



December 29, 2023

ND Public Service Commission
600 E. Boulevard, Dept. 408
Bismarck, ND 58505-0480

Subject: Oliver Wind IV Energy Center and 345 kV Transmission Line Project
Oliver and Mercer Counties, ND

Mr. Kahl,

The North Dakota Game and Fish Department (Department) has been in discussion with NextEra Energy Inc. regarding wind energy development in North Dakota for many years. We were first made aware of this particular project as part of Red Butte Wind back in 2019 but were introduced to it as its own project in March of 2023. The project consists of up to 73 wind turbines and 19.5 miles of new transmission line.

Oliver Wind IV falls within areas of medium value to wildlife and habitat (Attachment 1). This is primarily due to the large amounts of grasslands within the area (Attachment 2). Because of this, planning a project and siting associated roads and infrastructure to avoid important wildlife resource areas, such as unbroken native grasslands, can be difficult in this particular project area. However, these measures are essential for sustaining the integrity of these valuable natural systems. NextEra has taken several steps to avoid and minimize impacts; we commend them for this. However, a project cannot be evaluated based solely on its avoidance and minimization efforts alone. When impacts are not able to be avoided and occur despite determined efforts, additional attention to address and balance the specific diminution to this community's wildlife resources (reduction of production potential), as well as to reduce mounting project-by-project residual impacts overall, is recommended as basic due diligence. Therefore, NextEra and the Department worked on a final impact analysis to determine likely impacts after minimization efforts and a recommended approach for habitat restoration if voluntary offsets should be pursued.

Based on this analysis, NextEra has voluntarily committed to offsetting 665 acres of grassland habitat. In the past, the Department has worked closely with developers and their chosen third-party contractors on the delivery of voluntary offset projects to ensure the correct acreage of restoration, proper seed mixes, appropriate management techniques, etc. (Attachment 3). New state law (NDCC 49-22-09.2. Mitigating Environmental Impacts.) directs that when a developer "elects to provide a payment to mitigate the environmental impact of the construction or operation of an energy conversion or transmission facility, the payment must be made to the ND Agriculture Commissioner who shall deposit the payment into the environmental impact mitigation fund", which has oversight by the Federal Environmental Law Impact Review Committee. Nevertheless, despite this additional oversight, the Department, as the agency responsible for managing and safeguarding the state's public wildlife resource, will continue to use the same standards and approach for recommending and evaluating the offset specifications for appropriately addressing specific residual wildlife impacts. If those standards are not met, we are responsible for

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PU-23-318
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Agency Correspondence
North Dakota Game & Fish Department
Greg Link, Chief

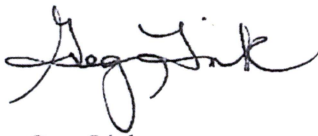
documenting and reporting the unaddressed impacts. It is essential for the public's resource that all parties strive to ensure that wildlife impacts are properly offset.

The Department believes, based on the impact analysis, that NextEra's commitment to restoring 665 acres of grasslands would sufficiently offset impacts to wildlife. Further, the Department is committed to providing technical assistance as needed to the Department of Agriculture to ensure the successful completion of these restorations (Attachment 4).

Lastly, the Department has one final comment of concern. Nearly 31% of the nation-wide Sharp-tailed Grouse population falls within North Dakota and declines to the state's population will likely lead to range-wide population declines. Sharp-tailed Grouse are a high-valued upland game bird, and because research indicated that prairie grouse may be adversely affected by energy development, the Department recommends that turbines be placed outside of nesting habitat (planted or native grasslands) that falls within buffer zones encompassing a 2-mile radius from known leks. When this is unavoidable, the Department recommends timing restrictions to minimize impacts during leking and nesting season. These timing restrictions are meant to be a last resort if a turbine cannot be located outside of the 2-mile buffer. In this project, however, 14 turbines placed in nesting habitat fall within that 2-mile buffer of 6 active leks (Attachment 5). It is unlikely that timing restrictions alone will have much effect on protecting the leks. In lieu of moving the turbines, the Department recommends that NextEra commit to a minimum of 5 years post-construction monitoring so that we may gain a better understanding of how high densities of turbines within the buffer zone might impact the success of leks and sharp-tailed grouse nests.

We are appreciative of NextEra's efforts to address the Department's concerns, as well as the Department of Agriculture's interest to see that wildlife impacts are appropriately addressed and offset. We look forward to working with all interested parties to ensure successful development with minimal impacts to wildlife and the state's hunting heritage.

