APPLICATION (NOTICE OF INTENT) TO OBTAIN COVERAGE UNDER NDPDES GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (NDR10-0000)

NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF WATER QUALITY
SFN 19145 (12/15)

FOR DEPT. USE ONLY

Application No.
Date Received

GENERAL INFORMATION

1. Name of Owner of Construction Project	2. Contact First Name	3. Contact Last Name	4. Contact Phone No.
Cenex Pipeline, LLC	Mike	Stahly	(406) 628-5209

5. Contact E-mail Address
mike.stahly@chsinc.com

6. Mailing Address	7. City	8. State/Province	9. Zip Code
P.O. Box 909; 803 Highway 212 South	Laurel	MT	59044

10. Name of Operator Working at Site	11. Contact First Name	12. Contact Last Name	13. Contact Phone No.
Construction Oversight Personnel			(406) 628-5209

14. Contact E-mail Address
mike.stahly@chsinc.com

15. Mailing Address	16. City	17. State/Province	18. Zip Code
P.O. Box 909; 803 Highway 212 South	Laurel	MT	59044

PROJECT INFORMATION

19. Name of Construction Project
Refined Fuels Pipeline Sidney, MT to Minot, ND

20. Brief Description of Construction Activity
149.75 miles of new pipeline will be constructed disturbing approximately 1,362 acres from the ND Border west of Buford, ND to Minot, ND.

21. Project Start Date	22. Estimated Completion Date	23. Estimated Total Area of Site (acres)	24. Estimated Area of Disturbance (acres)
09/01/2017	12/01/2018	1,362	1,362

Project Location	25. Physical Address			26. City		
	OR	27. Township	28. Range	29. Section	30. Quarter Section (ABCD Format)	31. County
		153	104	22	NWNW	Williams
		32. Latitude (Decimal Degrees)			33. Longitude (Decimal Degrees)	
		48.06696			-104.04492	
Receiving Waters	34. Name of Municipal Storm Sewer System or Description of Receiving Water					

35. A SWPPP must be prepared and available for review at the time of application. You are not required to submit the SWPPP with the application unless otherwise notified by the department. The SWPPP must be completed prior to the start of construction (or the applicable construction phase). Please refer to Part I(D)(2)(c) of the permit.

RETURN COMPLETED APPLICATION TO:

North Dakota Department of Health
Division of Water Quality, 4th Floor
918 East Divide Avenue
Bismarck, ND 58501-1947

Telephone: (701) 328-5210
Fax: (701) 328-5200

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

36. Printed Name of Owner(s)	37. Title
38. Signature of Owner(s)	39. Date
40. Printed Name of Operator(s)	41. Title
42. Signature of Operator(s)	43. Date

Instructions

Submission of this application is notice that the owner(s) and operator(s) identified on the application intend to discharge stormwater associated from construction activity to waters of the state in accordance with conditions set forth in North Dakota Pollution Discharge Elimination System general permit NDR10-0000.

Permit coverage becomes effective seven days after a complete application is submitted (based on the department receipt date) unless otherwise notified by the department.

General Information

1. **Name of Owner of Construction Project.** Enter the individual, company, organization or state who owns the property where the construction project is to take place. "Owner" means the person or party possessing the title of the land on which the construction activities will occur; or . . . for a lease holder, the party or individual identified as the lease holder; or the contracting government agency responsible for the construction activity.

2-3. **Contact Person.** Provide the contact person for the owner. If the contact person is an agent of the owner, such as a consultant, provide this information on a separate page.

4. **Contact Phone No.** Provide a valid phone number for the contact person.

5. **E-mail Address.** Provide a valid e-mail address for the contact.

6-9. **Mailing Address.** Provide a valid mailing address for the owner.

10. **Name of Operator Working at Site (attach additional, if needed)**. List the operator(s) who will be responsible for the construction activities at the site. The operator is someone who has day to day supervision of construction activities and is jointly responsible with the owner for compliance with the permit conditions as they pertain to the construction activities delegated to the operator.

11-12. **Contact Person Name.** State the contact person who will be responsible for overseeing construction activities at the site for the operator.

13. **Contact Phone No.** Provide a valid phone number for the contact person.

14. **E-mail Address.** Provide a valid e-mail address for the contact.

15-18. **Mailing Address.** Provide a valid mailing address for the operator.

Project Information

19. **Name of Construction Project.** Provide a descriptive, but brief, name of the construction project. Limit the name to 75 characters.

20. **Brief Description of Construction Activity.** Provide a brief description of the scope of work for the construction project.

21. **Project Start Date.** Provide the estimated project start date.

22. **Project end date.** Provide the estimated project end date, if known. The date provided does not imply that the permit will expire on the projected end date. The permit will be terminated only after a notice of termination is submitted to the department.

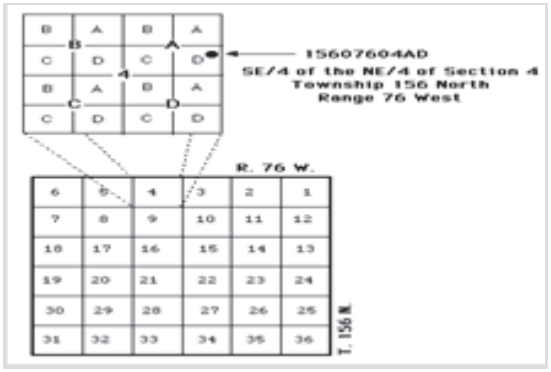
23. **Estimated Total Area of Site.** Enter the estimated acreage of the site/property in acres.

24. **Estimated Area of Disturbance.** Enter the estimated total acreage of land to be disturbed by construction activity.

25. **Physical Address.** Enter a physical address if one is available. For residential construction, avoid using a recorded plat survey, such as lot and block number. If a street addresses it not available, please use an alternative project location description (boxes 23 through 26).

26. **City.** Enter city in which project is located. If the project is located in a rural area, enter the nearest city.

27-30. **Township, Range, Section, Quarter Section.** Provide the numerical township, range and section of the construction project. Provide the quarter section in the ABCD format. See below.



31. **County.** Provide the county in which the project is occurring.

32-33. **Latitude and Longitude.** Provide the latitude and longitude in decimal degrees at the center of the site.

34. **Municipal Storm Sewer System or Description of Receiving Water.** If the project is located within city limits, enter the name of the city along with receiving water of the city storm sewer. Provide the name of the receiving body of water if outside city limits (i.e. Red River, unnamed tributary to Cherry Creek, wetlands, etc.).

Stormwater Pollution Prevention Plan (SWPPP) Requirements

35. As part of the permit, a SWPPP must be developed and available for review at the time of application. You are not required to submit the SWPPP with the application unless otherwise notified by the department. The SWPPP must be completed prior to the start of construction (or the applicable construction phase). Please refer to Part I(D)(2)(c) of the permit.

Signature Information

36-39. **Owner Information.** The signatory must be a responsible corporate officer, general partner, principal executive officer, or ranking elected official as required in Part IV.6.a of the permit number NDR10-0000.

40-43. **Operator Information.** The signatory must be a responsible corporate officer, general partner, principal executive officer, or ranking elected official as required in Part IV.6.a of the permit number NDR10-0000.

Please Note: Some internet browsers may not display the form properly and some features of the form may not be available or displayed. If you experience issues viewing the form, please read the following options for possible solutions:

In Firefox® browser: Go to the tools menu>options>applications. Under the actions column for Portable Document Format, change to Use Adobe® Reader in the drop down menu.

In Google Chrome™Browser: Go to the address bar and type in chrome://plugins/ and click enter. Once in the plugin menu, go to the Chrome pdf viewer and click disable. Then go to the Adobe® Reader viewer and click enable. Once these changes are made, refresh the document.

CENEX PIPELINE, LLC

REFINED FUELS PIPELINE
SIDNEY, MT TO MINOT, ND

STORMWATER POLLUTION PREVENTION PLAN

For construction located in
Williams, Mountrail and Ward Counties, North Dakota

This plan is prepared in compliance North Dakota Department of Health (NDDOH)
Authorization to Discharge Under the
North Dakota Pollutant Discharge Elimination System (NDPDES)

Prepared By:

4585 Coleman St
Bismarck, ND 58503

June, 2017

CONTACT INFORMATION/CHAIN OF RESPONSIBILITY

Main Contact Name: Mike Stahly | **Title:** ROW Manager | **Phone:** (406) 628-5209

Secondary Contact Name: Mick Gee | **Title:** Engineering Manager | **Phone:** (406) 628-5302

Chain of Responsibility :

Operator/Owner Name	Contact Information	Responsibility
Cenex Pipeline, LLC	Mike Stahly	ROW Management
Cenex Pipeline, LLC	Mick Gee	Construction Management

PROJECT DESCRIPTION

Project Name: Refined Fuels Pipeline Sidney, MT to Minot, ND

Permit ID#:

Project Type: Pipeline

Project Location:

a. 911 Address

b. Decimal Degrees

Beginning (west)

Latitude: 48.066969 | Longitude: -104.044920

Ending (east)

Latitude: 48.226811 | Longitude: -101.370246

Total acres of the project: 1362 | **Total acres to be disturbed:** 1362

Describe of construction activity:

A new 10" line will connect an existing Cenex pipeline southwest of Sidney, MT to a terminal located west of Minot, ND. The North Dakota portion of this project includes 149.75 miles of new pipeline from the North Dakota border, west of Buford, ND to the terminal west of Minot, ND. A 75-foot wide ground disturbance will be needed for work space and traffic disturbing approximately 1,362 acres. Topsoil and subsoil will be segregated and stored on the right-of-way edges. Trenches will be constructed. Pipe joints will be brought to the work area, welded together, lowered-in and buried. Additional "Temporary Use Areas" outside of the standard 75-foot right-of-way will be needed for road and drainage crossings. The pipeline corridor will be accessed from existing roadways and receive work traffic including work trucks, pipe trucks, heavy equipment. County roads will be directionally drilled.

The disturbance will be returned to its approximate original contour and reseeded. The constructed line will be pressure tested using water at the conclusion of construction in accordance with U.S. DOT requirements.

Proposed timetable for construction phases or activities or add a page for Gantt Chart:

The project construction will be completed in three phases as outlined below:

Phase 1: Grading and Excavation- Access roads will be constructed. A 75-foot right-of-way will be graded, topsoil segregated from subsoil, and a trench dug a minimum of 50 inches deep. Soil salvage and segregation (topsoil and subsoil) would occur within the trench and additional areas requiring grading. Stored soil would be fine grained (clay and loam) and subject to erosion by wind and/or rain.

Phase 2: Pipeline Installation - Pipe segments will be brought to the right-of-way, welded together, lowered into the excavated trench, and covered with a minimum of 48 inches of backfill. Public road crossings will be directionally drilled.

Phase 3: Cleanup and Reclamation - Slopes will be returned to approximate original contour. Top soil will be re-distributed and seeded.

Describe existing soils, fill material, and erodibility (http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm)**:**

51 individual soil map units were identified in Williams county, 40 in Mountrail county, and 33 in Ward county will be impacted by the project. Due to the complexity of the terrain and length of the proposed project, changes within soil types is expected. Soils within the project area tend to be shallow often only having a shallow 6" topsoil layer overlying subsoil. This tends to be relative to the slope. Depositional areas have deeper topsoil layers while erosional areas are shallower. Loam, a mixture of sand, clay and silt is common. Loam soil types are typically clay loam, silt loam or silty clay loam. Clays are also common. Clay soils are easily pulverized when dry and compacted when wet. Gravels are mixed with the soils especially in the lower areas/ drainage bottoms. Gravel is typically well drained with greater than 7 feet to groundwater.

Quality soils will have had a history of being farmed. Some saline/sodic areas will be encountered.

The wind erodibility index is 48-86 tons/acre/year. Tolerance to loss tends toward being high with 5 tons/acre annual loss (T factor). However, this includes subsoils and because of limited topsoil depth over much of the area, conservation and protection of the surface layer is critical for re-vegetation purposes.

Name of receiving waters or Municipal Separate Storm Sewer System (MS4):

The proposed project will be passing through the prairie pothole region and drainages associated with the Souris and Missouri river.

Is the waterbody listed in the TMDL List?
http://www.ndhealth.gov/WQ/SW/Z2_TMDL/TMDLs_Completed/B_Completed_TMDLs.htm

☐ Yes ☑ No

If so describe the BMPs used near the TMDL listed body of water:

Not Applicable.

Is the waterbody listed in the 303(d) List?
http://www.ndhealth.gov/WQ/SW/Z2_TMDL/Integrated_Reports/B_Integrated_Reports.htm

☐ Yes ☑ No

If so describe the BMPs used near the 303(d) listed body of water:

Not Applicable

SITE MAP DEVELOPMENT

MAP FEATURE CHECKLIST

The site map should be suitably scaled and drawn to show the following required information.

Site maps must show items listed in this section.

- ☐ Project boundaries;
- ☐ Areas of ground disturbance during each phase/stage of the project;
- ☐ Areas where disturbance will not occur, such as avoidance areas (e.g. wetlands, critical habitat, Threatened and Endangered Species, etc);
- ☐ Drainage patterns including: flow direction (run-on and runoff);
- ☐ Dividing lines, discharge points, and storm sewer system inlets which the site drains to or may be affected by the activity;
- ☐ Pre-existing and final grades;
- ☐ Location of all temporary and permanent sediment and erosion controls during each particular phase;
- ☐ Location of any stormwater conveyances such as: retention ponds, detention ponds, ditches, pipes, swales, stormwater diversions, culverts, and ditch blocks;
- ☐ Location of potential sources of pollution (e.g. portable toilets, trash receptacles, etc.);
- ☐ Location of soil stockpiles;
- ☐ Identify steep slopes;
- ☐ Surface waters, including an aerial extent of wetland acreage;
- ☐ Location of surface water crossings;
- ☐ Locations where stormwater is discharged to surface waters;
- ☐ Location of dewatering discharge points;
- ☐ Locations of where chemical treatment of stormwater will be performed, including discharge points;
- ☐ Fueling locations, vehicle and equipment maintenance areas, designated wash water collection site, lubricant and chemical storage, paint storage, material storage, staging areas, and debris collection area;
- ☐ Location of any impervious surfaces upon completion of construction; and
- ☐ Where included as part of the project, the site maps for off-site concrete/asphalt batch plants, equipment staging areas, borrow sites or excavated fill material disposal sites.

Operational Controls

Employee training:

Environmental compliance is facilitated through sharing of information and providing orientations/training, hiring qualified staff and providing inspection of activities through a proactive and adaptive inspection program. Cenex, the construction contractor and all subcontractors (Contractor) shall undergo prevention and response, as well as safety training. This training shall be designed to improve awareness of safety requirements, pollution control laws and procedures, and proper operation and maintenance of equipment. This training will also provide information regarding the environmental and socio-economic requirements and sensitivities regarding the Project. This training will be completed prior to arrival on the pipeline construction right-of-way (ROW), ancillary sites, or associated component sites.

Describe the installation, maintenance, and removal of BMPs for each phase of construction; list if BMP is permanent or temporary:

Right-of-way grading will be limited to a width necessary to safely convey traffic and provide work space. Vegetation will be cut from working areas, where necessary. Generally, topsoil and plant root mass will be removed from the ditchline and adjacent soil stockpile areas only, possible exceptions being steep areas, crossings, and firebreaks. Topsoil will be stockpiled on the non-working side of the right-of-way, where possible. Topsoil salvage will not be necessary in areas of rock outcrops or steep slopes posing potential safety hazards to equipment operators.

Structural BMPs:
Straw wattles, sediment control fences, straw bale barriers, and erosion control blankets will all be considered to control sediment leaving construction impacted areas. Trenched in wattles and erosion control blankets will divert storm water flows off of the right-of-way in areas where slopes are adjacent to stream crossings. Culverts (flume) will be used as the preferred method at stream crossings. Erosion control blankets will be used for bank stabilization as well as stabilization for water crossings. These blankets would be placed on the bed of the stream crossing with supporting BMPs catching sediment on the slopes from further entering the stream bed. Project specific details are included for straw wattles, sediment control fence, stream crossing, and erosion control blankets.

Areas along alignment have been surveyed via desktop, locating where slopes of 10% and are more than 50' in length and 5-10% slopes and are more than 100' in length. Straw wattles and silt fencing will be considered for most areas with less than 10% slope or unless they are utilized in conjunction with another bmp. For areas where slopes are 10% or more, silt fencing and erosion blankets (in conjunction with straw wattles) will be considered for soil stabilization. Erosion control blankets will be considered in areas with water crossings with flows exceeding 1 m/s (3 ft/s).

Timber mats, portable bridges and/or culverts shall be placed across all water bodies and used to convey traffic across potentially wet areas.

Structures shall be placed at all crossings designated on the plans prior to the arrival of trench excavating equipment and pipe stringing operations (Excavating and string operations will be required to use crossing structures). Clean granular material, swamp mats, skids, or other suitable materials shall be used to avoid cutting banks whenever possible. Adequate freeboard shall be provided and flow not restricted. Water bodies shall be protected from fill material entrainment.

Nonstructural BMPs:
Construction activities will be curtailed during periods of inordinately high precipitation to reduce off-site tracking. Stream crossings will not be scheduled during periods of high runoff to reduce risk of sediment input into a water body. Recontouring and replacement of soil on the right-of-way will occur within 14 days after pipeline installation.

The entire right-of-way width generally will not be graded except where practicable in order to reduce amount of soil exposed for erosion. Topsoil removal will be limited to the ditchline and adjacent soil stockpile area wherever possible. A 50-foot upland vegetative buffer will be maintained between wetlands/stream courses until actual in-stream construction. ROW disturbance corridor will be minimized through wetlands/stream courses.

