and grease;
6. Bacteria and viruses;
7. Trash, debris, and solids;
8. Treatment polymers; and
9. Any other toxic chemicals.

Prohibited Discharges – as used in this general permit, means discharges that are not allowed under this general permit, see Section 2.3.

Qualified Local Program – a municipal program for stormwater discharges associated with construction sites that has been formally approved by SDDENR to act in lieu of the state program.

Regulated Substance – the compounds designated by the department under South Dakota Codified Law §§ 23A-27-25, 34A-1-39, 34A-6-1.3(17), 34A-11-9, 34A-12-1 to 34A-12-15, inclusive, 45-6B-70, 45-6C-45, 45-6D-60, and 45-9-68, including pesticides and fertilizers regulated by the Department of Agriculture; the hazardous substances designated by the federal Environmental Protection Agency pursuant to section 311 of the Federal Water Pollution Control Act and Clean Water Act (33 United States Code sections 1251 to 1387, inclusive), as amended to January 1, 2011; the toxic pollutants designated by Congress or the Federal Environmental Protection Agency pursuant to section 307 of the Toxic Substances Control Act (15 United States Code sections 2601 to 2671, inclusive), as amended to January 1, 2011; the hazardous substances designated by the Federal Environmental Protection Agency pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (42 United States code sections 9601 to 9675, inclusive), as amended to January 1, 2011; and petroleum, petroleum substances, oil, gasoline, kerosene, fuel oil, oil sludge, oil refuse, oil mixed with other wastes, crude oils, substances, or additives to be utilized in the refining or blending of crude petroleum or petroleum stock, and any other oil or petroleum substance. This term does not include sewage and sewage sludge.

Runoff Event – a precipitation event or snowmelt that results in a measurable amount of surface runoff.

SDDENR – the South Dakota Department of Environment and Natural Resources.

Secretary – the Secretary of the South Dakota Department of Environment and Natural Resources, or an authorized representative.

Section 303(d) List or 303(d) List – a list of South Dakota's water quality-limited surface waters requiring the development of Total Maximum Daily Loads (TMDLs) to comply with Section 303(d) Report is available on the SDDENR website. A link to a map of 303(d) listed waters, waters with approved TMDLs is available on the SDDENR stormwater webpage.

Stormwater – means, for the purpose of this general permit, stormwater runoff, snowmelt runoff, or surface runoff.

Stormwater Associated with Construction Activity – means a discharge of pollutants in stormwater to surface waters of the state from areas where construction site or construction support activities occur.

Stormwater Associated with Industrial Activity – means stormwater runoff, snow melt runoff, or surface runoff and drainage from industrial activities as defined in 40 C.F.R. Section 122.26(b)(14) (July 1, 2016).

Stormwater Pollution Prevention Plan or **SWPPP –** means a site-specific, written document that, among other things: 1) identifies potential sources of stormwater pollution at the construction site; 2) describes control measures to reduce or eliminate pollutants in stormwater discharges from the construction site; and 3) identifies procedures the owner or operator will implement to comply with the terms and conditions of this general permit. See Section 5.0 for details on the requirements for a SWPPP.

Surface Waters of the State – lakes, ponds, streams, rivers, wetlands, and any other body or accumulation of water on the land surface that is considered to be waters of the state, but not waste treatment systems, including treatment ponds, lagoons, leachate collection ponds, or stormwater retention ponds designed to meet the requirements of the federal Clean Water Act.

Surface Water Quality Standards – water quality standards adopted pursuant to South Dakota Codified Law §§ 34A-2-10 and 34A-2-11 or actual existing beneficial uses, whichever is higher, and effluent standards adopted pursuant to SDCL § 34A-2-13 or pursuant to the best professional judgment of the Secretary, whichever is applicable. If waters have more than one designated beneficial use and criteria are established for a parameter that is common to two or more uses, such as pH, the more restrictive criterion for the common parameter applies.

Temporary Stabilization – means a condition where exposed soils or disturbed areas are provided a temporary vegetative and/or non-vegetative protective cover to prevent erosion and sediment loss. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb the area.

Total Maximum Daily Load or **TMDL** – means the sum of the individual wasteload allocations for point sources, load allocations for nonpoint sources, and natural background. TMDLs can be expressed in terms of mass per time, toxicity, or other appropriate measures.

Upset – an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

U.S. EPA – the United States Environmental Protection Agency.

Waters of the State – all waters within the jurisdiction of this state, including all streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the state.

Work Day – means, for the purpose of this general permit, a calendar day on which construction activities will take place.

2.0 COVERAGE UNDER THIS GENERAL PERMIT

2.1 Eligibility Requirements

This general permit shall apply to stormwater discharges from construction sites located within the state of South Dakota. Only those projects that meet all of the following eligibility requirements may be covered under this general permit:

1. You are the owner or operator of the construction project for which discharge will be covered under this general permit. The owner must obtain coverage under this general permit and all operators at the site must comply with the permit conditions.

2. Your project:

    a. Will disturb one (1) or more acres of land; or

    b. Will disturb less than one (1) acre of land but is part of a larger common plan of development or sale that will ultimately disturb one (1) or more acres of land; or

    c. Is less than one (1) acre, but has construction support activities required to be covered and the total area exceeds one (1) or more acres of land; or

    d. Has been designated by the Secretary or the United States Environmental Protection Agency (U.S. EPA) as needing a permit.

3. You have complied with all applicable requirements imposed by the applicable county, city, or other local government entities.

4. If your project will encroach, damage, or destroy a historic property included in the national register of historic places or the state register of historic places located in South Dakota, you must have approval from the South Dakota State Historic Preservation Office prior to submitting the Notice of Intent (NOI). You must attach an approval letter from the State Historic Preservation Office with the NOI.

2.2 Discharges Authorized

The following discharges shall be authorized under this general permit:

1. Stormwater discharges from projects detailed in Section 2.1.2.

2. Stormwater discharges from construction support activities provided:

    a. The support activity is directly related to the construction site required to have permit coverage;

    b. The support activity does not continue to operate beyond the completion of the construction activity at the project it supports. If the support activity continues past the initial permitted project, you must obtain a separate permit for those activities;

c. The support activity is included in the SWPPP as required by Section 5.0; and

d. Control measures are implemented for discharges from the support activity area.

3. Stormwater construction discharges combined with discharges from an industrial source, as long as:

   a. The industrial source is located on the same site as your construction activity; and

   b. You may not combine stormwater discharges from industrial and construction activities unless each source is covered by its own permit, or are not required to obtain permit coverage.

4. Discharges to waters for which there is a total maximum daily load (TMDL) allocation for sediment, suspended solids, and turbidity are covered only if you develop a SWPPP that is consistent with the assumptions, allocations, and requirements in the approved TMDL. If a specific numeric wasteload allocation has been established that would apply to discharges from construction activity, the permittee must incorporate that allocation into the SWPPP and implement necessary steps to meet that allocation.

2.3 Discharges Not Authorized

The following discharges are not authorized by this general permit:

1. **Post-Construction Discharges**. This general permit is not designed to address post-construction discharges after you have completed construction activities and achieved final stabilization at the site. Stormwater discharges associated with industrial activities must obtain coverage under a separate stormwater permit.

2. **Discharges Mixed with Non-Stormwater**. This general permit does not authorize discharges of non-stormwater.

3. **Discharges of Fill Material**. This general permit does not authorize you to discharge fill material into surface waters of the state. You are required to obtain a Section 404 federal Clean Water Act permit from the U.S. Army Corps of Engineers.

4. **Discharges Threatening Water Quality**. This general permit does not authorize your discharge from a construction site if the discharge will cause, or have the reasonable potential to cause or contribute to, violations of Surface Water Quality Standards. In such cases, the Secretary may deny you coverage under the general permit or require you to obtain an individual Surface Water Discharge permit.

5. **Discharges Threatening Endangered Species**. This general permit does not authorize your discharge from a construction site if the discharge will not ensure the protection of species that are federally-listed as endangered under the federal Endangered Species Act.

6. **Discharges of Regulated Substances**. This general permit does not authorize you to discharge regulated substances, hazardous substances, or oil resulting from onsite spills. You are subject to the federal reporting requirements of 40 CFR Part 110, Part 117, and Part 302 relating to spills or other releases of oils or hazardous substances. You must report spills in excess of the reportable quantities as required in Section 7.1.

2.4 Requesting Permit Coverage

To request coverage under this general permit, you must submit a complete and accurate Notice of Intent (NOI) (Appendix A) to SDDENR at least **15 calendar days** prior to the commencement of construction activities at the site. ***The NOI must be signed by the owner of the property where construction activities will occur.***

1. You must identify the person(s) responsible for day-to-day operations at the construction site, if different from the owner. A Contractor Authorization Form, included in Appendix C, must be submitted to SDDENR as soon as a contractor is identified if the contractor was not identified on the NOI.

2. You are not prohibited from submitting a late NOI. When you submit a late NOI, your authorization to discharge is only for discharges that occur after SDDENR grants coverage. SDDENR reserves the right to take appropriate enforcement action for any unpermitted discharges that may have occurred between the commencement of construction activities and the time authorization for your discharge is granted.

3. SDDENR will not process incomplete NOIs.

4. You must submit a completed and signed NOI to SDDENR by emailing the NOI to stormwater@state.sd.us, or mailing the NOI to SDDENR at the address in Section 7.3.

5. SDDENR will review each complete NOI and make a decision to grant or deny coverage or request additional information. You will receive an authorization letter from SDDENR if permit coverage is granted for your project.

6. Upon the effective date of this general permit, the Secretary will terminate the existing general permit.

    a. If you are authorized under the existing general permit and you have submitted the Notice of Intent for Reauthorization Form (found in Appendix E) prior to permit expiration date, your coverage will automatically continue under the new general permit. Once the new general permit is issued, you will receive an authorization letter from SDDENR notifying you of the continued coverage.

b. Projects covered under the existing general permit must be in compliance with the conditions in the new general permit by **October 1, 2018.** You must still maintain compliance with all requirements in the existing general permit during the grace period. SDDENR may grant additional time on a case by case basis if necessary. To obtain such an extension, you must request it from SDDENR in writing.

2.5 Transferring Permit Coverage

If a new owner purchases a construction site or a portion of the site covered under this general permit, you are responsible for notifying the new owner(s) of the general permit requirements and communicating the importance of achieving final stabilization on the site. You must transfer permit coverage to the new owner. Appendix D includes a form for transferring permit coverage for all or a portion of a project or development to a new owner.

2.6 Terminating Permit Coverage

Until the Secretary terminates your coverage under this general permit, you are required to comply with all conditions and effluent limits in this general permit. To terminate coverage, you are required to submit a complete and accurate Notice of Termination (NOT), found in Appendix B, and signed in accordance with Section 7.4. You must submit the NOT within **30 calendar days** of meeting any one of the following conditions.

1. You have completed all earth-disturbing activities at your site and, if applicable, all construction support activities covered by this general permit, and you have met all the following requirements:

    a. You have met the stabilization requirements listed in Section 3.19 and have reached final stabilization for any areas disturbed during construction and over which you had control during the construction activities;

    b. You have removed and properly disposed of all temporary construction materials, waste and waste handling devices, and have removed all equipment and vehicles that were used during construction, unless intended for long-term use on the site following termination of your general permit coverage;

    c. You have removed and properly disposed of all temporary control measures, including silt fence, and of which you installed and maintained during construction, except those that are intended for long-term use following termination of your general permit coverage; and

    d. You have removed all potential pollutants and pollutant-generating activities associated with construction.

2. You have obtained coverage under an individual or alternative general permit that addresses the discharges from the construction site.

2.7 Reporting Requirements

On October 22, 2015, the U.S. EPA published in the federal register a rule that has made electronic reporting of permit and compliance monitoring information mandatory for all National Pollution Discharge Elimination System (NPDES) permits. These are referred to as Surface Water Discharge (SWD) permits in South Dakota. The final rule became effective December 21, 2015.

Phase II of the final rule requires that authorized state NPDES programs begin electronically collecting, managing, and sharing construction stormwater permitting information by December 21, 2020. This includes general permit reports such as Notices of Intent (NOI), Notices of Termination (NOT), and all other remaining NPDES program reports. SDDENR is currently developing programs to meet this requirement and will notify facilities as they become available.

Electronic reporting will be required once SDDENR has fully developed an electronic reporting system. In the interim, all general permit reports must be submitted by email (stormwater@state.sd.us), or to the address listed in Section 7.3.

A hybrid approach will be available for owners/operators that do not expect to submit NOIs for multiple projects. This approach will provide users the ability to electronically submit the data for construction stormwater general permit reports without using the electronic signature verification process. Following electronic submittal of the reports, a hard copy of the Certification of Applicant with an original signature must be mailed to SDDENR.

2.8 Requiring an Individual Permit or an Alternative General Permit

SDDENR may either deny coverage or require you to apply for an individual Surface Water Discharge permit or an alternative general permit. In considering whether we deny coverage or require an alternative permit, the following will be taken into consideration:

1. You cannot comply with the conditions of this general permit;

2. There has been a change in the availability of demonstrated technologies or practices for the control or abatement of pollutants applicable to construction sites;

3. Effluent limitation guidelines are promulgated or revised for point sources covered by this general permit;

4. A water quality management plan is approved containing requirements applicable to your construction site;

5. Your discharge is a significant contributor of pollution to surface waters of the state or it presents a health hazard; or

6. You are discharging to an impaired water body and the best management practices are not sufficient to implement the assigned wasteload allocations in a Total Maximum Daily Load (TMDL) approved by the U.S. EPA.

2.9 Continuation of Coverage for Expired General Permit

If you wish to continue to be covered by this general permit after its expiration date, you must submit a Notice of Intent for Reauthorization (Appendix E). An expired general permit continues in full force and effect until a new general permit is issued. You will continue to have coverage under the current general permit until a new general permit is issued.

2.10 Requirement to Post Notice of Your General Permit Coverage

You must post a sign or other notice at a safe, publicly accessible location near the project site.

1. At a minimum, your notice must include the general permit tracking number (found on the cover page of your general permit and in the authorization letter) and a contact name and phone number for obtaining additional project information.

2. The notice must be located so that it is visible from the public road that is nearest to the active part of the construction site and must be readily viewed from a public right-of-way.

2.11 Property Rights

1. The Secretary's issuance of this general permit, adoption of design criteria, and approval of plans and specifications, does not convey any property rights of any sort, any exclusive privileges, any authorization to damage, injure or use any private property, any authority to invade personal rights, any authority to violate federal, state or local laws or regulations, or any taking, condemnation or use of eminent domain against any property owned by third parties.

2. The State does not warrant that your compliance with this general permit, design criteria, approved plans and specifications, and operation under this general permit, will not cause damage, injury or use of private property, an invasion of personal rights, or violation of federal, state or local laws or regulations. You are solely and severally liable for all damage, injury or use of private property, invasion of personal rights, infringement of federal, state or local laws and regulations, or taking or condemnation of property owned by third parties, that may result from actions taken under this general permit.

2.12 Reopener Provisions

SDDENR may reopen and modify this general permit to include appropriate conditions (following proper administrative procedures) if state or federal statutes or regulations change.

2.13 Severability

If any portion of the general permit is found to be void or is challenged, the remaining permit requirements shall remain valid and enforceable.

2.14 Permit Actions

This general permit may be modified, revoked and reissued, or terminated by the Secretary for cause. Any request for such changes does not stay any permit condition.

3.0 EFFLUENT LIMITS

You are required to comply with the following effluent limits for discharges from your construction site and/or from construction support activities representing the degree of effluent reduction attainable through the best practicable control technology currently available to minimize the pollutants present in the discharges. In order to achieve compliance with the conditions of this permit, you are required to address the following effluent limits by developing a Stormwater Pollution Prevention Plan (SWPPP) as required in Section 5.0. If you determine any of the following limits are infeasible, you must document your rationale in your SWPPP.

Stormwater discharges regulated under this general permit that may discharge to a surface water with an approved TMDL for sediment, total suspended solids, or turbidity must be consistent with the TMDL and any associated wasteload allocation (WLA) for construction or stormwater related discharges. In most cases compliance with this permit will be considered adequate, unless otherwise notified by the Secretary. The Secretary may require an individual permit, as referenced in Section 2.8, should compliance with this general permit be deemed insufficient to meet relevant WLAs.

3.1 Proper Operation and Maintenance

You must properly operate and maintain all sediment and erosion controls, best management practices, treatment systems, and any other control(s) used to achieve compliance with the conditions of this general permit in accordance with manufacturer's specifications, good engineering practices, and design specifications of the SWPPP.

3.2 Erosion and Sediment Control Requirements

1. You must design, install, and maintain effective erosion and sediment controls to minimize soil erosion and the discharge of pollutants during earth-disturbing activities. The stormwater controls must be designed to function properly and withstand a 2-year, 24-hour precipitation event. See Appendix F for instructions to determine your construction site's precipitation for a 2-year, 24-hour event.

2. You must account for the following factors when designing your erosion and sediment controls:

    a. The nature of resulting stormwater runoff and run-on at the construction site, including factors such as expected flow from impervious surfaces, slopes, and site drainage features. Controls must be able to control stormwater volume, velocity, and flow rates from a 2-year, 24-hour precipitation event across the construction site.

    b. Anticipated soil characteristics at the construction site, including soil type and range of particle sizes.

3.3 Installation Requirements

1. You must complete installation of down gradient erosion and sediment controls before any land disturbing activity takes place in order to control discharges.

2. You must install all other control measures planned for each phase of the project as described in your SWPPP as soon as conditions on the site allow.

3. You must install all control measures using good engineering practices and follow the manufacturer's specifications. Any departures from the manufacturer's specifications must reflect good engineering practices and must be explained in your SWPPP.

3.4 Perimeter Controls

You must have effective down gradient sediment controls, and controls for any side slope boundaries deemed appropriate for individual site conditions, to minimize pollutant discharges from the construction site.

3.5 Sediment Basins

If you use a sediment basin to control the discharge of sediment from the site, you must meet the requirements listed below.

1. Sediment basins must be designed, constructed, and operated in accordance with the requirements found in your local city or county drainage board.

2. Outlet structures must withdraw water from the surface of the sediment basin or impoundment to allow for proper sediment removal in the pond.

3. Erosion controls and velocity dissipation devices must be used to prevent erosion within the sediment basin as well as at inlets and outlets from the basin.

4. Sediment basins must be situated outside of surface waters and any natural buffers established under Section 3.10. The basins must be designed to avoid collecting water from wetlands and other water bodies.

3.6 Minimize Sediment Track-Out

You must minimize the track-out of sediment from the construction site where vehicles leave the site. To comply with this requirement, you must:

1. Restrict vehicle use to properly designated access points;

2. Use appropriate stabilization techniques at all construction site access point(s) so sediment removal occurs prior to vehicle exit.

3. Where sediment has been tracked out from your site onto offsite streets, other paved areas, and/or sidewalks, remove the deposited sediment by the end of the same work

day in which the track-out occurs. You must remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. You are prohibited from hosing or sweeping tracked-out sediment into storm drain inlet, surface waters of the state, or any stormwater conveyance unless the conveyance is connected to a sediment basin, sediment trap, or similar effective control. You must obtain approval from the owner of the sediment traps before hosing or sweeping sediment into those controls.

3.7 Remove Offsite Accumulation

If sediment escapes the construction site, you must initiate removal of the offsite accumulations to minimize impacts by the end of the same work day. You must revise your SWPPP and implement controls to minimize further offsite accumulation.

3.8 Minimize Dust

You must minimize the generation of dust at the construction site to avoid pollutants from being deposited into surface waters of the state. This can be accomplished through the appropriate application of water or other dust suppression techniques.

3.9 Minimize Run-on

You must minimize run-on to your construction site.

3.10 Provide Natural Buffers

You must comply with the following requirements if disturbed portions of the construction site are within fifty (50) feet of 1) a lake assigned immersion recreation or limited contact recreational beneficial uses in ARSD 74:51:02:02 and listed in ARSD 74:51:02:04; or 2) a river or stream assigned any of the warmwater or coldwater fish life propagation beneficial uses in ARSD 74:51:03:02 and listed in ARSD 74:51:03:04 to 74:51:03:27, inclusive.

1. Provide and maintain a 50-foot undisturbed natural buffer.

    a. When the natural buffer between the disturbed area(s) and surface waters of the state is less than fifty (50) feet, you must provide a combination of undisturbed buffer and supplemental erosion and sediment controls that achieves the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

    b. When no undisturbed buffer can be provided between the disturbed area(s) and surface waters of the state, you must provide erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

    c. Document in your SWPPP how any undisturbed natural buffer and the supplemented erosion and sediment controls achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

2. Direct surface runoff to vegetated areas and maximize stormwater infiltration to reduce pollutant discharges.

3. Delineate and clearly mark all natural buffer areas with flags, tape, or other similar marking device. No construction or other activity should occur in the delineated buffer area.

4. **Exception.** You are not required to maintain a 50-foot undisturbed natural buffer or install additional controls if there is no discharge of stormwater to surface waters of the state through the area between your site and the surface waters. This includes situations where you have implemented control measures, such as a berm or other barrier, to prevent such discharges.

3.11 Preserve Topsoil

You must preserve native topsoil on your site, unless infeasible. Preserving topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed.

3.12 Minimize Steep Slope Disturbance

You must minimize the disturbance of slopes that are greater than a three horizontal to one vertical (3:1) slope, unless infeasible.

3.13 Protect Storm Drain Inlets

1. You must protect all storm drain inlets that receive stormwater flows from the construction site by using appropriate best management practices during construction to minimize the discharge of pollutants from the site.

2. You must maintain the inlet protection until you have permanently stabilized all sources that have the potential to discharge pollutants to the inlet. If local officials require you to remove the inlet controls during the winter, you must install alternative controls to prevent sediment from entering the storm drain inlet.

3.14 Erosive Velocity Control

1. You must use erosion controls and velocity dissipation devices where necessary along the length of stormwater conveyance channels and outlets to minimize erosion of the channel, adjacent stream bank, slope, and downstream waters.

2. You must provide energy dissipation BMPs prior to connecting pipe or culvert outlets to surface water.

3. You must control the stormwater discharges, including both peak flowrates and total stormwater volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points.

3.15 Minimize Soil Compaction

In areas of your site where final vegetative stabilization or infiltration will occur, you must either:

1. Restrict vehicle and equipment use in these locations to avoid soil compaction; or

2. Condition areas of compacted soil prior to seeding or planting to support vegetation growth.

3. **Exception.** You are not required to minimize soil compaction where the intended function of a specific area of the site dictates that soil be compacted.

3.16 Minimize Exposed Soil

You must schedule and sequence soil disturbing and stabilizing activities to minimize the amount and duration of soil exposure to erosion and sedimentation by wind, rain, surface runoff, and vehicle tracking. Consider factors such as high precipitation seasons when scheduling soil disturbing activities.

3.17 Protect Stockpiles

For any stockpiles or land clearing debris you must:

1. Locate the stockpiles and debris outside of any natural buffers established as required in Section 3.10 and away from any stormwater conveyances, drain inlets, and areas where stormwater flow is concentrated;

2. Protect the stockpiles debris from contact with stormwater run-on by using temporary sediment controls, berms, or other BMPs;

3. Properly maintain and position stockpiles to minimize dust generation and wind transport of sediment; and

4. Minimize stormwater runoff from the piles by properly positioning stockpiles and debris or installing effective sediment controls.

5. You are prohibited from placing stockpiles in surface waters of the state.

3.18 Stabilization Requirements

You are required to stabilize exposed portions of your site in accordance with the requirements of this section. You are responsible for implementing winter stabilization methods during frozen ground conditions if the site was not stabilized prior to the ground freezing.

1. **Deadline to Initiate Stabilization.** You must begin soil stabilization measures by the following work day whenever earth-disturbing activities have permanently or temporarily ceased on any portion of the site.

a. Earth-disturbing activities have permanently ceased when you complete clearing, grading, and excavation within any area of your site that will not include permanent structures.

b. Earth-disturbing activities have temporarily ceased when you cease clearing, grading, and excavation within any area for a period of at least **14 calendar days**, but will resume such activities in the future.

2. **Deadline to Complete Temporary Stabilization**. As soon as practicable, but no later than **14 calendar days** after initiating soil stabilization measures, you are required to have completed:

   a. All activities necessary to initially seed or plant the area to be stabilized for vegetative stabilization practices.

   b. The installation or application of all non-vegetative measures.

   c. As soon as practicable after seeding or planting, select, design, and install non-vegetative erosion controls (e.g., mulch or rolled erosion control products) to prevent erosion on the seeded or planted areas while vegetation establishes.

3. **Criteria for Final Stabilization**. To be considered as having reached final stabilization, you must meet the criteria below based on the type of cover you are using.

   a. **Vegetative Stabilization**. If you are seeding or planting vegetation to stabilize the site, you must meet the following requirements:

      i. Provide 70 percent or more of the density of coverage that was provided by vegetation prior to commencement of construction activities.

      ii. Provide perennial vegetative cover.

      iii. Minimize the presence of invasive species.

   b. **Non-Vegetative Stabilization**. If you are using non-vegetative controls for final stabilization at your site, the controls must provide effective cover to properly stabilize the exposed portions of your site.

   c. **Return to Pre-construction Agricultural Land Use.** For construction projects on land used for agricultural purposes, final stabilization may be accomplished by returning the disturbed land to its pre-construction agricultural use. Areas disturbed that were not previously used for agricultural purposes, such as buffer strips immediately next to surface waters and areas not being returned to pre-agricultural use must meet the final stabilization criteria listed in (a) and (b) above.

4. **Site Specific Stabilization Requirements**. If you are constructing in the specific areas listed below, you must complete the following stabilization requirements as soon as practicable, but no later than the deadlines listed below after initiating soil stabilization measures:

    a. Stream diversions or drainage ditches that divert water around or drain water from your construction site must be stabilized with appropriate controls prior to connection with any surface water.

    b. For stockpiles that will be unused for 14 or more days, provide cover or appropriate temporary stabilization consistent with Section 3.18.

3.19 Maintenance Requirements

1. **Effective operating condition.** You must ensure that all erosion and sediment controls remain in effective operating condition until final stabilization is complete. At a minimum, you must:

    a. Remove sediment from sedimentation basins when the design capacity has been reduced by 50% or more.

    b. Remove sediment from sediment controls before the deposit reaches 50% of the above-ground height of the control.

    c. Repair vegetative buffers if they become silt-covered, contain rills, or are otherwise rendered ineffective.

    d. You must repair and stabilize eroded areas by the end of the same work day they are identified. If repair is infeasible, you must implement alternative control measures.

    e. Clean inlet protection devices when sediment accumulates, or when the filter becomes clogged, or performance is compromised.

    f. Ensure that all controls remain in effective operating condition and are protected from activities that would reduce their effectiveness.

    g. All nonfunctional BMPs must be repaired, replaced, maintained or supplemented with functional BMPs. If a nonfunctioning BMP is supplemented, the nonfunctional BMP shall be removed.

2. **Deadline for maintenance.** If you find a problem or if your inspections identify that control measures are not operating effectively, you must make the necessary repairs or modifications as follows:

    a. If you discover a problem that does not require repair or replacement, you must initiate work to fix the problem on the same day. If the problem is identified at a time in the work day when it is too late to complete the corrective actions, you must initiate work to fix the problem on the following work day or before the next anticipated runoff event, whichever comes first.

    b. If you need to install new erosion or sediment controls or need to complete repairs, you must complete the work before the next anticipated runoff event or by no later than seven (7) calendar days from the time the problem is discovered, whichever comes first.

    c. You must modify your SWPPP within seven (7) calendar days of completing the work. The SWPPP must address any changes to the controls and must detail the necessary steps to prevent similar damage in the future.