Sincerely,



Greg Link
Chief, Conservation and Communications Division

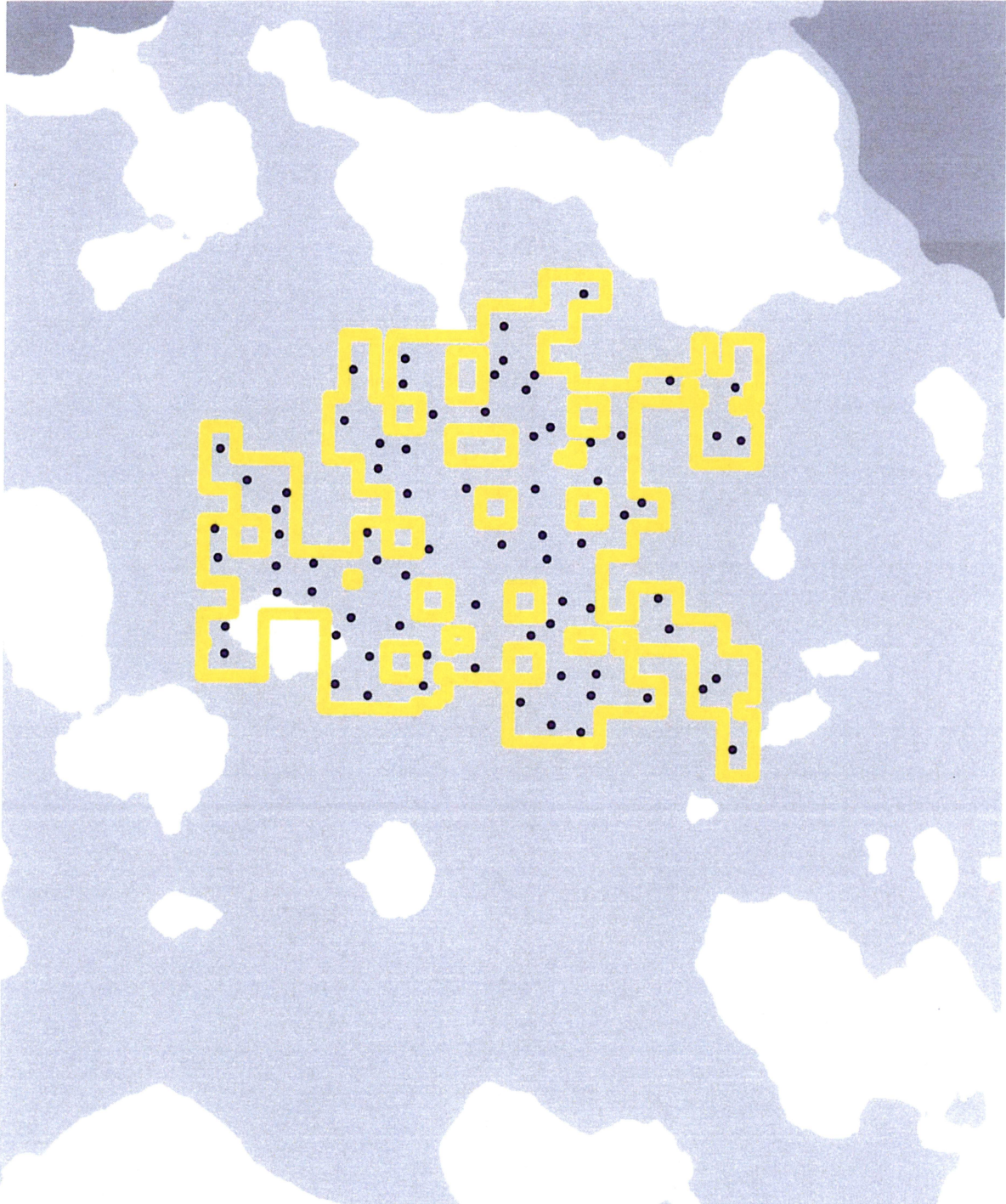
Cc: Dina Brown, NextEra Energy Inc.
Joseph Bialke, ND Department of Agriculture
Luke Toso, U.S. Fish and Wildlife Service

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Attachment 1. Key Native Wildlife Habitat Areas.