Topsoil will be stockpiled separate from subsoil. Soil will not be stockpiled within drainage bottoms to reduce risk of off-site sediment transport.

All graded areas will be restored to approximate original contour. Topsoil shall be uniformly spread. All disturbed areas shall be seeded.

Grading within 50 feet of water bodies shall not occur prior to the day of pipe installation. Water bodies shall be protected with fiber rolls, silt-fence, and /or erosion control matting. Trenched in wattles and erosion control blankets shall be installed after construction. Trenched in wattles and erosion control blankets shall be installed every 300' on slopes from 5-15%; every 200' on slopes 15-30%, and every 100 ' on slopes >30%. Project specific details are included.

Vegetation will be re-established on non-agricultural land. Seed mixtures will be determined by project management. Seed will be obtained within the general geographical area of the project, based on availability. Seeding will begin in the fall but may be delayed because of variations in seasonal climatic conditions or delays in construction.

Impacted areas will be restored to approximate original contour. However, unstable slopes and steep cuts may be restored to a stable position and protected by appropriate erosion control measures. Trenched in wattles and erosion control blankets will be placed where appropriate. A vegetative cover will be re-established on nonagricultural lands. Seed mixtures will include species present prior to construction, as well as species that will establish quickly for soil stabilization. Special seed mixture requests from landowners will be evaluated on a case-by-case basis. Seed will be obtained within the general geographical area of the project, based on availability. Fertilizers will not be applied, because of their propensity to enhance the growth of noxious weeds.

Seeding will begin in the fall, following construction. Should spring seeding be required, planting will be as early as soil and weather conditions permit. Seed will be applied by drill or broadcast spreaders. Broadcast seed will be harrowed, raked, or chained-in to provide adequate cover. Steep side slopes will be dozer-tracked perpendicular to the fall line, to create a stable seedbed for germination and provide additional controls for slope stabilization and erosion. Erosion control blankets may be utilized within drainages.

Inspections will be performed by a SWPPP Administrator during the construction project's normal working hours and comply with requirements of the General Permit. A SWPPP Administrator will conduct a routine inspection once every 14 calendar days (minimum) to determine revegtation success and slope stability. A post-storm even inspection must be conducted by within 24 hours of a half-inch rain event or major snow melt event. The inspection schedule will be reduced to every 30 calendar days if construction activity is temporarily shutdown and all areas temporary stabilized; or after final stabilization erosion and sediment BMPs have been installed. Inspections will identify potential pollutant sources and ensure adequate BMPs. The site will be inspected for indications of potential pollutants leaving the boundaries, entering drainages, or discharging to state surface waters. BMPs will be evaluated to ensure they are operating correctly.

Construction areas inspected include disturbed areas; BMPs; material and/or waste storage areas; discharge locations; vehicle/equipment management areas; support areas; vehicle access points; and other areas where potential pollutants may be generated. Inspection records will be maintained on-site. Maintenance, repair, replacement, or installation of new BMPs determined necessary during site inspections to address ineffective or inadequate BMPs.

BMPs identified will be maintained in effective operation condition. If site inspections identify BMPs not in effective operation condition, maintenance/modifications/additions will be performed before the next storm event. All changes in the design, implementation, or installation of BMPs will be documented. SWPPP changes must also be summarized in the Revision Log.

Post-stabilization, the pipeline will be inspected monthly as part of ongoing operations and maintenance.

Describe rationale for selection or infeasibility of BMPs and include any calculations:

The rationale for selection is generally described in the section above, but is also summarized below.

Straw wattles, silt fences, erosion control blankets, slope roughening, and earthen berm barriers will be considered as options to be utilized in response to control sediment leaving construction impacted areas. Slope roughening, and Erosion control blankets in conjunction with straw wattles will be considered to divert storm water flows off the right-of-way. Culvert (flume) or the use of timber mats will be considered as the preferred methods at stream crossings, with blankets used for bank stabilization.

List all good housekeeping practices:

Trash will be collected and deposited in a receptacle or protected pile at the staging area. Portable toilets will be placed away from traffic, on level ground, and secured down. Materials stored outdoors including pipe, skids plastic cones, erosion control fabric will not have a polluting potential. Coating materials will be stored in a work trailer and/or truck.

List chemical, litter, debris, and parts management:

Materials stored outdoors including pipe, skids, plastic cones, erosion control fabric would not have a polluting potential. Coating materials are stored in a work trailer and/or truck. Fuels and construction materials that can become entrained in run-off and impact water quality will be stored in secondary containment or out of the weather. Good housekeeping practices will be implemented to protect water quality and avoid costly cleanups.

Portable outhouses shall be provided to the job site and serviced on a weekly basis by a licensed provider.

Describe trackout controls:

Vehicle traffic would occur along the right-of-way and include management, crew, pipe delivery welding vehicles, and construction equipment. Potential tracking of sediments onto county roadways would be a possibility during the rainy season. Work and/or traffic will be limited during inordinate wet periods. Tracking of sediments would be somewhat limited by the lack of full right-of-way grading. If necessary, caked mud will be removed from vehicles prior to exiting job site. Tracked mud shall be cleaned from access roads and returned to right-of-way. A central parking area will be used to limit vehicle travel on the right-of-way.

Loading and unloading operations has the potential to generate sediment. Grading will not occur in the staging area. Measures reducing vehicle tracking will include limiting site access, stabilized parking areas, project scheduling changes, halting work, wheel wash stations, roadway cleanings, and/ or vehicle track pads. Pads provide a stabilized ingress/egress point and prevent rutting but are not intended to remove all sediment from tires. Other aggressive measures such as controlled access, road cleanup and/or wash stations could be implemented.

Describe dust control:

Traffic along any graded exposed areas would generate dust. An additional source would be wind erosion from the soil stockpiles. Fine textured soils would increase the likelihood of these sources.

Stored materials subject to off-site runoff will be protected with silt fence and/or straw wattles. In the event that the storage piles become subject to wind erosion, they will be watered to control dust. Soil will be returned to the trench and surface within 14 days of "lowering-in" of the pipeline.

Significant construction related dust will be controlled by the use of a water truck. Seeding and revegetation will control dust in the long term.

List preventative maintenance on site:

Routine (minor) maintenance activities as well as equipment fueling will occur along the right-of-way. Equipment fueling will not occur within 100 feet of a waterway or wetland area. Absorbent pads/drip pans will be used in the case of leaks. Leaky and poorly maintained equipment will be removed from site.

Contaminated soils can occur due to equipment maintenance/breakdown issues. Major repairs will be conducted in designated staging areas, whenever possible.

Spill control/absorbent blankets will be used beneath all equipment where there is a chance of leaks. All leaks will require excavation and removal of contaminated soil. The soil will be removed from site and deposited in a licensed facility.

Describe how concrete grindings and slurry are managed on site:

No concrete will be used during the construction of the pipeline.

List how waste water from washouts, cleanouts from paint, stucco, and other building materials are managed:

A pit will hold excess drilling fluid and cuttings. When drilling operations are completed the contractor shall dispose of excess drilling fluid such that there is no chance of entering water bodies. drill sites are cleaned up and restored to pre-construction contours, as practicable. The sites will then be reclaimed and seeded.

General construction site wastes would include discarded pipe, welding rods, skids, staking, and packaging, as well as trash and receptacles.

Describe any dewatering or basin draining operations and sediment control within those operations:

Water discharged during dewatering operation will be managed by appropriate controls and not discharge to state waters. The discharge outlet will be to a filtering structure constructed of silt fence/fiber roll and straw bales; into a sediment filter bag; or into an adequately vegetative area that prevents channeling and sediment transport. Pump staging area will be protected so as not to impact surface water or groundwater.

Spill prevention and response procedures (http://www.ndhealth.gov/EHS/Spills/):

Contaminated soils can occur due to equipment maintenance/breakdown issues. Major maintenance will require equipment to be removed from the ROW. Spill control/absorbent blankets will be used beneath all equipment where there is a chance of leaks. All leaks will require excavation and removal of contaminated soil. The soil will be removed from site and deposited in a licensed facility according to state regulation. All spills/leaks will be reported to NDDoH.

Drilling mud captured within basins at the directional drilling locations will be collected, combined, and deposited subsurface in an approved manner

Drilling mud will be contained to the drilling pad, within a pit, wherever possible excess mud will be removed from the construction site wherever practical.

A pit will hold excess drilling fluid and cuttings. When drilling operations are completed the contractor shall dispose of excess drilling fluid such that there is no chance of entering water bodies. drill sites are cleaned up and restored to preconstruction contours, as practicable. The sites are reclaimed and seeded.

Spill Reporting

Report any spill that may seriously endanger health or the environment **as soon as possible**, but no later than 24 hours from the time you became aware of the spill.

Immediate response by trained emergency personnel may be coordinated through the Department of Health, Department of Emergency Services and any other state or local emergency response agencies that may be needed. **If there is any question as to proper response, call the 24 hour North Dakota hazardous materials emergency assistance and spill reporting number (800.472.2121) and provide all relevant information about the incident.**

North Dakota Department of Health:

Division of Water Quality	701.328.5210
Division of Waste Management	701.328.5166
Division of Air Quality	701.328.5188
Division of Municipal Facilities	701.328.5211

Report Spills to http://www.ndhealth.gov/EHS/Spills/

SIGNIFICANT MATERIALS

INSTRUCTIONS: Based on your site's material inventory, provide the following information. For the definition of "significant materials," see Part V of the permit. The **location** of the significant materials should be indicated on the site map. Use the **drop down** menus to select a chemical or type in if "other".

Chemical or type in if other

gasoline

Quantity: To be determined

Description and Location: To be determined

Spill/Disposal Management: Please refer to Operational Controls

Handling and Pollution Prevention Measures: Please refer to Operational Controls

Chemical or type in if other

lubricants

Quantity: To be determined

Description and Location: To be determined

Spill/Disposal Management: Please refer to Operational Controls

Handling and Pollution Prevention Measures: Please refer to Operational Controls

Chemical or type in if other

Diesel fuel

Quantity:

Description and Location:

Spill/Disposal Management:

Handling and Pollution Prevention Measures:

Chemical or type in if other

Quantity:

Description and Location:

Spill/Disposal Management:

Handling and Pollution Prevention Measures:

(Attach additional pages if needed)

Drop Down Fill-In Time Line for BMPs

BMP	Year	Months																							
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Silt Fence																									
Straw Wattle																									
Slope roughening																									
Vehicle cleaning																									
Erosion Control Blankets																									
Permanent Seeding																									

Fill in the blank spaces if BMP is not listed

*Be sure that all BMPs are marked on the site map during their appropriate phase.

EROSION AND SEDIMENT CONTROLS

Is there a sediment basin ☐ Yes ☑ No Calculated sediment storage in cubic feet NA

Description and Location of all sediment basins:

Not applicable.

*Be sure to identify any sediment basins on site map.

Description of winter stabilization practices that will be utilized:

The BMP's will stay in place during the winter, but no other stabilization practices will be used.

List permanent controls for pollutants and erosion after construction has been completed:

Post-stabilization, the pipeline will be inspected monthly as part of ongoing operations and maintenance.

*Sediment basins must be provided, where practical, when 10 or more acres of disturbed area drain to a common location. Requirements for sediment basins may be found in Appendix 1 of the permit.

**Outlet drawdown devices must be provided for all temporary or permanent basins. Devices that will be installed permanently must meet local design standards. Requirements for temporary devices may be found in Appendix 1 of the permit.

†Stage of installation may include the planned date or the specific construction stage when the item may be installed such as initial site clearing, grading, finish grading, seeding, stabilization, etc… Dates may change depending on delays.

INSPECTIONS

Observations and Actions Taken: Document incidents such as erosion, sediment accumulation, spills, SWPPP related maintenance, remediation, etc.

*Document that the SWPPP has been amended when changes are made

Reason for Inspection	Time & Date	Name of Inspector	**Findings, recommendations, schedule for corrective actions, corrective actions taken** (including dates, times, and party completing maintenance activities)
1.) All **Perimeter Controls** (silt fence, wattles, filter strips, etc) have been inspected and are properly functioning. *Reminder they must also be maintained.*			
2.) All **Inlets** are protected and void of sediment. *Reminder all storm drain inlets in the vicinity must have protection.*			
3.) **Streets, curbs and sidewalks** located along the construction site are free of tracked sediment. *Reminder all sediment must be removed immediately.*			
4.) Are **egresses** being maintained and not allowing off site accumulation?			
5.) **Concrete Wash** is collected in leak-proof containers or leak-proof pits. *Reminder this includes mortar and other masonry products.*			
6.) All **BMPs** (berms, blankets, mulch and rock checks, etc) are inspected and found to be properly functioning. *Reminder ditches and swales must be protected as well.*			

Reason for Inspection *Reminder that any discharge into a storm sewer is prohibited.*	**Time & Date**	**Name of Inspector**	**Findings, recommendations, schedule for corrective actions, corrective actions taken** (including dates, times, and party completing maintenance activities)
7.) **Water** pumped off site has all sediment removed from it. *Not applicable if no dewatering has taken place.*			Volume of Water discharged:___
8.) Are all **Hazardous Materials** (paints, solvents, dyes, gasoline, oils and glues) protected from entering the storm sewer?			
9.) Are **Vehicle Maintenance and Fueling Areas** maintained?			
10.) Site and all slopes have been stabilized.			
11.) **Vegetated Buffers** have proper flow distribution and are clear from sediment and debris.			
12.) All **other observations** that need to be addressed.			
13.)			
14.)			
15.)			
16.)			

Record each Precipitation event in inches.

SWPPP Precipitation Records (January - June)									Year:		
JAN	Precip Total	FEB	Precip Total	MAR	Precip Total	APR	Precip Total	MAY	Precip Total	JUN	Precip Total
1		1		1		1		1		1	
2		2		2		2		2		2	
3		3		3		3		3		3	
4		4		4		4		4		4	
5		5		5		5		5		5	
6		6		6		6		6		6	
7		7		7		7		7		7	
8		8		8		8		8		8	
9		9		9		9		9		9	
10		10		10		10		10		10	
11		11		11		11		11		11	
12		12		12		12		12		12	
13		13		13		13		13		13	
14		14		14		14		14		14	
15		15		15		15		15		15	
16		16		16		16		16		16	
17		17		17		17		17		17	
18		18		18		18		18		18	
19		19		19		19		19		19	
20		20		20		20		20		20	
21		21		21		21		21		21	
22		22		22		22		22		22	
23		23		23		23		23		23	
24		24		24		24		24		24	
25		25		25		25		25		25	
26		26		26		26		26		26	
27		27		27		27		27		27	
28		28		28		28		28		28	
29				29		29		29		29	
30				30		30		30		30	
31				31				31			

SWPPP Precipitation Records (July - December) Year:

JUL	Precip Total	AUG	Precip Total	SEP	Precip Total	OCT	Precip Total	NOV	Precip Total	DEC	Precip Total
1		1		1		1		1		1	
2		2		2		2		2		2	
3		3		3		3		3		3	
4		4		4		4		4		4	
5		5		5		5		5		5	
6		6		6		6		6		6	
7		7		7		7		7		7	
8		8		8		8		8		8	
9		9		9		9		9		9	
10		10		10		10		10		10	
11		11		11		11		11		11	
12		12		12		12		12		12	
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15		15		15		15		15		15	
16		16		16		16		16		16	
17		17		17		17		17		17	
18		18		18		18		18		18	
19		19		19		19		19		19	
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28		28		28		28		28		28	
29		29		29		29		29		29	
30		30		30		30		30		30	
31		31				31				31	

FINAL STABILIZATION

- ☐ All soil disturbing actvities have been completed.
- ☐ 70% of the pre-existing vegetative covers over the entire area.
- ☐ All drainage ditches have been stabilized (if used).
- ☐ All temporary erosion controls have been removed.
- ☐ Sediment has been removed from conveyances and temporary sediment basins.
- ☐ (For areas with less than 20 inches of annual rainfall) Soil disturbing activities at the site have been completed and erosion control measures and stabilization methods are installed along with appropriate seed base to control erosion for 3yrs and can achieve 70% of pre-existing vegetative cover within 3yrs without active maintenance.
- ☐ (For agricultural used lands) The area has been restored to the preconstruction agricultural use or in accordance with the landowner
- ☐ (For residential construction) A "Homeowner Fact Sheet" has been provided to the homeowner to inform them of final stabilization.
- ☐ (For residential construction) Soil has been stabilized, down gradient perimeter controls have been implemented, and residence has been transferred

SIGNATORY CERTIFICATION

INSTRUCTIONS: The following statement shall be signed by a responsible corporate officer, general partner, principle executive officer or ranking elected official. The statement may be signed by a duly authorized representative of the person above in accordance with Part IV-E of the permit.

CERTIFICATION

"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 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.

Printed Name of Applicant	Title
Signature of Applicant	Date

REVISION RECORD

The SWPPP should be revised and updated to address changes in site conditions, updated government regulations, and additional on-site storm water controls.

All revisions to the SWPPP must be documented on the SWPPP Revision Record, which should include the information shown below. The authorized permittee representative, either the owner, a representative of the owner, or the operator, who approves the SWPPP should be an individual who has the ability to modify project plans and specifications related to the SWPPP. The name of this representative will attest that the SWPPP revision information is true and accurate.