3.20 Pollution Prevention Procedures

You must design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants from the activities listed below. Spills must be reported as required in Section 7.1 of this general permit.

1. **Prohibited Discharges.** You are prohibited from discharging the following from your construction site:

    a. Wastewater from washout and cleanout of concrete, stucco, paint, form release oils, curing compounds, and other construction materials.

    b. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.

    c. Detergents, soaps, or solvents used in vehicle and equipment washing.

    d. Toxic or hazardous substances from a spill or other release.

    e. Waste, garbage, floatable debris, construction debris, and sanitary waste.

2. **Fueling and Maintenance of Equipment or Vehicles**. If you fuel or maintain equipment or vehicles at your site, you must minimize the discharge of spilled or leaked materials from the area where these activities take place.

3. **Washing of Equipment and Vehicles**. You must provide an effective means of minimizing the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other types of washing. The washing must be limited to a defined area of the site and must be properly disposed.

4. **Management of Construction Products, Chemicals, Materials, and Wastes**. You must properly store, handle, and dispose of any construction products and materials, chemicals, landscape materials, and wastes in order to minimize the exposure to stormwater. Products or wastes that are either not a source of contamination to stormwater or are designed to be exposed to stormwater are not held to this requirement. Requirements are as follows:

    a. You must cover or otherwise protect any materials that have the potential to leach pollutants in order to minimize contact with stormwater and prevent the discharge of pollutants.

    b. Clean up spills by the end of the same work day in which the spill occurred, using dry clean-up methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or continuation of an ongoing discharge.

    c. For registered pesticides and fertilizers, you must comply with all application and disposal requirements included on the label. Pesticides and fertilizers must be stored under cover or other effective means designed to minimize contact with stormwater. You must document any departures from the manufacturer's specifications for applying fertilizers and pesticides.

    d. Store all diesel fuel, oil, hydraulic fluids, other petroleum products, and other chemicals and products in water-tight container.

    e. Hazardous or toxic wastes that may be present at construction sites include, but are not limited to, paints, solvents, petroleum-based products, wood preservatives, additives, curing compounds, acids, and alkaline materials. For these materials and wastes, you must:

        i. Separate hazardous or toxic wastes and materials from construction and domestic waste.

        ii. Store hazardous or toxic wastes and materials in sealed containers and provide secondary containment as applicable. These containers must be constructed of suitable materials to prevent leakage and corrosion. These containers must be labeled in accordance with the applicable Resource Conservation and Recovery Act (RCRA) requirements and all other applicable federal, state, or local requirements.

        iii. Dispose of hazardous or toxic wastes in accordance with the manufacturer's recommended method of disposal and in compliance with federal, state, and local requirements.

f. You must provide effective containment for all liquid and solid wastes generated by washout operations including, but not limited to, concrete, stucco, paint, form release oils, curing compounds, and other construction materials related to the construction activity. For these materials and wastes, you must comply with the following requirements:

   i. Designate areas to be used for washout and cleanout activities. The containment must be designed so that it does not result in runoff from washout operations or during runoff events;

   ii. Install signs adjacent to each washout facility directing site personnel to use the proper facilities for concrete disposal and other washout wastes;

   iii. Direct all wash water into a leak-proof container or leak-proof pit;

   iv. Do not dump liquid wastes in the storm sewers; and,

   v. Clean up and properly dispose of any accumulated wastes in designated waste containers.

g. You must provide proper waste disposal receptacles of sufficient size and number to handle construction wastes including, but not limited to, packaging materials, scrap construction materials, masonry products, timber, pipe, and electrical cuttings, plastics, Styrofoam®, concrete, and other trash or building materials.

   i. For sanitary waste, you must position portable toilets so they are secure and will not be tipped or knocked over. You must properly remove and dispose of wastes from the portable toilets.

3.21 Construction Dewatering

You are prohibited from discharging from dewatering activities, including discharges from dewatering of trenches and excavation, unless the discharges are managed by the following controls:

1. You shall not discharge toxic pollutants in toxic amounts.

2. Your discharge shall not impart a visible film or sheen to the surface of the receiving water or adjoining shoreline.

3. Your discharge shall not contain visible pollutants. You must visually monitor the discharge for suspended solids. If you observe suspended solids in the discharge, you must implement the following requirements:

   a. You must install additional best management practices and update your stormwater pollution prevention plan to reduce the visible solids.

b. You must sample the dewatering discharge for total suspended solids on a daily basis until there is no longer a discharge of visible solids. The samples must be analyzed in accordance with Title 40 of the Code of Federal Regulations, Part 136. If the total suspended solids value exceeds 53 mg/L in any sample or measurement, you must cease the dewatering discharge to surface waters of the state until you can demonstrate the additional best management practices are sufficient to eliminate the visible pollutants. You must also document this in your stormwater pollution prevention plan (SWPPP).

4. You must use best management practices to minimize or prevent stream channel scouring or erosion caused by dewatering discharges.

5. You cannot add chemicals to the discharge without prior approval from SDDENR.

6. You must obtain a Temporary Water Right. Contact SDDENR Water Rights Program at (605) 773-3352 for more information and to obtain a temporary water right.

4.0 INSPECTION REQUIREMENTS

You are required to conduct site inspections to determine the effectiveness of your control measures and your compliance with the conditions of the general permit.

4.1 Person(s) Responsible for Inspecting the Site

The person(s) inspecting your site may be a member of your staff or a third party you hire to conduct the inspections. You are responsible for ensuring the person who conducts the inspection is knowledgeable in the principles and practice of erosion and sediment controls and pollution, possesses the skills to assess conditions at the site that could impact stormwater quality, and is able to assess the effectiveness of any control measures selected and installed to meet the requirements of the general permit.

4.2 Frequency of Inspections

At a minimum, you must conduct a site inspection at the following frequencies:

1. Once every 7 calendar days; or

2. Once every 14 calendar days **and** within 24 hours of precipitation that exceeds 0.25 inches or snowmelt that generates runoff. You must keep a properly maintained rain gauge on your site.

4.3 Reduction of Inspection Frequency

You may reduce your inspection frequency from the requirements above under the following circumstances. You must document the beginning and ending dates of these periods in your inspection records.

1. **Partial final stabilization.** You may reduce the frequency of inspections to once per month on any portion of your site where you have reached final stabilization. If construction activity resumes in this portion at a later date, you must increase the frequency as required in Section 4.2 above.

2. **Frozen conditions.** If you are suspending earth-disturbing activities due to frozen conditions and all disturbed areas of the site have been temporarily or permanently stabilized as required in Section 3.19, you shall conduct inspections at least once per month. You must resume weekly inspections by no later than March 1st of each year until your site is permanently stabilized and you have submitted a Notice of Termination (NOT) in accordance with Section 2.6.

4.4 Areas that Need to Be Inspected

During your site inspections you must, at a minimum, inspect the following areas:

1. All areas that have been cleared, graded, or excavated and have not yet reached final stabilization;

2. All sediment and erosion control measures and best management practices, including inlet protection;

3. Vegetated buffers;

4. Stockpiles, chemical and fuel storage, fertilizer and pesticide storage and other material, waste, borrow, and/or equipment storage and maintenance areas;

5. All areas where stormwater typically flows within the site, including drainage ways designed to divert, convey, and/or treat stormwater;

6. All points of discharge from the site including surface waters, drainage ditches, and conveyance systems; and,

7. All dewatering activities at the site.

8. **Exception.** You are not required to inspect areas that, at the time of the inspection, are unsafe for your inspection personnel. A detailed description of the situation must be documented in your inspection records explaining the reason the site conditions prevented the inspection.

4.5 Requirements for Inspections

During your site inspections you must, at a minimum:

1. Check whether all erosion and sediment controls and best management practices are implemented and functioning to minimize pollutant discharges. Determine if you need to replace, repair, or maintain any controls.

2. Check for spills, leaks, or other accumulation of pollutants on the site, or for the presence of conditions that could lead to spills, leaks, or other accumulations of pollutants on site. Determine if you need to install additional controls or take corrective actions to prevent the discharge of these pollutants.

3. Determine if site conditions have changed and if current controls are still effective in controlling pollutants from leaving your site. Identify any locations where new or modified control measures are necessary.

4. Check for signs of erosion, scour, and sediment deposits that have occurred on or off the construction site:

    a. Inspect the discharge points and, where applicable, the banks of any surface waters of the state flowing within your property boundaries or immediately adjacent to your property.

    b. Identify areas where you need to correct erosion and remove sediment.

c. Determine if you need controls to reduce the velocity of the discharge or prevent further erosion and sedimentation.

5. If a discharge is occurring during your inspection, you are required to:

   a. Identify all points of the property where there is a discharge;

   b. Observe and document the visual quality of the stormwater discharge and note the characteristics of the discharge, including color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollutants; and

   c. Document whether your control measures are operating effectively. Describe any controls that are not clearly operating as intended or are in need of maintenance.

6. Identify all incidents of noncompliance that you observe.

7. Based on the results of your inspection, you must initiate corrective action(s) where needed.

4.6 Inspection Report

You must complete an inspection report in conjunction with each site inspection.

1. Each inspection report must be maintained in accordance with the requirements in Section 7.3 and must include the following information;

   a. Date and time of the inspection.

   b. Names and titles of the personnel conducting the inspection.

   c. Date and amount of most recent precipitation event, as well as if runoff was flowing onsite and/or offsite at the time of the inspection.

   d. A summary of your inspection findings, covering, at a minimum, the observations you made as required in Sections 4.4. and 4.5;

   e. Specific locations where maintenance, additional best management practices, cleanup, or corrective action is needed;

   f. The results of the total suspended solids levels in any dewatering discharge, as required by Section 3.21; and

   g. A summary of any corrective actions taken in response to the inspection findings, including any changes made to the SWPPP.

2. If you have determined it is unsafe to inspect a portion of your site, you must describe the reason(s) you found it to be unsafe and specify the locations that were not inspected.

3. If an inspection does not identify any incidents of noncompliance, you must include a statement in the report that the site is in compliance with the SWPPP and the general permit.

4. You must sign and certify each inspection report in accordance with the signatory requirements found in Section 7.4.

5.0 STORMWATER POLLUTION PREVENTION PLAN

You must develop a stormwater pollution prevention plan, also referred to as a "SWPPP," to be covered under this general permit. Stormwater management documents developed under other regulatory programs may be included or incorporated by reference in the SWPPP, or used in whole as a SWPPP if it meets the requirements of this section.

5.1 SWPPP Deadlines

1. You must develop the SWPPP **prior** to the submittal of the NOI.

   Note: If you were covered under the February 1, 2010, general permit and reauthorized under this general permit, you must update your SWPPP to comply with the conditions of this general permit by **October 1, 2018**.

2. You must implement and maintain the SWPPP for any construction activity requiring this general permit until final stabilization is reached.

5.2 TMDL

For projects that discharge stormwater to a water body listed as impaired under section 303(d) of the Federal Clean Water Act due to sediment, suspended solids, or turbidity, you must identify the water body and impairment in the SWPPP. Your SWPPP must describe and conform to any Wasteload Allocation (WLA) for the water body as required in Section 2.2.4

5.3 SWPPP Contents

You must develop your SWPPP to ensure compliance with the effluent limits in Section 3.0. Your SWPPP must include the following information, at a minimum.

1. **Personnel**. Your SWPPP must identify those person(s), by name or position, who are knowledgeable and experienced in the application of erosion and sediment control BMPs and who are responsible for the development and implementation of any portion of the SWPPP, for any later modifications to the SWPPP, and for compliance with the requirements of this general permit.

2. **Staff Training**. The SWPPP shall outline how employees and responsible parties shall be trained on the implementation of the SWPPP. Training must be provided at least annually, as new employees or responsible parties are hired, or as necessary to ensure compliance with the SWPPP and this general permit. Employees and responsible parties include individuals who are responsible for conducting inspections or for the design, installation, maintenance, or repair of stormwater controls.

3. **Description of Construction Activities**. Your SWPPP must include a narrative description of the nature of your construction activities, including the following:

a. A description of the overall project and type of construction activities to occur on the site and a description of the final completed project;

b. The total size of the project and total area expected to be disturbed by construction activities;

c. The maximum area expected to be disturbed at any one time;

d. Description of the existing vegetation at the site and an estimate of the percent of vegetative ground cover;

e. A description of the soil within the disturbed areas;

f. The name of the surface waters or municipal separate storm sewer system at or near the disturbed area that could potentially receive discharges from the project site;

g. Any construction support activity areas; and,

h. The intended sequence and estimated dates of construction activity for the following:

i. Implementation of BMPs, including when they will be operational and an explanation of how you will ensure the control measures are installed by the time each phase of earth-disturbing activity begins.

ii. Commencement and duration of earth-disturbing activities, including clearing and grubbing, mass grading, site preparation (i.e., excavating, cutting and filling), final grading, and creation of soil and vegetation stockpiles requiring stabilization.

iii. Cessation, temporary or permanent, of construction activities on the site or in designated portions of the site.

4. **Site Map.** You must include a legible site map depicting the following features and boundaries of the project:

a. Pre-construction site conditions, including existing vegetative and non-vegetative cover (e.g. – forest, pasture, pavement, structures, etc.);

b. Locations where earth-disturbing activities will occur, noting any phasing of construction activities;

c. Approximate slopes before and after major grading activities. Note areas with a slope greater than three horizontal to one vertical (3:1);

d. Topography of the site;

e. Drainage patterns of stormwater and authorized non-stormwater flows from the site property before and after major grading activities. Mark the flow direction with arrows on the map.

f. Locations and names, where appropriate, of all surface waters of the state that exist within or in the immediate vicinity of the site and could potentially receive discharges from the project site.

g. Locations of any surface water crossings, noting areas where work near waterbodies is necessary;

h. Location of any stormwater conveyances including, but not limited to, sediment ponds, ditches, pipes, swales, stormwater diversions, culverts, and ditch blocks;

i. Discharge locations, including locations of any storm drain inlets on or in the immediate vicinity of the site that could potentially receive discharges from the project site;

j. Locations where stormwater or allowable non-stormwater will be discharged to surface waters of the state on or in the immediate vicinity of the site.

k. Locations where sediment, soil, or other construction materials will be stockpiled;

l. Designated site access points;

m. Locations of structures and other impervious surfaces upon completion of construction;

n. Natural buffer boundaries and widths;

o. Locations of fueling activity, vehicle and equipment maintenance areas, designated wash water collection areas, lubricant and chemical storage, paint storage, material storage, staging areas, and debris collection areas;

p. Locations of all activities that could potentially generate pollutants at the site, such as dumpsters, chemical storage, construction site washout, portable toilets, or equipment storage.

q. Location and types of all sediment and erosions controls, velocity dissipation devices, post-construction controls, and all other BMPs used on the site.

r. Locations of construction support activities covered by this general permit.

5. **Description and Maintenance of Control Measures.** Your SWPPP must include a narrative description of the erosion and sediment control measures that will be implemented during construction at your site to meet the conditions of this general permit. For each control measure you must provide a narrative on the following:

a. A timeframe for the installation, maintenance, and removal (if necessary) of all selected BMPs for each phase of construction activity;

b. Your rationale for the selection of all BMPs, including calculations as necessary;

c. Whether selected BMPs are temporary or permanent;

d. A description of maintenance specifications and procedures;

e. A description of structural diversion practices intended to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site;

f. A description of the removal of any temporary stormwater conveyance; and

g. A description of the temporary and final stabilization of areas of exposed soil where construction activities have been completed or temporarily ceased. Your SWPPP must describe the specific vegetative and/or non-vegetative practices you will use to comply with the stabilization requirements in Section 3.19, along with the reasons for choosing each practice.

6. **Procedures for Inspections.** The SWPPP must describe the procedures you will follow for conducting site inspections and, where necessary, taking corrective actions. The following information must also be included in your SWPPP:

   a. Personnel responsible for conducting inspections;

   b. Required frequency of inspections;

   c. Rationale for reduction of inspection frequency; and,

   d. Any inspection checklists or other forms that you will use.

7. **Post Construction Stormwater Management.** You must identify stormwater management practices that will be installed during the construction process to control pollutants in stormwater discharges occurring after construction operations have been completed. Maintenance for onsite stormwater management features is the responsibility of the permittee until the NOT is submitted or the feature is accepted by the party responsible for long term maintenance. The following information must be included in your SWPPP:

   a. An explanation of the technical basis used to select the practices to control pollution where flows exceed pre-development levels;

   b. A description of structural stormwater management practices such as stormwater ponds, open vegetated swales, natural depressions to allow

infiltration of runoff onsite, and sequential systems that combine several practices or other post construction stormwater management features; and

c. The location of velocity and energy dissipation devices placed at discharge points and appropriate erosion protection for outfall channels and ditches.

8. **Pollution Prevention Procedures**

a. **Spill Prevention and Response Procedures**. Your SWPPP must describe the procedures you will follow to prevent and respond to spills and leaks, including:

i. Procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases. The SWPPP must identify the name or position of the employee(s) responsible for detection and response of spills and leaks;

ii. Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies as required by Section 7.1; and,

iii. Ways to prevent reoccurrence of such releases and steps to prevent any such releases from contaminating stormwater runoff. The SWPPP shall be modified and changes implemented as appropriate.

b. **Waste Management Procedures**. The SWPPP must describe procedures for how you will handle and dispose of all wastes generated at your site, including, but not limited to, clearing and demolition debris, sediment removed from the site, construction and domestic waste, hazardous or toxic waste, and sanitary waste.

9. **Construction Site Pollutants**

a. You must include information in your SWPPP about all activities that could generate pollutants at your site. Examples of pollutant-generating activities include, but are not limited to: paving operations; concrete, paint, and stucco washout; solid waste storage and disposal; storage of fertilizers, pesticides, solvents, fuels, and soils. You must include in your SWPPP a description of the removal of construction equipment and vehicles and any cessation of any pollutant generating activities.

b. You must include an inventory of the pollutants and chemicals associated with your construction activity and consider where potential spills and leaks could occur.

c. If SDDENR approves the use of water treatment chemicals, your SWPPP must include:

i. A listing of all water treatment chemicals planned for use at the site and why these chemicals were selected;

ii. The proper dosage and method of application for all water treatment chemicals;

iii. All applicable Safety Data Sheets (SDS) for chemicals planned to be used;

iv. Schematic drawings of any controls or treatment system used for the application of the water treatment chemicals;

v. A description of how the chemicals will be stored;

vi. Copies of the applicable manufacturer's specifications regarding the use of the water treatment chemicals and chemical treatment systems;

vii. A description of the training that personnel who handle, apply, or store the chemicals have received or will receive prior to the use of water treatment chemicals and chemical treatment systems;

viii. A description of safe handling, spill prevention, and spill response procedures; and

ix. A copy of the approval letter from SDDENR, approving the use of the water treatment chemicals and/or chemical treatment system.

10. **Non-Stormwater Discharges.** You must identify in your SWPPP all sources of non-stormwater discharges.

11. **Infeasibility Documentation.** If you determine it is infeasible to comply with any of the requirements of this general permit, you must thoroughly document your rationale in your SWPPP.

5.4 SWPPP Certification

You must sign and date your SWPPP as required by Section 7.4.

5.5 Required SWPPP Modifications

1. **Conditions Requiring SWPPP Modification**. You must modify your SWPPP, including the site map(s), in response to any of the following conditions:

   a. When you have a new operator responsible for implementation of any part the SWPPP.

   b. When you make changes to your construction plans, sediment and erosion control measures, or any best management practices at your site that are no longer accurately reflected in your SWPPP. This includes changes made in response to corrective actions triggered by inspections.

c. To reflect areas on your site map where operational control has been transferred (including the date of the transfer) or has been covered under a new permit since initiating coverage under this general permit.

d. If inspections by site staff, local officials, SDDENR, or U.S. EPA determine that SWPPP modifications are necessary for compliance with this general permit.

e. To reflect any revisions to applicable federal, state, or local requirements that affect the control measures implemented at the site.

f. If approved by the Secretary, to reflect any changes in chemical water treatment systems or controls, including the use of a different water treatment chemical, different dosage rates, or different areas or methods of application.

2. **Deadlines for SWPPP Modification**. You must complete the required revisions to the SWPPP within 7 calendar days following any of the items listed above.

3. **Documentation of Modifications to the Plan**. You are required to maintain records showing the dates of all SWPPP modifications. The records must include the name of the person authorizing each change and a brief summary of all changes.

4. **Certification Requirements**. All modifications made to your SWPPP must be signed and certified as required in Section 7.4.

5. **Required Notice to Other Operators**. If there are multiple operators at the site, you must notify each operator that may be impacted by the change to the SWPPP within 24 hours.

6.0 SPECIAL CONDITIONS

6.1 Qualified Local Programs

1. To receive approval as a qualified local program, SDDENR will review the local requirements to ensure they comply with both state and federal requirements. SDDENR may authorize minor variations and alternative standards in lieu of the specific conditions of the general permit based upon the unique comprehensive control measures established in the qualifying local program. SDDENR will review each qualifying local program for recertification during the renewal of its municipal separate storm sewer system permit.

2. If a construction site is within the jurisdiction of a qualifying local program, the operator shall submit a Notice of Intent (NOI) to SDDENR to be covered under the general permit and comply with all requirements of the qualifying local program. Compliance with the qualifying local program requirements is deemed to be compliance with this general permit. A violation of qualifying local program requirements is also a violation of this general permit.

3. At this time only the City of Sioux Falls is meeting SDDENR's minimum requirements. If additional municipalities are approved as a Qualifying Local Program in the future, a modification to this general permit will be offered for public comment in the municipality's local newspaper.

7.0 REPORTING AND RECORDKEEPING REQUIREMENTS

7.1 Emergency Spill Notification

1. You must report a release or spill of a regulated substance (including petroleum and petroleum products) to SDDENR as soon as you become aware of it if any one of the following conditions exists:

    a. The release or spill threatens or is in a position to threaten waters of the state (surface water or ground water);

    b. The release or spill causes an immediate danger to human health or safety;

    c. The release or spill exceeds 25 gallons;

    d. The release or spill causes a sheen on surface water;

    e. The release or spill of any substance that exceeds the ground water quality standards of ARSD Chapter 74:54:01;

    f. The release or spill of any substance that exceeds the surface water quality standards of ARSD Chapter 74:51:01;

    g. The release or spill of any substance that harms or threatens to harm wildlife or aquatic life;

    h. The release or spill of crude oil in field activities under SDCL chapter 45-9 is greater than 1 barrel (42 gallons); or

    i. The release or spill is required to be reported according to Superfund Amendments and Reauthorization Act (SARA) Title III List of Lists, Consolidated List of Chemicals Subject to Reporting Under the Emergency Planning and Community Right to Know Act, US Environmental Protection Agency.

2. To report a release or spill, call SDDENR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central Standard Time). To report the release after hours, on weekends or holidays, call South Dakota Emergency Management at 605-773-3231. Reporting the release to SDDENR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, you must also contact local authorities to determine the local reporting requirements for releases. A written report of the unauthorized release of any regulated substance, including quantity discharged and the location of the discharge shall be sent to SDDENR within 14 days of the discharge.

7.2 Planned Changes

You must notify SDDENR as soon as possible of any planned physical alterations or additions to your site. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutant discharged, or could result in noncompliance with permit conditions. This notification also applies to pollutants that are not addressed by the effluent limits in Section 3.0.

7.3 Records Contents & Retention

1. You must maintain onsite, or make readily available to SDDENR, the following documents:

    a. The SWPPP, including all certificates, reports, records, or other information required by this general permit.

    b. A copy of the Notice of Intent (NOI) submitted to SDDENR, along with any correspondence related to coverage under this general permit.

    c. A copy of the authorization letter you receive from SDDENR granting coverage under this general permit.

    d. A copy of this general permit.

2. You must retain copies of the SWPPP, your inspection records, all reports required by this general permit, and records of the date you used to complete the NOI and NOT for a period of at least three (3) years from the date you terminate your coverage under the general permit. SDDENR may extend the time period for retaining your records with a written notification to you.

3. You must submit all reports and documents required to be submitted to SDDENR by this general permit by email (stormwater@state.sd.us), or to the address below:

    SD Department of Environment and Natural Resources
    Surface Water Quality Program
    523 East Capitol
    Pierre, SD 57501

7.4 Signatory Requirements

1. All applications submitted to SDDENR under this general permit must be signed by either a principal executive officer or ranking elected official.

2. All reports required by the general permit and other information requested by SDDENR shall be signed by the person described in Paragraph 1 above or by a duly authorized representative of that person. A person is a duly authorized representative if:

   a. The authorization is made in writing by a person described in Paragraph 1 above and submitted to SDDENR; and

   b. The authorized representative must have responsibility for the overall operation of the site, such as the superintendent, or have overall responsibility for environmental matters. A duly authorized representative may be either a named individual or any individual occupying a named position.

3. If the authorization under Paragraph 2 above is no longer accurate, you must submit a new authorization to SDDENR.

4. You must include the following certification statement with all documents signed under this section:

   I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure qualified personal properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

7.5 Duty to Provide Information

1. You must provide, within a reasonable period of time, any information SDDENR requests to determine whether cause exists for modifying, revoking and reissuing, or terminating this general permit, or to determine compliance with the general permit.

2. You must provide to SDDENR, upon request, copies of the records required to be kept by this general permit.

3. You must make your SWPPP available to SDDENR, U.S. EPA, or your local storm sewer operator upon request.

4. If you become aware that you failed to submit any relevant facts or submitted incorrect information in your NOI, you must promptly submit such facts or information.

5. You must provide SDDENR with an updated point of contact including a mailing address.

7.6 Availability of Information

1. Except for data determined to be confidential under ARSD Section 74:52:02:17, all reports you prepare and submit in accordance with the terms of this general permit must be available for public inspection at the offices of SDDENR.

2. Your name and address, the NOI and NOT, your SWPPP, and your inspection records will not be considered confidential.

8.0 COMPLIANCE REQUIREMENTS

8.1 Duty to Comply

1. You must comply with all conditions of this general permit. Any permit noncompliance is a violation of the South Dakota Water Pollution Control Act and the federal Clean Water Act. A violation is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2. If you violate a condition of the general permit or make any false statement, representation, or certification, you may be subject to enforcement action under South Dakota Codified Law, Chapter 34A-2.

3. You are responsible for complying with all local ordinance and requirements. Local governments may have additional or more stringent requirements than those included in this general permit.

8.2 Duty to Mitigate

You must take all reasonable steps to minimize or prevent any discharge of pollutants in violation of this general permit if it has a reasonable likelihood of adversely affecting human health or the environment.

8.3 Need to Halt or Reduce Activity Not a Defense

It is not a defense for you in an enforcement action that it would have been necessary to halt or reduce your construction activity to maintain compliance with the conditions of the general permit.

8.4 Upset Conditions

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology-based permit effluent limits if the requirements of Paragraph 2 of this section are met. You will have an opportunity for a judicial determination on any claim of an upset only if SDDENR or U.S EPA bring an enforcement action for noncompliance with technology-based effluent limits.

2. If you wish to establish an affirmative defense of any upset, you must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

    a. An upset occurred and you can identify the cause of the upset;

    b. You were properly operating the pollution controls at your site;

c. You notified SDDENR within 24 hours of becoming aware of the upset. To report a release or spill, call SDDENR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central Standard Time). To report the release after hours, on weekends or holidays, call South Dakota Emergency Management at 605-773-3231.

d. You complied with the mitigation measures required under Section 8.2.