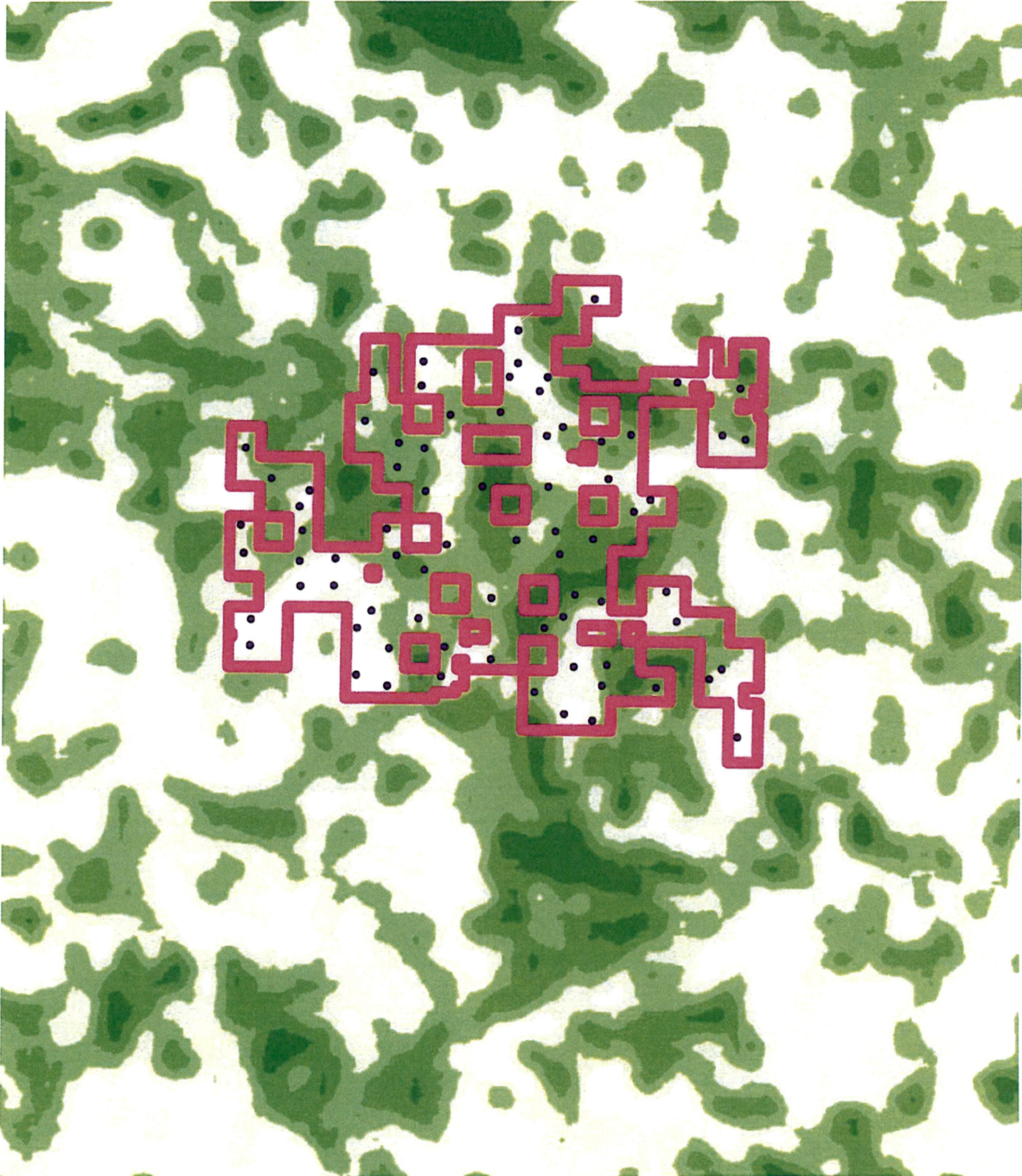
This Figure shows the project boundary and turbines along with the key native wildlife habitat areas. Areas of highest risk are depicted in dark gray, lowest risk in white, and medium risk is the soft gray which makes up most of the image.

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Attachment 2. Native Grasslands



This Figure shows the project boundary and turbines along with grassland density (highest=darkest green to lowest=white).

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Attachment 3. Offset Restoration Report

PDF inserted after this page

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Prairie Pothole Wetland and Grassland Habitat Restoration Plan

Year 1 Monitoring Report

Miller Property

Location: McHenry County, North Dakota

Coordinates: 48.433, -100.825 (WGS84)

Individual(s) conducting reporting field investigations: Andrew Pyszka, Mike Glester

Contact E-mail: mark@mitigation.org

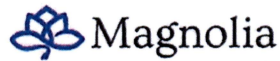


Prepared By:



Magnolia

Magnolia IL LLC
820 Davis Street, Suite 453
Evanston, IL 60201
October 31 2023



EXECUTIVE SUMMARY

The Miller Prairie Pothole and Grassland Restoration Site ("Site") is an approximately 162-acre parcel consisting of existing prairie pothole ("PPH") wetland, prior-drained PPH wetland, and upland habitat that has been altered by agricultural use. The objective of this project is to restore habitat functions to approximately 54.9 acres of PPH wetlands and 100.5 acres of agriculturally degraded grassland habitat. Restoration of these habitat functions will serve to benefit populations of the waterfowl and grassland birds that utilize these habitats, and to mitigate a portion of the unavoidable impacts to these populations that will result from the development and operation of the Burke Wind Project (the "Project").

The Site is generally bound by agricultural land in all cardinal directions. There is an unpaved service road on the southern border of the Site, used by neighboring farmers. The goal of management actions is to restore the prior-converted wetlands and grasslands to resume lost habitat functions such as surface water storage, subsurface water storage, nutrient cycling, removal and sequestration of nutrients and pollutants, retention of particulates, organic carbon export, native plant habitat, waterfowl habitat, and upland bird habitat.

Initial restoration actions occurred in 2022. Activities consisted of mechanical and chemical treatment of existing vegetation to reduce invasive species coverage, and the installation of ditch plugs to inhibit water movement over the Site and restore natural hydrology. These plugs allow the ecosystem to function as a true PPH wetland, rather than expelling water to farm drainages. A native prairie seed mix was then planted during the dormant season of late 2022 using a drill seeder in the grassland restoration area to enhance native species diversity and density.