SWPPP Modification Log

Name of Construction Site	Location of Construction Site

Type of Modification		Description of Modification	Location of Modification
☐ Major	☐ Minor		
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	
Type of Modification		**Description of Modification**	**Location of Modification**
☐ Major	☐ Minor		
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	
Type of Modification		**Description of Modification**	**Location of Modification**
☐ Major	☐ Minor		
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	
Type of Modification		**Description of Modification**	**Location of Modification**
☐ Major	☐ Minor		
Start Date:			
Completion Date:			
Reason for Modifications:		Approved/Implemented By:	

ADDITIONAL OWNERS/OPERATORS

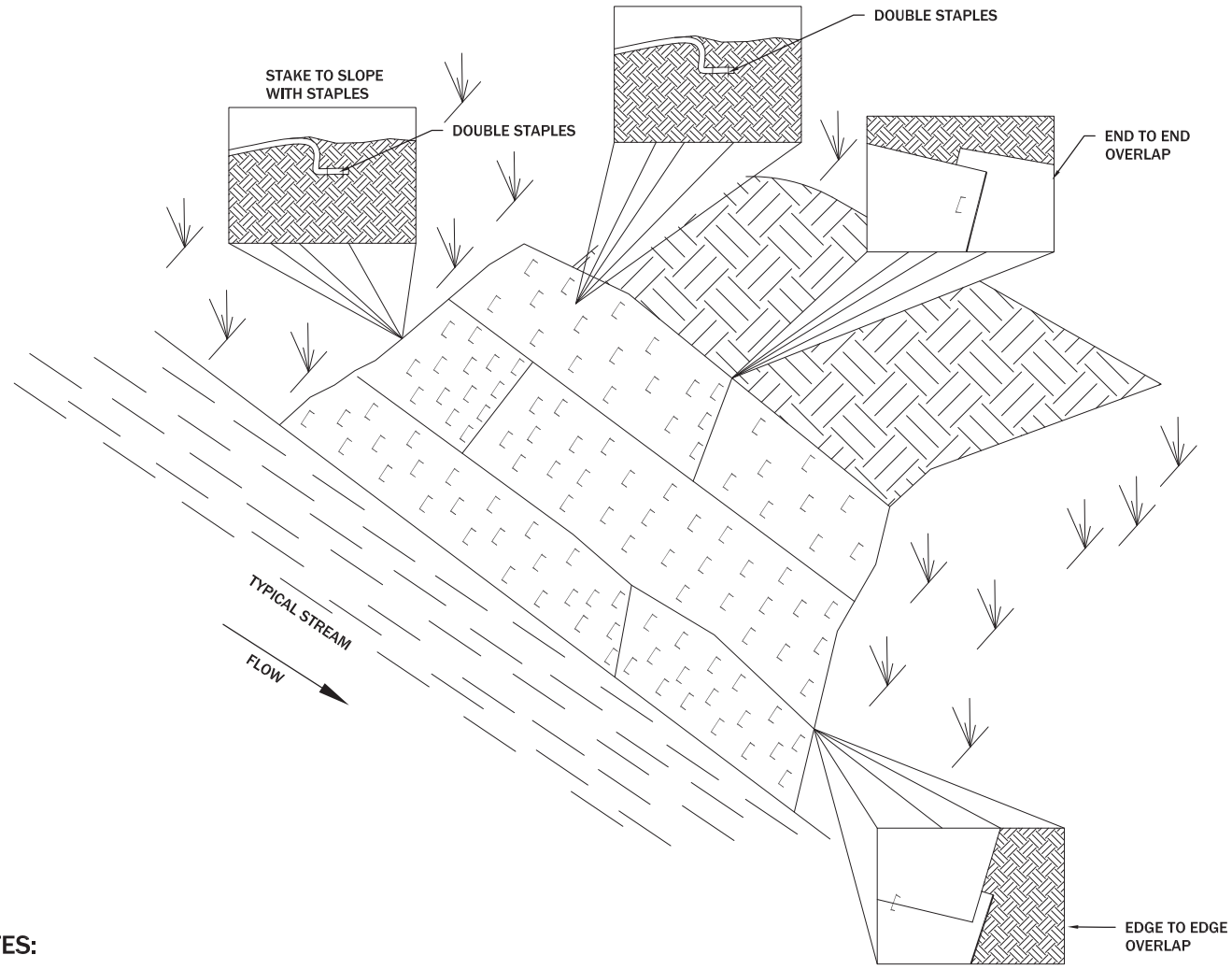
INSTRUCTIONS: This section is provided to include additional owners and operators that may be designated by the permit holder to perform activities on a project (i.e., subcontractor). The additional owners/operators must adhere to this Storm Water Pollution Prevention Plan.

Signatory "I certify under penalty of law that I have personally read, understood, and accepted all terms and conditions of this Storm Water Pollution Prevention Plan, and that I shall implement the Plan accordingly. I am also familiar with the NDPDES General Permit for Storm Water Discharges Associated with Construction Activity (NDR10-0000).

SWPPP Owner - Contractor - Sub-Contractor Log

Name of Construction Site	Location of Construction Site

Company	Printed Individual Name and Title	Signature
1.)		
Start Date:		
Completion Date:		
2.)		
Start Date:		
Completion Date:		
3.)		
Start Date:		
Completion Date:		
4.)		
Start Date:		
Completion Date:		
5.)		
Start Date:		
Completion Date:		
6.)		
Start Date:		
Completion Date:		
7.)		
Start Date:		
Completion Date:		
8.)		
Start Date:		
Completion Date:		

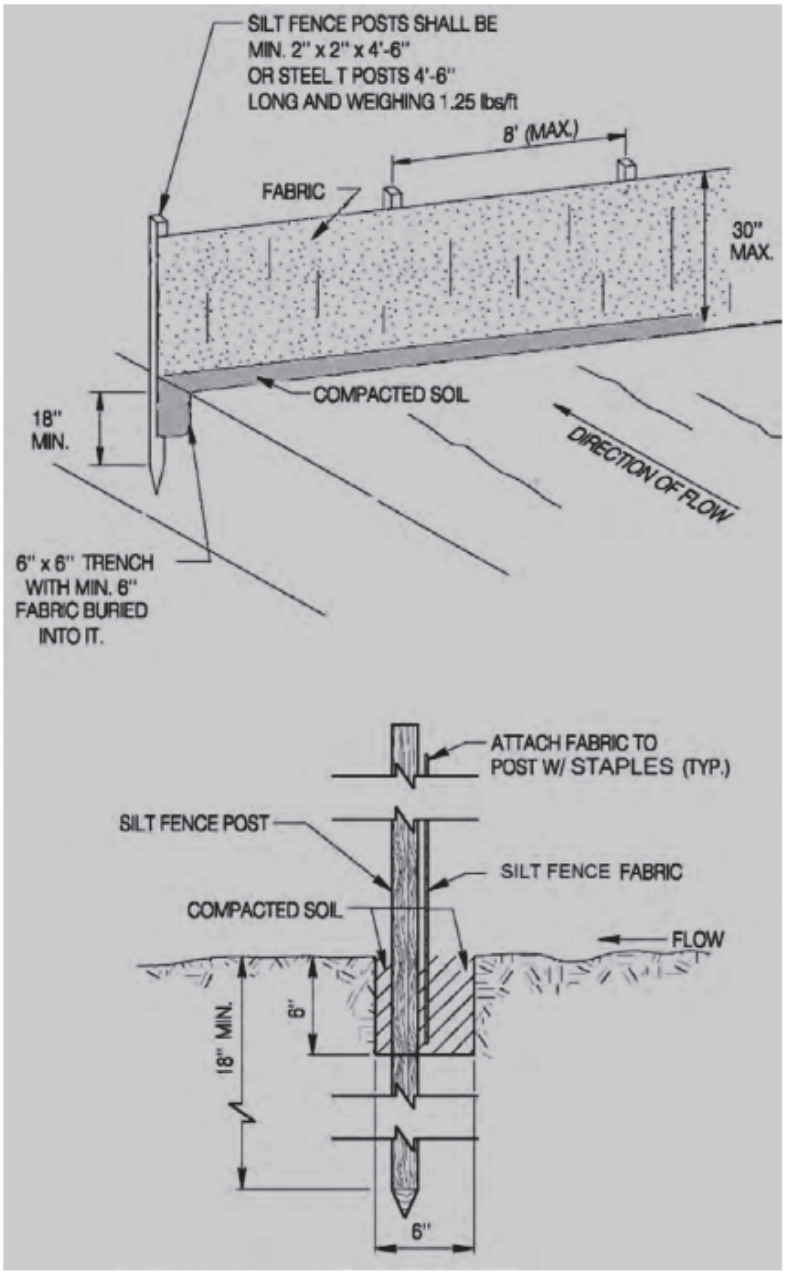


NOTES:

1. Erosion control blankets shall be placed on streambanks of all perennial streams and/or in locations directed by the Environmental Inspector.
2. Matting shall be ErosionControlBlanket SC32 BD or an approved equivalent. Product shall have the following minimum specifications:
   - 70% agricultural straw (maximum) and 30% coconut fiber (minimum) matrix;
   - Straw/coconut fiber matrix applied at a rate of 0.5 lbs/yd2;
   - Top and bottom weave, made of woven biodegradable nets with mesh size 0.5" x 1.0";
   - 100% biodegradable leno woven net, thread, and matrix;
   - "C" factor = 0.002;
   - Maximum Permissible Shear Stress = 2.00 lbs/ft2 (96 Pa);
   - Maximum Permissible Velocity = 8 ft/sec (2.44 m/s);
   - Manning's "n" = 0.03.
3. Staples shall be 8 gauge wire and 8" in length.
4. Matting shall be installed according to manufacture specifications or as follows:
   - Top of blanket shall extend 2' above ordinary high water mark.
   - Blankets shall be installed across the slope in flow direction.
   - Upstream edge shall be "keyed-in" using a 6" x 6" (minimum) anchor trench. Double staple every 12" before backfilling and compacting trench.
   - Overlap blanket edges a minimum of 6", upper blanket over lower blanket. Staple every 12" along seam.
   - Staple every 3' (maximum) throughout blanket.
5. Ensure good soil to blanket contact. Do not suspend or bridge blanket.

EROSION CONTROL BLANKETS

FIGURE 1

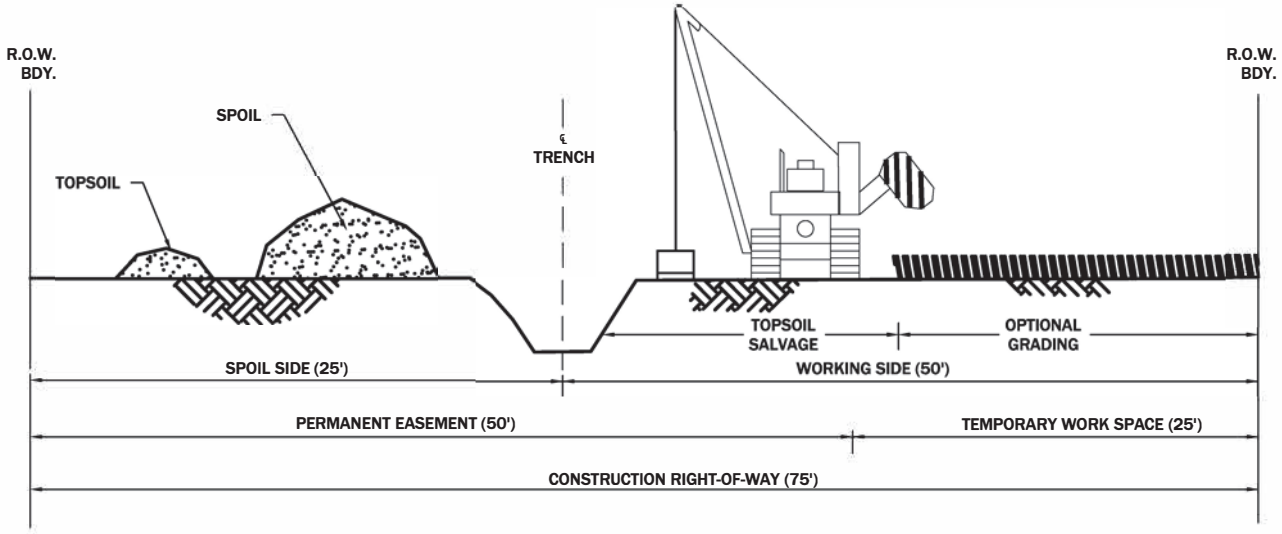


Adapted from Montana Dept. of Environmental Quality Storm Water Management During Construction. Field Guide for Best Management Practices.

NOTES:

1. Install at base of all slopes above stream, wetlands, or as directed by Environmental Inspector.
2. Install along contour, 3' (minimum) from toe-of-slope for sediment accumulation.
3. Install at rate of 100 linear feet per 1/4-acre of drainage area.
4. Do not install in areas of concentrated flow.
5. Stabilize with metal posts and woven wire, if directed.
6. Overlap/wrap adjoining ends of fence segments to eliminate gaps.
7. Repair as necessary. Remove accumulated sediment when exceeds 1/3 of fence height.

SILT FENCE BMP | **FIGURE 1**

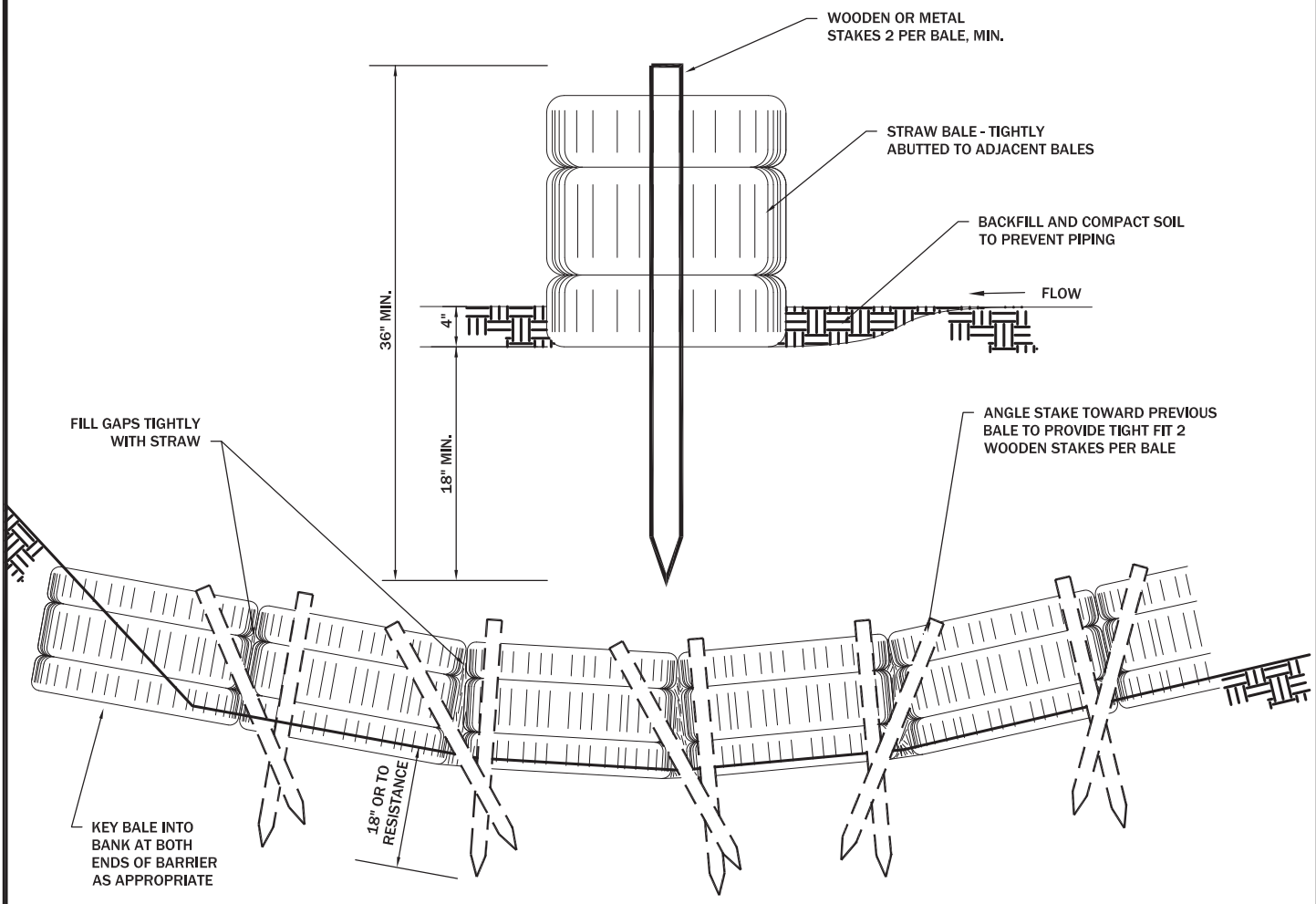


NOTES:

1. Minimize soil disturbance.
2. Cut vegetation from working areas, where necessary.
3. Maintain a 50' buffer at drainage crossing until time of pipe installation.
4. Maintain a 10' (minimum) vegetated buffer between right-of-way and adjacent water bodies.
5. Full right-of-way grading shall not occur except in steep areas. Topsoil will only be removed from the ditchline and adjacent soil stockpile area, not from other areas of the right-of-way.
6. Topsoil will be removed to a maximum depth of 12" and stockpiled on the non-working side of the right-of-way.
7. Trench spoils will be stockpiled separate from the topsoil.
8. Gaps will be left in the material piles at drainages to accommodate runoff.
9. Provide 48" minimum cover above top of pipe. Minimum cover is reduced to 36" if rock excavation required.
10. Width of ditch is 30" maximum except at bell holes where OSHA sloping requirements will be followed.
11. Implement appropriate erosion control measures to minimize erosion and sediment transport.
12. If dewatering is necessary, discharge water where vegetative cover prevents channeling and sediment transport, or discharge into a sediment filter bag or temporary dewatering structure constructed of silt fence/fiber roll and straw bales.
13. Trench spoils may be backfilled directly into the ditch in areas where the spoils are composed of soft earthen material.
14. A minimum of 6" of padding will be used to cover the pipeline before any hard objects are placed in the ditch.
15. Backfill will be compacted by running tractor wheel along the ditch line. Excess spoils will be spread evenly across right-of-way or removed.
16. Respread topsoil to a uniform depth across right-of-way.
17. Install permanent water bars.
18. Roughen slopes ("dozer tracks") perpendicular to the fall line.
19. Leave topsoil in a loose and friable condition appropriate for seeding.
20. Seed prior to or after ground freezing between October 1 and June 1.