3. In any enforcement proceeding, you have the burden of proof to establish and document that an upset occurred.

8.5 Removed Substances

Collected solids, sludge, grit, or other pollutants removed in the course of treatment shall be properly disposed of in a manner to prevent any pollutant from entering surface waters of the state or creating a health hazard.

8.6 Inspections and Entry

You must allow SDDENR, U.S. EPA, or the operator of a municipal separate storm sewer system receiving your discharges to:

1. Enter your construction site and enter areas where you keep the records required by the general permit;

2. Have access to and copy, at reasonable times, any records that you must keep under the conditions of the general permit;

3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated under this general permit; and

4. At reasonable times, sample or monitor any substances or parameters at any location for the purpose of ensuring permit compliance or as otherwise authorized by the South Dakota Water Pollution Control Act (SDCL 34A-2).

8.7 Oil and Hazardous Substance Liability

Nothing in this general permit shall relieve you from any responsibilities, liabilities, or penalties you may be subject to under Section 311 of the federal Clean Water Act.

8.8 Penalties for Violations of general permit Conditions

1. If you violate a condition of the general permit, you are in violation of the provisions of SDCL 34A-2-36 and subject to penalties under SDCL 34A-2-75. In addition to a jail sentence authorized by SDCL 22-6-2, you can be subject to a criminal fine not to exceed $10,000 per day per violation. You can also be subject to a civil penalty not to exceed $10,000 per day per violation, or for damages to the environment of this state.

2. Except as provided above in the Upset Conditions in Section 8.4, nothing in this general permit relieves you of the civil or criminal penalties for noncompliance.

8.9 Penalties for Falsification of Reports

1. If you knowingly make any false statement, representation, or certification in any record or other document submitted or required to be maintained under this general permit, you are in violation of the provisions of SDCL 34A-2-77 and subject to penalties under SDCL 34A-2-75.

2. If you falsify, tamper with, or knowingly render inaccurate any monitoring device or method required to be maintained under this general permit, you are in violation of the provisions of SDCL 34A-2-77 and is subject to penalties under SDCL 34A-2-75.

3. In addition to a jail sentence authorized by SDCL 22-6-2, you can be subject to a criminal fine not to exceed $10,000 per day per violation. You are also subject to a civil penalty not to exceed $10,000 per day per violation, or for damages to the environment of this state.

Appendix A

NOTICE OF INTENT (NOI) FORM

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
NOTICE OF INTENT (NOI)
to Obtain Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

ALL QUESTIONS MUST BE ANSWERED COMPLETELY FOR THIS FORM TO BE VALID

I. Site Owner Contact Information:

Company Name: _____

Primary Contact Person: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number: _____ Email Address: _____

Type of Ownership: ☐ Private ☐ Federal ☐ State ☐ Other (Municipal, County, etc.)
(any type not listed previously)

II. Contractor Information:

Will any contractors be responsible for erosion and sediment control practices: ☐ Yes ☐ No

(A contractor certification form must be submitted for each contractor that will have day to day responsibility for erosion and sediment control practices. If these contractors have not been identified at the time this NOI is submitted, the contracotr certification form may be submitted after they have been identified, but before they being construction work.)

III. Engineering Firm Contact Information (if applicable):

Contact Person: _____

Contact's Email Address: _____

IV. Construction Project Information:

Project Name: _____

Physical Project Address or Description of Construction Site Location: _____

_____

City: _____ State: _____ Zip Code: _____

On-Site Contact Person: _____

Contact's Email Address: _____

Contact's Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number: _____ County of Construction Site: _____

Latitude: _____ Longitude: _____ Source (GPS, Google, etc.): _____

Quarter(s): _____ Section(s): _____ Township(s): _____ Range(s): _____

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Approved by: _____

Construction Project Information (Continued):

Is this project on Tribal Lands? ☐ Yes ☐ No

Total area disturbed by the project (in acres): _____

Will this project encroach, damage, or destroy one of the historic sites identified at the following wesites:

http://history.sd.gov/Preservation/nationalregisterofhistoricplaces.aspx ☐ Yes ☐ No

http://www.nps.gov/nhl/find/statelists/sd/SD.pdf ☐ Yes ☐ No

V. Stormwater Pollution Prevent Plan (SWPPP):

Has the SWPPP been developed as required? ☐ Yes ☐ No

(The plan must be developed **before** the NOI is submitted. DENR will not issue coverage before this has been developed.)

VI. Receiving Waters:

Please list all possible waters that may receive a discharge from this site. If discharging to a Municipal Storm Sewer System, indicate which municipality and the ultimate receiving water.

_____

_____

VII. Nature of Discharge:

Please include a brief description of the construction project:

_____

_____

Will construction dewatering be required? ☐ Yes ☐ No If yes, please complete section IX also.

VIII. Construction Dates:

Project Start Date (MM/DD/YYYY): _____

Estimated Completion Date (MM/DD/YYYY): _____

IX. Dewatering Activities (Complete this section if you answered yes in VII):

Date dewatering will commence (MM/DD/YYYY): _____

Date dewatering will end (MM/DD/YYYY): _____

Total volume of dewatering (gallons): _____ Average flow rate (gallons per minute): _____

Source of water to be discharged: _____

Receiving water: _____

Brief description of water treatment processes to be employed, if any: _____

_____

Will the dewatering discharge contain anything other than uncontaminated groundwater and stormwater: ☐ Yes ☐ No

NOTE: If there will be dewatering activities, please place points of withdrawal and discharge on a topographic map, or other map if a topographic map is unavailable. This map should extend to one (1) square mile beyond the property boundaries of the facility and each of its discharge facilities, and those wells, springs, and other surface water bodies, drinking water wells, and surface water intake structures listed in public records, or otherwise known to the applicant in the map area.

X. Other Information

List other information you feel should be brought to the attention of the SDDENR regarding coverage under this general permit. Attach additional sheets if necessary.

_____

_____

_____

STATE OF SOUTH DAKOTA

BEFORE THE SECRETARY OF

THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

IN THE MATTER OF THE APPLICATION OF	**)**	
	)	**CERTIFICATION OF**
_____	**)**	
	)	**APPLICANT**
STATE OF _____	**)**	
	)	
COUNTY OF _____	**)**	

I, _____, the applicant in the above matter after being duly sworn upon oath hereby certify the following information in regard to this application:

I have read and understand South Dakota Codified Law Section 1-40-27 which provides:

"The secretary may reject an application for any permit filed pursuant to Titles 34A or 45, including any application by any concentrated swine feeding operation for authorization to operate under a general permit, upon making a specific finding that:

(1) The applicant is unsuited or unqualified to perform the obligations of a permit holder based upon a finding that the applicant, any officer, director, partner, or resident general manager of the facility for which application has been made:

(a) Has intentionally misrepresented a material fact in applying for a permit;

(b) Has been convicted of a felony or other crime involving moral turpitude;

(c) Has habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage;

(d) Has had any permit revoked under the environmental laws of any state or the United States; or

(e) Has otherwise demonstrated through clear and convincing evidence of previous actions that the applicant lacks the necessary good character and competency to reliably carry out the obligations imposed by law upon the permit holder; or

(2) The application substantially duplicates an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Nothing in this subdivision may be construed to prohibit an applicant from submitting a new application for a permit previously denied, if the new application represents a good faith attempt by the applicant to correct the deficiencies that served as the basis for the denial in the original application.

All applications filed pursuant to Titles 34A and 45 shall include a certification, sworn to under oath and signed by the applicant, that he is not disqualified by reason of this section from obtaining a permit. In the absence of evidence to the contrary, that certification shall constitute a prima facie showing of the suitability and qualification of the applicant. If at any point in the application review, recommendation or hearing process, the secretary finds the applicant has intentionally made any material misrepresentation of fact in regard to this certification,

consideration of the application may be suspended and the application may be rejected as provided for under this section.

Applications rejected pursuant to this section constitute final agency action upon that application and may be appealed to circuit court as provided for under chapter 1-26."

I certify pursuant to 1-40-27, that as an applicant, officer, director, partner, or resident general manager of the activity or facility for which the application has been made that I; a) have not intentionally misrepresented a material fact in applying for a permit; b) have not been convicted of a felony or other crime of moral turpitude; c) have not habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage; (d) have not had any permit revoked under the environmental laws of any state or the United States; or e) have not otherwise demonstrated through clear and convincing evidence of previous actions that I lack the necessary good character and competency to reliably carry out the obligations imposed by law upon me. I also certify that this application does not substantially duplicate an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Further;

"I declare and affirm under the penalties of perjury that this claim (petition, application, information) has been examined by me, and to the best of my knowledge and belief, is in all things true and correct."

Dated this _____ day of _____ , 20____ .

_____
Applicant (print)

_____
Applicant (signature)

Subscribed and sworn before me this _____ day of _____ , 20_____ .

_____
Notary Public (signature)

My commission expires: _____

(SEAL)

PLEASE ATTACH ANY ADDITIONAL INFORMATION NECESSARY TO DISCLOSE ALL FACTS AND DOCUMENTS PERTAINING TO SDCL 1-40-27 (1) (a) THROUGH (e). ALL VIOLATIONS MUST BE DISCLOSED, BUT WILL NOT AUTOMATICALLY RESULT IN THE REJECTION OF AN APPLICATION

Appendix B

NOTICE OF TERMINATION
(NOT) FORM

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
NOTICE OF TERMINATION (NOT)
of Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

This form is required to be submitted when a discharge permit is no longer required or necessary. Submission of this form shall in no way relieve the permittee of permit obligations required prior to submission of this form. Please submit this form to the following address:

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

I. Permit Number: _____

II. Primary Contact Information:

Company Name: _____

Primary Contact Person: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number: _____ Email Address: _____

III. Mailing Address for Facility/Site Location:

Project Name: _____

Primary Contact Person: _____

Contact's Email Address: _____

Contact's Mailing Address: _____

City: _____ State: _____ Zip Code: _____

I certify under penalty of law that all stormwater discharges associated with construction activity from the identified facility that are authorized by a SWD general permit have been eliminated. I understand that by submitting the Notice of Termination, I am no longer authorized to discharge stormwater associated with construction activity under this general permit, and that discharging pollutants in stormwater associated with construction activity to waters of the state is unlawful under the federal Clean Water Act and the South Dakota Water Pollution Control Act if the discharge is not authorized by a SWD permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit or the South Dakota Water Pollution Control Act. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NOTE: Notice of Termination shall be signed by the authorized chief elective or executive officer of the applicant, or by the applicant, if an individual.

Name: _____ Title: _____

Signature: _____ Date: _____

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Letter Date: _____ Approved by: _____

Appendix C

CONTRACTOR AUTHORIZATION FORM

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
CONTRACTOR AUTHORIZATION FORM

for Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

This form is required to be submitted when a contractor will act as an operator and have day to day responsibility for erosion and sediment control measures. Submission of this form shall in no way relieve the permittee of permit obligations. Please submit this form to the following address:

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

ALL QUESTIONS MUST BE ANSWERED COMPLETELY FOR THIS FORM TO BE VALID

Project Name: _____ Permit Number (if available): _____

Project Site Legal Location: _____

Contractor Company Name: _____

Responsible Contact Person: _____

Contact's Email Address: _____

Contractor Mailing Address: _____

City: _____ State: _____ Zip Code: _____ Phone Number: _____

The contractor(s) responsible for the day to day operation of the construction site shall certify the following:

"I certify under penalty of law that I understand and will comply with the terms and conditions of the Surface Water Discharge General Permit for Stormwater Discharges Associated with Construction Activities for the project identified above."

South Dakota Codified Laws Section 1-40-27 provides:

"The secretary may reject an application for any permit filed pursuant to Titles 34A or 45, including any application by any concentrated swine feeding operation for authorization to operate under a general permit, upon making a specific finding that:

(1) The applicant is unsuited or unqualified to perform the obligations of a permit holder based upon a finding that the applicant, any officer, director, partner or resident general manager of the facility for which application has been made:

(a) Has intentionally misrepresented a material fact in applying for a permit;

(b) Has been convicted of a felony or other crime involving moral turpitude;

(c) Has habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage;

(d) Has had any permit revoked under the environmental laws of any state or the United States; or

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Approved by: _____

(e) Has otherwise demonstrated through clear and convincing evidence of previous actions that the applicant lacks the necessary good character and competency to reliably carry out the obligations imposed by law upon the permit holder; or

(2) The application substantially duplicates an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Nothing in this subdivision may be construed to prohibit an applicant from submitting a new application for a permit previously denied, if the new application represents a good faith attempt by the applicant to correct the deficiencies that served as the basis for the denial in the original application.

All applications filed pursuant to Titles 34A and 45 shall include a certification, sworn to under oath and signed by the applicant, that he is not disqualified by reason of this section from obtaining a permit. In the absence of evidence to the contrary, that certification shall constitute a prima facie showing of the suitability and qualification of the applicant. If at any point in the application review, recommendation or hearing process, the secretary finds the applicant has intentionally made any material misrepresentation of fact in regard to this certification, consideration of the application may be suspended and the application may be rejected as provided for under this section.

Applications rejected pursuant to this section constitute final agency action upon that application and may be appealed to circuit court as provided for under chapter 1-26."

I certify pursuant to SDCL 1-40-27, that as an applicant, officer, partner, or resident general manager of the activity or facility for which the application has been made that I; a) have not intentionally misrepresented a material fact in applying for a permit; b) have not been convicted of a felony or other crime of moral turpitude; c) have not habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage; d) have not had any permit revoked under the environmental laws of any state or the United States; or e) have not otherwise demonstrated through clear and convincing evidence of previous actions that I lack the necessary good character and competency to reliably carry out the obligations imposed by law upon me. I also certify that this application does not substantially duplicate an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Further;

"I declare and affirm under the penalties of perjury that this claim (petition, application, information) has been examined by me, and to the best of my knowledge and belief, is in all things true and correct."

Dated this _____ day of _____, 20____.

_____

Applicant (print)

_____

Applicant (signature)

Subscribed and sworn before me this _____ day of _____, 20____.

_____

Notary Public (signature)

My commission expires: _____

(SEAL)

PLEASE ATTACH A SHEET DISCLOSING ALL FACTS PERTAINING TO SDCL 1-40-27 (1) (a) THROUGH (e). ALL VIOLATIONS MUST BE DISCLOSED, BUT WILL NOT AUTOMATICALLY RESULT IN THE REJECTION OF AN APPLICATION.

Appendix D

TRANSFER OF PERMIT COVERAGE FORM

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
TRANSFER OF PERMIT COVERAGE FORM

for Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

This form is required to be submitted when ownership of a construction project or an individual lot in a larger common plan of development has been transferred to a different owner. Please submit this form to the following address:

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

Project Name: _____ Permit Number: _____

Site (Lot) Legal Location: _____

Site (Lot) Description: _____

Previous Owner's Name: _____

New Owner's Name: _____

New Owner's Mailing Information:

City: _____ State: _____ Zip Code: _____

Phone Number: _____ Email: _____

Stabilization measures implemented prior to transfer: _____

_____

Date transfer of property responsibility and liability becomes effective: _____

****NOTE: Any change in location, operation, and/or coverage area requires that the Stormwater Pollution Prevention Plan be updated and revised to reflect all changes.**

The site (lot) described about is covered under the General Permit for Stormwater Discharges Associated with Construction Activity. Temporary or permanent stabilization has been established on the site, which has now transferred ownership/responsibility as indicated above. The new owners, or operators, have been made aware of the importance of site stabilization in an effort to control pollutant runoff and/or sedimentation.

The new owner assumes responsibility for implementing best management practices to reduce or eliminate a discharge of pollutants to waters of the state. The new owner is aware that permit coverage for the site is required until all soil-disturbing activities at the site have been completed and one of the following conditions have been met:

- **all portions of the site not covered by pavement or permanent structures have a uniform perennial vegetative cover over at least 70% of the site; or**
- **equivalent permanent stabilization measure have been employed, such as the use of riprap, gabions, or geotextiles.**

New Owner/Operator Signature: _____

Date: _____

Previous Owner/Operator Signature: _____

Date: _____

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Approved by: _____

Appendix E

NOTICE OF INTENT
FOR
REAUTHORIZATION FORM

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
NOTICE OF INTENT (NOI) for REAUTHORIZATION
of Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

The following facility currently has coverage under the General Permit for Stormwater Discharges Associated with Construction Activities. ***This form must be submitted if you wish to continue coverage under the General Permit.*** Submission of this form shall in no way relieve the permittee of permit obligations required prior to submission of this form. Please submit this form to the following address:

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

Update information below as needed. Please print or type information.

I. Permit Number: _____

II. Owner Information:

Company Name: _____

Primary Contact Person: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number: _____ Email Address: _____

III. Construction Project Information:

Project Name: _____

Project Description: _____

On-Site Contact Person: _____

Mailing Address: _____

City: _____ County: _____ State: _____ Zip Code: _____

Phone Number: _____ Total area disturbed by the project (in acres): _____

Project Start Date: _____ Estimated Completion Date: _____

IV. Signature of Applicant

By signing this form, you are requesting to continue permit coverage under the reissued General Permit. You are certifying you will comply with the new General Permit and update your Stormwater Pollution Prevention Plan if necessary to meet the reissued General Permit conditions.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including revocation of the permit and the possibility of fine and imprisonment for knowing violations. In addition, I certify that I am aware of the terms and conditions of the General Stormwater permit and I agree to comply with those requirements.

NOTE: The NOI for Reauthorization must be signed by the authorized chief elective or executive offier of the applicant, or by the applicant, if an individual project.

Name (print): _____ Title: _____

Signature: _____ Date: _____

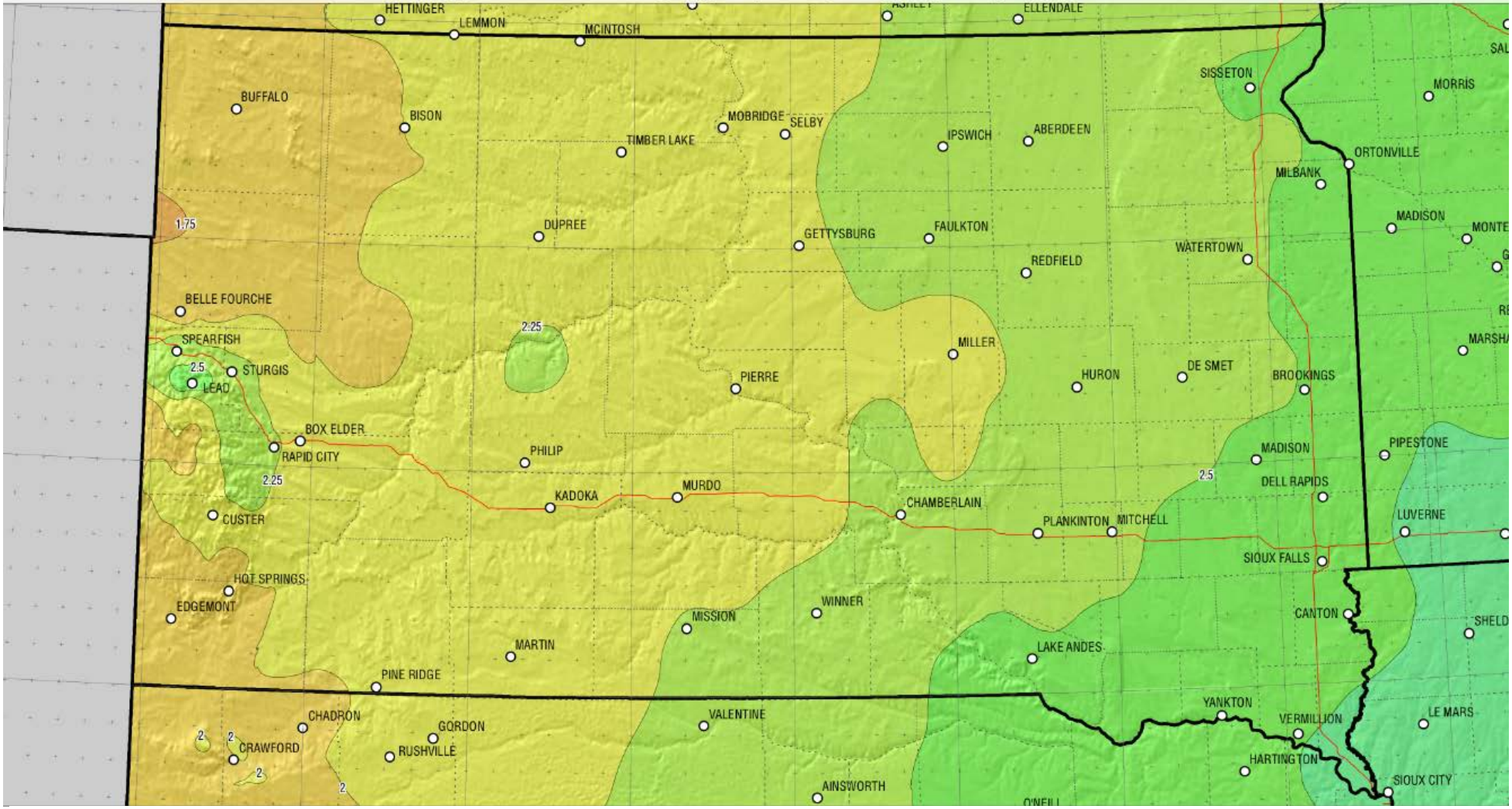
FOR DENR USE ONLY

Permit Number: _____ Date Reauthorized: _____ Approved by: _____

Appendix F

TWO YEAR, TWENTY-FOUR HOUR PRECIPITATION EVENT MAP

ftp://hdsc.nws.noaa.gov/pub/hdsc/data/mw/nd2y24h.pdf



NOAA Atlas 14, Volume 8, Version 2
Midwestern States

Prepared by U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE
OFFICE OF HYDROLOGIC DEVELOPMENT
HYDROMETEOROLOGICAL DESIGN STUDIES CENTER
April 2013

SOUTH DAKOTA

2-year 24-hour precipitation in inches

0.88 - 1.00	2.01 - 2.25	3.26 - 3.50	4.51 - 4.75
1.01 - 1.25	2.26 - 2.50	3.51 - 3.75	4.76 - 5.00
1.26 - 1.50	2.51 - 2.75	3.76 - 4.00	5.01 - 5.19
1.51 - 1.75	2.76 - 3.00	4.01 - 4.25	
1.76 - 2.00	3.01 - 3.25	4.26 - 4.50	

Legend based on entire Volume 8 project area

Attachment B

Permitting Documentation

(NOI, Permit Card, Permit Letters, Blank NOT/MOD)

DEPARTMENT of AGRICULTURE and NATURAL RESOURCES
JOE FOSS BUILDING
523 E CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

September 12, 2022

Andrew Young
Sweetland Wind Farm LLC
5775 Flatiron Parkway Suite 120
Boulder, CO 80301

Dear Andrew Young:

Thank you for submitting your Notice of Intent for the South Dakota General Permit for Stormwater Discharges Associated with Construction Activities. This letter grants you coverage under this general permit for the project listed below in Hand County, SD. This coverage does not relieve you from complying with other state and local requirements or from obtaining other required permits. **All contractors who will be doing dirt work or who will be responsible for implementing sediment and erosion controls must submit a Contractor Authorization form identifying the contractor.** The contractor will then be considered a co-permittee and will also be responsible for complying with the general permit.

You must maintain your site in compliance with the permit conditions. Refer to Section 3.0 for effluent limits and Section 5.0 for Stormwater Pollution Prevention Plan requirements. Your project's Permit Number is **SDR10K839**. Please refer to this number in all future correspondence.

Project Information (Please check to be certain this information is correct)**:**

Ryan Claeys – Project Site Contact Person
Sweetland Wind Laydown Yard (PCN:)
Section 13, Township 111N, Range 67W
Latitude 44.4156016308619°; Longitude -98.83795627599504°
Effective Date: **September 12, 2022**

Thank you for preserving the natural resources of South Dakota. If you have any questions or need any guidance, please contact the stormwater team at 1-800-737-8676 or by email at stormwater@state.sd.us.

Sincerely,

Katie Adair

Katie Adair
Stormwater Program Assistant
Surface Water Quality Program

cc: Project Contact: Ryan Claeys
Engineer: Aaron Mlynek

Permit No.: SDR10K839
Project: Sweetland Wind Laydown Yard

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

General Permit Authorizing Stormwater Discharges Associated with Construction Activities Under the South Dakota Surface Water Discharge System

In compliance with the provisions of the South Dakota Water Pollution Control Act and the Administrative Rules of South Dakota (ARSD), Article 74:52, owners and operators of stormwater discharges from **construction activities**, located in the state of South Dakota are authorized to discharge in accordance with the conditions and requirements set forth herein.

This General Permit shall become effective on April 1, 2018.

General Permit coverage for Sweetland Wind Farm LLC shall become effective September 12, 2022.

This General Permit and the authorization to discharge shall expire at midnight, **March 31, 2023**.

Signed this **23rd** day of **March, 2018,**

Authorized Permitting Official

Steven M. Pirner
Secretary
Department of Environment and Natural Resources

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
NOTICE OF INTENT (NOI)
to Obtain Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

ALL QUESTIONS MUST BE ANSWERED COMPLETELY FOR THIS FORM TO BE VALID

I. Site Owner Contact Information:

Company Name: Sweetland Wind Farm, LLC

Primary Contact Person: Andrew Young

Mailing Address: 5775 Flatiron Pkwy., Suite 120

City: Boulder State: CO Zip Code: 80301

Phone Number: (303)284-7566 Email Address: andrew@scoutcleanenergy.com

Type of Ownership: [X] Private [ ] Federal [ ] State [ ] Other (Municipal, County, etc.)

II. Contractor Information:

Will any contractors be responsible for erosion and sediment control practices: [X] Yes [ ] No

(A contractor certification form must be submitted for each contractor that will have day to day responsibility for erosion and sediment control practices. If these contractors have not been identified at the time this NOI is submitted, the contracotr certification form may be submitted after they have been identified, but before they being construction work.)

III. Engineering Firm Contact Information (if applicable):

Contact Person: Aaron Mlynek

Contact's Email Address: aaron.mlynek@westwoodps.com

IV. Construction Project Information:

Project Name: Sweetland Wind Laydown Yard

Physical Project Address or Description of Construction Site Location:

Located at the northeast corner of 367th Ave & 205th St. in Hand County

City: Pearl Township State: SD Zip Code: 57373

On-Site Contact Person: Ryan Claeys

Contact's Email Address: rclaeys@blattnercompany.com

Contact's Mailing Address: 392 County Rd. 50

City: Avon State: MN Zip Code: 56310

Phone Number: (320)356-2540 County of Construction Site: Hand

Latitude: 44.415325747238036 Longitude: -98.83806356435578 Source (GPS, Google, etc.): ArcMap

Quarter(s): SW Section(s): 12 Township(s): 111 N Range(s): 067 W

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Approved by: _____

Construction Project Information (Continued):

Is this project on Tribal Lands? [ ] Yes [X] No

Total area disturbed by the project (in acres): 43.0

Will this project encroach, damage, or destroy one of the historic sites identified at the following wesites:

http://history.sd.gov/Preservation/NatReg/NatReg.aspx [ ] Yes [X] No

http://www.nps.gov/nhl/find/statelists/sd/SD.pdf [ ] Yes [X] No

V. Stormwater Pollution Prevent Plan (SWPPP):

Has the SWPPP been developed as required? [X] Yes [ ] No

(The plan must be developed **before** the NOI is submitted. DENR will not issue coverage before this has been developed.)