Management actions performed in Year One were implemented to ensure that the ditch plugs remained viable and to nurture the establishment of the native seed mix. Actions included mapping management areas and herbicide application of invasive species. The seed mix was observed to have established well in many sections of the restoration area and is expected to expand throughout the Site on schedule. Twenty different native species have already been observed on the Site.

The Year One Monitoring Report presents the data from nine vegetation monitoring plots, grassland restoration forms from the seven grassland points, and photo reference locations, as required by the approved Site Restoration Plan. Monitoring activities were completed in August of 2023.

Growth of invasive plant species, predominantly leafy spurge and Canada thistle, was noted within vegetation monitoring sampling plots. Data presented shows the Site has an average invasive species coverage of 25.8%, which does not yet satisfy the Performance Standard of a maximum of 25% coverage of invasive species by the end of Year Five. The restoration schedule will ensure that invasive species cover is well on track to be below 25% by Year Five. Further treatment of invasive species via chemical application and mechanical removal is planned for Year Two.



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EXHIBITS

- Exhibit A: Monitoring Figure
- Exhibit B: Leafy Spurge Distribution Figure
- Exhibit C: Vegetative Community Assessment Data Sheets
- Exhibit D: Site Photographs

I. Project Goals and Background

A. Location and Setting

The Miller Prairie Pothole Wetland and Grassland Habitat Restoration Site ("Site") is located in Saline Township in McHenry County, North Dakota, approximately 11 miles north of the town of Granville, North Dakota. The approximate center point of the Site is located at 48.433, -100.825 (WGS84). The land in the vicinity of the Site is primarily agricultural land. Driving directions to the Site from Granville, ND are as follows:

1. Head north on 12th Ave N;
2. Take a right at 70th St N;
3. Proceed for approximately 0.5 miles; and
4. The Bank Site will be located on the left (north) side of 70th St N.

B. Project Goals and Objectives

The objective of this project is to restore habitat functions to approximately 54.9 acres of PPH wetlands and 100.5 acres of agriculturally degraded grassland habitat. Restoration of these habitat functions will serve to benefit populations of the waterfowl and grassland birds that utilize these habitats as migratory stopover sites, and will mitigate for a portion of the unavoidable impacts to these populations that will result from the development and operation of the Project.

C. Success Criteria

In accordance with the North Dakota Game and Fish (NDGF) May 2020 draft Wetland Restoration for Energy Offsets and the January 2020 draft Grassland Reconstruction for Energy Offsets guidance documents, the following Performance Standards are to be used by NDGF to assess project success in the restoration and enhancement areas:

1. Ditch plugs used to disable drainage infrastructure will be constructed at 8:1 side slopes.
2. Ditch plugs used to disable drainage infrastructure will be constructed at least 40ft in length.
3. Ditch plugs will remain in fully functional condition for 30 years.
4. Minimum native density in grassland restoration areas of two rhizomatous grass plants per square foot, or four plants per square foot for bunchgrasses or mixtures of bunch and rhizomatous type grasses; or in the case of grass/legume/forb mixtures, two grass plants and one legume or forb plant per square foot.
5. No more than 25 percent aerial coverage by invasive species across the Site by the end of year five.

II. Summary of Year One Management Actions

A full-scale herbicide treatment of glyphosate was conducted in late September of 2022. After this treatment, native seed was drilled in all the grassland areas. On November 16th of 2022, the ditch plugs throughout the Site were installed and assessed relative to the requirements set forth by the Performance Standards. Management in 2023 included invasive species mapping to identify specific infestations and monitor success, as shown in Exhibit B: Leafy Spurge Distribution Figure. In the summer of 2023, leafy spurge was boom sprayed throughout large portions of the Site. An herbicide designed for native prairie restorations was used, Plateau. As a result, there was significant die-off of spurge densities while most native species remained unaffected. These areas will be



monitored and assessed throughout 2024. Additionally, a 15-acre section of the Site exhibited reduced germination of the installed native seed. A follow-up visit indicated that some of the seed mix was beginning to establish. This section has been mapped, displayed as a Potential Reseeding Area in Exhibit B: Leafy Spurge Distribution Figure, and will be monitored for additional overseeding if needed.

III. Year One Monitoring Conditions

A. Description of Methods

The Monitoring Requirements are consistent with the NDGF May 2020 draft Wetland Restoration for Energy Offsets and the January 2020 draft Grassland Reconstruction for Energy Offsets guidance documents. Data was collected within sample plots surrounding nine sampling points in total, distributed throughout the Site. These fixed points will be consistently revisited throughout the remainder of the monitoring period. Locations of sample plots can be found in Exhibit A: Monitoring Figure. Herbaceous vegetation was sampled within a 10-foot radius of each sampling point. Data sheets for each grassland sampling point can be found in Exhibit C: Vegetative Community Data Sheets. Photographs were taken at each sampling point facing each cardinal direction to document the vegetative community and site status. Photographs from each sampling point can be found in Exhibit D: Site Photographs. Hydrology was qualitatively assessed across the entire Site following USACE wetland delineation guidelines. Quantitative measures of hydrology such as depth to water table or hydraulic conductivity were not assessed.