SOIL SALVAGE AND GRADING

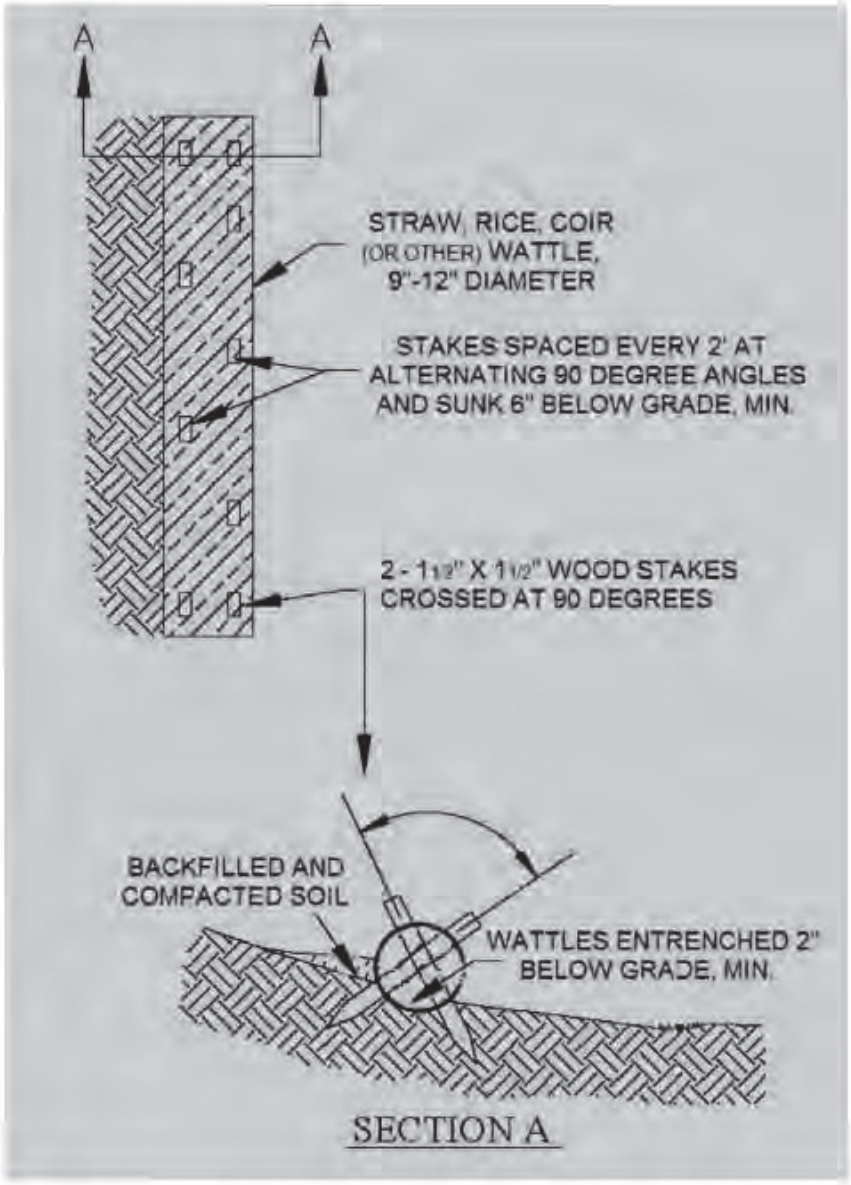
FIGURE 1



NOTES:

1. Straw bale barriers shall be installed at the base of slopes above streams, wetlands, or as directed by the Environmental inspector.
2. Straw bales shall consist of weed free material and weigh no less than 45 lbs.
3. Bales are to be placed in row(s) with their ends tightly abutted.
4. Each bale is to be securely anchored with two stakes (minimum). The first stake is driven into the adjoining bale to force bales together.
5. Stakes are to be a minimum length of 36". Wooden stakes shall have a minimum dimension 2" square. Metal stakes shall have a minimum weight of 1 lb/ft.
6. Bales are to be orlented wlth cut flber edge keyed lnto the ground a mlnlmum of 4". Excavated materlal shall be backfilled and compacted on the upslope side.
7. Gaps between bales shall be filled tightly with straw.
8. End of rows shall extend upslope to trap runoff.
9. Damaged or ineffective barriers shall be repaired or replaced promptly.
10. Sediment shall be removed from behind the barriers when accumulation is ½ of bale height.
11. Straw bale barrier shall be removed when service is no longer required and/or at the request of the Environmental Inspector.

STRAW BALE BARRIER | **FIGURE 1**

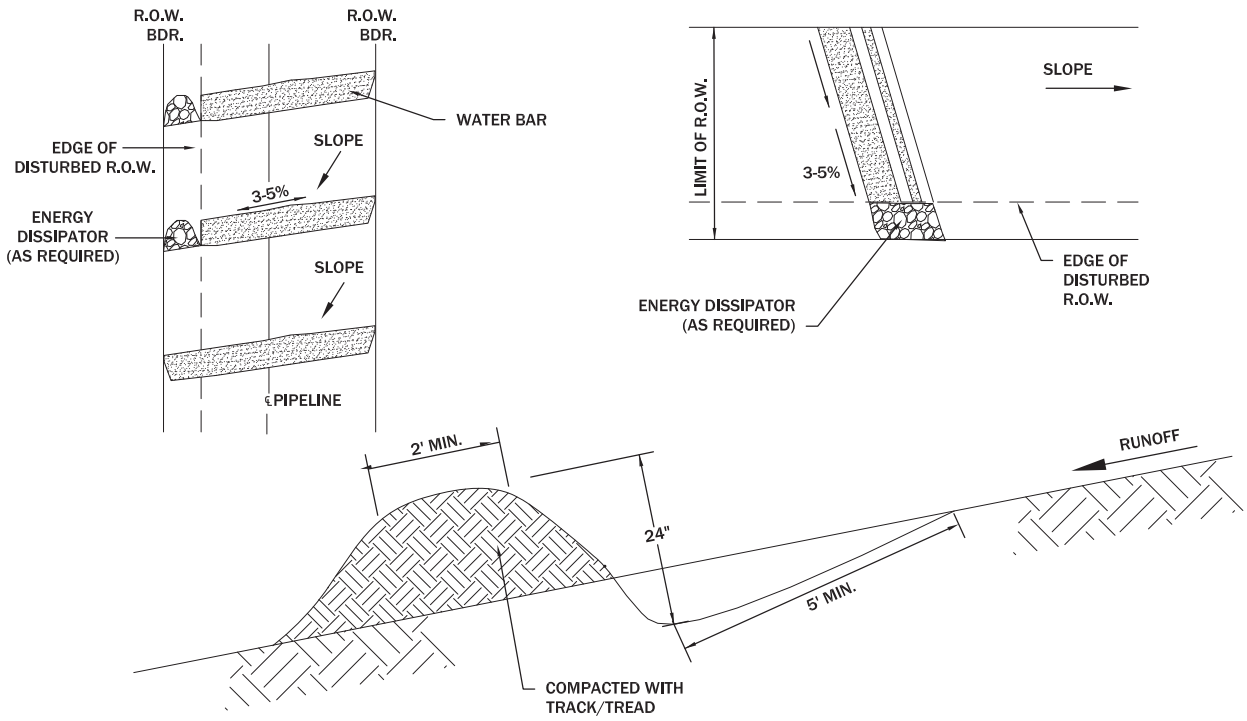


Adapted from Montana Dept. of Environmental Quality Storm Water Management During Construction. Field Guide for Best Management Practices.

NOTES:

1. Install at base of all slopes and above streams, wetlands, or as directed by Environmental Inspector.
2. Suitable for small drainage areas with sheet flow.
3. Install along grade contours. Trench below grade and backfill.
4. Secure every 2'; staking at alternating angles.
5. Hook up "free" ends. Overlap adjoining ends.
6. Remove sediment accumulation when exceeds 1/2 of height.
7. Repair/replace as necessary.

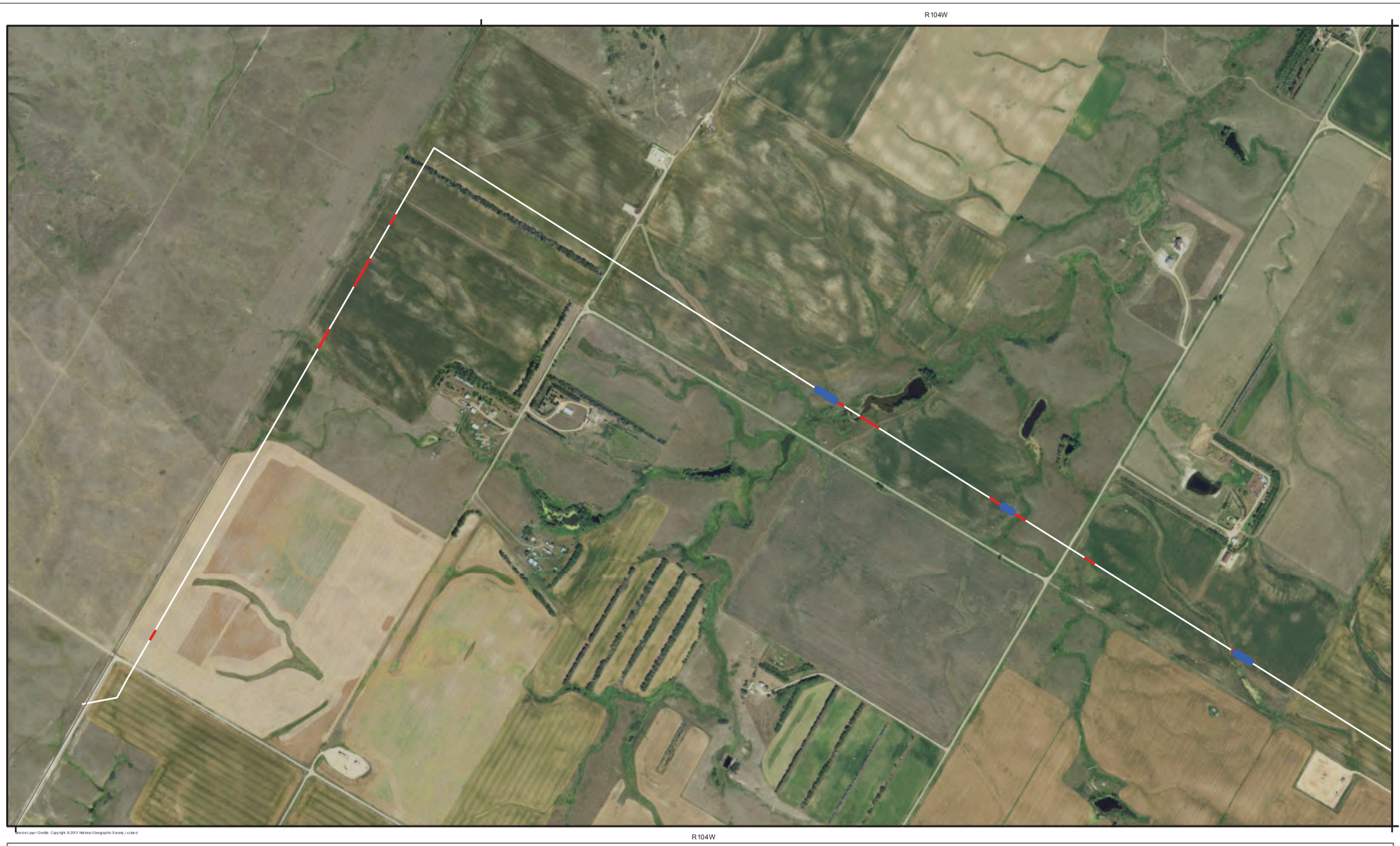
STRAW WATTLE BMP | **FIGURE 1**



NOTES:

1. Water bars will be installed at locations shown on the plans, on slopes between 5% and 40%, and/or as directed by the Environmental Inspector.
2. At the discretion of the Environmental Inspector, “temporary” water bars shall be installed during grading operation and maintained throughout the life of the project.
3. Water Bar spacing shall be as follows or as directed by the Environmental Inspector.
   - 5% - 15% slope every 300' (minimum)
   - 15% - 30% slope every 200' (minimum)
   - > 30% slope every 100' (mInImum)
4. Spacing shall be reduced near the top-of-slope, at the discretion of the Environmental Inspector.
5. Water bars will be oriented as shown or as directed by the Environmental Inspector to route water from slope.
6. Water bars will be constructed at a 3-5% gradient across the slope.
7. Water Bar will be 2' deep, as measured from the trough to the top of the bar. The trough shall be 5' wide across the right-of-way.
8. The outlet of the bar must freely drain all runoff off the disturbed right-of-way.
9. If necessary, the berm (and not trough) will extend beyond the edge of disturbance to ensure water flowing off the disturbed area does not return to the right-of-way below the water bar.
10. In the absence of adequate vegetation at the outlet, rock or erosion control matting shall be placed at the outlet as directed by the Environmental Inspector, to dissipate flow energy.
11. Berms shall be repaired following any breach or failure to drain properly.
12. Sedlment shall be removed from the trough when the holdlng capaclty behlnd the bar ls reduced by over 50%.
13. Temporary water bars shall be reestablished within 24 hours following pipe stringing, following pipe welding, and following lowering-in operations.
14. Water bars shall be made a permanent feature during final grading.

WATER BARS | **FIGURE 1**



10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

R103W

T154N

T154N

R103W

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10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

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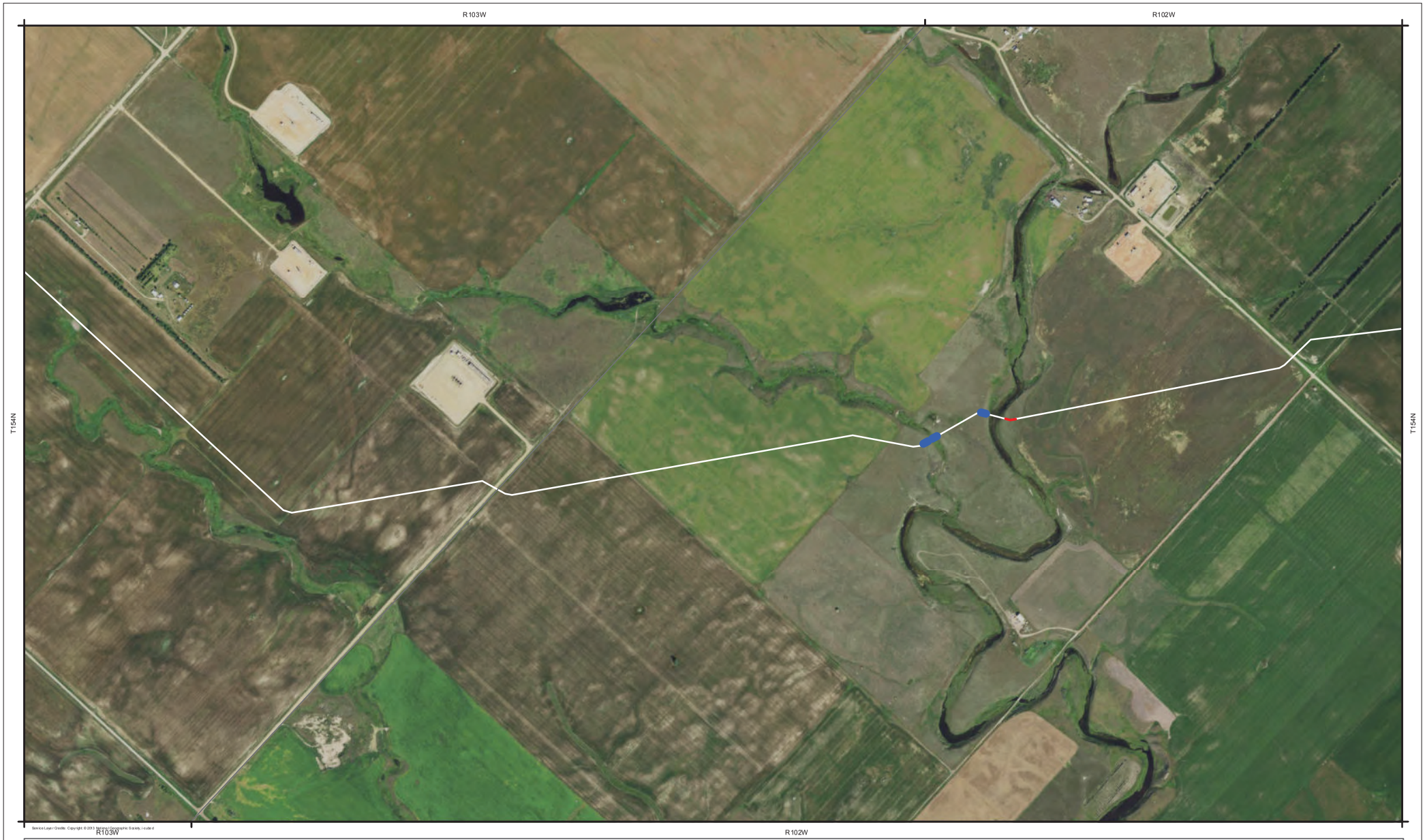
5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S