VI. Receiving Waters:

Please list all possible waters that may receive a discharge from this site. If discharging to a Municipal Storm Sewer System, indicate which municipality and the ultimate receiving water.

VII. Nature of Discharge:

Please include a brief description of the construction project:

The project consists of constructing a temporary laydown yard in support of the Sweetland Wind Project, which will be covered under a separate SWPPP and NPDES Permit. Removal and restoration of the laydown area should be completed in one phase with concurrent stabilization occurring by returning the disturbed area to a farmable and tillable condition and returning to operational control of the agricultural landowner.

Will construction dewatering be required? [ ] Yes [X] No If yes, please complete section IX also.

VIII. Construction Dates:

Project Start Date (MM/DD/YYYY): 2022-09-07

Estimated Completion Date (MM/DD/YYYY): 2023-09-06

IX. Dewatering Activities (Complete this section if you answered yes in VII):

Date dewatering will commence (MM/DD/YYYY): _____

Date dewatering will end (MM/DD/YYYY): _____

Total volume of dewatering (gallons): _____ Average flow rate (gallons per minute): _____

Source of water to be discharged: _____

Receiving water: _____

Brief description of water treatment processes to be employed, if any:

Will the dewatering discharge contain anything other than uncontaminated groundwater and stormwater: [ ] Yes [X] No

NOTE: If there will be dewatering activities, please place points of withdrawal and discharge on a topographic map, or other map if a topographic map is unavailable. This map should extend to one (1) square mile beyond the property boundaries of the facility and each of its discharge facilities, and those wells, springs, and other surface water bodies, drinking water wells, and surface water intake structures listed in public records, or otherwise known to the applicant in the map area.

X. Other Information

List other information you feel should be brought to the attention of the SDDENR regarding coverage under this general permit. Attach additional sheets if necessary.

STATE OF SOUTH DAKOTA

BEFORE THE SECRETARY OF

THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

IN THE MATTER OF THE APPLICATION OF	)	
Sweetland Wind Laydown Yard	)	**CERTIFICATION OF**
STATE OF	)	**APPLICANT**
COUNTY OF	)	

I, , the applicant in the above matter after being duly sworn upon oath hereby certify the following information in regard to this application:
I have read and understand South Dakota Codified Law Section 1-40-27 which provides:

"The secretary may reject an application for any permit filed pursuant to Titles 34A or 45, including any application by any concentrated swine feeding operation for authorization to operate under a general permit, upon making a specific finding that:

(1) The applicant is unsuited or unqualified to perform the obligations of a permit holder based upon a finding that the applicant, any officer, director, partner, or resident general manager of the facility for which application has been made:

(a) Has intentionally misrepresented a material fact in applying for a permit;

(b) Has been convicted of a felony or other crime involving moral turpitude;

(c) Has habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage;

(d) Has had any permit revoked under the environmental laws of any state or the United States; or

(e) Has otherwise demonstrated through clear and convincing evidence of previous actions that the applicant lacks the necessary good character and competency to reliably carry out the obligations imposed by law upon the permit holder; or

(2) The application substantially duplicates an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Nothing in this subdivision may be construed to prohibit an applicant from submitting a new application for a permit previously denied, if the new application represents a good faith attempt by the applicant to correct the deficiencies that served as the basis for the denial in the original application.

All applications filed pursuant to Titles 34A and 45 shall include a certification, sworn to under oath and signed by the applicant, that he is not disqualified by reason of this section from obtaining a permit. In the absence of evidence to the contrary, that certification shall constitute a prima facie showing of the suitability and qualification of the applicant. If at any point in the application review, recommendation or hearing process, the secretary finds the applicant has intentionally made any material misrepresentation of fact in regard to this certification,

consideration of the application may be suspended and the application may be rejected as provided for under this section.

Applications rejected pursuant to this section constitute final agency action upon that application and may be appealed to circuit court as provided for under chapter 1-26."

I certify pursuant to 1-40-27, that as an applicant, officer, director, partner, or resident general manager of the activity or facility for which the application has been made that I; a) have not intentionally misrepresented a material fact in applying for a permit; b) have not been convicted of a felony or other crime of moral turpitude; c) have not habitually and intentionally violated environmental laws of any state or the United States which have caused significant and material environmental damage; (d) have not had any permit revoked under the environmental laws of any state or the United States; or e) have not otherwise demonstrated through clear and convincing evidence of previous actions that I lack the necessary good character and competency to reliably carry out the obligations imposed by law upon me. I also certify that this application does not substantially duplicate an application by the same applicant denied within the past five years which denial has not been reversed by a court of competent jurisdiction. Further;

"I declare and affirm under the penalties of perjury that this claim (petition, application, information) has been examined by me, and to the best of my knowledge and belief, is in all things true and correct."

Applicant (print)

Applicant (signature)

Subscribed and sworn before me this day of

Notary Public (signature)

My commission expires

(SEAL)

PLEASE ATTACH ANY ADDITIONAL INFORMATION NECESSARY TO DISCLOSE ALL FACTS AND DOCUMENTS PERTAINING TO SDCL 1-40-27 (1) (a) THROUGH (e). ALL VIOLATIONS MUST BE DISCLOSED, BUT WILL NOT AUTOMATICALLY RESULT IN THE REJECTION OF AN APPLICATION

Please make sure to mail a check for 500.00 with the signed and notarized permit application form to:
DENR – SWQ, Attn: Stormwater, 523 E Capitol Ave, Pierre SD 57501

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
NOTICE OF TERMINATION (NOT)
of Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

This form is required to be submitted when a discharge permit is no longer required or necessary. Submission of this form shall in no way relieve the permittee of permit obligations required prior to submission of this form. Please submit this form to the following address:

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

I. Permit Number: _____

II. Primary Contact Information:

Company Name: _____

Primary Contact Person: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number: _____ Email Address: _____

III. Mailing Address for Facility/Site Location:

Project Name: _____

Primary Contact Person: _____

Contact's Email Address: _____

Contact's Mailing Address: _____

City: _____ State: _____ Zip Code: _____

I certify under penalty of law that all stormwater discharges associated with construction activity from the identified facility that are authorized by a SWD general permit have been eliminated. I understand that by submitting the Notice of Termination, I am no longer authorized to discharge stormwater associated with construction activity under this general permit, and that discharging pollutants in stormwater associated with construction activity to waters of the state is unlawful under the federal Clean Water Act and the South Dakota Water Pollution Control Act if the discharge is not authorized by a SWD permit. I also understand that the submittal of this Notice of Termination does not release an operator from liability for any violations of this permit or the South Dakota Water Pollution Control Act. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NOTE: Notice of Termination shall be signed by the authorized chief elective or executive officer of the applicant, or by the applicant, if an individual.

Name: _____ Title: _____

Signature: _____ Date: _____

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Letter Date: _____ Approved by: _____

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
TRANSFER OF PERMIT COVERAGE FORM

for Coverage Under the SWD General Permit for
Stormwater Discharges Associated with Construction Activities

This form is required to be submitted when ownership of a construction project or an individual lot in a larger common plan of development has been transferred to a different owner. Please submit this form to the following address:

Submit form to: SD Department of Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501
stormwater@state.sd.us
Telephone: 1-800-SDSTORM

Project Name: _____ Permit Number: _____

Site (Lot) Legal Location: _____

Site (Lot) Description: _____

Previous Owner's Name: _____

New Owner's Name: _____

New Owner's Mailing Information:

City: _____ State: _____ Zip Code: _____

Phone Number: _____ Email: _____

Stabilization measures implemented prior to transfer: _____

_____

Date transfer of property responsibility and liability becomes effective: _____

****NOTE: Any change in location, operation, and/or coverage area requires that the Stormwater Pollution Prevention Plan be updated and revised to reflect all changes.**

The site (lot) described about is covered under the General Permit for Stormwater Discharges Associated with Construction Activity. Temporary or permanent stabilization has been established on the site, which has now transferred ownership/responsibility as indicated above. The new owners, or operators, have been made aware of the importance of site stabilization in an effort to control pollutant runoff and/or sedimentation.

The new owner assumes responsibility for implementing best management practices to reduce or eliminate a discharge of pollutants to waters of the state. The new owner is aware that permit coverage for the site is required until all soil-disturbing activities at the site have been completed and one of the following conditions have been met:

- **all portions of the site not covered by pavement or permanent structures have a uniform perennial vegetative cover over at least 70% of the site; or**
- **equivalent permanent stabilization measure have been employed, such as the use of riprap, gabions, or geotextiles.**

New Owner/Operator Signature: _____

Date: _____

Previous Owner/Operator Signature: _____

Date: _____

FOR DENR USE ONLY

Permit Number: _____ Date Approved: _____ Approved by: _____

Attachment C

Soil Maps

United States Department of Agriculture

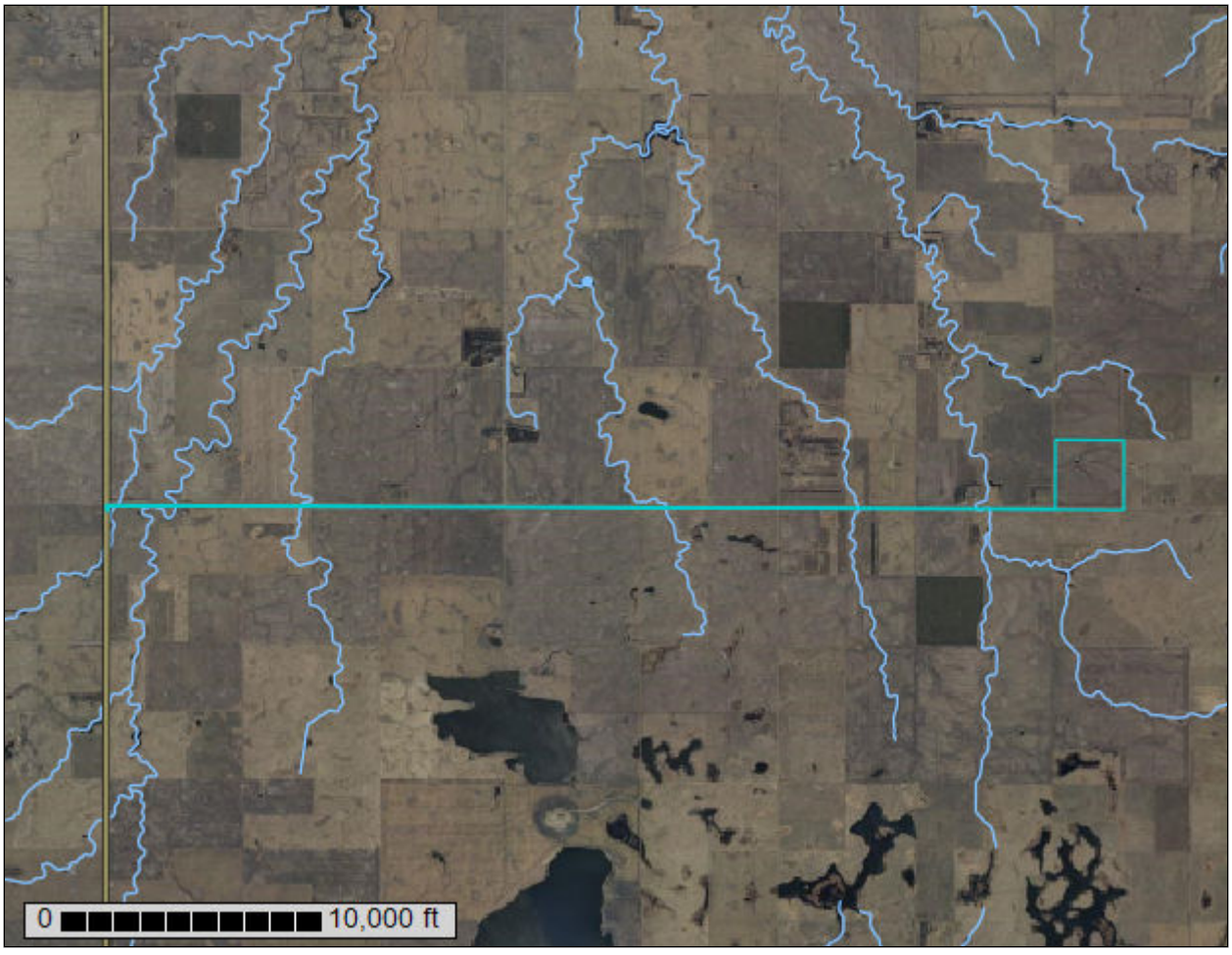
NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Hand County, South Dakota

Sweetland Laydown Yard



August 24, 2022

Preface

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

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

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

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

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

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

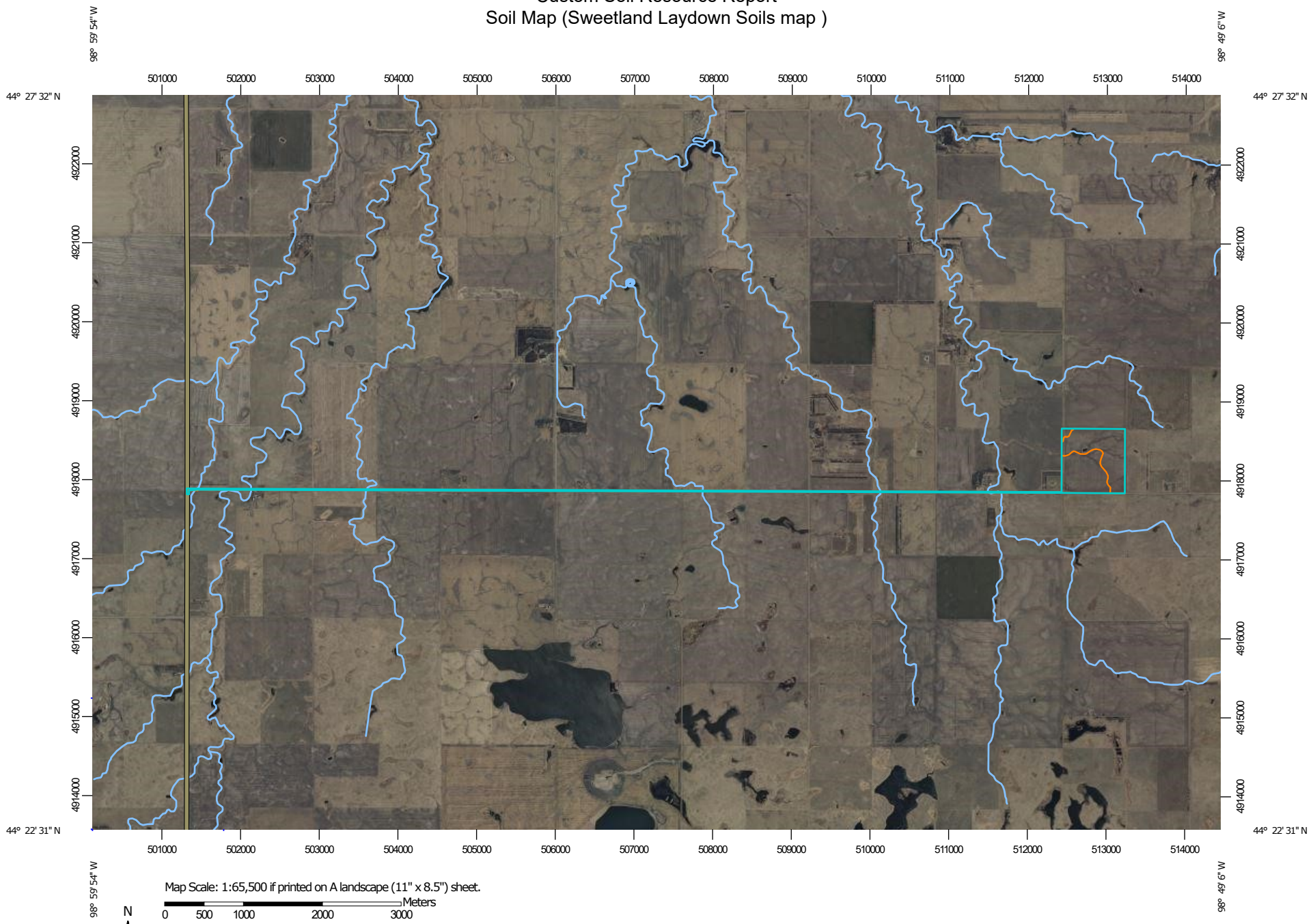
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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

Soil Map

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

Custom Soil Resource Report
Soil Map (Sweetland Laydown Soils map)



MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

Soil Survey Area: Hand County, South Dakota
Survey Area Data: Version 23, Sep 13, 2021

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

Date(s) aerial images were photographed: Mar 31, 2021—May 31, 2021

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

Map Unit Legend (Sweetland Laydown Soils map)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CnA	Cavo-Glenham loams, nearly level	3.3	1.7%
HhB	Houdek loam, 2 to 6 percent slopes	0.3	0.2%
HkA	Houdek-Prosper loams, 0 to 2 percent slopes	7.3	3.8%
HkB	Houdek-Prosper loams, 1 to 6 percent slopes	0.8	0.4%
HlA	Houdek-Dudley complex, 0 to 2 percent slopes	3.3	1.7%
HlB	Houdek-Dudley complex, 2 to 6 percent slopes	1.3	0.7%
HuD	Houdek-Ethan loams, 6 to 9 percent slopes	0.4	0.2%
LlA	Bon loam, channeled, 0 to 2 percent slopes, frequently flooded	0.8	0.4%
Tp	Tetonka silt loam, 0 to 1 percent slopes	0.1	0.1%
WmB	Glenham loam, undulating	0.3	0.2%
WnA	Glenham-Prosper loams, 0 to 2 percent slopes	75.3	39.8%
WnB	Glenham-Propser loams, 1 to 6 percent slopes	91.4	48.3%
WzC	Glenham-Java loams, rolling	0.5	0.2%
Totals for Area of Interest		**189.1**	**100.0%**

Map Unit Descriptions (Sweetland Laydown Soils map)

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

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class.

Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

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

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

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

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

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

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

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

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The

pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

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

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

Hand County, South Dakota

CnA—Cavo-Glenham loams, nearly level

Map Unit Setting

National map unit symbol: ctwt
Elevation: 1,310 to 1,970 feet
Mean annual precipitation: 18 to 25 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 130 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Cavo and similar soils: 50 percent
Glenham and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cavo

Setting

Landform: Plains
Landform position (two-dimensional): Footslope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Clayey till

Typical profile

H1 - 0 to 11 inches: loam
H2 - 11 to 26 inches: clay loam
H3 - 26 to 60 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 10 percent
Maximum salinity: Slightly saline to strongly saline (4.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Ecological site: R055CY013SD - Claypan
Forage suitability group: Claypan (G055CY800SD)
Other vegetative classification: Claypan (G055CY800SD)
Hydric soil rating: No

Description of Glenham

Setting

Landform: Plains
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

H1 - 0 to 5 inches: loam
H2 - 5 to 13 inches: clay loam
H3 - 13 to 60 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2c
Hydrologic Soil Group: C
Ecological site: R055CY010SD - Loamy
Forage suitability group: Loam (G055CY100SD)
Other vegetative classification: Loam (G055CY100SD)
Hydric soil rating: No

Minor Components

Prosper

Percent of map unit: 7 percent
Landform: Swales
Landform position (two-dimensional): Footslope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R055CY020SD - Loamy Overflow
Other vegetative classification: Overflow (G055CY500SD)
Hydric soil rating: No

Stickney

Percent of map unit: 7 percent
Landform: Plains
Landform position (two-dimensional): Footslope
Down-slope shape: Linear
Across-slope shape: Concave

Ecological site: R055CY011SD - Clayey
Other vegetative classification: Clayey Subsoil (G055CY210SD)
Hydric soil rating: No

Tetonka

Percent of map unit: 6 percent
Landform: Potholes
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R055CY004SD - Wet Meadow
Other vegetative classification: Wet (G053CY900SD)
Hydric soil rating: Yes

HhB—Houdek loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2tlb6
Elevation: 1,150 to 2,130 feet
Mean annual precipitation: 20 to 27 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 130 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Houdek and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Houdek

Setting

Landform: Ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

Ap - 0 to 6 inches: loam
Bt - 6 to 19 inches: clay loam
Bk - 19 to 42 inches: clay loam
C - 42 to 79 inches: clay loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: R055CY010SD - Loamy
Forage suitability group: Loam (G055CY100SD)
Other vegetative classification: Loam (G055CY100SD)
Hydric soil rating: No

Minor Components

Ethan

Percent of map unit: 6 percent
Landform: Ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R055CY012SD - Thin Upland
Other vegetative classification: Limy Upland (G055CY400SD)
Hydric soil rating: No

Prosper

Percent of map unit: 5 percent
Landform: Swales
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R055CY020SD - Loamy Overflow
Other vegetative classification: Overflow (G055CY500SD)
Hydric soil rating: No

Tetonka, undrained

Percent of map unit: 4 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R055CY004SD - Wet Meadow
Other vegetative classification: Wet (G055CY900SD)
Hydric soil rating: Yes

HkA—Houdek-Prosper loams, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2tlbg
Elevation: 1,150 to 2,130 feet

Mean annual precipitation: 20 to 27 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 130 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Houdek and similar soils: 58 percent
Prosper and similar soils: 32 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Houdek

Setting

Landform: Plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

Ap - 0 to 6 inches: loam
Bt - 6 to 19 inches: clay loam
Bk - 19 to 42 inches: clay loam
C - 42 to 79 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2c
Hydrologic Soil Group: C
Ecological site: R055CY010SD - Loamy
Forage suitability group: Loam (G055CY100SD)
Other vegetative classification: Loam (G055CY100SD)
Hydric soil rating: No

Description of Prosper

Setting

Landform: Swales
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave

Parent material: Loamy till

Typical profile

Ap - 0 to 6 inches: loam
A - 6 to 11 inches: loam
Bt - 11 to 28 inches: clay loam
Bk - 28 to 40 inches: clay loam
C - 40 to 79 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2c
Hydrologic Soil Group: C
Ecological site: R055CY020SD - Loamy Overflow
Forage suitability group: Overflow (G055CY500SD)
Other vegetative classification: Overflow (G055CY500SD)
Hydric soil rating: No

Minor Components

Stickney

Percent of map unit: 7 percent
Landform: Plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R055CY011SD - Clayey
Other vegetative classification: Clayey Subsoil (G055CY210SD)
Hydric soil rating: No

Tetonka, undrained

Percent of map unit: 3 percent
Landform: Potholes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R055CY004SD - Wet Meadow
Other vegetative classification: Wet (G055CY900SD)
Hydric soil rating: Yes

HkB—Houdek-Prosper loams, 1 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2tlbk
Elevation: 1,150 to 2,130 feet
Mean annual precipitation: 20 to 27 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 130 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Houdek and similar soils: 62 percent
Prosper and similar soils: 28 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Houdek

Setting

Landform: Plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

Ap - 0 to 6 inches: loam
Bt - 6 to 19 inches: clay loam
Bk - 19 to 42 inches: clay loam
C - 42 to 79 inches: clay loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C

Ecological site: R055CY010SD - Loamy
Forage suitability group: Loam (G055CY100SD)
Other vegetative classification: Loam (G055CY100SD)
Hydric soil rating: No

Description of Prosper

Setting

Landform: Swales
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy till

Typical profile

Ap - 0 to 6 inches: loam
A - 6 to 11 inches: loam
Bt - 11 to 28 inches: clay loam
Bk - 28 to 40 inches: clay loam
C - 40 to 79 inches: clay loam

Properties and qualities

Slope: 1 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2c
Hydrologic Soil Group: C
Ecological site: R055CY020SD - Loamy Overflow
Forage suitability group: Overflow (G055CY500SD)
Other vegetative classification: Overflow (G055CY500SD)
Hydric soil rating: No

Minor Components

Ethan

Percent of map unit: 4 percent
Landform: Plains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R055CY012SD - Thin Upland
Other vegetative classification: Limy Upland (G055CY400SD)
Hydric soil rating: No

Stickney

Percent of map unit: 3 percent
Landform: Plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R055CY011SD - Clayey
Other vegetative classification: Clayey Subsoil (G055CY210SD)
Hydric soil rating: No

Tetonka, undrained

Percent of map unit: 3 percent
Landform: Potholes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R055CY004SD - Wet Meadow
Other vegetative classification: Wet (G055CY900SD)
Hydric soil rating: Yes

HlA—Houdek-Dudley complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2wbpw
Elevation: 1,150 to 2,130 feet
Mean annual precipitation: 20 to 27 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 130 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Houdek and similar soils: 50 percent
Dudley and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Houdek

Setting

Landform: Ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy till

Typical profile

Ap - 0 to 6 inches: loam

Bt - 6 to 19 inches: clay loam
Bk - 19 to 42 inches: clay loam
C - 42 to 79 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2c
Hydrologic Soil Group: C
Ecological site: R055CY010SD - Loamy
Forage suitability group: Loam (G055CY100SD)
Other vegetative classification: Loam (G055CY100SD)
Hydric soil rating: No

Description of Dudley

Setting

Landform: Ground moraines
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Fine-loamy till

Typical profile

Ap - 0 to 6 inches: silt loam
E - 6 to 8 inches: silt loam
Btn1 - 8 to 12 inches: clay loam
Btn2 - 12 to 22 inches: clay loam
Bkyz - 22 to 31 inches: clay loam
Cyz - 31 to 79 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 5 to 11 inches to natric
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: D
Ecological site: R055CY013SD - Claypan
Forage suitability group: Claypan (G055CY800SD)
Other vegetative classification: Claypan (G055CY800SD)
Hydric soil rating: No

Minor Components

Jerauld

Percent of map unit: 3 percent
Landform: Ground moraines
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R055CY015SD - Thin Claypan
Other vegetative classification: Not suited (G055CY000SD)
Hydric soil rating: No

Hoven

Percent of map unit: 3 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R055CY019SD - Closed Depression
Other vegetative classification: Not suited (G055CY000SD)
Hydric soil rating: Yes

Tetonka, undrained

Percent of map unit: 2 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R055CY004SD - Wet Meadow
Other vegetative classification: Wet (G055CY900SD)
Hydric soil rating: Yes

Prosper

Percent of map unit: 1 percent
Landform: Swales
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R055CY020SD - Loamy Overflow
Other vegetative classification: Overflow (G055CY500SD)
Hydric soil rating: No

Stickney

Percent of map unit: 1 percent
Landform: Ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R055CY011SD - Clayey
Other vegetative classification: Clayey Subsoil (G055CY210SD)

Hydric soil rating: No

HIB—Houdek-Dudley complex, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2wbpx
Elevation: 1,150 to 2,130 feet
Mean annual precipitation: 20 to 27 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 130 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Houdek and similar soils: 55 percent
Dudley and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Houdek

Setting

Landform: Ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy till

Typical profile

Ap - 0 to 6 inches: loam
Bt - 6 to 19 inches: clay loam
Bk - 19 to 42 inches: clay loam
C - 42 to 79 inches: clay loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C

Ecological site: R055CY010SD - Loamy
Forage suitability group: Loam (G055CY100SD)
Other vegetative classification: Loam (G055CY100SD)
Hydric soil rating: No

Description of Dudley

Setting

Landform: Ground moraines
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Fine-loamy till