B. Hydrology Assessment

Precipitation in the two weeks prior to the Site visit was within normal ranges. The functionality of all ditch plugs has stayed consistent throughout the Year One, and no weakening or erosion has been observed.

C. Erosion and Sedimentation

No instances of new or worsening erosion or sedimentation were noted on the Site.

D. Vegetative Assessment

Sampling Point 1: Herbaceous vegetation within the 10-foot radius sampling plot included sow thistle (*Sonchus oleraceus*), white sweet clover (*Melilotus alba*), Canada goldenrod (*Solidago canadensis*), black eyed Susan (*Rudbeckia hirta*), annual ragweed (*Ambrosia artemisiifolia*), diffuse knapweed (*Centaurea diffusa*), alfalfa (*Medicago sativa*), and yellow sweet clover (*Melilotus officinalis*). The dominant species within the plot was white sweet clover (25%). Total invasive species cover was estimated to be 25%. Previous seeding trials have been successful in this area. Mowing of the sweet clover alongside the treatment of diffuse knapweed and sow thistle is scheduled to occur in 2024.

Sampling Point 2: Herbaceous vegetation within the 10-foot radius sampling plot included sedges (*Carex spp.*), purple prairie clover (*Dalea purpurea*), Canada goldenrod, Canada thistle (*Cirsium arvense*), absinth wormwood (*Artemisia absinthium*), white sweet clover, alfalfa, green needlegrass (*Nassella viridula*), and prairie cordgrass (*Spartina pectinata*). Sedges were the dominant species in the sampling point at 30% cover. All vegetation in this area was stunted and had less vigor than other sections. This is most likely because of the Hecla loamy fine sand within this area of the site, making water retention minimal. There were small sections of Canada thistle and absinth wormwood, comprising 5-10% invasive cover within this sampling point. Seeding efforts took very well in this area. Canada thistle and white sweet clover are scheduled to be treated in the spring of 2024.



Sampling Point 3: Herbaceous vegetation within the 10-foot radius sampling plot included black eyed Susan, silver wormwood (*Artemisia absinthium*), smooth brome (*Bromus inermis*), a domesticated wheat species, annual ragweed, wavy leaf thistle (*Cirsium undulatum*), Junegrass (*Koeleria macrantha*), white sweet clover, Russian thistle (*Salsola iberica*), Lewis blue flax (*Linum lewisii*), leafy spurge (*Euphorbia esula*), and Indian blanket (*Gaillardia aristata*). Junegrass was the dominant cover within the plot (20%). Invasive species cover was estimated to be 40%-45%, consisting of leafy spurge, absinth wormwood, and Russian thistle. This sampling point is within a strip of grassland restoration area surrounded by wetland restoration area. It should be noted that this point could have drastically different species composition year to year dependent on water holding and annual rainfall.

Sampling Point 4: Herbaceous vegetation within the 10-foot radius sampling plot included smooth brome, white sweet clover, common milkweed (*Asclepias syriaca*), wavy leaf thistle, Canada milkvetch (*Astragalus canadensis*), Junegrass, Canada thistle, absinth wormwood, Canada goldenrod, and annual ragweed. Smooth brome was the dominant vegetation and covered 35% of the sampling point. Overall invasive species cover is estimated at 5-10%, consisting of absinth wormwood and Canada thistle. This point is situated on the eastern side of the Site with dry sandy soils causing decrease above ground biomass in most individuals. This is an area that is being staged for overseeding the winter of 2023.

Sampling Point 5: Herbaceous vegetation within the 10-foot radius sampling plot included sow thistle, broad leaf cattail (*Typha latifolia*), sedges, white sweet clover, absinth wormwood, Canada goldenrod, and annual ragweed. This sampling point is in the wetland restoration area. Invasive cover is estimated at 15-20%. White sweet clover was the dominant vegetation and was estimated to be 35% within the sample area.

Sampling Point 6: Herbaceous vegetation within the 10-foot radius sampling plot included white sweet clover, sow thistle, prairie cordgrass, stiff sunflower (*Helianthus pauciflorus*), Russian thistle, Lewis blue flax, needle-and-thread grass (*Hesperostipa comata*), Indian blanket, western wheat grass (*Agropyron smithii*), and Canada goldenrod. White sweet clover was the dominant vegetation (40%). Invasive species coverage is estimated to be 40%. This point is directly atop one of the ditch plugs installed within the site. Since the ditch plugs were installed after the primary seeding application, this area may take longer to become ecologically stable. However, many of the species within that seed mix have migrated to this area.