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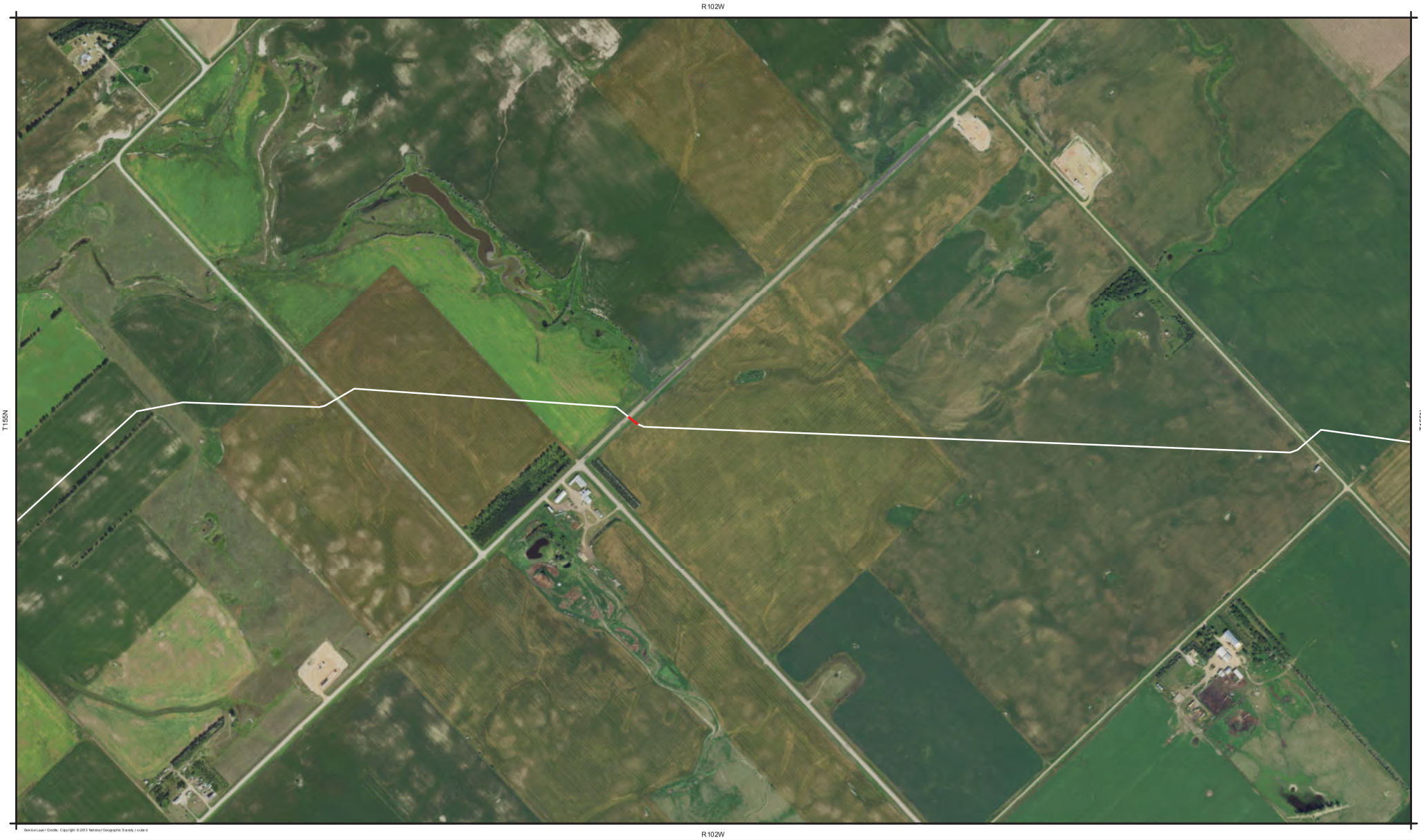
SWPPP Slope Percentages

0 400 800 1,600 Feet



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SWPPP Slope Percentages

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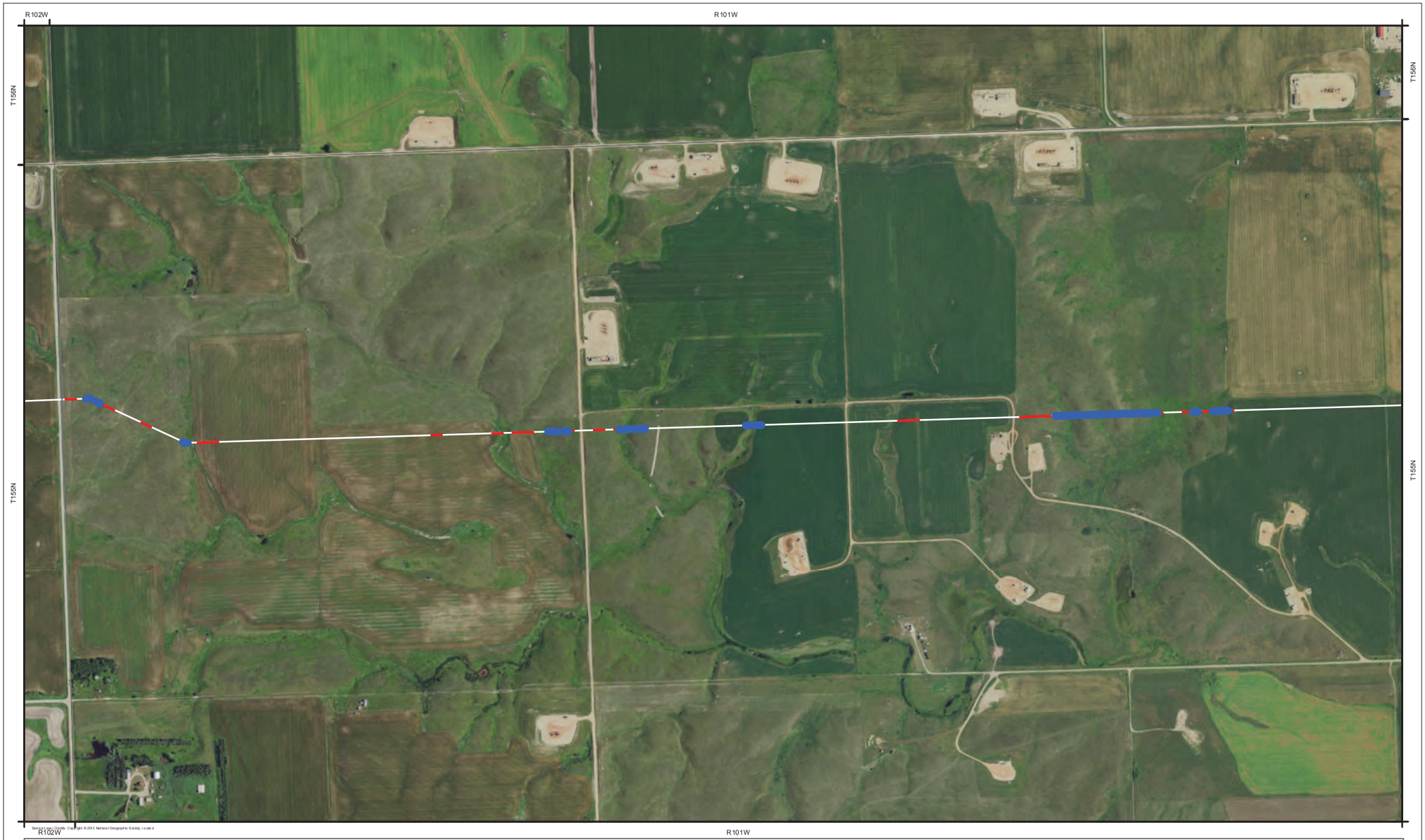
N W E S



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SWPPP Slope Percentages

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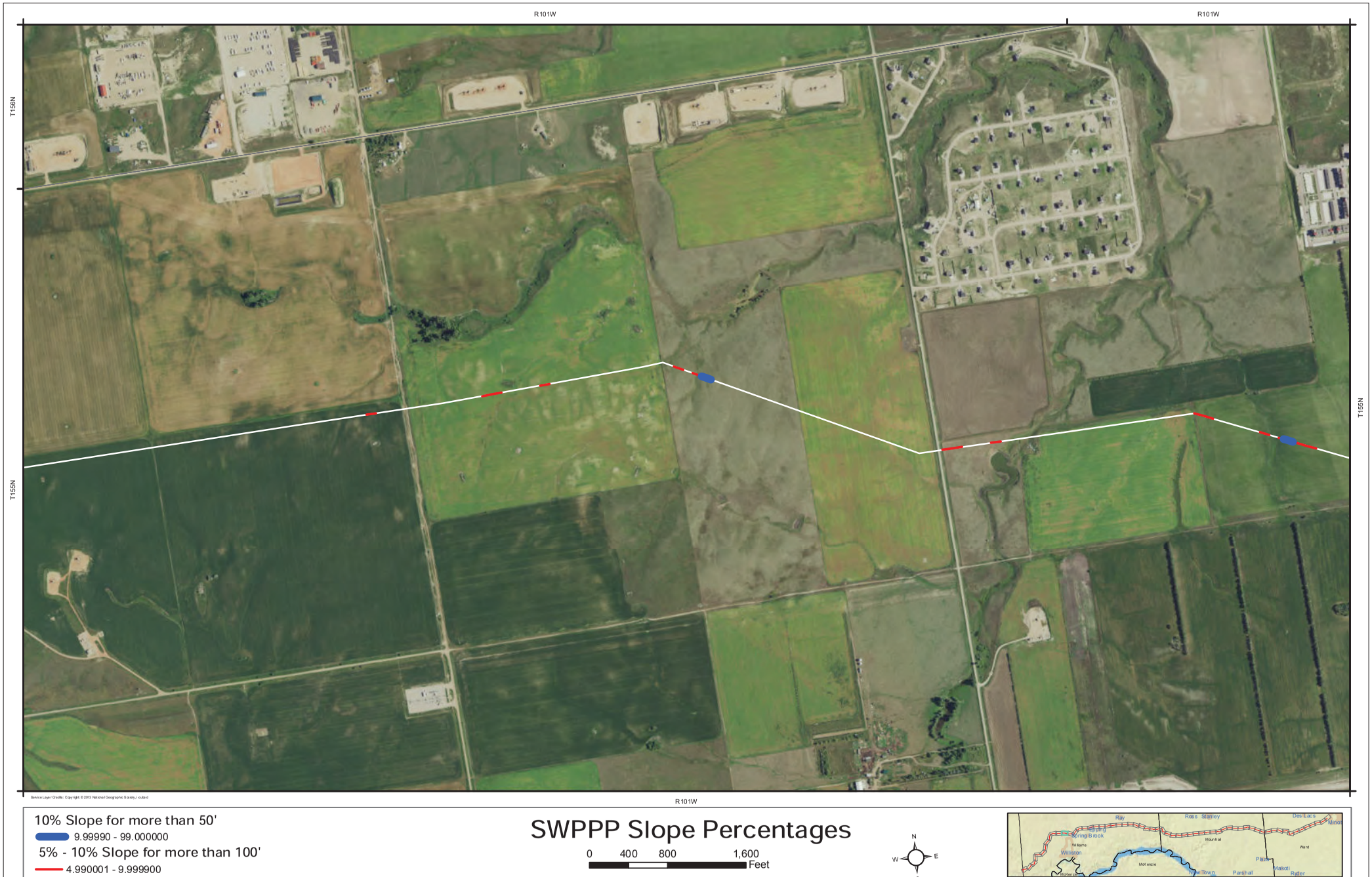

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SWPPP Slope Percentages

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SWPPP Slope Percentages

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SWPPP Slope Percentages

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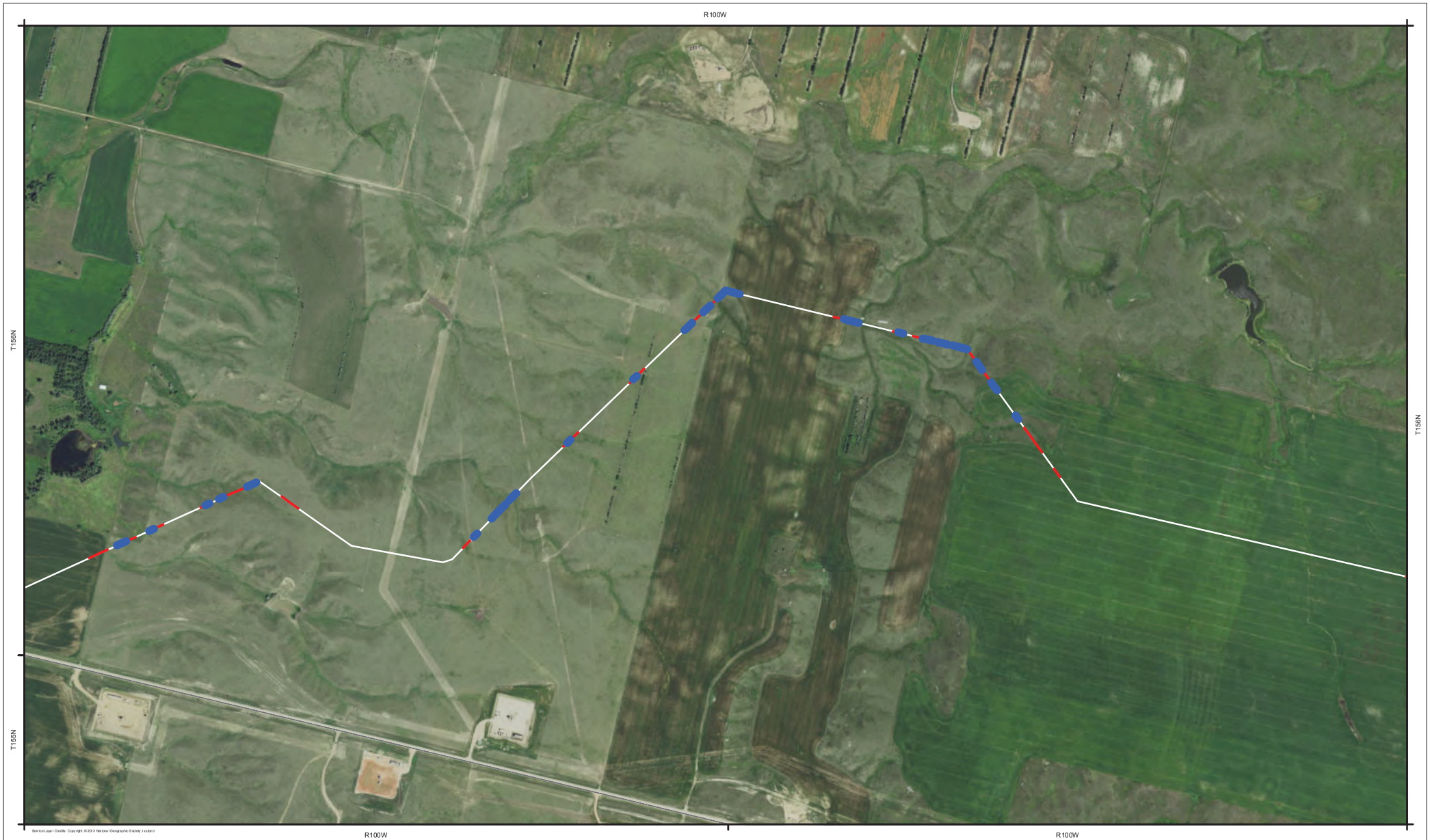

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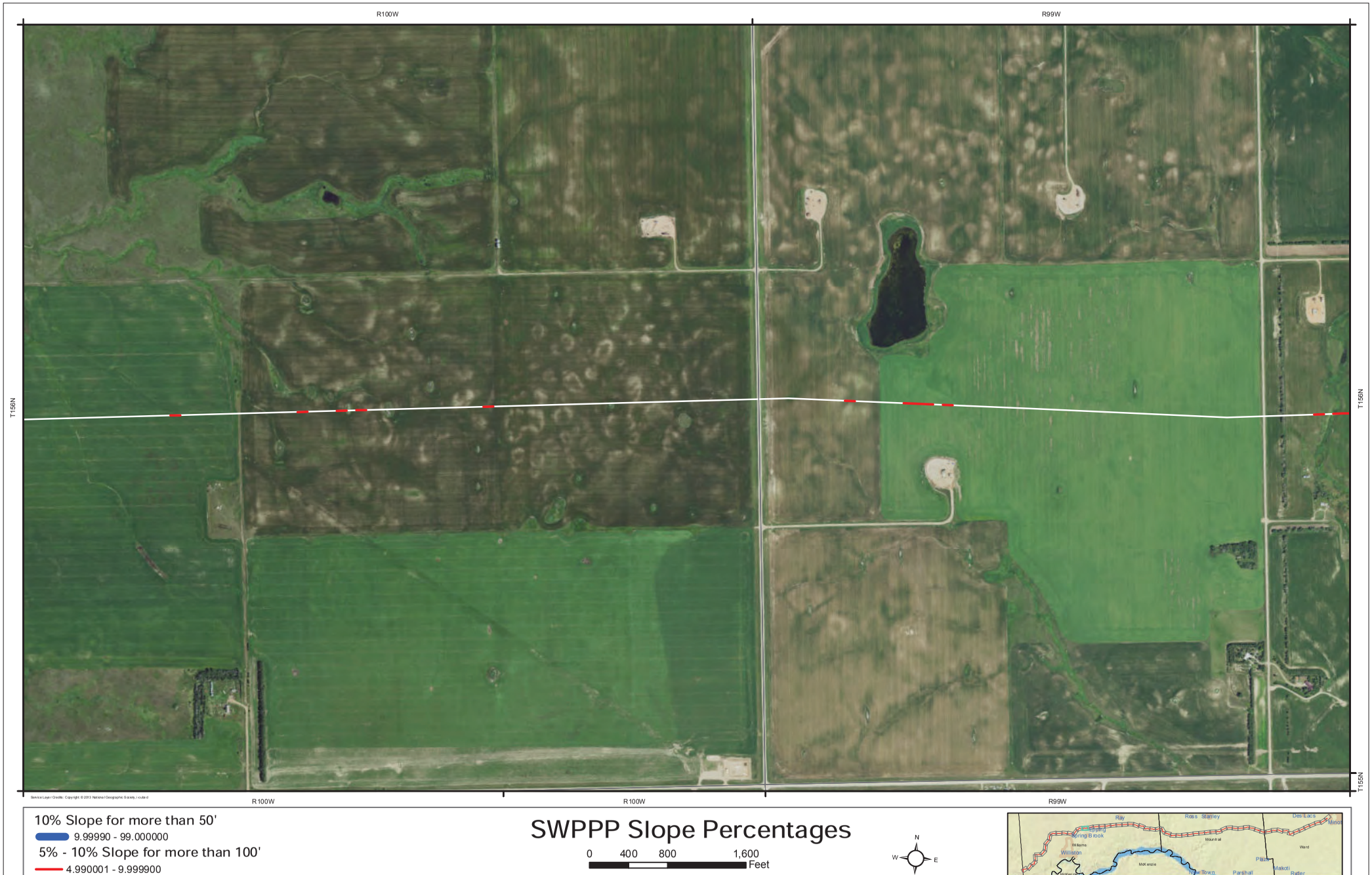
4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S