Typical profile

Ap - 0 to 6 inches: silt loam
E - 6 to 8 inches: silt loam
Btn1 - 8 to 12 inches: clay loam
Btn2 - 12 to 22 inches: clay loam
Bkyz - 22 to 31 inches: clay loam
Cyz - 31 to 79 inches: clay loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: 5 to 11 inches to natric
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: D
Ecological site: R055CY013SD - Claypan
Forage suitability group: Claypan (G055CY800SD)
Other vegetative classification: Claypan (G055CY800SD)
Hydric soil rating: No

Minor Components

Stickney

Percent of map unit: 3 percent
Landform: Ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R055CY011SD - Clayey
Other vegetative classification: Clayey Subsoil (G055CY210SD)
Hydric soil rating: No

Prosper

Percent of map unit: 2 percent
Landform: Swales
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R055CY020SD - Loamy Overflow
Other vegetative classification: Overflow (G055CY500SD)
Hydric soil rating: No

Jerauld

Percent of map unit: 2 percent
Landform: Ground moraines
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R055CY015SD - Thin Claypan
Other vegetative classification: Not suited (G055CY000SD)
Hydric soil rating: No

Ethan

Percent of map unit: 1 percent
Landform: Ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R055CY012SD - Thin Upland
Other vegetative classification: Limy Upland (G055CY400SD)
Hydric soil rating: No

Tetonka, undrained

Percent of map unit: 1 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R055CY004SD - Wet Meadow
Other vegetative classification: Wet (G055CY900SD)
Hydric soil rating: Yes

Hoven

Percent of map unit: 1 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R055CY019SD - Closed Depression
Other vegetative classification: Not suited (G055CY000SD)
Hydric soil rating: Yes

HuD—Houdek-Ethan loams, 6 to 9 percent slopes

Map Unit Setting

National map unit symbol: 2wkqk
Elevation: 1,150 to 2,230 feet
Mean annual precipitation: 16 to 27 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Houdek and similar soils: 55 percent
Ethan and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Houdek

Setting

Landform: Ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

Ap - 0 to 6 inches: loam
Bt - 6 to 19 inches: clay loam
Bk - 19 to 42 inches: clay loam
C - 42 to 79 inches: clay loam

Properties and qualities

Slope: 6 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R055CY010SD - Loamy

Forage suitability group: Loam (G055CY100SD)
Other vegetative classification: Loam (G055CY100SD)
Hydric soil rating: No

Description of Ethan

Setting

Landform: Ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till

Typical profile

Ap - 0 to 7 inches: loam
Bk - 7 to 33 inches: clay loam
C - 33 to 79 inches: clay loam

Properties and qualities

Slope: 6 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: R055CY012SD - Thin Upland
Forage suitability group: Limy Upland (G055CY400SD)
Other vegetative classification: Limy Upland (G055CY400SD)
Hydric soil rating: No

Minor Components

Prosper

Percent of map unit: 3 percent
Landform: Swales
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R055CY020SD - Loamy Overflow
Other vegetative classification: Overflow (G055CY500SD)
Hydric soil rating: No

Tetonka, undrained

Percent of map unit: 3 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R055CY004SD - Wet Meadow

Other vegetative classification: Wet (G055CY900SD)
Hydric soil rating: Yes

Talmo

Percent of map unit: 2 percent
Landform: Outwash plains
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R055CY016SD - Very Shallow
Other vegetative classification: Very Shallow To Gravel (G055CY003SD)
Hydric soil rating: No

Ethan, very stony

Percent of map unit: 1 percent
Landform: Ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R055CY012SD - Thin Upland
Other vegetative classification: Limy Upland (G055CY400SD)
Hydric soil rating: No

Hoven

Percent of map unit: 1 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R055CY019SD - Closed Depression
Other vegetative classification: Not suited (G053CY000SD)
Hydric soil rating: Yes

LIA—Bon loam, channeled, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 2wkpn
Elevation: 1,150 to 2,230 feet
Mean annual precipitation: 16 to 27 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 120 to 160 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Bon, channeled, frequently flooded, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bon, Channeled, Frequently Flooded

Setting

Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Local alluvium

Typical profile

A - 0 to 9 inches: loam
Bw - 9 to 37 inches: loam
C - 37 to 79 inches: stratified loam to loamy fine sand to fine sandy loam to silty clay loam to clay loam to silt loam to sandy clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: About 30 to 41 inches
Frequency of flooding: NoneFrequent
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: C
Ecological site: R055CY040SD - Loamy Floodplain
Forage suitability group: Overflow (G055CY500SD)
Other vegetative classification: Overflow (G055CY500SD)
Hydric soil rating: No

Minor Components

Lamo, occasionally flooded

Percent of map unit: 7 percent
Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R055CY003SD - Subirrigated
Other vegetative classification: Subirrigated (G055CY700SD)
Hydric soil rating: Yes

Chaska, frequently flooded

Percent of map unit: 5 percent
Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R055CY003SD - Subirrigated
Other vegetative classification: Subirrigated (G055CY700SD)

Hydric soil rating: No

Durrstein, frequently flooded

Percent of map unit: 2 percent
Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R055CY007SD - Saline Lowland
Other vegetative classification: Not suited (G055CY000SD)
Hydric soil rating: Yes

Wendte, rarely flooded

Percent of map unit: 1 percent
Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R055CY021SD - Clayey Overflow
Other vegetative classification: Overflow (G055CY500SD)
Hydric soil rating: No

Tp—Tetonka silt loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tlcd
Elevation: 1,150 to 2,230 feet
Mean annual precipitation: 16 to 27 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Tetonka, Undrained

Setting

Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Local alluvium over loamy till

Typical profile

Ap - 0 to 8 inches: silt loam
E - 8 to 16 inches: silt loam
Bt - 16 to 39 inches: silty clay
Cg1 - 39 to 46 inches: silty clay loam
2Cg2 - 46 to 79 inches: clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 0 to 18 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: R055CY004SD - Wet Meadow
Forage suitability group: Wet (G055CY900SD)
Other vegetative classification: Wet (G055CY900SD)
Hydric soil rating: Yes

Minor Components

Hoven

Percent of map unit: 3 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R055CY019SD - Closed Depression
Other vegetative classification: Not suited (G053CY000SD)
Hydric soil rating: Yes

Davison

Percent of map unit: 3 percent
Landform: Rims on depressions
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R055CY006SD - Limy Subirrigated
Other vegetative classification: Subirrigated (G055CY700SD)
Hydric soil rating: No

Worthing, undrained

Percent of map unit: 2 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R055CY001SD - Shallow Marsh
Other vegetative classification: Not suited (G055CY000SD)
Hydric soil rating: Yes

Crossplain

Percent of map unit: 2 percent
Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Concave

Ecological site: R055CY020SD - Loamy Overflow
Other vegetative classification: Subirrigated (G055CY700SD)
Hydric soil rating: No

WmB—Glenham loam, undulating

Map Unit Setting

National map unit symbol: cv02
Elevation: 1,310 to 1,970 feet
Mean annual precipitation: 18 to 25 inches
Mean annual air temperature: 43 to 50 degrees F
Frost-free period: 130 to 155 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Glenham and similar soils: 99 percent
Minor components: 1 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenham

Setting

Landform: Plains
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

H1 - 0 to 5 inches: loam
H2 - 5 to 13 inches: clay loam
H3 - 13 to 60 inches: loam

Properties and qualities

Slope: 3 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C
Ecological site: R055CY010SD - Loamy
Forage suitability group: Loam (G055CY100SD)
Other vegetative classification: Loam (G055CY100SD)
Hydric soil rating: No

Minor Components

Tetonka

Percent of map unit: 1 percent
Landform: Potholes
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R055CY004SD - Wet Meadow
Other vegetative classification: Wet (G053CY900SD)
Hydric soil rating: Yes

WnA—Glenham-Prosper loams, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2wbpp
Elevation: 1,150 to 2,230 feet
Mean annual precipitation: 16 to 27 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Glenham and similar soils: 55 percent
Prosper and similar soils: 35 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenham

Setting

Landform: Ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy till

Typical profile

Ap - 0 to 5 inches: loam
Bt - 5 to 14 inches: clay loam
Bk - 14 to 37 inches: clay loam
C - 37 to 79 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2c
Hydrologic Soil Group: C
Ecological site: R053CY010SD - Loamy
Forage suitability group: Loam (G053CY100SD)
Other vegetative classification: Loam (G053CY100SD)
Hydric soil rating: No

Description of Prosper

Setting

Landform: Swales
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy till

Typical profile

Ap - 0 to 6 inches: loam
A - 6 to 11 inches: loam
Bt - 11 to 28 inches: clay loam
Bk - 28 to 40 inches: clay loam
C - 40 to 79 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2c
Hydrologic Soil Group: C
Ecological site: R053CY020SD - Loamy Overflow
Forage suitability group: Overflow (G053CY500SD)
Other vegetative classification: Overflow (G053CY500SD)
Hydric soil rating: No

Minor Components

Stickney

Percent of map unit: 4 percent
Landform: Ground moraines
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R053CY011SD - Clayey
Other vegetative classification: Clayey Subsoil (G053CY210SD)
Hydric soil rating: No

Hoven

Percent of map unit: 3 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R053CY019SD - Closed Depression
Other vegetative classification: Not suited (G053CY000SD)
Hydric soil rating: Yes

Plankinton, undrained

Percent of map unit: 3 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R053CY019SD - Closed Depression
Other vegetative classification: Wet (G053CY900SD)
Hydric soil rating: Yes

WnB—Glenham-Propser loams, 1 to 6 percent slopes

Map Unit Setting

National map unit symbol: 2wbpq
Elevation: 1,150 to 2,230 feet
Mean annual precipitation: 16 to 27 inches
Mean annual air temperature: 43 to 52 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Glenham and similar soils: 65 percent
Prosper and similar soils: 25 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenham

Setting

Landform: Ground moraines
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Fine-loamy till

Typical profile

Ap - 0 to 5 inches: loam
Bt - 5 to 14 inches: clay loam
Bk - 14 to 37 inches: clay loam
C - 37 to 79 inches: clay loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: R053CY010SD - Loamy
Forage suitability group: Loam (G053CY100SD)
Other vegetative classification: Loam (G053CY100SD)
Hydric soil rating: No

Description of Prosper

Setting

Landform: Swales
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy till

Typical profile

Ap - 0 to 6 inches: loam
A - 6 to 11 inches: loam
Bt - 11 to 28 inches: clay loam
Bk - 28 to 40 inches: clay loam
C - 40 to 79 inches: clay loam

Properties and qualities

Slope: 1 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2c
Hydrologic Soil Group: C
Ecological site: R053CY020SD - Loamy Overflow
Forage suitability group: Overflow (G053CY500SD)
Other vegetative classification: Overflow (G053CY500SD)
Hydric soil rating: No

Minor Components

Stickney

Percent of map unit: 4 percent
Landform: Ground moraines
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R053CY011SD - Clayey
Other vegetative classification: Clayey Subsoil (G055CY210SD)
Hydric soil rating: No

Hoven

Percent of map unit: 3 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R053CY019SD - Closed Depression
Other vegetative classification: Not suited (G053CY000SD)
Hydric soil rating: Yes

Plankinton, undrained

Percent of map unit: 3 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R053CY019SD - Closed Depression
Other vegetative classification: Wet (G053CY900SD)
Hydric soil rating: Yes

WzC—Glenham-Java loams, rolling

Map Unit Setting

National map unit symbol: cv0h
Elevation: 1,300 to 2,300 feet
Mean annual precipitation: 15 to 25 inches
Mean annual air temperature: 43 to 48 degrees F
Frost-free period: 130 to 150 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Glenham and similar soils: 60 percent
Java and similar soils: 35 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenham

Setting

Landform: Plains
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

H1 - 0 to 5 inches: loam
H2 - 5 to 13 inches: clay loam
H3 - 13 to 60 inches: loam

Properties and qualities

Slope: 6 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C

Ecological site: R053CY010SD - Loamy
Forage suitability group: Loam (G053CY100SD)
Other vegetative classification: Loam (G053CY100SD)
Hydric soil rating: No

Description of Java

Setting

Landform: Plains
Landform position (two-dimensional): Shoulder
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till

Typical profile

H1 - 0 to 3 inches: loam
H2 - 3 to 6 inches: loam
H3 - 6 to 40 inches: loam
H4 - 40 to 60 inches: loam

Properties and qualities

Slope: 6 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Nonsaline to moderately saline (0.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: R053CY012SD - Thin Upland
Forage suitability group: Limy Upland (G053CY400SD)
Other vegetative classification: Limy Upland (G053CY400SD)
Hydric soil rating: No

Minor Components

Delmont

Percent of map unit: 4 percent
Landform: Outwash plains
Landform position (two-dimensional): Backslope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R053CY014SD - Shallow To Gravel
Other vegetative classification: Very Droughty Loam (G053CY130SD)
Hydric soil rating: No

Tetonka

Percent of map unit: 1 percent
Landform: Potholes
Landform position (two-dimensional): Toeslope
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R053CY004SD - Wet Meadow
Other vegetative classification: Wet (G053CY900SD)
Hydric soil rating: Yes

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Erosion

This folder contains a collection of tabular reports that present soil erosion factors and groupings. The reports (tables) include all selected map units and components for each map unit. Soil erosion factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis, T factor, wind erodibility group and wind erodibility index.

RUSLE2 Related Attributes (Sweetland Laydown Soils map)

This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factor Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic layer.

Report—RUSLE2 Related Attributes (Sweetland Laydown Soils map)

Soil properties and interpretations for erosion runoff calculations. The surface mineral horizon properties are displayed or the first mineral horizon below an organic surface horizon. Organic horizons are not displayed.

RUSLE2 Related Attributes–Hand County, South Dakota								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
CnA—Cavo-Glenham loams, nearly level								
Cavo	50	—	C	.32	2	39.5	37.5	23.0
Glenham	30	—	C	.24	5	39.5	37.5	23.0
HhB—Houdek loam, 2 to 6 percent slopes								
Houdek	85	180	C	.28	5	38.0	40.0	22.0
HkA—Houdek-Prosper loams, 0 to 2 percent slopes								
Houdek	58	197	C	.28	5	38.0	40.0	22.0
Prosper	32	197	C	.24	5	38.0	40.0	22.0
HkB—Houdek-Prosper loams, 1 to 6 percent slopes								
Houdek	62	180	C	.28	5	38.0	40.0	22.0
Prosper	28	180	C	.24	5	38.0	40.0	22.0
HlA—Houdek-Dudley complex, 0 to 2 percent slopes								
Houdek	50	200	C	.28	5	38.0	40.0	22.0
Dudley	40	—	D	.37	2	13.0	63.0	24.0
HlB—Houdek-Dudley complex, 2 to 6 percent slopes								
Houdek	55	180	C	.28	5	38.0	40.0	22.0
Dudley	35	—	D	.37	2	13.0	63.0	24.0
HuD—Houdek-Ethan loams, 6 to 9 percent slopes								
Houdek	55	125	C	.28	5	38.0	40.0	22.0
Ethan	35	—	C	.28	5	38.0	40.0	22.0
LlA—Bon loam, channeled, 0 to 2 percent slopes, frequently flooded								
Bon, channeled, frequently flooded	85	200	C	.20	5	38.0	40.0	22.0
Tp—Tetonka silt loam, 0 to 1 percent slopes								
Tetonka, undrained	90	200	C/D	.37	5	13.0	64.0	23.0
WmB—Glenham loam, undulating								
Glenham	99	—	C	.24	5	39.5	37.5	23.0
WnA—Glenham-Prosper loams, 0 to 2 percent slopes								
Glenham	55	200	C	.28	5	38.0	40.0	22.0
Prosper	35	200	C	.24	5	38.0	40.0	22.0

RUSLE2 Related Attributes–Hand County, South Dakota								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
WnB—Glenham-Propser loams, 1 to 6 percent slopes								
Glenham	65	180	C	.28	5	38.0	40.0	22.0
Prosper	25	180	C	.24	5	38.0	40.0	22.0
WzC—Glenham-Java loams, rolling								
Glenham	60	—	C	.24	5	39.5	37.5	23.0
Java	35	—	B	.24	5	38.8	36.7	24.5

RUSLE2 Related Attributes (Sweetland Laydown Soils map)

This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factor Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic layer.

Report—RUSLE2 Related Attributes (Sweetland Laydown Soils map)

Soil properties and interpretations for erosion runoff calculations. The surface mineral horizon properties are displayed or the first mineral horizon below an organic surface horizon. Organic horizons are not displayed.

RUSLE2 Related Attributes–Hand County, South Dakota								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
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CnA—Cavo-Glenham loams, nearly level								
Cavo	50	—	C	.32	2	39.5	37.5	23.0
Glenham	30	—	C	.24	5	39.5	37.5	23.0
HhB—Houdek loam, 2 to 6 percent slopes								
Houdek	85	180	C	.28	5	38.0	40.0	22.0
HkA—Houdek-Prosper loams, 0 to 2 percent slopes								
Houdek	58	197	C	.28	5	38.0	40.0	22.0
Prosper	32	197	C	.24	5	38.0	40.0	22.0

RUSLE2 Related Attributes–Hand County, South Dakota								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
HkB—Houdek-Prosper loams, 1 to 6 percent slopes								
Houdek	62	180	C	.28	5	38.0	40.0	22.0
Prosper	28	180	C	.24	5	38.0	40.0	22.0
HlA—Houdek-Dudley complex, 0 to 2 percent slopes								
Houdek	50	200	C	.28	5	38.0	40.0	22.0
Dudley	40	—	D	.37	2	13.0	63.0	24.0
HlB—Houdek-Dudley complex, 2 to 6 percent slopes								
Houdek	55	180	C	.28	5	38.0	40.0	22.0
Dudley	35	—	D	.37	2	13.0	63.0	24.0
HuD—Houdek-Ethan loams, 6 to 9 percent slopes								
Houdek	55	125	C	.28	5	38.0	40.0	22.0
Ethan	35	—	C	.28	5	38.0	40.0	22.0
LlA—Bon loam, channeled, 0 to 2 percent slopes, frequently flooded								
Bon, channeled, frequently flooded	85	200	C	.20	5	38.0	40.0	22.0
Tp—Tetonka silt loam, 0 to 1 percent slopes								
Tetonka, undrained	90	200	C/D	.37	5	13.0	64.0	23.0
WmB—Glenham loam, undulating								
Glenham	99	—	C	.24	5	39.5	37.5	23.0
WnA—Glenham-Prosper loams, 0 to 2 percent slopes								
Glenham	55	200	C	.28	5	38.0	40.0	22.0
Prosper	35	200	C	.24	5	38.0	40.0	22.0
WnB—Glenham-Propser loams, 1 to 6 percent slopes								
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WzC—Glenham-Java loams, rolling								
Glenham	60	—	C	.24	5	39.5	37.5	23.0
Java	35	—	B	.24	5	38.8	36.7	24.5

References

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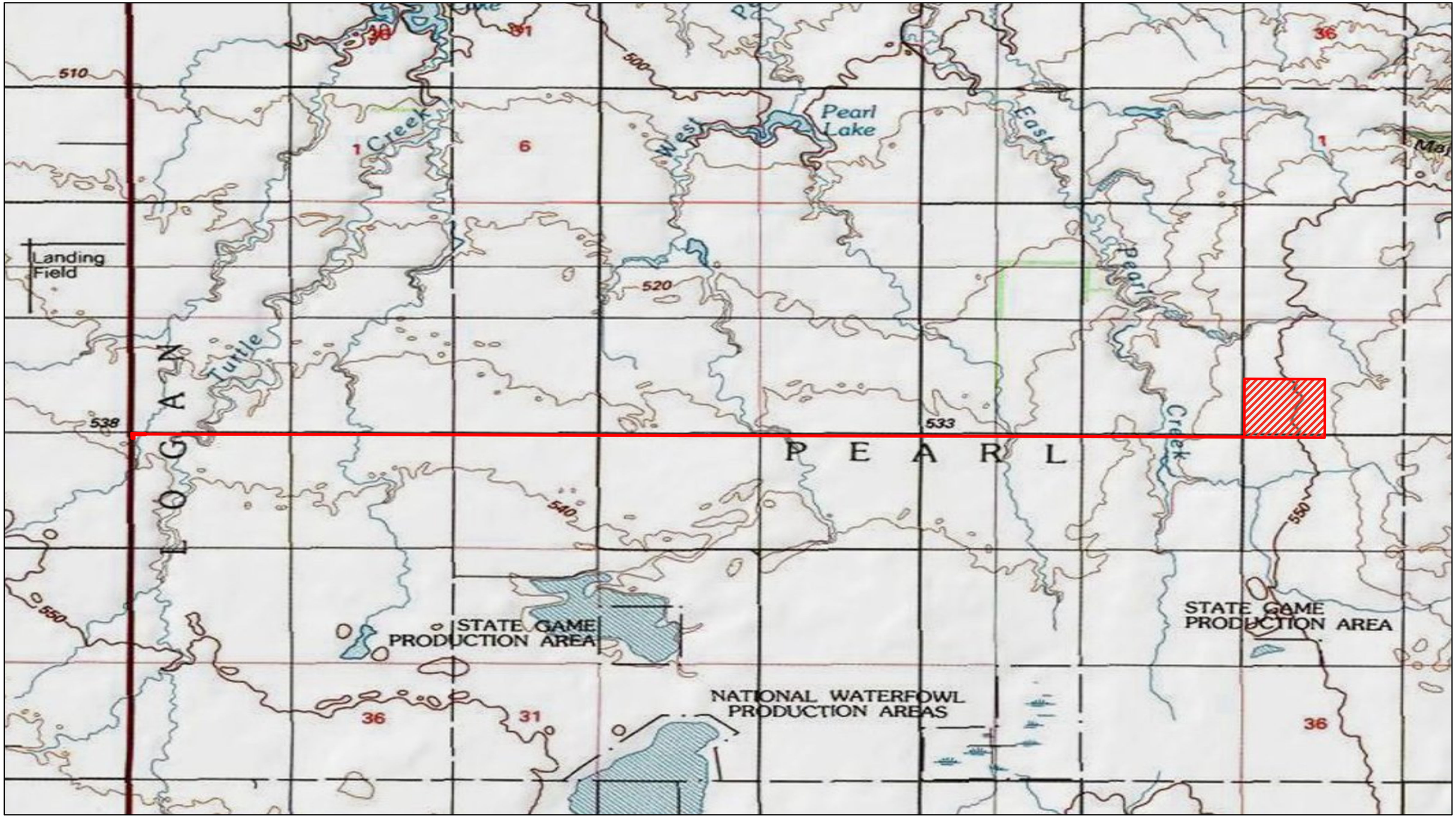
Attachment D

Pre and Post Drainage Maps, Impaired Water Maps



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Westwood
Toll Free (888) 937-5150 westwoodps.com

Legend

- Disturbance Limits
- County Boundary

Sweetland Laydown Yard

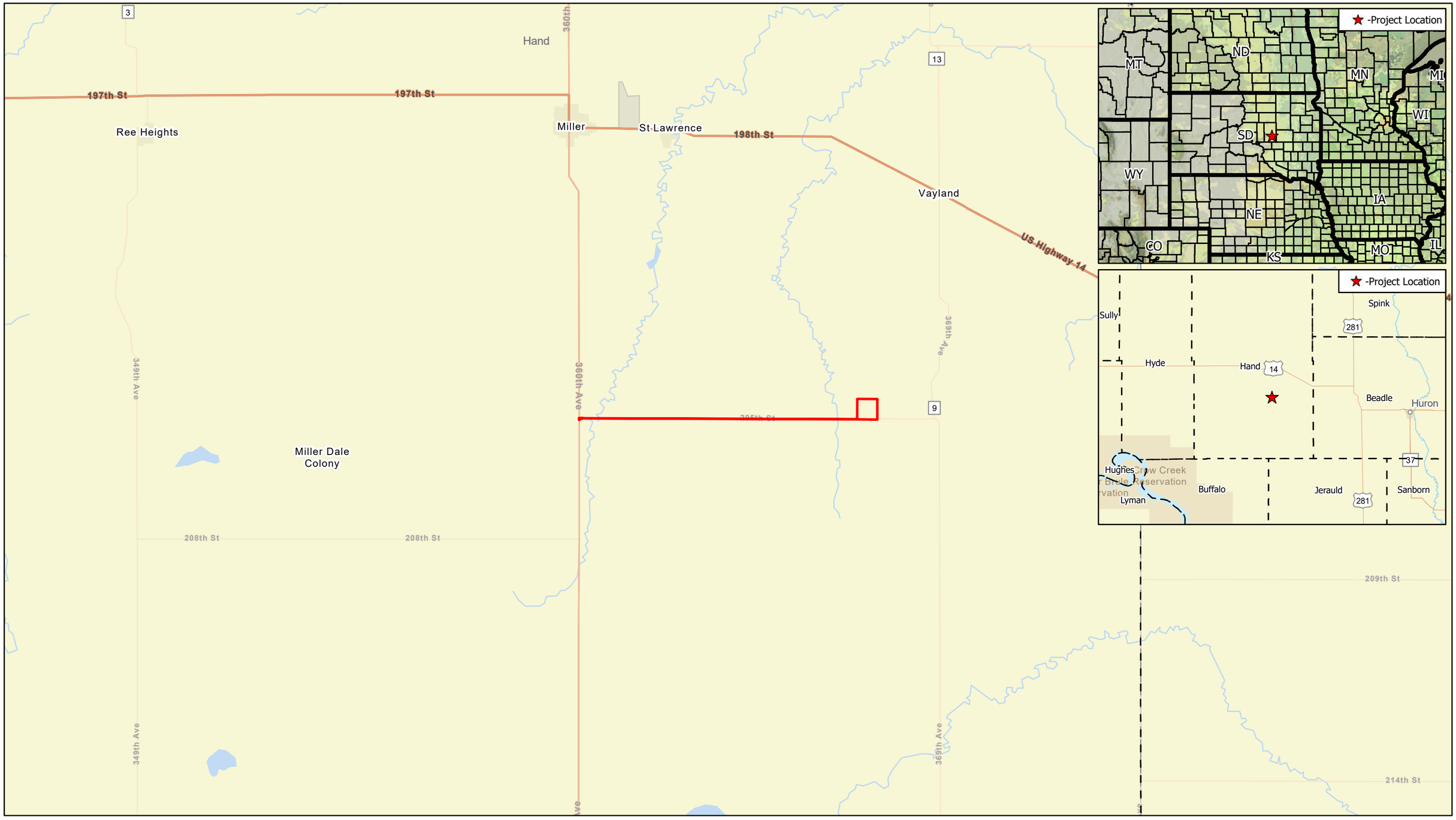
Hand County, SD

N

0 0.5 1 Miles

USGS Topographic Map

August 23, 2022



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Westwood

Toll Free (888) 937-5150 westwoodps.com

Legend

- Project Boundary
- County Boundary

N

0 2 4 Miles

Sweetland Laydown Yard

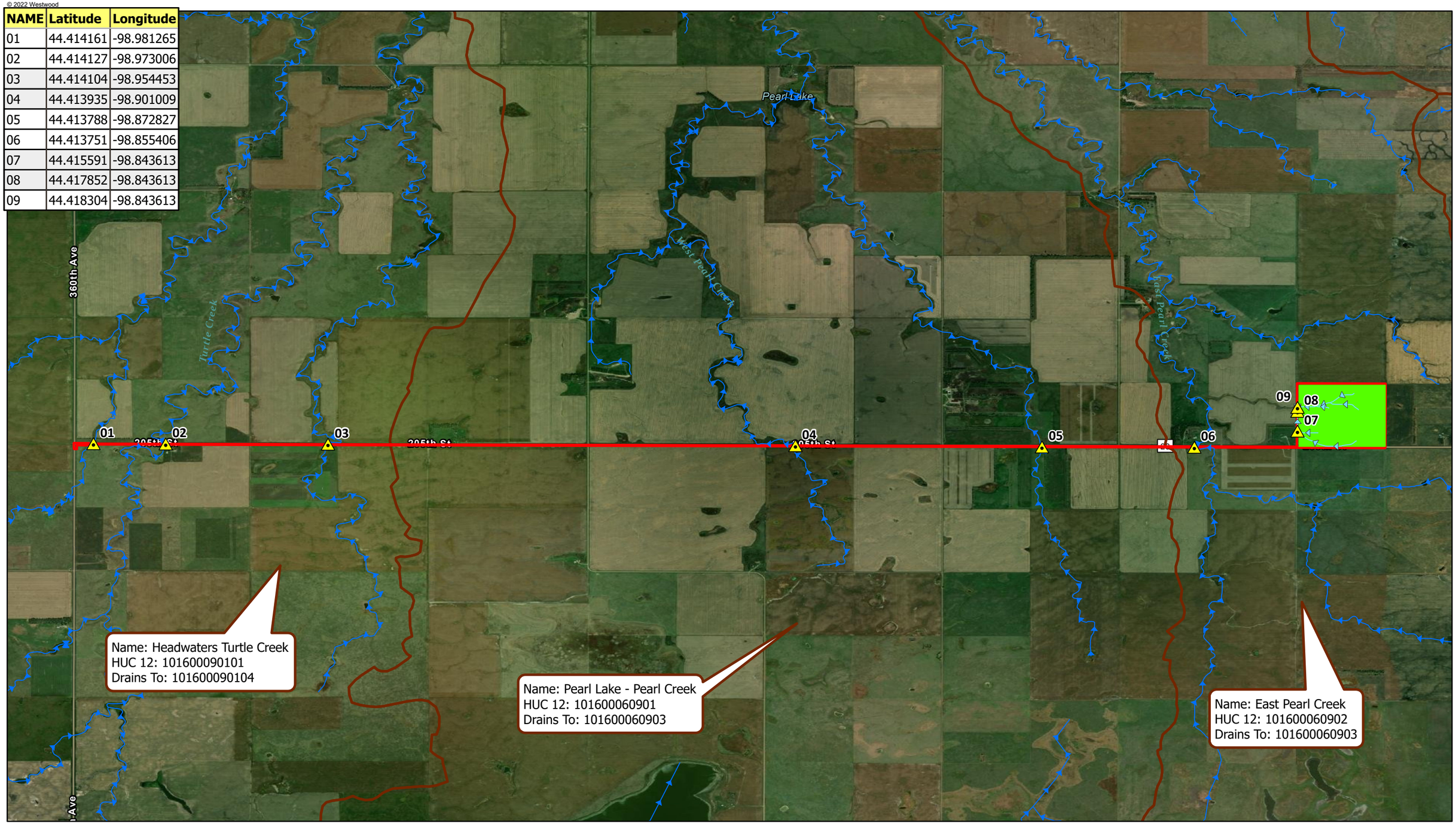
Hand County, SD

Vicinity Map

August 23, 2022

N:\00026830.00\GIS\R0026830_070_SWPPP Exhibits\Sweetland Laydown Yard.aprx
Vicinity Map - Vicinity Map | 8/22/2022 4:08 PM | HHegland