Sampling Point 7: Herbaceous vegetation within the 10-foot radius sampling plot included sow thistle, Canada thistle, broad leaf cattail, and annual ragweed. All species shared even cover at approximately 25%. This sampling point is in the wetland restoration area. Invasive species cover is estimated at 50%

Sampling Point 8: Herbaceous vegetation within the 10-foot radius sampling plot included Russian thistle, maretail (*Conyza canadensis*), annual ragweed, alfalfa, white sweet clover, common milkweed, Lewis blue flax, meadow salsify (*Tragopogon pratensis*), Canada thistle, black eyed Susan, Indian blanket, snowberry (*Symphoricarpos occidentalis*), and cylindrical thimbleweed (*Anemone cylindrica*). The dominant vegetative species was white sweet clover at 40%. The overall invasive species cover is estimated at 30-35%, consisting of Russian thistle, alfalfa, meadow salsify, and Canada thistle. This point is on a peninsula of grassland restoration area that is surrounded by wetland restoration land. As wetland restoration work occurs, which is set for the summer of 2024, this area will see the benefits of that herbicide treatment and periodic mowing. Also, because of this geography, the species diversity and composition of this area could change dramatically year-to-year depending on annual rainfall, water retention, and other abiotic factors.



Sampling Point 9: Herbaceous vegetation within the 10-foot radius sampling plot included western wheat grass, smooth brome, sow thistle, common milkweed, alfalfa, Canada goldenrod, wavy leaf thistle, and yellow sweet clover. The dominant vegetative species was western wheat grass at 40%. The overall invasive species cover is estimated at 10%, consisting of sow thistle and alfalfa.

IV. Performance Standard Status

A. Ditch Plug Slopes

Standard: Ditch plugs used to disable drainage infrastructure will be constructed at 8:1 slopes.

Status: In Compliance

Explanation: Ditch plugs are in place and are still in compliance with 8:1 slopes.

B. Ditch Plug Lengths

Standard: Ditch plugs used to disable drainage infrastructure will be constructed at least 40ft in length.

Status: In Compliance

Explanation: All ditch plugs are still over 40 ft in length.

C. Ditch Plug Functionality

Standard: Ditch plugs will remain in fully functional condition for 30 years.

Status: In Compliance

Explanation: At their current state, there is no concern of the ditch plugs decaying or eroding for 30 years.

D. Native Species Density

Standard: Minimum native density in grassland restoration areas of two rhizomatous grass plants per square foot, or four plants per square foot for bunchgrasses or mixtures of bunch and rhizomatous type grasses; or in the case of grass/legume/forb mixtures, two grass plants and one legume or forb plant per square foot.

Status: In Progress

Explanation: It was expected to take 5 years to reach this standard. Species diversity is high and grassland density is higher than expected to be Year One in the grassland restoration areas. As further invasive species treatment and seeding occur, bunchgrass and rhizomatous type grass will establish and out compete the invasive annuals that are currently in high density. No hinderance to progression is observed.

E. Invasive Species Density

Standard: No more than 25 percent aerial coverage by invasive species across the Site by the end of Year Five.

Status: In Progress

Explanation: Invasive cover is currently at 25.8%. This is due to cover by sow thistle, Canada thistle, and Russian thistle on the North and West sides of the Site. Diffuse knapweed and absinth wormwood have colonies throughout the site in low densities. Overseeding of the wetland restoration area and parts of the grassland area



have yet to be done, which correlates to the areas of highest invasive species cover in Year One. Restoration plans to reduce invasive densities are on schedule to meet this Performance Standard by Year Five.

V. Proposed Year Two Management Actions

To continue to meet Performance Standards, no actions need be conducted on the ditch plugs during Year Two. General observations and checks will be made throughout the year to ensure that the functionality and physical integrity of the ditch plugs are still intact.

The primary focus of Year Two restoration efforts will be on reducing invasive species and promoting the establishment of installed native seed. As stated above, leafy spurge was chemically treated in 2023, reducing its density and population biomass on the Site. The North Dakota Forest Service recommends treating this species throughout a three-year period to completely eradicate it from rangelands and grasslands. Continued herbicide treatments are scheduled for the next two years, at minimum. Thistle and wormwood species are concentrated in colonies throughout the Site. Foliar applications of herbicide will be applied during the growing season of 2024.

To ensure adequate sunlight to installed native seed, some areas with dense herbaceous cover are scheduled to be mowed in 2024. Mowing of dense stands of cool-season grasses like smooth brome will occur while grasses are less than 12 inches tall to ensure that cut material doesn't shade out seedlings. White and yellow sweet clover is also scheduled to be mowed in 2024. Sweet clover can be beneficial to bird species, but in this early phase of restoration its ability to irregularly impact species diversity makes it a target during the establishment phase of this restoration. Mowing of this species will occur when the clover is in its flowering stage prior to seed set.

In the wetland restoration areas, Canada thistle, Russian thistle, sow thistle, and leafy spurge are the primary invasives scheduled for management in 2024. These will be treated via a combination of mowing and herbicide application. Overseeding of native herbaceous species will occur in the winter of 2023.

Year Two is a critical year for seedling development. Whenever possible, herbicide use will be limited and mowing will be the preferred method of vegetative management. This approach takes close monitoring of the project, so a minimum of three Site visits will be conducted during the growing season of 2024 such that management can be adjusted in response to unique Site conditions. Representative maps of conditions observed during monitoring visits will be made to better evaluate and track restoration progress.