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5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

R99W

T156N

T156N

R99W

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10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N

W E

S

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S

R98W

T156N

T156N

R98W

Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N

W E

S

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S

R97W

T156N

T156N

R97W

Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N

W E

S

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N
W E
S

10% Slope for more than 50'

9.99990 - 99.000000

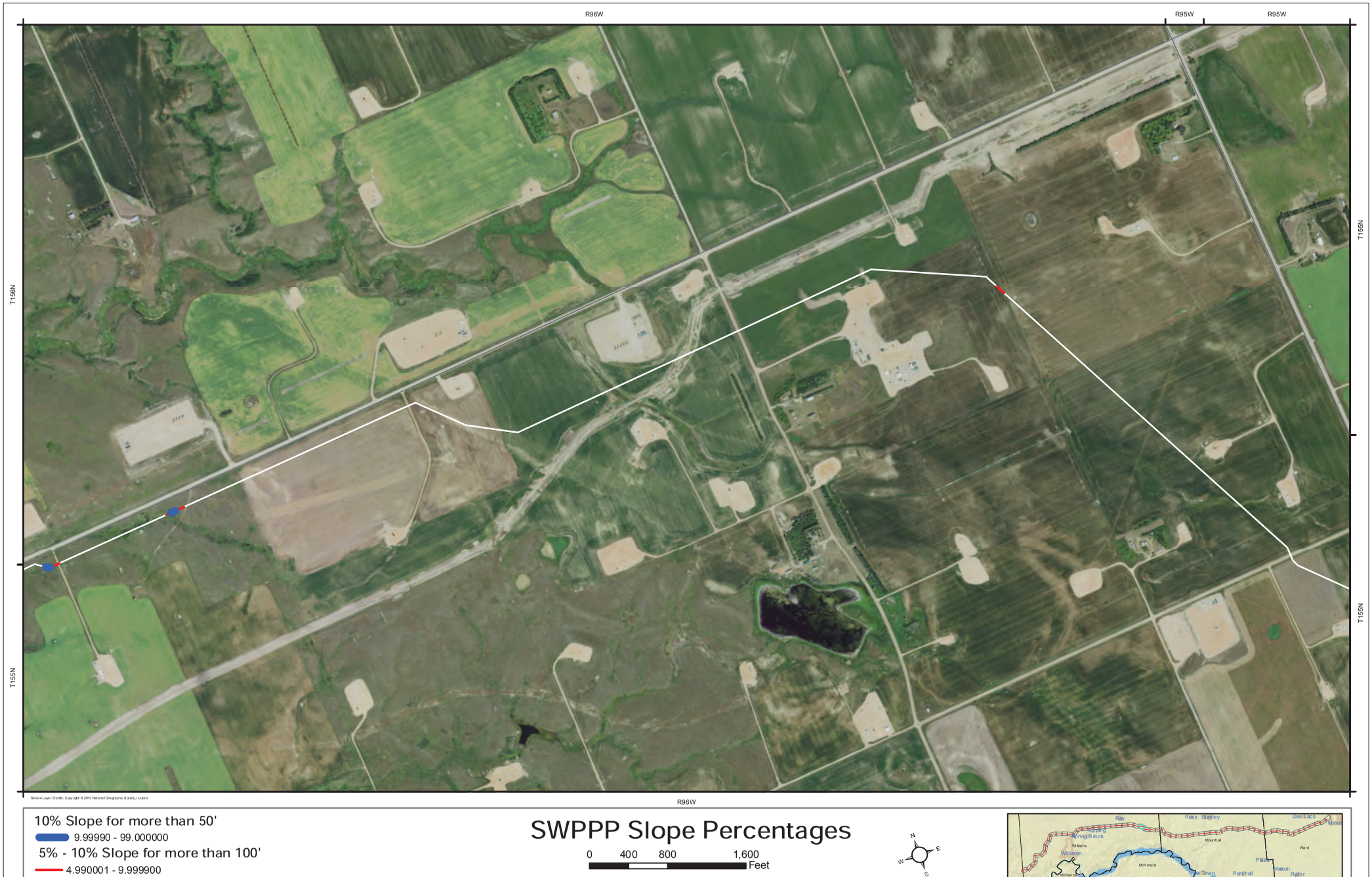
5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N E S W



10% Slope for more than 50'

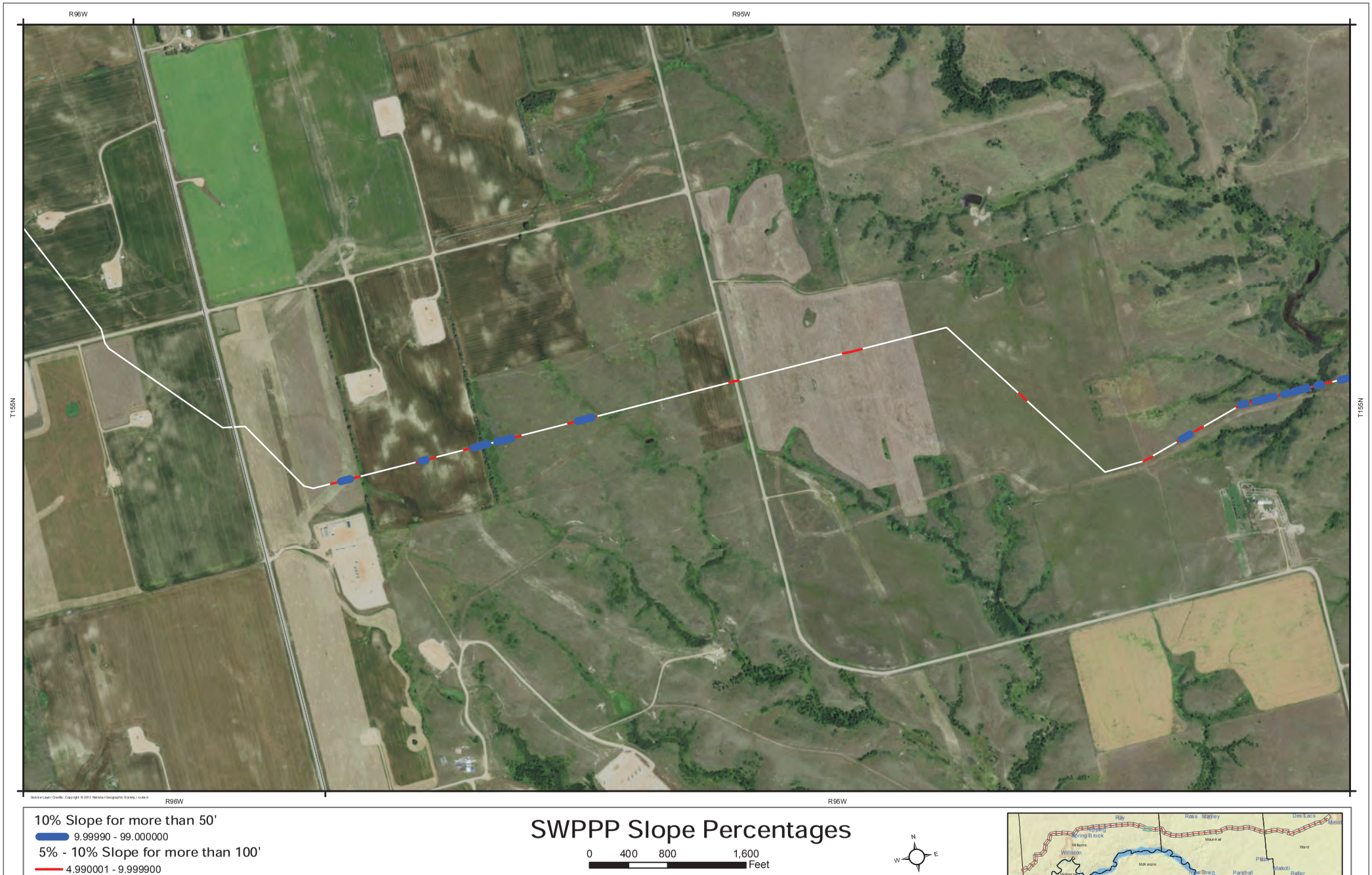
9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet



10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N E S W

10% Slope for more than 50'

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5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

10% Slope for more than 50'

9.99990 - 99.000000

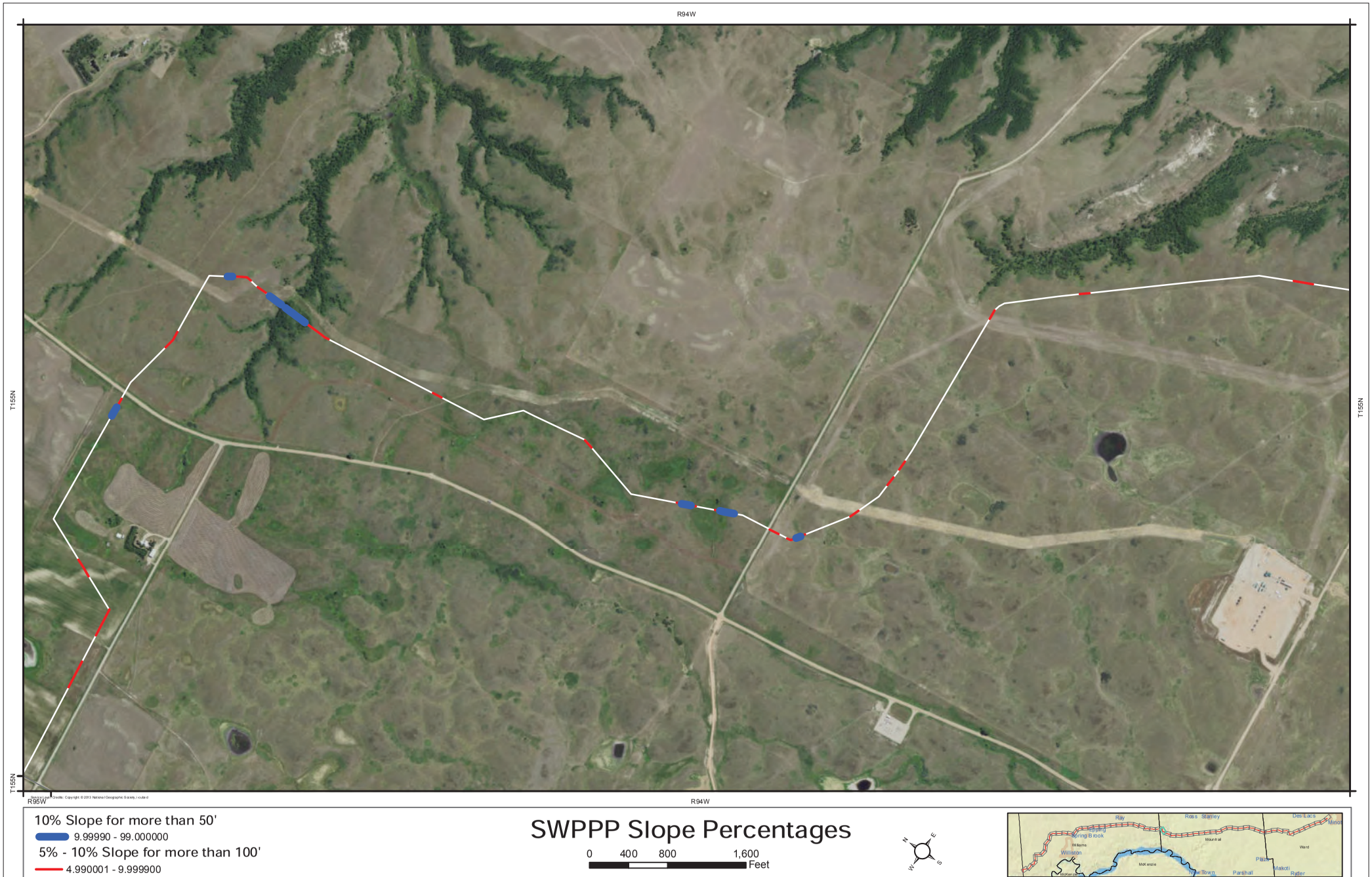
5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S



10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

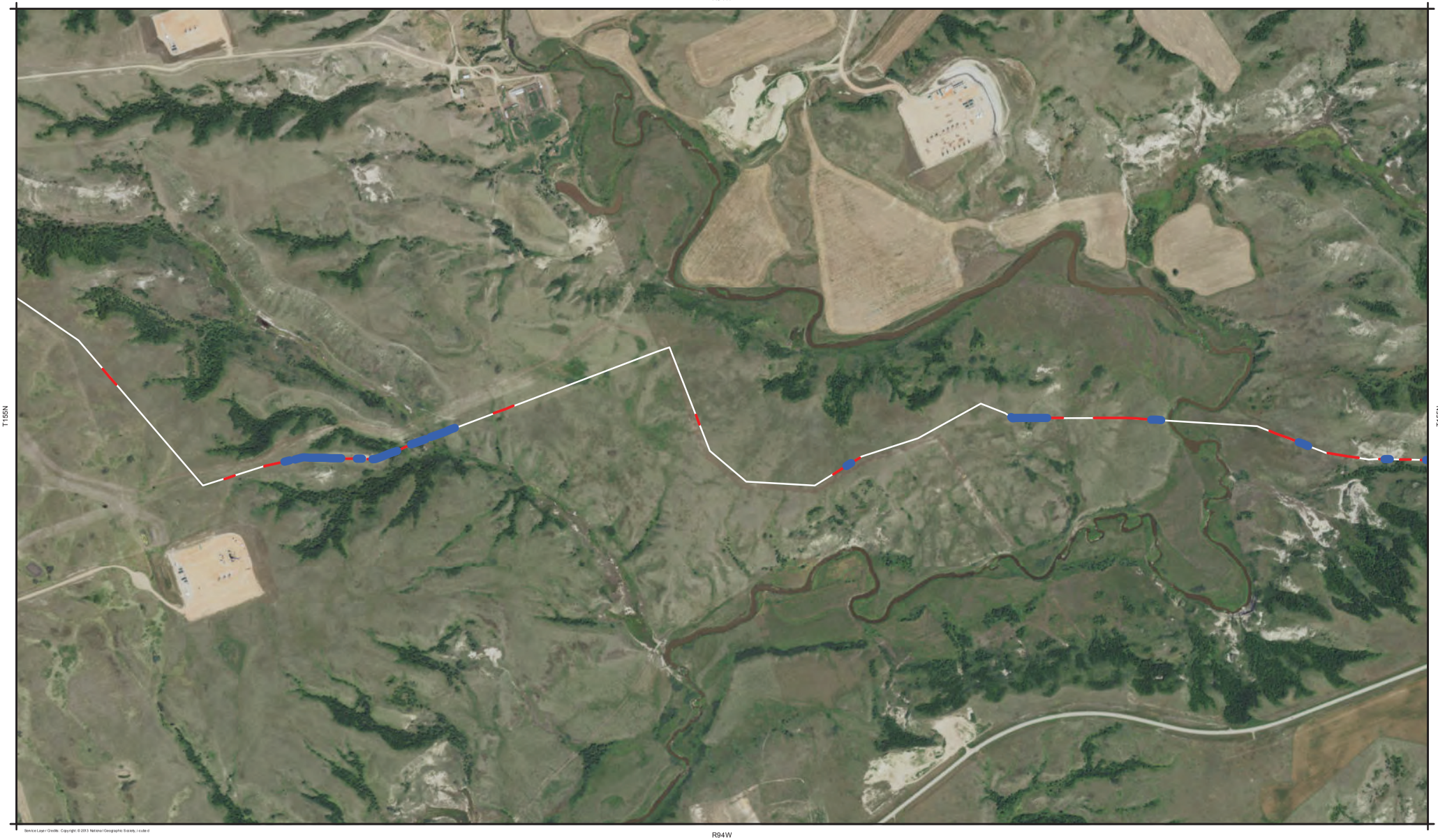
4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

R94W

T155N



T155N

R94W

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10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600

Feet

N

E

S

W

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N E S W

R93W

T155N

T155N

Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed

R93W

10% Slope for more than 50'