NAME	Latitude	Longitude
01	44.414161	-98.981265
02	44.414127	-98.973006
03	44.414104	-98.954453
04	44.413935	-98.901009
05	44.413788	-98.872827
06	44.413751	-98.855406
07	44.415591	-98.843613
08	44.417852	-98.843613
09	44.418304	-98.843613



Data Source(s): Westwood (2022); Esri WMS Basemap Imagery (Accessed 2022); USGS (2022); FEMA (2022); USDA (2022)

Westwood
Toll Free (888) 937-5150 westwoodps.com

Legend

- Project Boundary
- County Boundary
- HUC12 Boundaary
- Discharge Locations
- Laydown Yard
- NWI Wetlands
- Onsite Flowpaths
- NHD Flowlines

N

0 0.5 1 Miles

Sweetland Laydown Yard

Hand County, SD

Drainage Map

August 24, 2022

N:\0026830.00\GIS\R0026830_070_SWPPP Exhibits\Sweetland Laydown Yard.aprx
Drainage Map - Drainage\Fig1 8/24/2022 9:04 AM KDMcKeough

Attachment E

Site Plans, Erosion and Sediment Control Plans, Details

Sweetland Wind Laydown Yard Project

Hand County, North Dakota

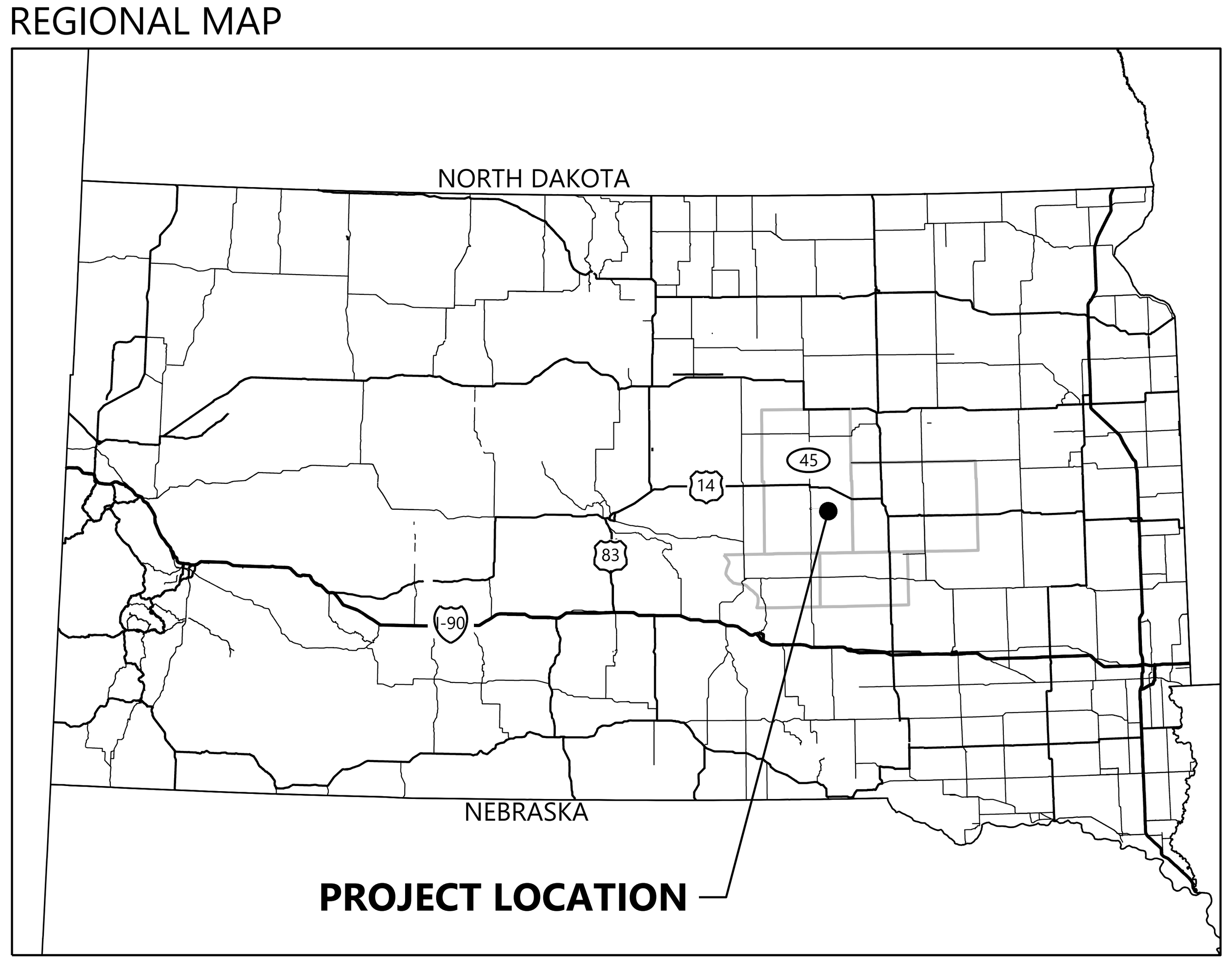
Civil Construction Plans

Know what's below. Call before you dig.

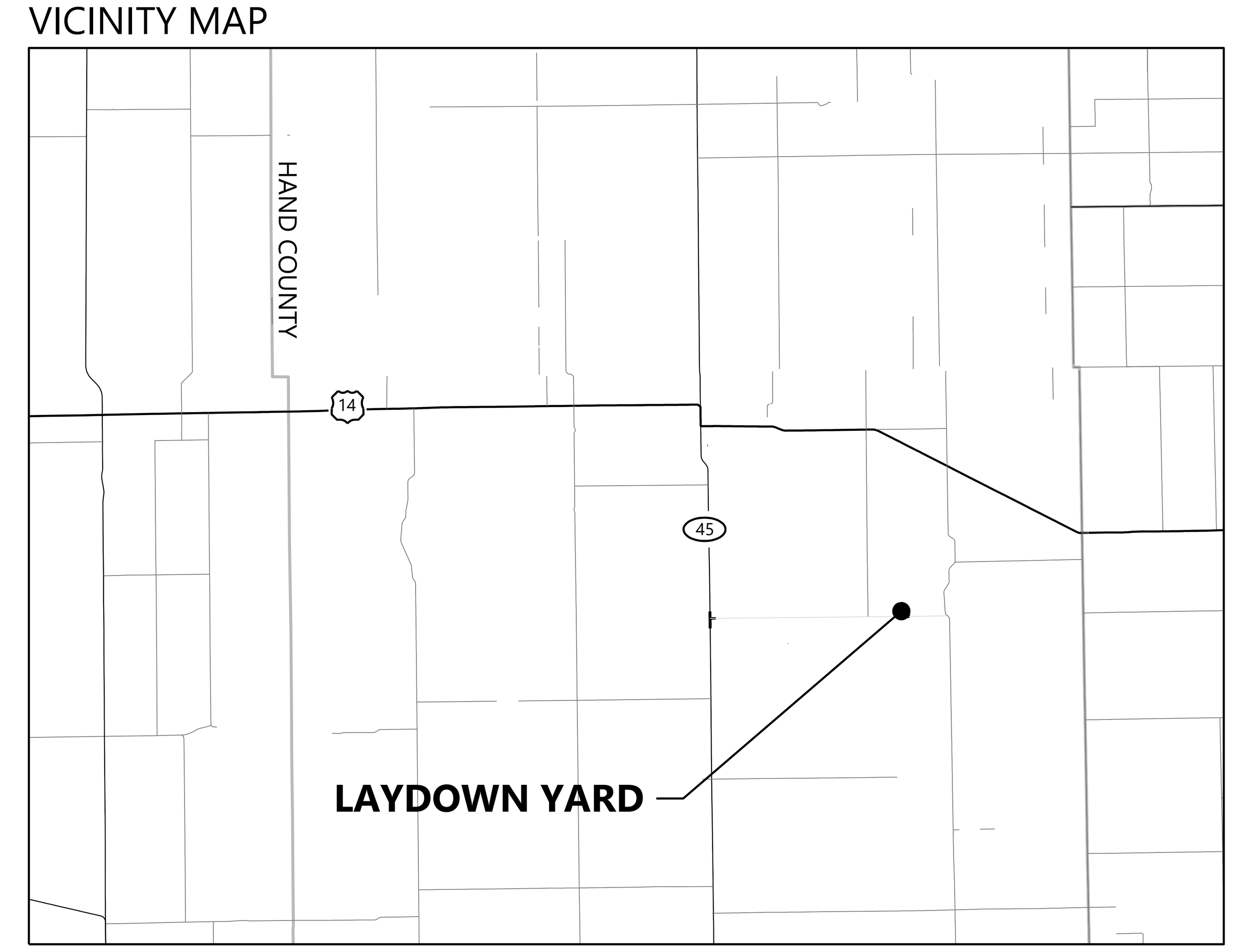
Sheet List Table

SHEET NUMBER	SHEET TITLE
C001	Cover Sheet
C301	Laydown Yard Site Plan
C302	Turning Improvement Site Plan
C701	Construction Details
C702	Construction Notes

REGIONAL MAP



VICINITY MAP



DATA SET INFORMATION			
Coordinate System	South Dakota North NAD83 (HARN) SPCS US Feet		
BASE FILE	**FILE NAME / NOTES**	**PROVIDER**	**DATE**
AERIAL IMAGE	1900438 Aerial Mapping Vector Data.zip	Public Aerial Data	8/23/2022
LAND CONTROL	Laydown for GE Delivery (40ac.).kmz	Blattner	8/16/2022
ALTA SURVEY	Sweetland Survey CAD File.dwg	Westwood	2/1/2021
TOPOGRAPHY	1900438 Mapping Vector Data.zip	USGS Public Data	1/1/2016
STREAMS/WETLANDS	Sweetland Wetland Delineation Report 13JAN2020.pdf	Burns & McDonnell	1/13/2020
CULTURAL RESOURCES	Exhibit_K08_Sweetland Wind Cultural Study.pdf	Burns & McDonnell	2/1/2019
BIOLOGICAL	Exhibit_K10_Sweetland Wind Farm Phase I ESA v2 12.201	Blanton & Associates, Inc.	12/1/2019

CONTACT INFORMATION

PROJECT ROLE	CONTACT NAME	COMPANY	PHONE
PROJECT MANAGER	RYAN CLAEYS	BLATTNER	320-356-2540
CONSTRUCTION MANAGER	COLE STOCKER	BLATTNER	320-241-1079
PROJECT MANAGER	LOGAN BELL	SCOUT	970-712-0498
PROJECT MANAGER	STEVE BATTAGLIA	WESTWOOD	952-937-5150

Westwood

Phone (952) 937-5150 12701 Whitewater Drive, Suite #300
Fax (952) 937-5822 Minnetonka, MN 55343
Toll Free (888) 937-5150 westwoodps.com

Westwood Professional Services, Inc.

PREPARED FOR:

BLATTNER ENERGY

392 Co Rd 50
Avon, MN 56310

REVISIONS:

#	DATE	COMMENT
A	08/31/22	Issued For Review
B	09/09/22	Issued For Review

Sweetland Wind Laydown Yard Project

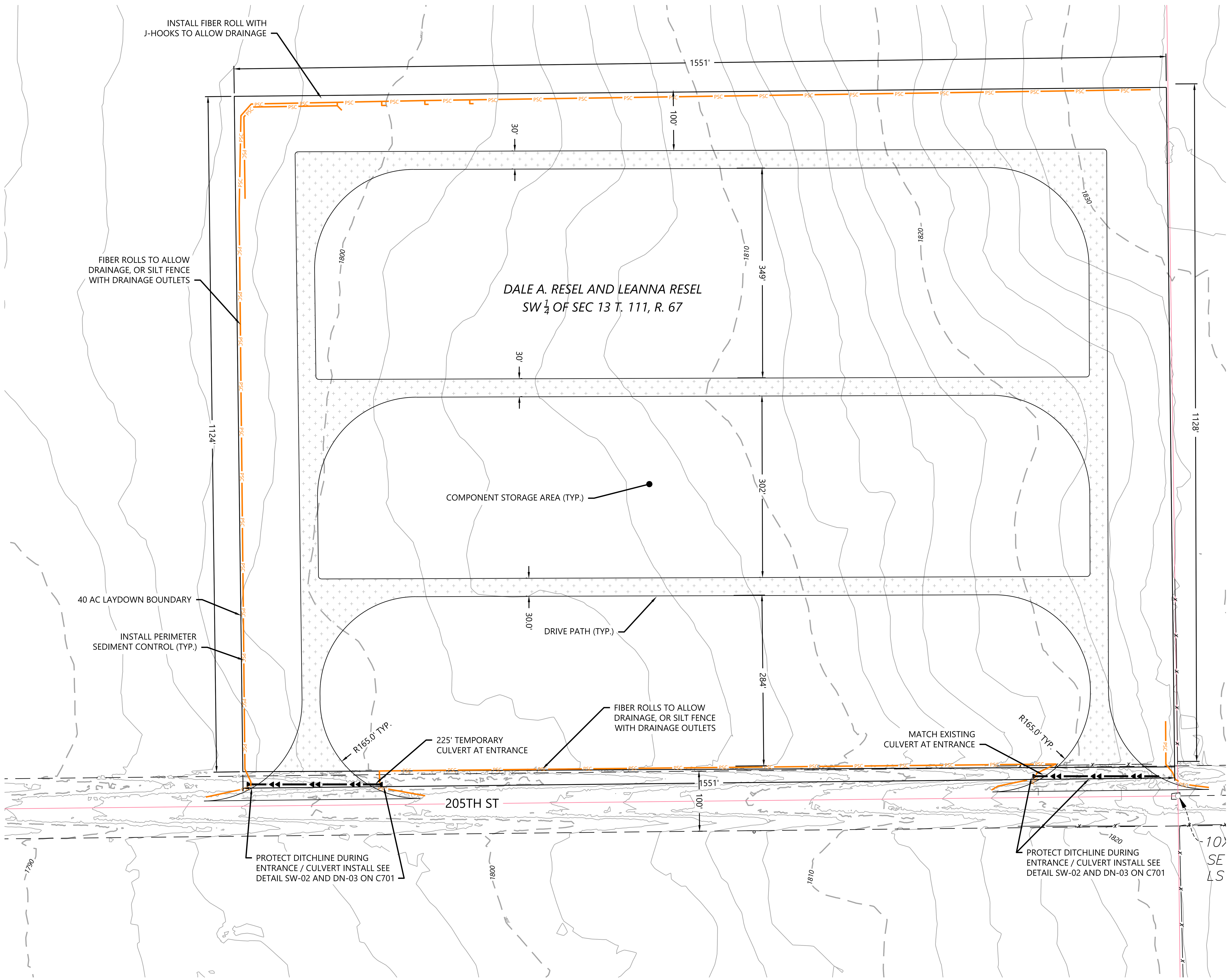
Hand County, South Dakota

Cover Sheet

ISSUED FOR REVIEW

DATE: 09/09/2022

SHEET: C001



LEGEND:

- PROPOSED TEMPORARY GRAVEL
- PROPOSED CULVERT
- PROPOSED PERIMETER SEDIMENT CONTROL
- DISTURBANCE LIMITS
- NON-PARTICIPATING LAND
- SECTION LINES
- RIGHT-OF-WAY LINES
- EASEMENT LINES
- PARCEL LINES
- EX. INDEX CONTOUR
- EX. INTERVAL CONTOUR
- EX. TREELINE
- EX. PAVED ROAD
- EX. GRAVEL ROAD
- EX. FENCE
- EX. CULVERT
- EX. OVERHEAD POWER
- EX. UNDERGROUND POWER
- EX. FIBER OPTIC LINE
- EX. GAS PIPELINE
- EX. TELEPHONE LINE
- EX. WATER LINE
- EX. STREAM CHANNEL

NOTES:

1. **ALL DISTANCES ARE ESTIMATES. CONTRACTOR TO FIELD FIT AS NECESSARY**
2. **VEGETATE/STABILIZE ALL AREAS AROUND AND BETWEEN ACCESS ROADS TO MINIMIZE EROSION AND PRESERVE PERIMETER BMP'S**

Westwood

Phone (952) 937-5150 12701 Whitewater Drive, Suite #300
Fax (952) 937-5822 Minnetonka, MN 55343
Toll Free (888) 937-5150 westwoodps.com

Westwood Professional Services, Inc.

PREPARED FOR:

BLATTNER ENERGY

392 Co Rd 50
Avon, MN 56310

REVISIONS:

#	DATE	COMMENT
A	08/31/22	Issued For Review
B	09/09/22	Issued For Review

0' 100' 200' 300'

Sweetland Wind Laydown Yard Project

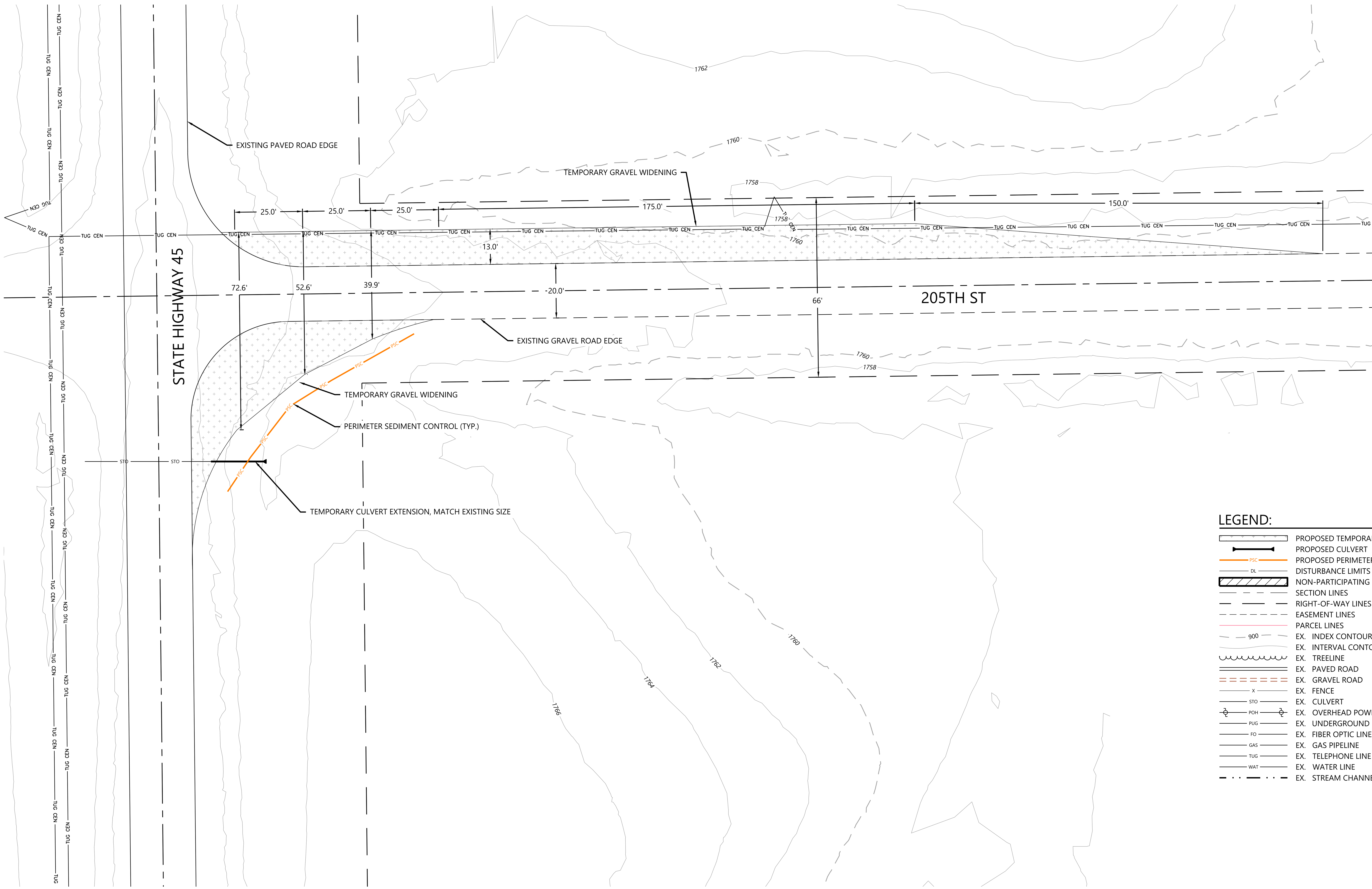
Hand County, South Dakota

Laydown Yard Site Plan

ISSUED FOR REVIEW

DATE: 09/09/2022

SHEET: C301



LEGEND:

- PROPOSED TEMPORARY GRAVEL
- PROPOSED CULVERT
- PROPOSED PERIMETER SEDIMENT CONTROL
- DISTURBANCE LIMITS
- NON-PARTICIPATING LAND
- SECTION LINES
- RIGHT-OF-WAY LINES
- EASEMENT LINES
- PARCEL LINES
- EX. INDEX CONTOUR
- EX. INTERVAL CONTOUR
- EX. TREELINE
- EX. PAVED ROAD
- EX. GRAVEL ROAD
- EX. FENCE
- EX. CULVERT
- EX. OVERHEAD POWER
- EX. UNDERGROUND POWER
- EX. FIBER OPTIC LINE
- EX. GAS PIPELINE
- EX. TELEPHONE LINE
- EX. WATER LINE
- EX. STREAM CHANNEL

0' 20' 40' 60'

Westwood

Phone (952) 937-5150 12701 Whitewater Drive, Suite #300
Fax (952) 937-5822 Minnetonka, MN 55343
Toll Free (888) 937-5150 westwoodps.com

Westwood Professional Services, Inc.

PREPARED FOR:

BLATTNER ENERGY

392 Co Rd 50
Avon, MN 56310

REVISIONS:

#	DATE	COMMENT
A	08/31/22	Issued For Review
B	09/09/22	Issued For Review

Sweetland Wind Laydown Yard Project

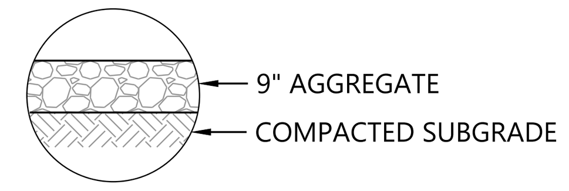
Hand County, South Dakota

Turning Improvement Site Plan

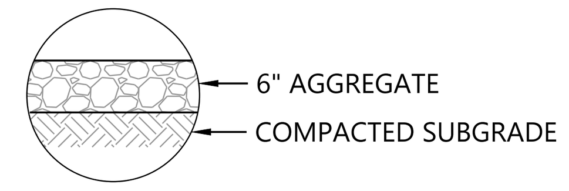
ISSUED FOR REVIEW

DATE: 09/09/2022

SHEET: C302



LAYDOWN YARD SECTION



TEMPORARY RADIUS SECTION

NOTES:

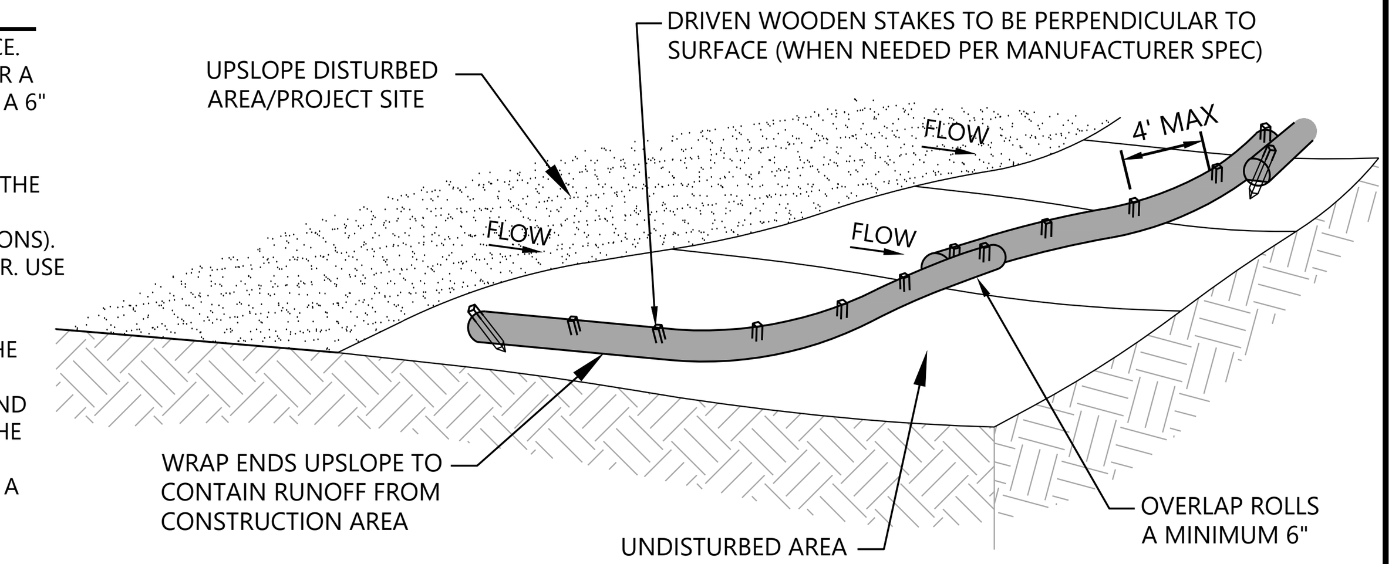
1. REFER TO CONSTRUCTION SPECIFICATIONS, AGGREGATE REQUIREMENTS, AND TESTING REQUIREMENTS.
2. STRUCTURAL SECTIONS SHOWN ARE THE MINIMUM THICKNESS DURING NORMAL FIELD CONDITIONS. THE SECTIONS MAY NEED TO BE INCREASED BASED ON ACTUAL FIELD CONDITIONS AT THE TIME OF CONSTRUCTION. CONDITIONS INCLUDE, BUT ARE NOT LIMITED TO, CONSTRUCTION DURING UNUSUALLY WET PERIODS, IN LOW/WET AREAS OR SOFT SOILS.
3. AGGREGATE DEPTHS SPECIFIED ARE DEPTHS REMAINING AT THE END OF CONSTRUCTION.