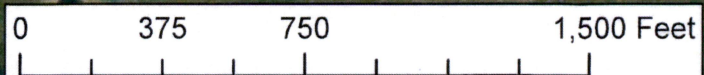
Exhibit A
Monitoring Figure





Legend

-  Parcel Boundaries
-  Grassland Restoration Area
-  Wetland Restoration Area
-  Approximate Ditch Plug Locations
-  Photo Sample Points



2023 Monitoring Figure

Miller Property
McHenry County, ND



Magnolia

Date: June 2023

Source: USGS, Esri



Exhibit B

Leafy Spurge Distribution Figure



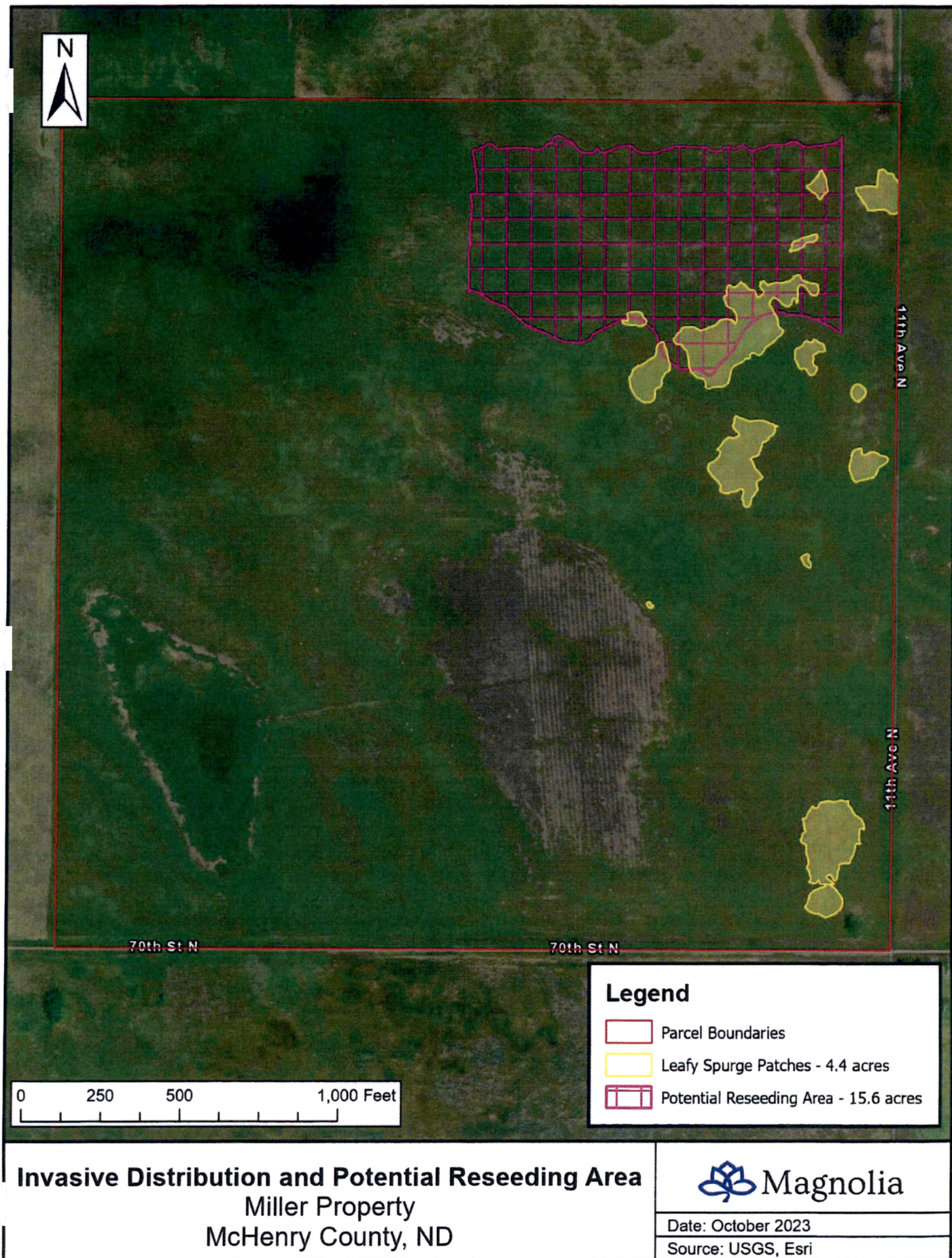




Exhibit C

Vegetative Community Assessment Data Sheets



Attachment 2:

Grassland Restoration Monitoring Form

Grassland Latitude/Longitude: _____ 48.4301, -100. 8266 _____

Checked by: _____ Andrew Pyszka _____

Date: _____ 8/15/2023 _____

Approved by: _____

Date: _____

Brief description of current grassland condition:

Herbaceous vegetation within the 10-foot radius sampling plot included western wheat grass (*Agropyron smithii*), smooth brome (*Bromus enermis*), sow thistle (*Sonchus oleraceus*), common milkweed (*Asclepias syriaca*), alfalfa grass (*Medicago sativa*), Canada goldenrod (*Solidago canadensis*), wavy leaf thistle (*Cirsium undulatum*), and yellow sweet clover (*Melilotus officinalis*). The dominant vegetative species was western wheat grass at 40%. The overall invasive species cover is estimated at 10%, consisting of sow thistle, and alfalfa.