9.99990 - 99.000000

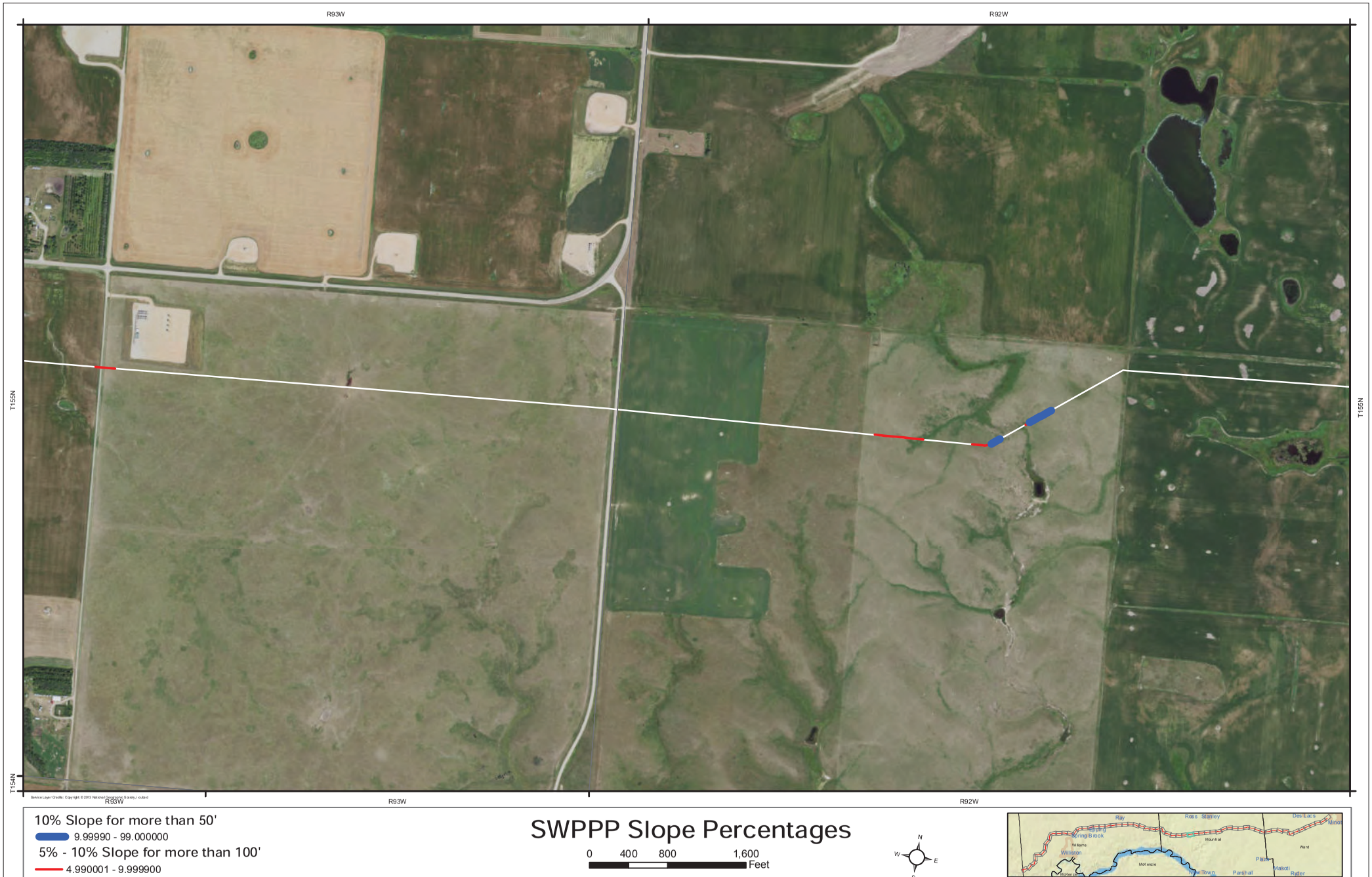
5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S



10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S

10% Slope for more than 50'

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4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S

R91W

T155N

T155N

R91W

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10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N

W E

S

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S

R90W

T155N

T155N

R90W

Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600

Feet

N

W E

S

10% Slope for more than 50'

9.99990 - 99.000000

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4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

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5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N E S W

10% Slope for more than 50'

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5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

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10% Slope for more than 50'

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4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S

10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N E S W

10% Slope for more than 50'

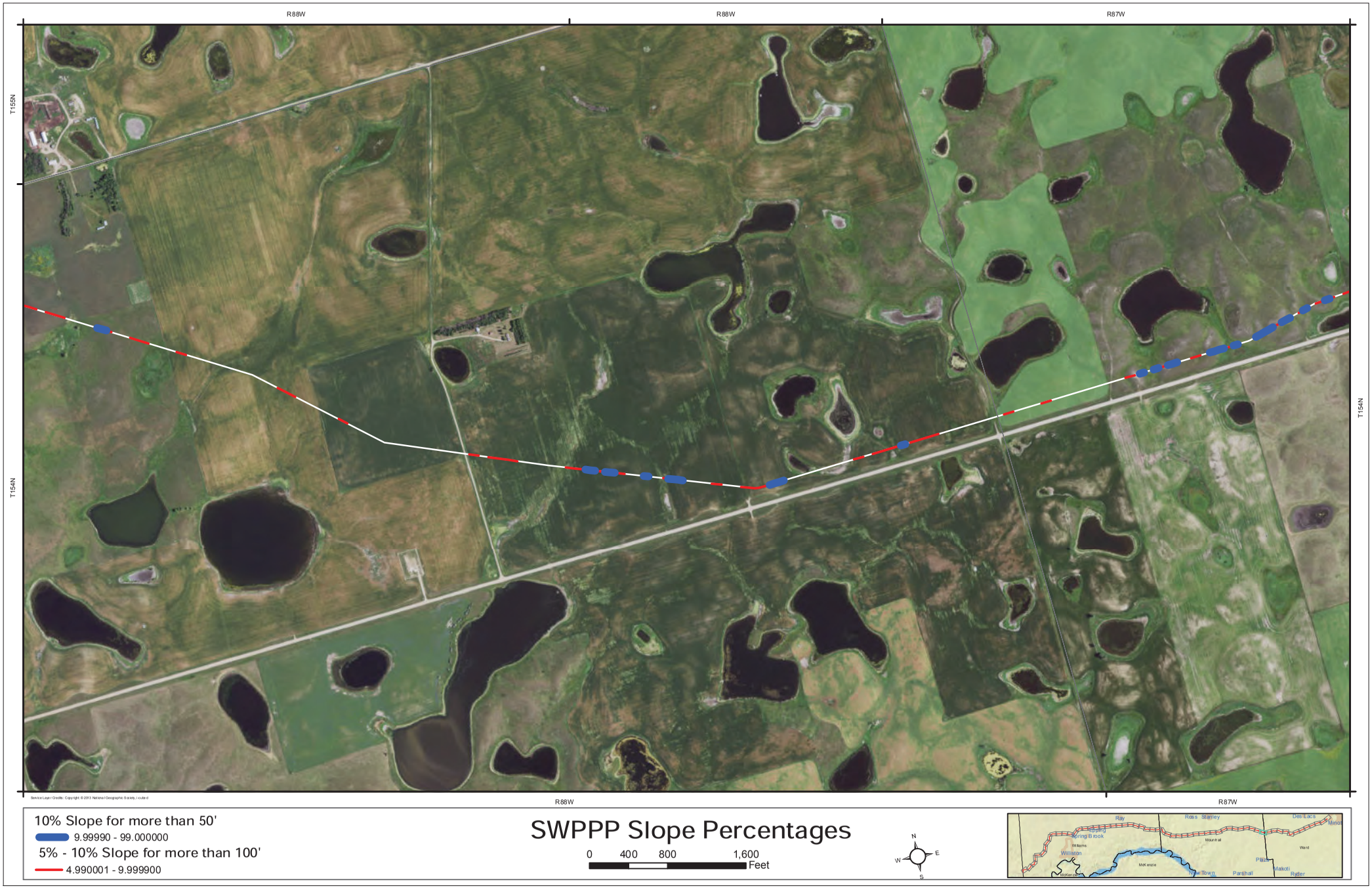
9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet


R88W
R88W
R87W
T155N
T154N
T154N
R88W
R87W
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed
10% Slope for more than 50'
9.99990 - 99.000000
5% - 10% Slope for more than 100'
4.990001 - 9.999900
SWPPP Slope Percentages
0 400 800 1,600
Feet
N
E
S
W
Ray
Ross
Stanley
Des Lacs
Minot
Sherwood
Spring Brook
Williams
Williston
Mountrail
Ward
Plaza
Makoti
Parshall
Ryder
McKenzie
New Town

R87W

T154N

T154N

R87W

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10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

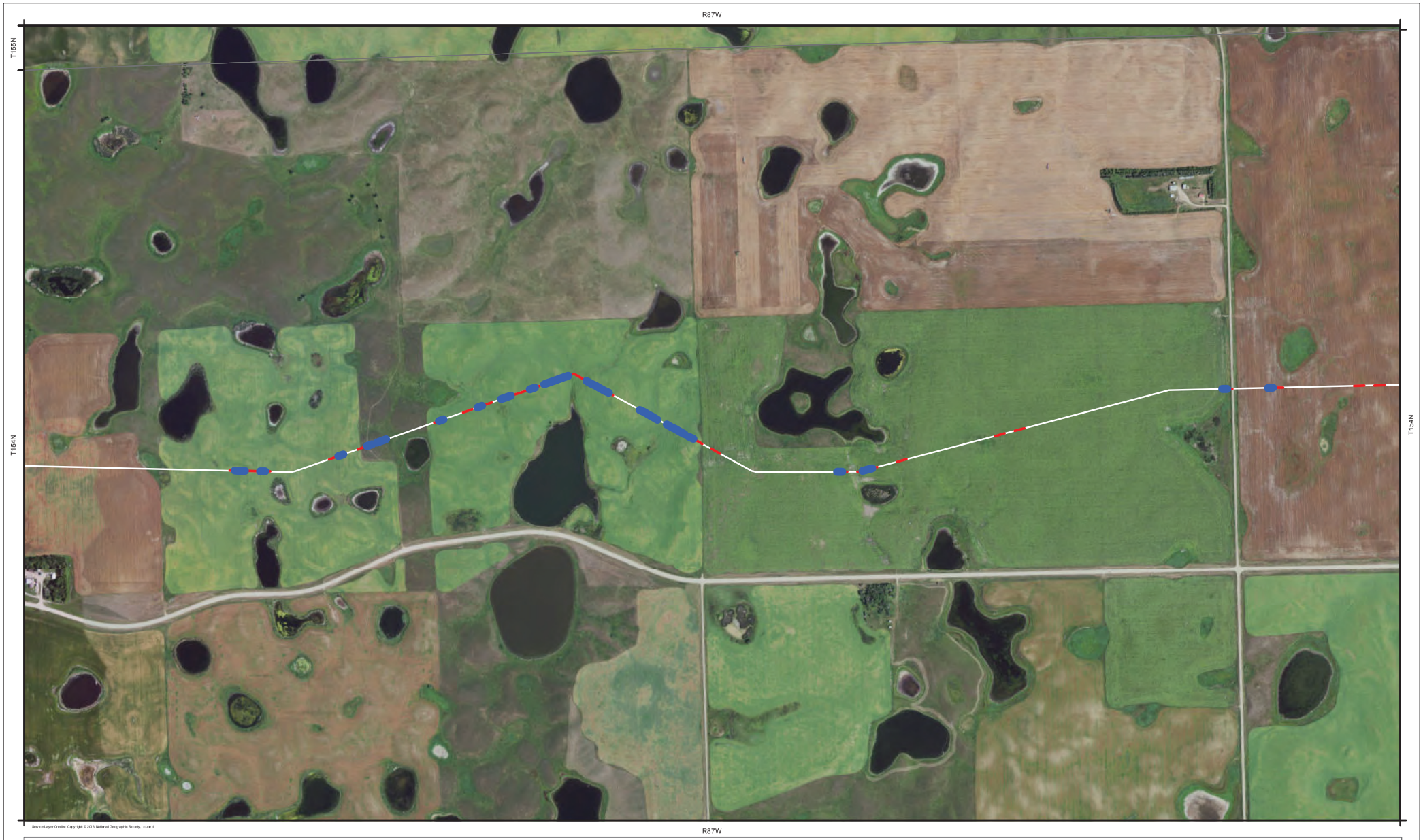
SWPPP Slope Percentages

0 400 800 1,600 Feet

N

W E

S



10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N

W E

S

10% Slope for more than 50'

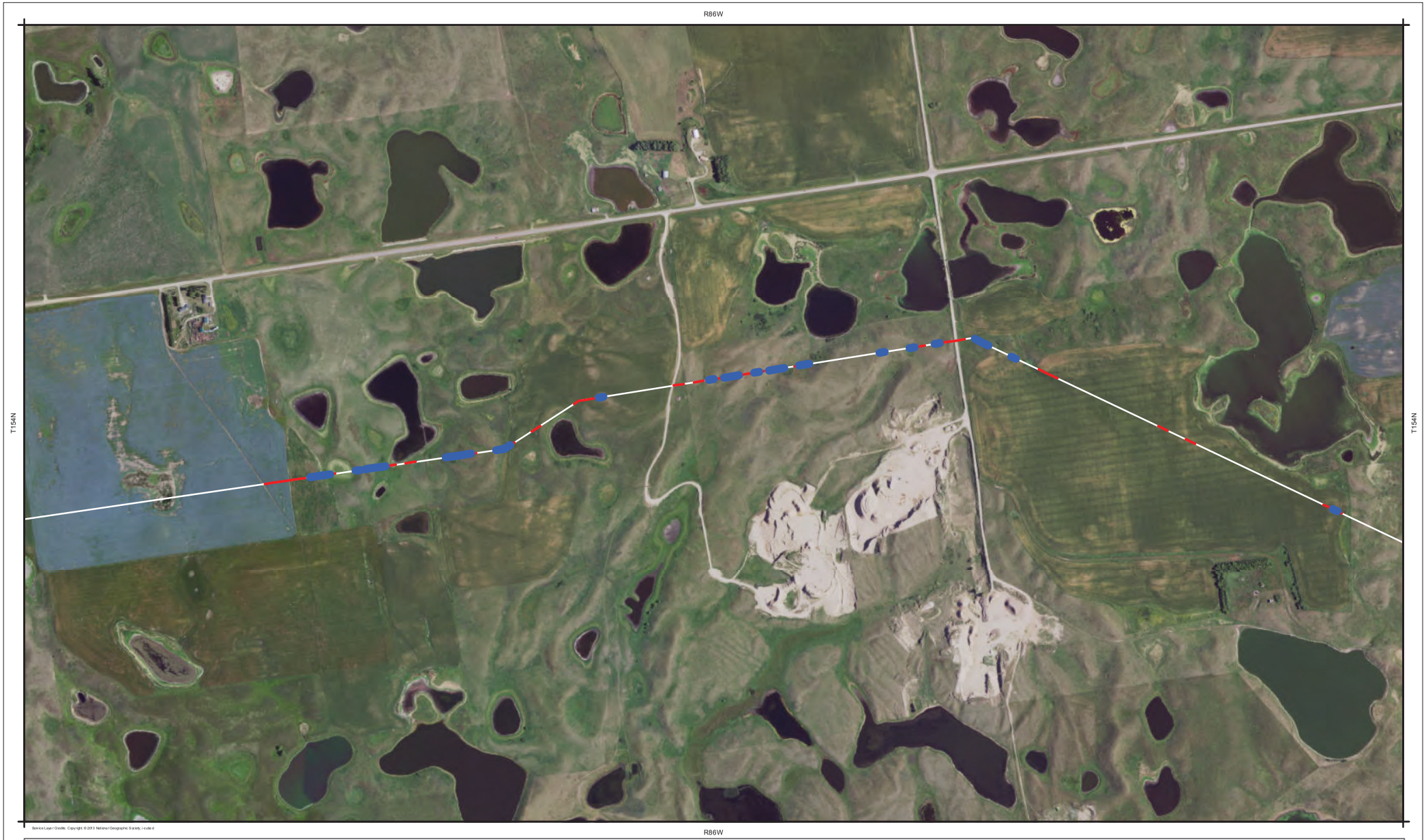
9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet



10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

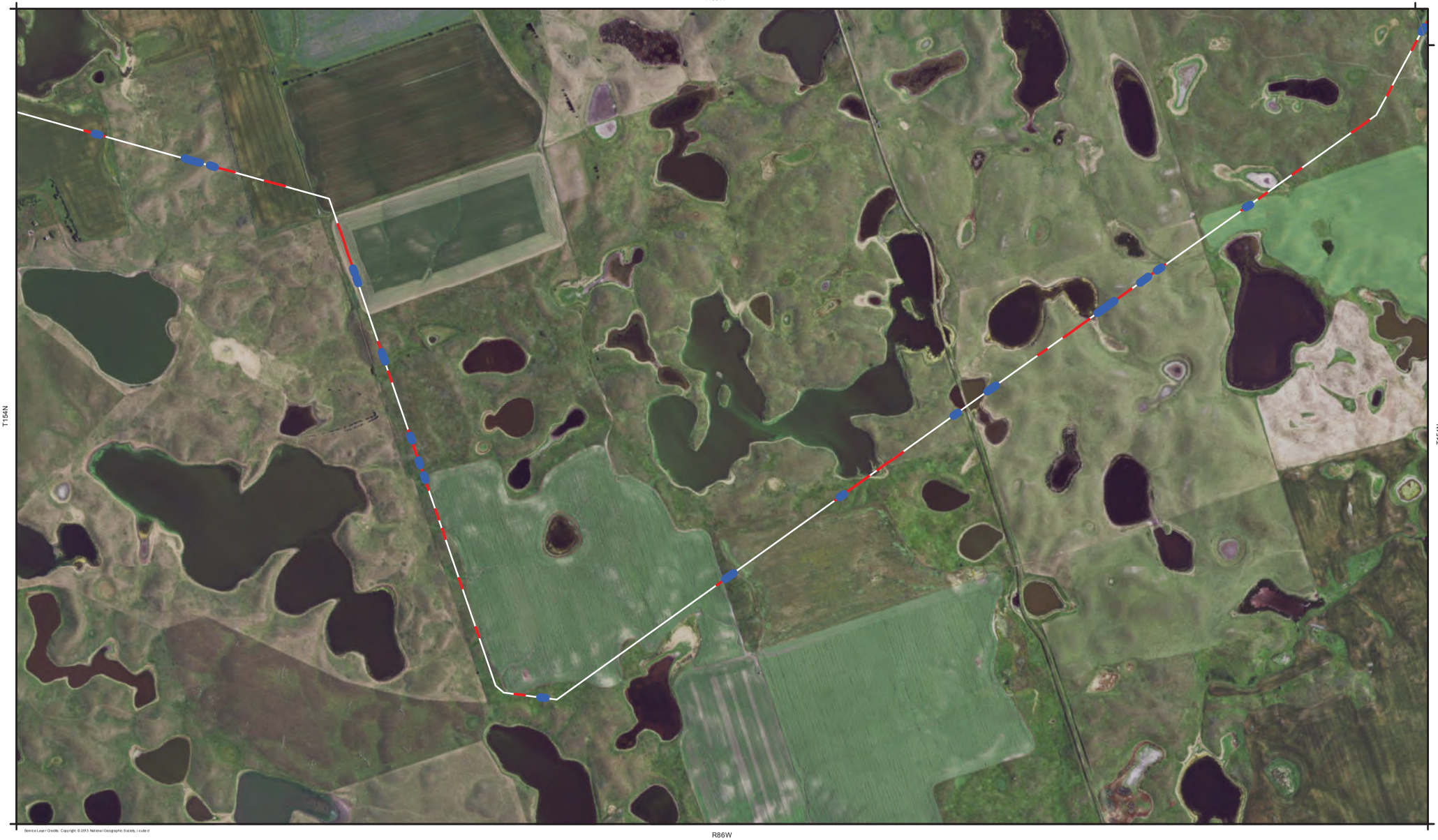
SWPPP Slope Percentages

0 400 800 1,600 Feet

N

W E

S



10% Slope for more than 50'

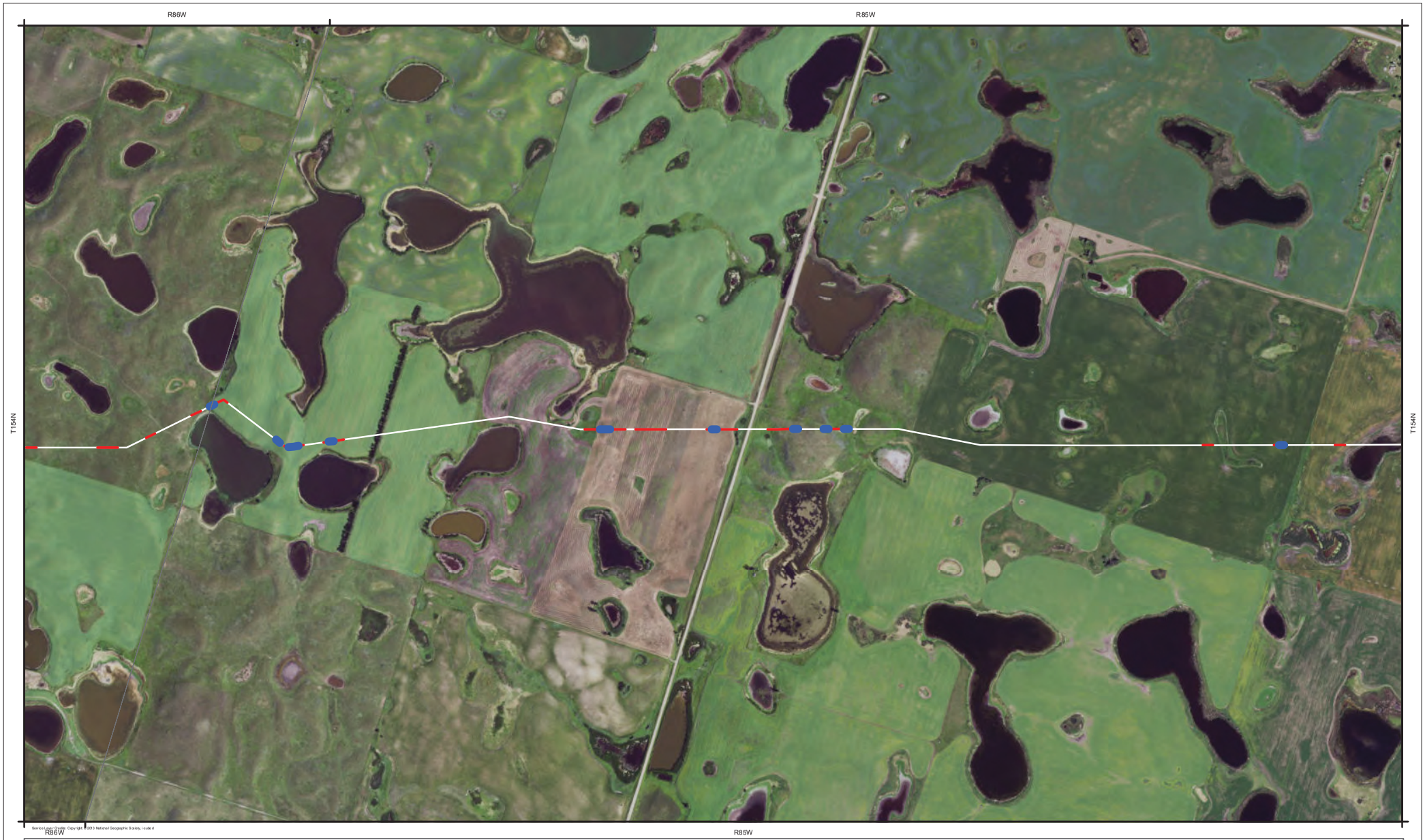
9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet



10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

R85W

T154N

T154N

R85W

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10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

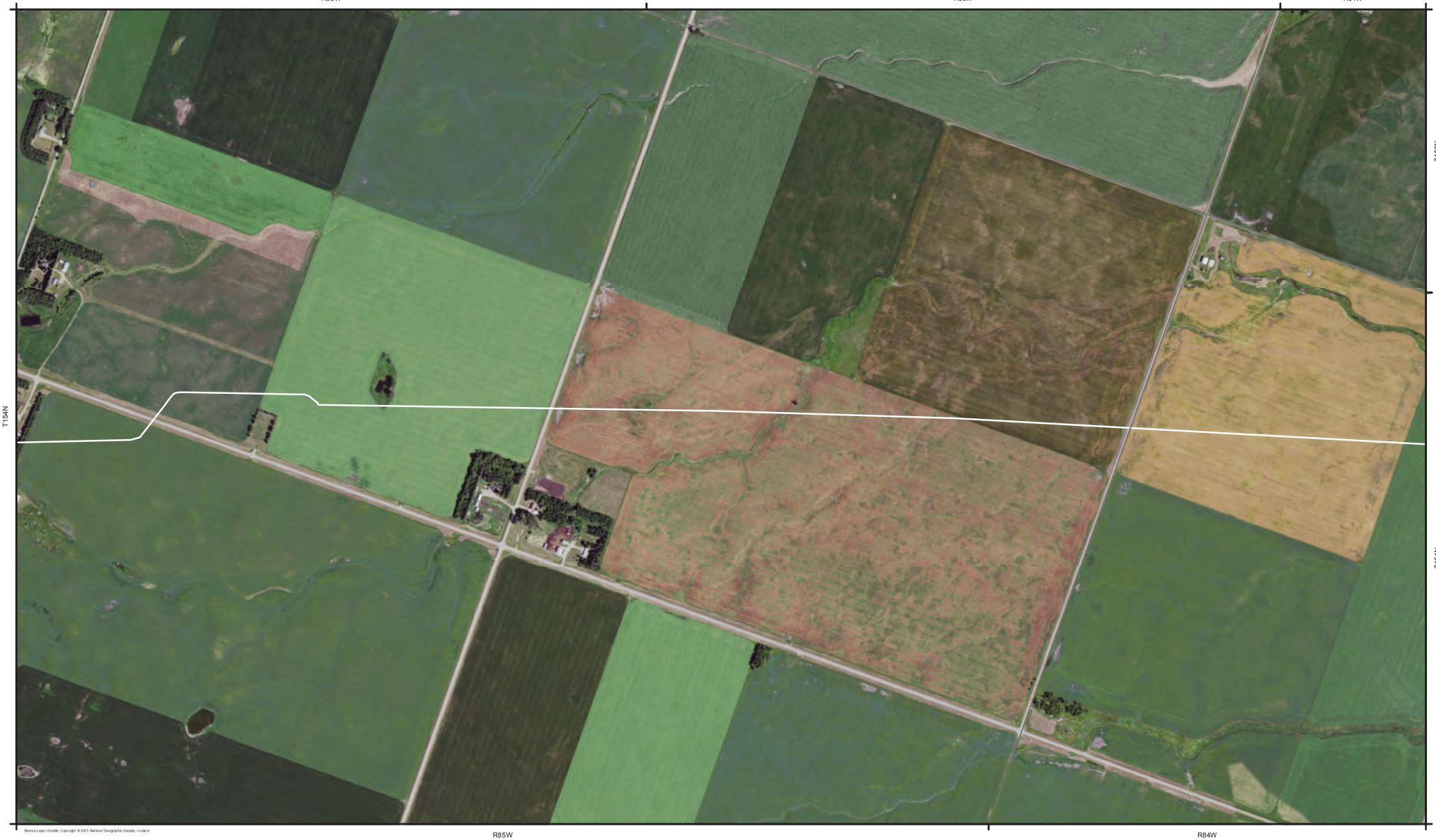
0 400 800 1,600

Feet

N

W E

S



10% Slope for more than 50'

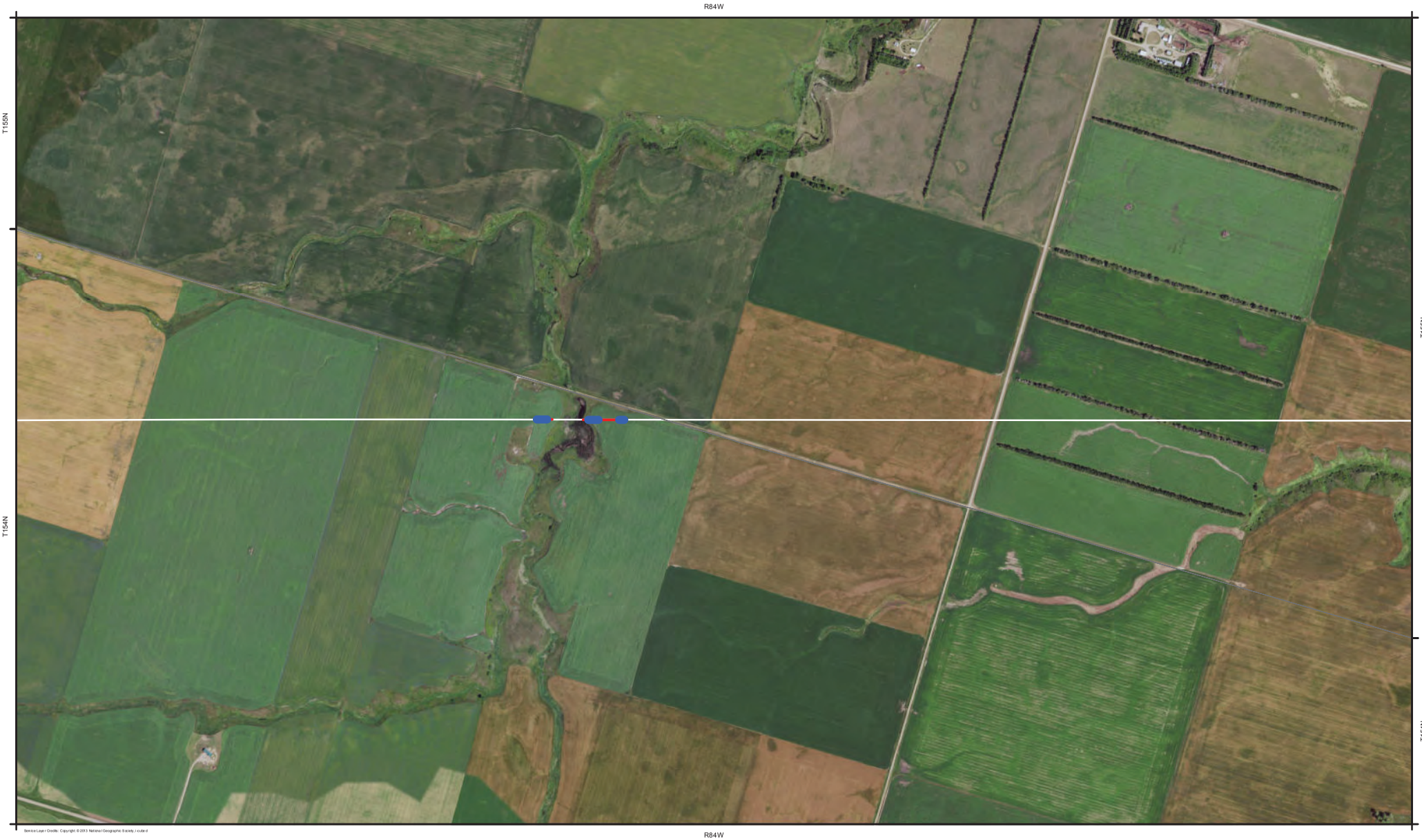
9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet



10% Slope for more than 50'
9.99990 - 99.000000
5% - 10% Slope for more than 100'
4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600
Feet

10% Slope for more than 50'

9.99990 - 99.000000

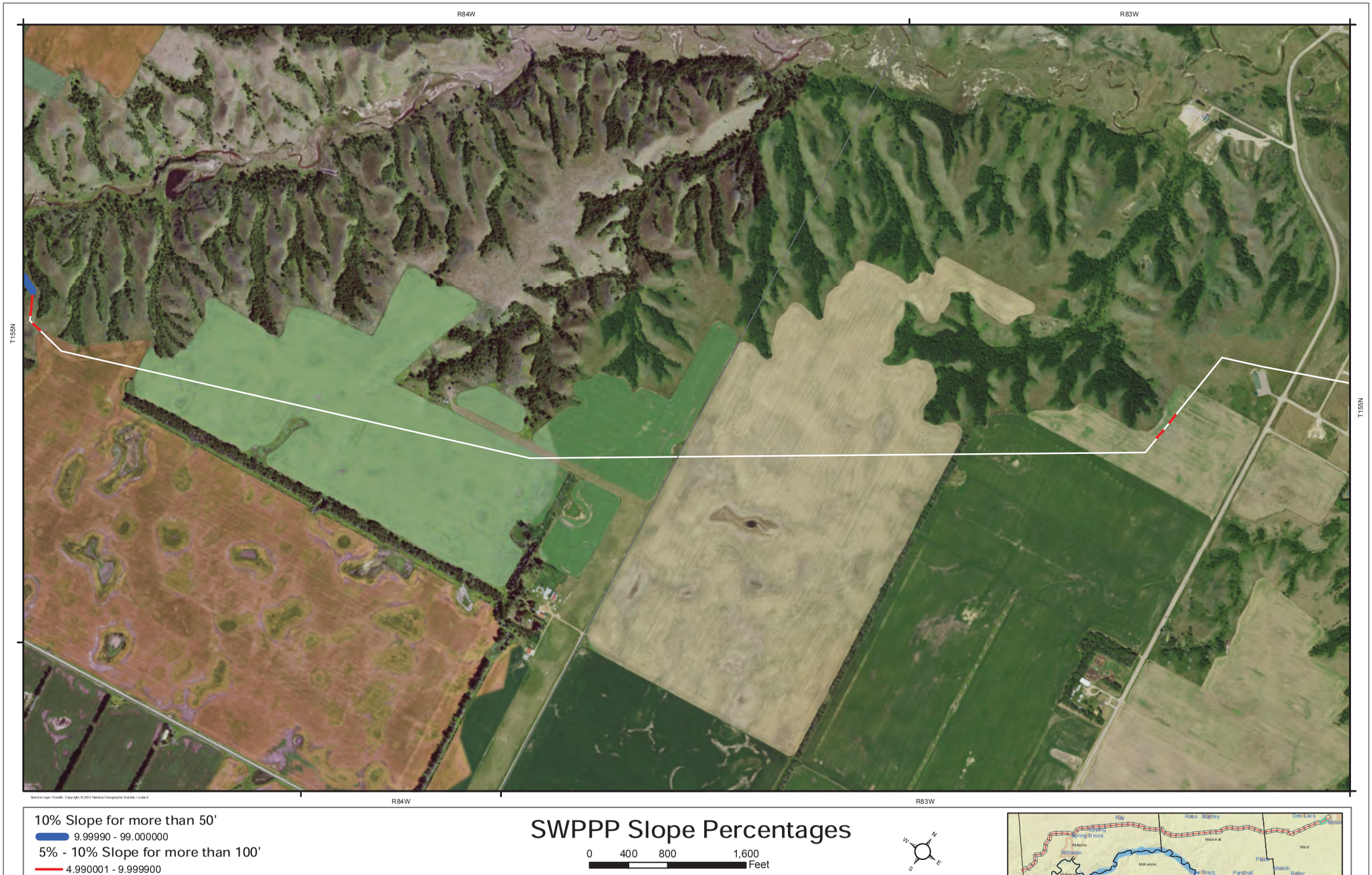
5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

N W E S



10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600 Feet

R83W

T155N

T155N

R83W

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10% Slope for more than 50'

9.99990 - 99.000000

5% - 10% Slope for more than 100'

4.990001 - 9.999900

SWPPP Slope Percentages

0 400 800 1,600

Feet