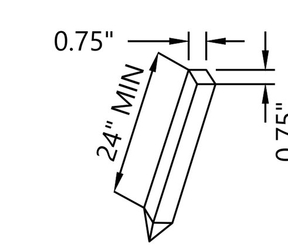
SOURCE

Westwood | STRUCTURAL CROSS SECTION | NOT TO SCALE | SS-01

NOTES:

1. FIBER ROLLS SHALL BE INSTALLED PRIOR TO UPSLOPE DISTURBANCE ACTIVITIES COMMENCE.
2. FIBER ROLLS SHALL BE PREFABRICATED AND MADE FROM WEED FREE RICE STRAW, FLAX, OR A SIMILAR AGRICULTURAL MATERIAL BOUND INTO A TIGHT TUBULAR ROLL BY NETTING. USE A 6" OR 12" DIA. ROLL.
3. TRENCHES SHALL BE CREATED ALONG THE SLOPE OF THE PERIMETER. THE TRENCH DEPTH SHOULD BE 1/4 TO 1/3 OF THE THICKNESS OF THE ROLL, AND THE WIDTH SHOULD EQUAL THE ROLL DIAMETER, IN ORDER TO PROVIDE AREA TO BACKFILL THE TRENCH.
4. STAKE FIBER ROLLS INTO THE TRENCH (WHEN NEEDED PER MANUFACTURER'S SPECIFICATIONS). DRIVE STAKES AT THE END OF EACH FIBER ROLL AND SPACED 4 FEET MAXIMUM ON CENTER. USE WOOD STAKES WITH NOMINAL CLASSIFICATION OF 0.75 IN BY 0.75 IN. AND A MINIMUM LENGTH OF 24 IN.
5. ROLLS SHALL BE INSTALLED PERPENDICULAR TO WATER MOVEMENT, AND PARALLEL TO THE SLOPE CONTOUR.
6. TURN THE ENDS OF THE FIBER ROLLS UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE ROLL. THE UPSLOPE POINT SHOULD BE A MINIMUM 6" HIGHER IN ELEVATION THAN THE LOW POINT.
7. IF MORE THAN ONE FIBER ROLL IS PLACED IN A ROW, THE ROLLS SHOULD BE OVERLAPPED A MINIMUM OF 6 INCHES, NOT ABUTTED.
8. FIBER ROLLS ENCASED WITH PLASTIC NETTING ARE USED FOR A TEMPORARY APPLICATION ONLY AND SHOULD BE REMOVED FOLLOWING STABILIZATION. FIBER ROLLS USED IN A PERMANENT APPLICATION SHALL BE ENCASED WITH A BIODEGRADABLE MATERIAL AND MAY BE LEFT IN.
9. TEMPORARY INSTALLATIONS SHOULD ONLY BE REMOVED WHEN UP GRADIENT AREAS ARE STABILIZED PER GENERAL PERMIT REQUIREMENTS, AND/OR POLLUTANT SOURCES NO LONGER PRESENT A HAZARD. BUT, THEY SHOULD ALSO BE REMOVED BEFORE VEGETATION BECOMES TOO MATURE SO THAT THE REMOVAL PROCESS DOES NOT DISTURB MORE SOIL AND VEGETATION THAN IS NECESSARY
10. FIBER ROLLS MUST BE INSPECTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS FOR THE ASSOCIATED PROJECT TYPE AND RISK LEVEL. IT IS RECOMMENDED THAT AT A MINIMUM, THE BMPS BE INSPECTED WEEKLY, PRIOR TO FORECASTED RAIN EVENTS, DAILY DURING EXTENDED RAIN EVENTS, AND AFTER THE CONCLUSION OF RAIN EVENTS.
11. REPAIR OR REPLACE SPLIT, TORN, UNRAVELING, OR SLUMPING FIBER ROLLS.
12. SEDIMENT THAT ACCUMULATES UPSLOPE OF THE BMP SHOULD BE PERIODICALLY REMOVED IN ORDER TO MAINTAIN BMP EFFECTIVENESS. SEDIMENT SHOULD BE REMOVED WHEN SEDIMENT ACCUMULATION REACHES ONE-THIRD THE DESIGNATED SEDIMENT STORAGE DEPTH.
13. RILLS OR GULLIES MAY BEGIN TO FORM FOLLOWING MAJOR STORM EVENTS WHERE RUNOFF HAS OVERTOPPED THE FIBER ROLLS. THESE RILLS OR GULLIES SHOULD BE PROMPTLY REPAIRED.

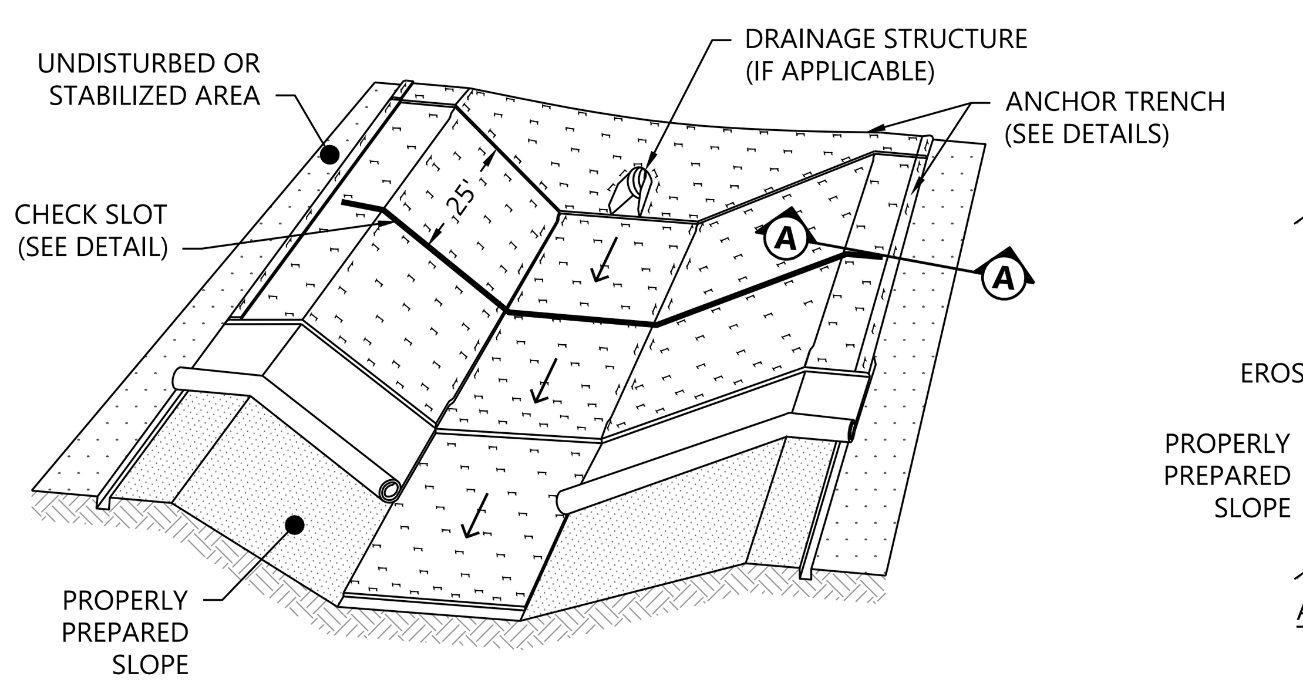


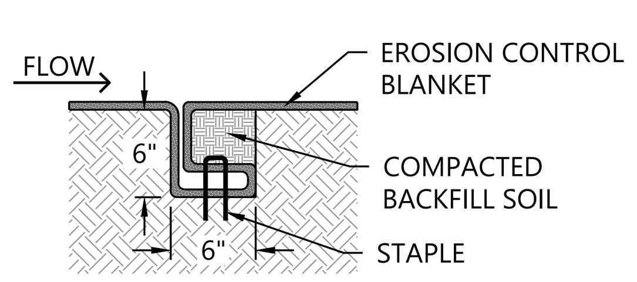


SLOPE (H:V)	MAX SPACING FT.
< 4:1	20
4:1 - 2:1	15
> 2:1	10

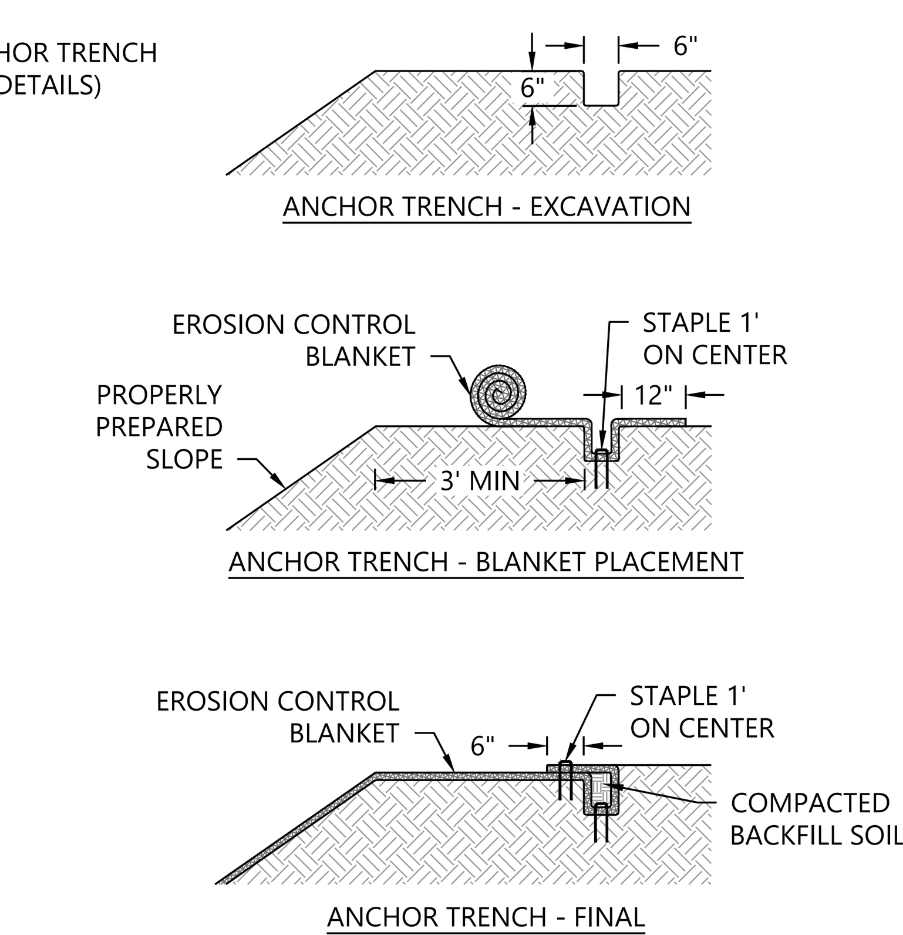
* A CLOSER SPACING IS MORE EFFECTIVE

Westwood | TYPICAL FIBER ROLLS FOR PERIMETER CONTROL OF CONSTRUCTION AREA LIMIT | GD44





CHECK SLOT DETAIL

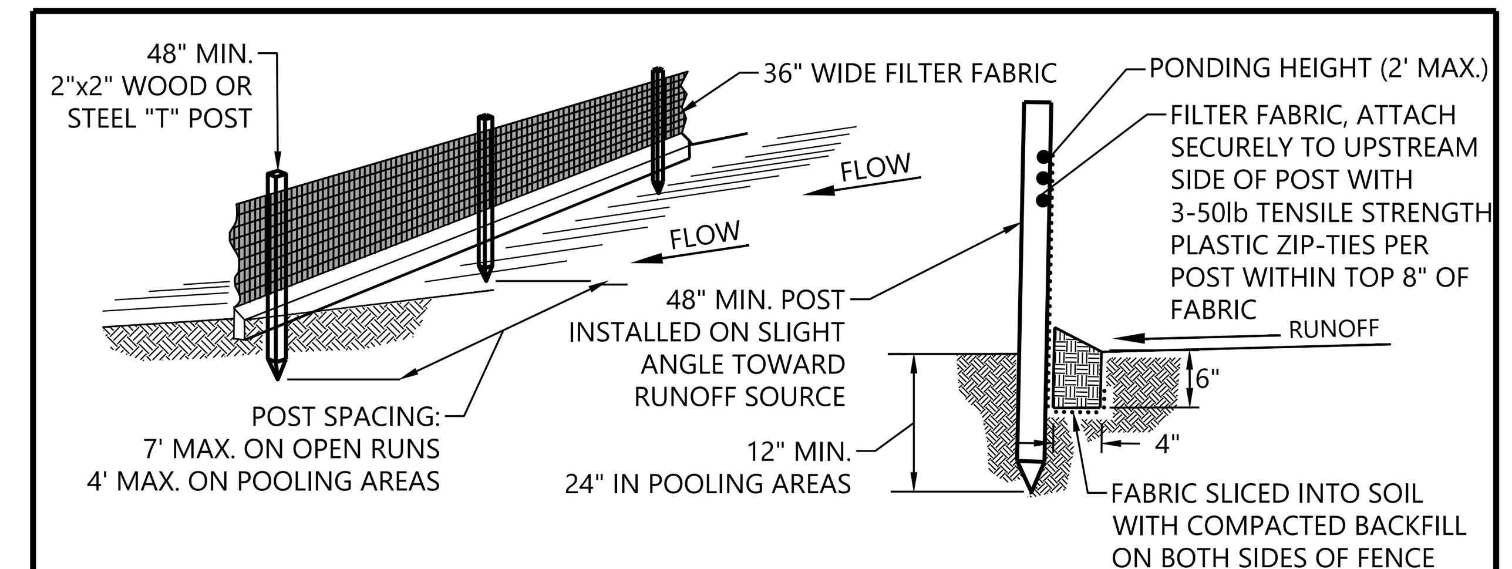


SECTION A-A - ANCHOR TRENCH DETAILS

NOTES:

1. EROSION CONTROL BLANKETS ARE USED TO TEMPORARILY AND PERMANENTLY STABILIZE DITCHES AND SWALES.
2. EROSION CONTROL BLANKETS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. WHEN NOT AVAILABLE INSTALL ACCORDING TO THIS DETAIL AND THE FOLLOWING NOTES:
   2.1. STEP ONE: SITE PREPARATION. TO PREVENT TENTING THE CHANNEL SHOULD BE FINE GRADED TO A SMOOTH PROFILE AND RELATIVELY FREE FROM ALL WEEDS, CLODS, STONES, ROOTS, STICKS, RIVULETS, GULLIES, CRUSTING, AND CAKING. FILL ANY VOIDS AND MAKE SURE THE CHANNEL IS COMPACTED PROPERLY.
   2.2. STEP TWO: ADEQUATE TOPSOIL SHALL BE REAPPLIED AFTER GRADING PRIOR TO SEEDING.
   2.3. STEP THREE: SEEDING. SEEDING WITHOUT MULCH SHOULD BE APPLIED TO THE AREA TO BE VEGETATED.
   2.4. STEP FOUR: ANCHORING THE EROSION CONTROL BLANKET. EROSION CONTROL BLANKETS SHALL BE ANCHORED AT THE BEGINNING OF THE CHANNEL. A 6" X 6" DEEP TRENCH SHOULD BE EXCAVATED PERPENDICULAR TO THE DIRECTION OF WATER FLOW ACROSS THE ENTIRE WIDTH OF THE CHANNEL. THE EROSION CONTROL BLANKET SHOULD BE LAID IN THE CHECK SLOT WITH 30" OF THE EROSION CONTROL BLANKET EXTENDING UPSTREAM OF THE ANCHORING TRENCH. STAKE OR STAPLE THE EROSION CONTROL BLANKET IN THE CHECK SLOT ON 12" CENTERS WHEN NO OTHER GUIDANCE IS AVAILABLE. BACKFILL THE ANCHOR TRENCH AND COMPACT THE SOIL. PLACE SEED OVER THE COMPACTED SOIL. COVER THE COMPACTED SOIL WITH THE REMAINING 12 INCHES OF THE TERMINAL END OF THE EROSION CONTROL BLANKET. STAPLE OR STAKE TERMINAL END DOWN SLOPE OF THE ANCHOR TRENCH ON 12" CENTERS.
   2.5. STEP FIVE: EROSION CONTROL BLANKET DEPLOYMENT IN THE CHANNEL BOTTOM. THE EROSION CONTROL BLANKETS SHOULD BE UNROLLED IN THE DIRECTION OF WATER FLOW. FIRST THE EROSION CONTROL BLANKET IS DEPLOYED IN THE CHANNEL BOTTOM. IT IS ALSO NECESSARY TO PREVENT A SEAM FROM GOING DOWN THE CENTER OF THE CHANNEL BOTTOM OR IN AREAS OF CONCENTRATED WATER FLOW. WHEN INSTALLING TWO EROSION CONTROL BLANKETS SIDE BY SIDE IN A WATERWAY THE CENTER OF THE EROSION CONTROL BLANKET SHOULD BE CENTERED IN THE AREA OF CONCENTRATED WATER FLOW. INSTALL ADJOINING EROSION CONTROL BLANKETS AWAY FROM THE CENTER OF THE CHANNEL BOTTOM. ADJOINING EROSION CONTROL BLANKETS SHOULD BE OVERLAPPED 4" TO 6". CONTINUE TO INSTALL A COMMON ROW OF STAPLES AT 2' CENTERS ALONG THE LENGTH OF THE OVERLAP.
   2.6. STEP SIX: CHECK SLOTS. CHECK SLOTS SHOULD BE PLACED PERPENDICULAR TO THE FLOW DIRECTION ACROSS THE ENTIRE WIDTH OF THE CHANNEL AT 25' INTERVALS AND AT THE TERMINAL END OF THE CHANNEL. THE CHECK SLOTS SHOULD BE PLACED IN A 6" X 6" TRENCH AS SHOWN. SECURE THE EROSION CONTROL BLANKET IN THE UPSTREAM SIDE OF THE CHECK SLOT WITH STAPLES OR STAKES ON 12" CENTERS. FLIP THE EROSION CONTROL BLANKET ROLL ON THE UPSTREAM EDGE. BACK FILL THE CHECK SLOT AS SHOWN AND COMPACT THE SOIL. CONTINUE ROLLING THE EROSION CONTROL BLANKET DOWNSTREAM OVER THE COMPLETED CHECK SLOT.
   2.7. STEP SEVEN: EROSION CONTROL BLANKET DEPLOYMENT ON THE SIDE SLOPES. CONTINUE TO ROLL THE EROSION CONTROL BLANKET ALONG THE CHANNEL BOTTOM AND SIDE SLOPES IN THE DIRECTION OF THE WATER FLOW. AS THE EROSION CONTROL BLANKET IS INSTALLED FROM THE CHANNEL BOTTOM UP THE SLOPE, A SHINGLE TYPE INSTALLATION IS NECESSARY WITH THE UP-SLOPE EROSION CONTROL BLANKET OVERLAPPING THE LOWER EROSION CONTROL BLANKET APPROXIMATELY 4". ANCHOR THE EROSION CONTROL BLANKETS WITH A MINIMUM OF ONE STAPLE EVERY 24" ACROSS THE WIDTH AND ONE STAPLE EVERY 36" DOWN ITS LENGTH. IF THE EROSION CONTROL BLANKET NEEDS TO BE SPLICED, BE SURE THE EROSION CONTROL BLANKET IS "SHINGLED" WITH THE UPSTREAM EROSION CONTROL BLANKET OVERLAPPING THE DOWNSTREAM EROSION CONTROL BLANKET. THERE SHOULD BE A MINIMUM OF 4" OF OVERLAP IN A SPLICE. USE A STABLE CHECK SLOT TO SECURE THE OVERLAP. ANCHOR THE EROSION CONTROL BLANKET PLACED AT THE TOP OF THE CHANNEL SLOPE IN THE SAME MANNER AS SHOWN.
   2.8. STEP EIGHT: TERMINAL END. SECURE THE EROSION CONTROL BLANKET AT THE TERMINAL END OF THE CHANNEL WITH A SLOT SIMILAR TO THE ONE MADE AT THE BEGINNING OF THE CHANNEL.

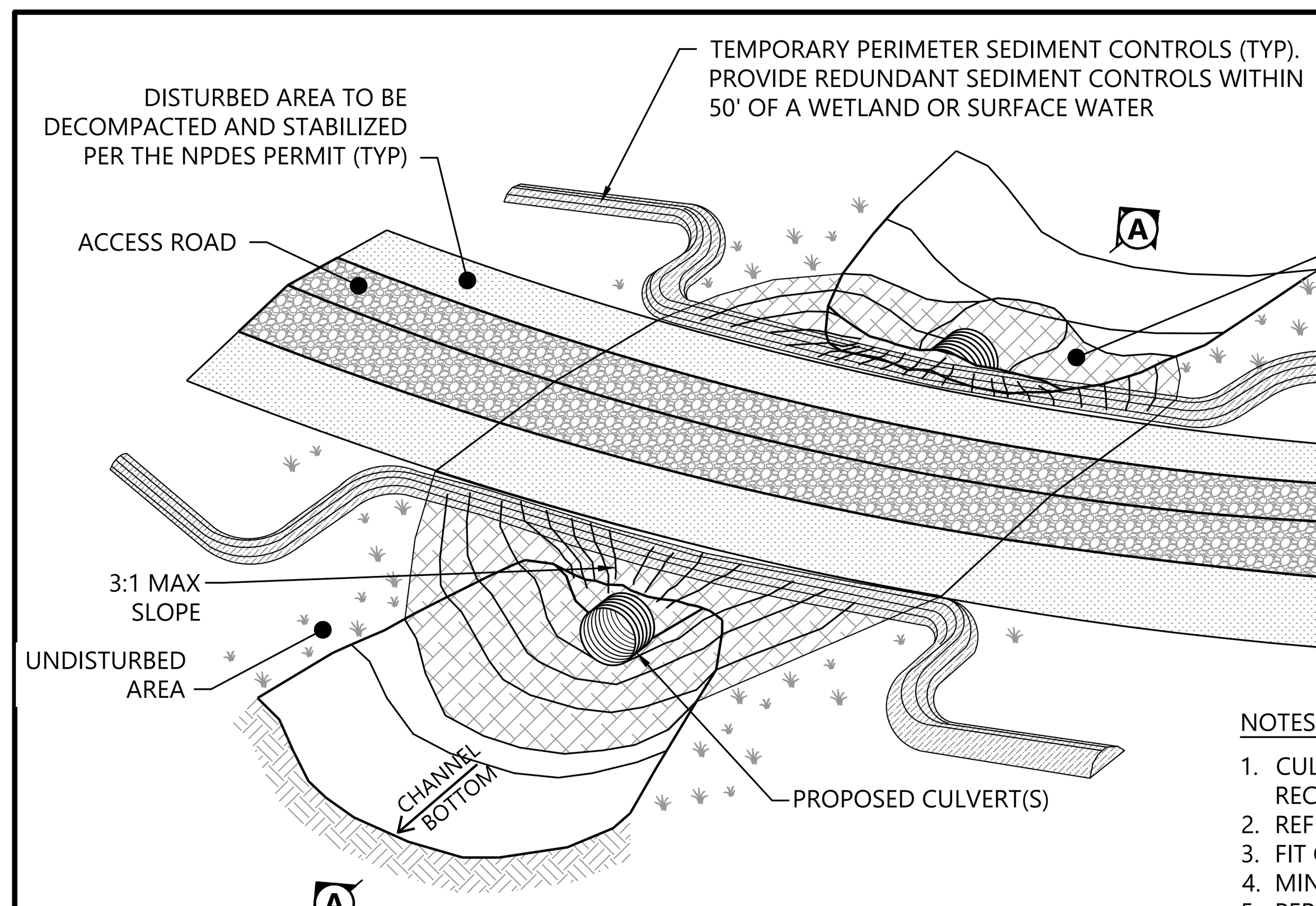
Westwood | EROSION CONTROL BLANKET INSTALLATION FOR CHANNEL | NOT TO SCALE | SW-02



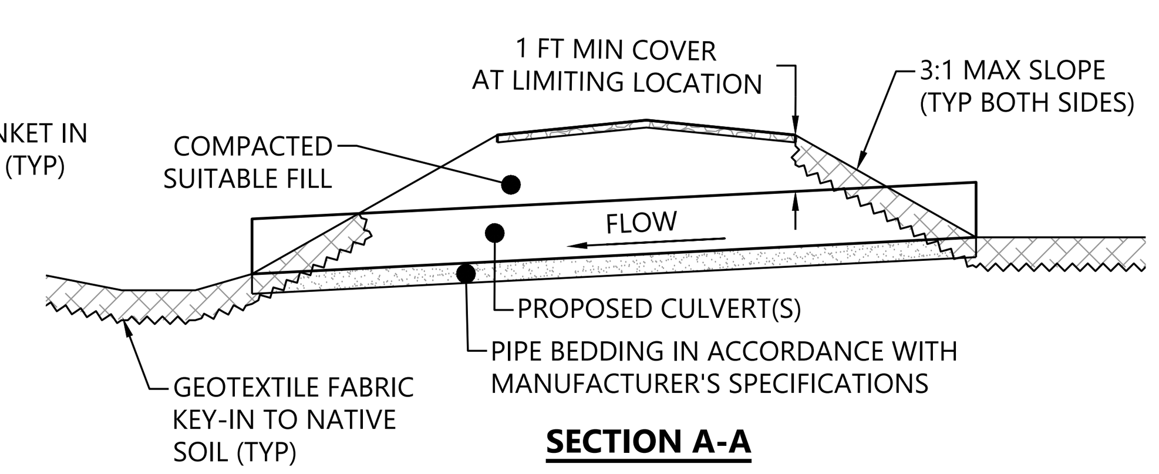
NOTES:

1. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN 2 , ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NO. 30.
2. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH SUPPORT POST. THERE SHOULD BE A 3FT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
4. ALL ENDS OF THE SILT FENCE SHALL BE WRAPPED UPSLOPE SO THE ELEVATION OF THE BOTTOM OF FABRIC IS HIGHER THAN "PONDING HEIGHT".
5. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN ACCUMULATED TO **1/3 HEIGHT** OF THE FABRIC OR MORE.
6. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
7. SILT FENCE SHOULD REMAIN IN PLACE AND MAINTAINED UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.
8. INSTALL A SECOND ROW OF SILT FENCE APPROXIMATELY 5' FROM INITIAL ROW WHEN REDUNDANT PROTECTION IS REQUIRED WITHIN 50' OF WETLANDS AND STREAMS.

Westwood | SILT FENCE | NOT TO SCALE | ESC01



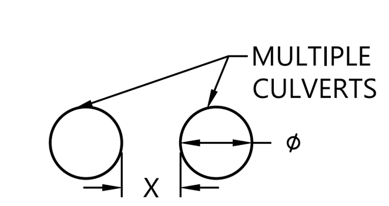
ISOMETRIC VIEW



SECTION A-A

NOTES:

1. CULVERT INSTALLATION AND COMPACTION SHALL ADHERE TO MANUFACTURER'S RECOMMENDATIONS.
2. REFER TO DRAINAGE CROSSING SCHEDULE FOR SIZING.
3. FIT CULVERT TO FIELD CONDITIONS.
4. MINIMIZE DISTURBANCE TO EXISTING STREAMS/DITCHES DURING CULVERT INSTALLATION.
5. PERIMETER SEDIMENT CONTROL MAY CONSIST OF SILT FENCE, FIBER LOGS, WOOD MULCH BERMS OR TOPSOIL BERMS. REFER TO ASSOCIATED DETAIL AND/OR NPDES PERMIT FOR DETAILS.



PIPE ϕ	X (MIN)
UP TO 24"	12"
24" TO 72"	ϕ/2
OVER 72"	36"

MULTI-PIPE SPACING

Westwood | CULVERT CROSSING | NOT TO SCALE | DN-03

Westwood

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PREPARED FOR:

BLATTNER ENERGY

392 Co Rd 50
Avon, MN 56310

REVISIONS:

#	DATE	COMMENT
A	08/31/22	Issued For Review
B	09/09/22	Issued For Review

Sweetland Wind Laydown Yard Project

Hand County, South Dakota

Construction Details

ISSUED FOR REVIEW

DATE: 09/09/2022

SHEET: C701

EARTHWORK

1. GENERAL
   a. THIS SECTION DESCRIBES WORK RELATED TO EARTHWORK AND MAY INCLUDE CLEARING AND GRUBBING, EXCAVATIONS, SUBGRADE, STRUCTURAL FILL AND EMBANKMENTS, AGGREGATE PLACEMENT, GENERAL FILL, STABILIIZATION, ANY ASSOCIATED INSPECTIONS AND TESTING OF EARTHWORK, AND ALL OTHER WORK NECESSARY TO COMPLETE EARTHWORK FOR THE PROJECT.
   b. THIS SECTION DOES NOT ADDRESS EARTHWORK ASSOCIATED WITH FOUNDATIONS, REFER TO STRUCTURAL DRAWINGS FOR FOUNDATION RELATED WORK.

2. SUBMITTALS
   a. THE FOLLOWING MATERIAL SUBMITTALS ARE RECOMMENDED FOR REVIEW BY THE ENGINEER OF RECORD (EOR) PER SPECIFIC PRODUCT AND PRE-PLACEMENT:
      a.1. AGGREGATE

   b. REFER TO TABLE 1 FOR REQUIRED TESTS (IF APPLICABLE) FOR EACH SUBMITTAL.

3. MATERIALS
   a. AGGREGATE MATERIAL
      a.1. ROAD SURFACE AGGREGATE SHALL CONSIST OF CRUSHED AGGREGATE OR APPROVED EQUAL. AGGREGATE GRADATION SPECIFICATION TO BE REVIEWED BY ENGINEER.
      a.2. AGGREGATE MATERIAL SHALL BE USED FOR PUBLIC ROAD IMPROVEMENTS, INTERSECTION IMPROVEMENTS, LAYDOWN YARD, AND STAGING AREAS.
   b. CULVERTS
      b.1. ALL CULVERTS TO BE A MINIMUM 16-GAGE CORRUGATED METAL PIPE WITH NO END TREATMENTS UNLESS OTHERWISE NOTED OR REQUIRED BY LOCAL JURISDICTION.

4. CONSTRUCTION
   a. CLEARING AND GRUBBING
      a.1. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE ALL TREES, STUMPS, BRUSH, AND DEBRIS WITHIN THE GRADING AREAS SHOWN ON THE PLANS. THE CONTRACTOR IS TO REMOVE ONLY THOSE TREES WHICH ARE DESIGNATED BY THE OWNER'S REPRESENTATIVE FOR REMOVAL, AND SHALL EXERCISE EXTREME CARE AROUND EXISTING TREES TO BE SAVED.
   b. CONTACT ENVIRONMENTAL CONSULTANT FOR REQUIREMENTS REGARDING PRE-CONSTRUCTION NEST SURVEYS.
      b.1. TOPSOIL SHALL BE STRIPPED FROM ALL ROADWAY AREAS AT A MINIMUM DEPTH OF 4"+/-2" INCHES. TOPSOIL SHALL NOT BE STRIPPED OUTSIDE OF THE DESIGNATED DISTURBANCE AREAS.
      b.2. ANY TOPSOIL THAT HAS BEEN STRIPPED SHALL BE RE-SPREAD OR STOCKPILED WITHIN GRADING AREAS AND/OR USED AS FILL OUTSIDE OF THE DISTURBANCE AREAS, AS DIRECTED BY THE ENGINEER. ALL TOPSOIL SHALL BE REDISTRIBUTED TO THE LAND OWNER'S PROPERTY OF WHERE IT ORIGINATED FROM. SEEDING AND MULCHING TO BE UNDER THE DIRECTION OF THE PROPERTY OWNER.
   c. SUBGRADE
      c.1. SUBGRADE SOIL BELOW FILL SHALL BE COMPACTED AND PROOF-ROLLED IN ACCORDANCE WITH TABLE 1.
      c.2. WHERE APPLICABLE, GEOTEXTILE FABRIC SHALL BE PLACED AFTER SUBGRADE TESTING REQUIREMENTS AS SPECIFIED IN TABLE 1. GEOTEXTILE FABRIC SHALL BE INSTALLED PER MANUFACTURE RECOMMENDATION.
   d. AGGREGATE PLACEMENT
      d.1. SUBSEQUENT TO THE SUBGRADE PREPARATION, THE AGGREGATE BASE SHALL BE PLACED, COMPACTED, AND TESTED TO THE SPECIFICATIONS IDENTIFIED IN TABLE 1.
   e. GENERAL FILL
      e.1. CLEAN ON-SITE SOILS OR APPROVED IMPORTED MATERIAL MAY BE USED AS FILL MATERIAL FOR GENERAL SITE GRADING. THIS MATERIAL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 1 FOOT. EMBANKMENT OR FILL AREAS SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR.
   f. SEEDING, MULCHING, AND STABILIZATION
      f.1. FOLLOWING THE PLACEMENT OF THE AGGREGATE AND APPROVAL OF THE TESTING, TOPSOIL SHALL BE DISTRIBUTED OVER THE EXPOSED DISTURBED AREAS, EXCLUDING THE AGGREGATE DRIVING SURFACE.
      f.2. FOLLOWING SITE GRADING OPERATIONS, TOPSOIL CAN BE USED TO BRING THE GROUND ELEVATIONS UP TO THE DESIGNED FINISHED GRADE ELEVATIONS.

5. INSPECTIONS AND TESTING
   a. REFER TO TABLE 1 FOR PROJECT TESTING SPECIFICATIONS
   b. UNSTABILIZED SUBGRADE AND AGGREGATE BASE SHALL BE PROOF ROLLED USING A FULLY LOADED TANDEM AXLE DUMP TRUCK WITH A MINIMUM GROSS WEIGHT OF 25 TONS OR A FULLY LOADED WATER TRUCK WITH AN EQUIVALENT AXLE LOADING
      b.1. PROOF ROLLING ACCEPTANCE STANDARDS INCLUDE NO RUTTING GREATER THAN 2 INCHES FOR SUBGRADE AND NO "PUMPING" OF THE SOIL BENEATH/BEHIND THE LOADED TRUCK.

Material / Activity	Test	ASTM Standard	Testing Frequency (*)		Acceptance criteria
			<20 000cy	>20 000cy	
Sub-base/Base Aggregate Source	Sieve analysis	C-136	2 500cy	5 000cy	
	Proctor - Standard	D-1557	5 000cy	10 000cy	N/A
	Moisture	D-2216			
Sub-base/Base Aggregate Placement	Proof roll	N/A - As per IFC Notes	Entire length		No rutting greater than 2" and no "pumping" of the soil beneath/behind the loaded truck. See testing requirements for additional information.
Embankment Material Source	Proctor - Standard	D-698	1 per source and 1 per soil type as determined by the independent testing agency		
	Moisture	D-2216			
Embankment Material Placement	Compaction (Nuclear Density)	D-6938	Each lift @ 500lf or @ 5000sf		95% of Standard Proctor Test

(*) Refer to appropiate jurisdiction and road use agreement for public road requirements. In absence of local requirements, defer to project specifications.

TRAFFIC CONTROL

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGGERS, AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. PLACEMENT OF THESE DEVICES SHALL BE APPROVED BY THE COUNTY/MUNICIPALITY AND ENGINEER PRIOR TO PLACEMENT. TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

EROSION AND SEDIMENT CONTROL / STORMWATER POLLUTION PREVENTION PLAN (SWP3)

1. THE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES AS PLANNED AND SPECIFIED FOLLOWING BEST MANAGEMENT PRACTICES (BMPs) AS OUTLINED BY THE SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES AND BEING IN CONFORMANCE WITH THE SOUTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM (SDPDES) GENERAL STORMWATER PERMIT. SEE THE PROJECT SITE PLANS AND ASSOCIATED STORMWATER POLLUTION PREVENTION PLAN (SWP3) FOR EROSION CONTROL AND RESTORATION LOCATIONS AND SPECIFICATIONS. UNLESS OTHERWISE NOTED OR MODIFIED IN THE SWP3/HEREIN, ALL SECTIONS OF THE GENERAL CONDITIONS SHALL APPLY.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SWP3'S AVAILABILITY.
3. ALL TOP-SOIL BERMS, FIBER ROLLS, AND OTHER EROSION CONTROL FEATURES SHALL BE IN-PLACE PRIOR TO ANY EXCAVATION/CONSTRUCTION AND SHALL BE MAINTAINED UNTIL VIABLE TURF OR GROUND COVER HAS BEEN ESTABLISHED.
4. ALL DRAINAGE SWALES DISTURBED DURING CONSTRUCTION ACTIVITIES AND NOT COVERED BY ROAD SURFACING MATERIALS, SHALL BE STABILIZED IN ACCORDANCE WITH THE SWP3 PLAN.
5. ANTICIPATED CULVERTS AND LOW WATER CROSSINGS ARE SHOWN ON THE CONSTRUCTION PLAN. ADDITIONAL CULVERTS AND LOW WATER CROSSINGS MAY NEED TO BE INSTALLED IN AREAS WHERE CONCENTRATED FLOW IS EXPECTED DUE TO CONSTRUCTION ACTIVITIES.
6. TEMPORARY CULVERTS MAY NEED TO BE INSTALLED IN AREAS WHERE CONCENTRATED FLOW IS EXPECTED DUE TO CONSTRUCTION ACTIVITIES.
7. UPSIZING OR DOWNSIZING OF PROPOSED CULVERTS MAY BE NECESSARY DUE TO FIELD CONDITIONS. CONTRACTOR SHALL INFORM THE ENGINEER IF THIS SITUATION ARISES SO THE POTENTIAL SIZING CHANGE CAN BE REVIEWED TO ENSURE THAT THE REQUIRED CONVEYANCE CAPACITY IS MET.
8. THE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES AS PLANNED AND SPECIFIED FOLLOWING BEST MANAGEMENT PRACTICES (BMPs) AS OUTLINED BY SDDENR AND BEING IN CONFORMANCE WITH THE SDPDES GENERAL STORMWATER PERMIT.
9. REFER TO THE SWP3 BOOKLET FOR THE PROJECT, PREPARED BY WESTWOOD FOR EROSION CONTROL AND RESTORATION SPECIFICATIONS, SEDIMENT AND EROSION CONTROL PROCEDURES, LOCATIONS OF BEST MANAGEMENT PRACTICES, DETAILS, AND INSPECTION INFORMATION. NOT ALL THE BMPs REQUIRED BY THE SDPDES PERMIT AND DESCRIBED IN THE SWP3 ARE SHOWN ON THE PLANS.
10. ALL GRADING AND CONSTRUCTION ACTIVITIES SHALL COMPLY WITH THE PROJECT SWP3 REQUIREMENTS AND RECOMMENDATIONS ESTABLISHED FOR THE PROJECT. CONTRACTOR MAY UTILIZE ADDITIONAL BMPs AS REQUIRED TO CONTROL EROSION AND SEDIMENTATION BOTH DURING AND AFTER CONSTRUCTION. REFER TO THE SWP3 BOOKLET FOR A COMPLETE LIST OF BMPs THAT MAY BE IMPLEMENTED.
11. ALL GROUND, PASTURES, AND DRAINAGE SWALES DISTURBED DURING CONSTRUCTION ACTIVITIES AND NOT COVERED BY ROAD SURFACING MATERIALS SHALL BE SEEDED IN ACCORDANCE WITH THE SWP3 PLAN.
12. TEMPORARY EROSION CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH THE SDDENR REQUIREMENTS AND THE PROJECT STORMWATER POLLUTION PREVENTION PLAN ON FILE.
13. AVOID THE USE OF EROSION CONTROLS THAT CONTAIN A PLASTIC MESH COMPONENT.
14. THE CONTRACTOR SHALL PHASE CONSTRUCTION ACTIVITIES TO MINIMIZE THE AREA OF GRADING BEING DONE AT ONE TIME. DEPENDING ON THE CONTRACTOR'S PHASING BMPS IN ADDITION TO THOSE SHOWN ON THE PLANS MAY BE NEEDED TO COMPLY WITH THE SWP3 AND PROJECT RECLAMATION PLAN.
15. ALL PUBLIC STREETS SHALL BE MAINTAINED FREE OF DUST AND MUD CAUSED BY CONSTRUCTION TRAFFIC.
16. INTERSECTIONS OF ANY UNDERGROUND COLLECTION LINES OR TRENCHES WITH COUNTY ROAD DITCHES SHALL HAVE ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES IN PLACE.
17. DETAILS PROVIDED IN THE PLANS ARE TO BE USED AS NEEDED OR AS SPECIFIED IN THE PROJECT SWP3. IT IS THE CONTRACTOR'S/OPERATOR'S RESPONSIBILITY TO MAINTAIN COMPLIANCE.
18. ALL ERODIBLE MATERIAL SHALL BE CONTAINED WITH SUITABLE MATERIALS AS NECESSARY TO PROTECT ANY DITCHES, CONVEYANCES, CULVERTS, AND OTHER SURFACE WATERS. THE CONTRACTOR IS RESPONSIBLE TO PREVENT SOIL FROM BEING ERODED BY WATER OR WIND AND DISCHARGING INTO ADJACENT AREAS TO THE ROAD MAINTENANCE ACTIVITY.
19. IN THE EVENT OF SOIL DISTURBANCE OCCURRING ON SITE, THE CONTRACTOR IS RESPONSIBLE TO APPLY SEED AND EROSION CONTROL BLANKETS TO SLOPES, AROUND CULVERTS, AND WITHIN THE BOTTOM OF ALL CONCENTRATED FLOW AREAS SUCH AS THE BOTTOM OF DITCHES. HYDROSEEDING MAY BE USED FOR ALL EXPOSED AREAS NOT IN CONCENTRATED FLOW.
20. NON-STORM WATER POLLUTANTS SUCH AS CONCRETE, FLY ASH, LIME, ASPHALT MATERIALS, OILS, AND OTHER MATERIALS SHALL BE CONTAINED AND NOT ALLOWED TO BE DISCHARGED FROM PROJECT AREA.

GENERAL NOTES

1. CONSTRUCTION PLANS ARE BASED OFF THE COORDINATE SYSTEM SOUTH DAKOTA STATE PLANES, NORTH ZONE, US FOOT.
2. THE ALTA SURVEY WAS PREPARED BY WESTWOOD ON 02/01/2022.
3. THE GROUND SURFACE CONTOURS (DISPLAYED AT TWO-FOOT VERTICAL INTERVALS) AND ELEVATIONS ARE BASED ON LIDAR BY WESTWOOD. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER WHEN THEY FIND THAT GROUND ELEVATIONS DETERMINED DURING FIELD STAKING VARY FROM THE GROUND ELEVATIONS SHOWN ON THE DRAWINGS FOR POTENTIAL DESIGN MODIFICATIONS.
4. WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE OWNER SHALL BE NOTIFIED AND ARE NOT TO BE REMOVED WITHOUT PERMISSION FROM THE OWNER. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRAINAGE THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONSTRUCTION ACTIVITIES SHALL NOT BLOCK THE NATURAL DRAINAGE SWALES CAUSING RAINWATER TO POND. IF CULVERTS ARE NEEDED, THE PROJECT ENGINEER MUST BE CONTACTED FOR APPROPRIATE SIZING OF STRUCTURE. WHEN INSTALLING DRAINAGE CROSSINGS, THE CONTRACTOR SHALL USE JUDGMENT IN SETTING THE FLOW LINE ELEVATIONS TO PROVIDE POSITIVE DRAINAGE. WHEN POSSIBLE, ALL CULVERTS SHOULD BE PLACED AT A MINIMUM 0.5% GRADE.
6. IF LOCALIZED LOW POINTS ARE ENCOUNTERED DURING TOPSOIL STRIPPING, MASSAGE SURROUNDING AREA TO MAINTAIN POSITIVE DRAINAGE TO MINIMIZE PONDING OF STORMWATER DURING RAINFALL EVENTS.
7. ANY FACILITIES REMOVED TO ALLOW FOR CONSTRUCTION (MAILBOXES, SIGNS, FENCES, ETC.) SHALL BE REPLACED BY THE CONTRACTOR IN A CONDITION AS GOOD AS PRE-EXISTING UNLESS INDICATED FOR REMOVAL ON THE DEMOLITION PLAN.
8. THERE MAY BE ADDITIONAL EXISTING INFRASTRUCTURE, UTILITIES, AND OBSTACLES WHICH DO NOT APPEAR RECOGNIZABLE ON THE PLANS AND WERE NOT DIGITIZED FOR THIS PLAN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE MINOR ADJUSTMENTS WHILE STAYING WITHIN THE GRADING LIMITS TO AVOID THESE ITEMS IF NEEDED. IF MINOR ADJUSTMENTS ARE NOT SUFFICIENT, CONTRACTOR SHALL WORK WITH OWNER/ENGINEER TO AVOID THESE ITEMS IN AN ACCEPTABLE MANNER. UTILITY RELOCATIONS SHALL BE MANAGED BY THE CONTRACTOR. OWNER TO SUPPORT BY PROVIDING CONTACT INFORMATION WHERE APPLICABLE.
9. THE CONTRACTOR SHALL NOTIFY AND COORDINATE ALL WORK WITH THE UTILITY COMPANIES.
10. THE CONTRACTOR SHALL NOTIFY SOUTH DAKOTA STATE 811 AT LEAST 48 HOURS BEFORE EXCAVATION ACTIVITIES COMMENCE.
11. ALL CONSTRUCTION PERFORMED SHALL CONFORM WITH THE CURRENT STANDARDS AND SPECIFICATION OF HAND COUNTY. WHERE DISCREPANCIES EXIST BETWEEN THE PROJECT SPECIFICATIONS AND THE COUNTY SPECIFICATIONS OR STANDARD, THE CONTRACTOR SHALL ABIDE BY THE GREATER OR MORE RESTRICTIVE REQUIREMENTS.
12. THE CONTRACTOR SHALL PHASE CONSTRUCTION ACTIVITIES TO MINIMIZE DISRUPTION OF LANDOWNERS ACCESS TO HOMES, STRUCTURES, EQUIPMENT, AND FIELD ACCESS LOCATIONS WHERE FARMERS ARE HARVESTING THEIR FIELDS
13. ELECTRONIC FILES ARE AVAILABLE FOR CONSTRUCTION OPERATIONS.
14. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL CLEAN THE LOCATION OF THE WORK AND ALL GROUND IN THE PROJECT AREA THAT WAS OCCUPIED BY THE CONTRACTOR DURING THE PROJECT. THE CONTRACTOR SHALL REMOVE ALL RUBBISH, EXCESS MATERIALS, TEMPORARY STRUCTURES, AND EQUIPMENT, LEAVING THE LOCATION OF THE WORK CLEANED TO THE SATISFACTION OF THE PROJECT OWNER AND ENGINEER.
15. ELECTRICAL INFORMATION SHOWN ON THE PLANS IS FOR REFERENCE ONLY.
16. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO KNOW WHERE INADEQUATE DRAINAGE STRUCTURES ARE LOCATED AND AVOID THEM. ANY DAMAGE DONE TO BRIDGES, BOX CULVERTS, AND CULVERTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR.
17. ALL GATES, CATTLE GUARDS, AND FENCES SHOWN ON THE PLANS ARE THE FINAL CONFIGURATION AND ASSUME THAT FENCES WILL BE INSTALLED DURING PROJECT RESTORATION. DURING CONSTRUCTION IT MAY BE NECESSARY FOR THE CONTRACTOR TO REMOVE ADDITIONAL FENCE OR INSTALL ADDITIONAL GATES AND FENCE BASED ON CONSTRUCTION SEQUENCING, LANDOWNER REQUESTS, LIVESTOCK AREAS, AND CONSTRUCTION RELATED ITEMS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE DURING CULVERT INSTALLATION, REPLACEMENT, OR REMOVAL ACTIVITIES AND REVIEW ENVIRONMENTAL REPORTS PRIOR TO WORK IN STREAM/WETLAND AREAS.
19. THE CONTRACTOR SHALL DISPOSE OF EXCESS SOIL IN AN APPROVED MANNER. NO TOPSOIL WILL BE ALLOWED TO LEAVE THE PROPERTY FROM WHICH IT WAS EXCAVATED. EXCESS TOPSOIL SHALL BE DISTRIBUTED INTO A THIN LAYER ON LAND IMMEDIATELY ADJACENT TO THE WHERE THE TOPSOIL ORIGINATED. WHILE DOING SO THE CONTRACTOR SHALL AVOID CAUSING RIDGES OR MOUNDS THAT WOULD AFFECT POSITIVE DRAINAGE. FINAL SURFACE OF DISTRIBUTED TOPSOIL SHALL BE SMOOTH AND FOLLOW THE NATURAL CONTOUR OF THE LAND. DISTURBED AREAS OUTSIDE THE FINAL ROADWAY SHALL BE DECOMPACTED (IF APPLICABLE) AND RESTORED.
20. ALL CONSTRUCTION ACTIVITY SHALL TAKE PLACE WITHIN THE DISTURBANCE LIMITS THAT HAVE BEEN PROVIDED.
21. SLOPE PROTECTION AND SAFETY FENCING MAY BE INSTALLED AT THE REQUEST OF THE CONSTRUCTION MANAGER.
22. FINAL GEOTECHNICAL REPORT IS PENDING.
23. WETLAND INFORMATION PROVIDED BY BURNS & MCDONNELL.
24. CULTURAL RESOURCE INFORMATION HAS BEEN PROVIDED BY BURNS & MCDONNELL.
25. ENVIRONMENTAL ASSESSMENT PROVIDED BY BLANTON AND ASSOCIATES, INC.
26. WILDLIFE REPORT HAS NOT BEEN PROVIDED. THE CONTRACTOR SHALL BE FAMILIAR WITH THE REPORT AND REVIEW ALL RECOMMENDATIONS.
27. CONTRACTOR TO RESTORE ALL TERRACES AFFECTED BY TEMPORARY AND PERMANENT CONSTRUCTION WORK.

Westwood

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Westwood Professional Services, Inc.

PREPARED FOR:

BLATTNER ENERGY

392 Co Rd 50
Avon, MN 56310

REVISIONS:

#	DATE	COMMENT
A	08/31/22	Issued For Review
B	09/09/22	Issued For Review

Sweetland Wind Laydown Yard Project

Hand County, South Dakota

Construction Notes

ISSUED FOR REVIEW

DATE: 09/09/2022

SHEET: C702

Xref .\Power - 22x34.dwg

Attachment F

Inspection and Maintenance Forms

Stormwater Construction Site Inspection Report

General Information

Project Name:	
Location:	
Date of Inspection:	Start/End Time:
Inspector's Name:	
Inspector's Title:	
Inspector's Contact Information:	
Describe present phase of construction:	
Type of Inspection: ☐ Regular ☐ Pre-storm event ☐ During storm event ☐ Post-storm event	

Weather Information

Has there been a storm event since the last inspection? ☐Yes ☐No
If yes, provide:
Storm Start Date & Time: Storm Duration (hrs): Approximate Amount of Precipitation (in):

Weather at time of this inspection?
☐ Clear ☐Cloudy ☐ Rain ☐ Sleet ☐ Fog ☐ Snowing ☐ High Winds
☐ Other: Temperature:

Have any discharges occurred since the last inspection? ☐Yes ☐No
If yes, describe:

Are there any discharges at the time of inspection? ☐Yes ☐No
If yes, describe:

Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Inspector *Printed Name and Title* *Date*

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
1. All inactive slopes and disturbed areas have been stabilized.	☐Yes ☐No	☐Yes ☐No	
2. Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	☐Yes ☐No	☐Yes ☐No	
3. Are all sanitary waste recepticles placed in secondary containment and free of leaks?	☐Yes ☐No	☐Yes ☐No	
4. Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	☐Yes ☐No	☐Yes ☐No	
5. Are discharge points and receiving waters free of any sediment deposits?	☐Yes ☐No	☐Yes ☐No	
6. Are storm drain inlets properly protected?	☐Yes ☐No	☐Yes ☐No	
7. Is the construction exit preventing sediment from being tracked into the street?	☐Yes ☐No	☐Yes ☐No	
8. Is trash/litter from work areas collected and placed in covered dumpsters?	☐Yes ☐No	☐Yes ☐No	
9. Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	☐Yes ☐No	☐Yes ☐No	
10. Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	☐Yes ☐No	☐Yes ☐No	
11. Are materials that are potential stormwater contaminants stored inside or under cover?	☐Yes ☐No	☐Yes ☐No	
12. Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	☐Yes ☐No	☐Yes ☐No	
13. (Other)	☐Yes ☐No	☐Yes ☐No	

Attachment G

Training Log

Stormwater Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location:

Date of Course:

Course Length(hours):

Stormwater Training Topic: ***(check as appropriate)***

- ❑ **Sediment and Erosion Controls**
- ❑ **Stabilization Controls**
- ❑ **Pollution Prevention Measures**
- ❑ **Emergency Procedures**
- ❑ **Inspections/Corrective Actions**
- ❑ **Stormwater Runoff Sampling**

Specific Training Objective(s):

_____

_____

_____

_____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		