Additional notes:

****Submission of photos from designated photo sites required with this form.**

Attachment 2:

Grassland Restoration Monitoring Form

Grassland Latitude/Longitude: _____ 48.4317, -100. 8224 _____

Checked by: _____ Andrew Pyszka _____

Date: _____ 8/15/2023 _____

Approved by: _____

Date: _____

Brief description of current grassland condition:

Herbaceous vegetation within the 10-foot radius sampling plot included Russian thistle (*Salsola iberica*), maretail (*Conyza canadensis*), annual ragweed (*Ambrosia artemisiifolia*), alfalfa grass (*Medicago sativa*), white sweet clover (*Melilotus alba*), common milkweed (*Asclepias syriaca*), lewis blue flax (*Linum lewisii*), meadow salsify (*Tragopogon pratensis*), Canada thistle (*Cirsium arvense*), black eyed Susan (*Rudbeckia hirta*), Indian blanket (*Gaillardia aristata*), snowberry (*Symphoricarpos occidentalis*), and cylindrical thimbleweed (*Anemone cylindrica*). The dominant vegetative species was White Sweet Clover at 40%. The overall invasive species cover is estimated at 30-35%, consisting of Russian thistle, alfalfa, meadow salsify, and Canada thistle.

Additional notes:

Point 8 is on a peninsula of grassland restoration that is surrounded by wetland restoration land. As wetland restoration work occurs, which is set to occur in the summer of 2024, this area will see the benefits of that herbicide treatment and periodic mowing. Also, because of this geography, the species diversity and composition of this area could be changed dramatically year to year depending on annual rainfall, water retention, and other abiotic factors.

****Submission of photos from designated photo sites required with this form.**

Attachment 2:

Grassland Restoration Monitoring Form

Grassland Latitude/Longitude: _____ 48.4315, -100. 8278 _____

Checked by: _____ Andrew Pyszka _____

Date: _____ 8/15/2023 _____

Approved by: _____

Date: _____

Brief description of current grassland condition:

Herbaceous vegetation within the 10-foot radius sampling plot included white sweet clover (*Melilotus alba*), sow thistle (*Sonchus oleraceus*), prairie cordgrass (*Spartina pectinata*), stiff sunflower (*Helianthus pauciflorus*), Russian thistle (*Salsola iberica*), Lewis blue flax, needle and thread grass (*Hesperostipa comata*), Indian blanket, western wheat grass (*Agropyron smithii*), and Canada goldenrod (*Solidago canadensis*). White sweet clover was the dominant vegetation (40%). Invasive species coverage is estimated to be 40%.

Additional notes:

Point 6 is directly atop on of the ditch plugs installed within the site. Because of this, the point was not seeded in the primary seeding application. However, many of the species within that seed mix have migrated to this area.

*****Submission of photos from designated photo sites required with this form.***

Attachment 2:

Grassland Restoration Monitoring Form

Grassland Latitude/Longitude: _____48.4334, -100.8294_____

Checked by: _____Andrew Pyszka_____

Date: _____8/15/2023_____

Approved by: _____

Date: _____

Brief description of current grassland condition:

Herbaceous vegetation within the 10-foot radius sampling plot included smooth brome (*Bromus inermis*), white sweet clover (*Melilotus alba*), common milkweed (*Asclepias syriaca*), wavy leaf thistle (*Cirsium undulatum*), Canada milkvetch (*Astragalus canadensis*), junegrass (*Koeleria macrantha*), Canada thistle (*Cirsium arvense*), absinth wormwood (*Artemisia absinthium*), Canada goldenrod (*Solidago canadensis*), and annual ragweed (*Ambrosia artemisiifolia*). Smooth brome was the dominate vegetation and covered 35% of the sampling point. Overall invasive species cover is estimated at 5-10%, consisting of absinth wormwood and Canada thistle,

Additional notes:

Point 4 is on the eastern edge of the site where seeding is scheduled to occur in the winter of 2023.

The dry, sandy soil was not conducive to the previous seeding operation. Encroachment of smooth brome has also created issues for biodiversity on this side.

*****Submission of photos from designated photo sites required with this form.***

Attachment 2:

Grassland Restoration Monitoring Form

Grassland Latitude/Longitude: 48.4343, -100.8235

Checked by: Andrew Pyszka

Date: 8/15/2023

Approved by: _____

Date: _____

Brief description of current grassland condition:

Herbaceous vegetation within the 10-foot radius sampling plot included black eyed Susan (*Rudbeckia hirta*), silver wormwood (*Artemisia absinthium*), smooth brome (*Bromus inermis*), a domesticated wheat species, annual ragweed (*Ambrosia artemisiifolia*), wavy leaf thistle (*Cirsium undulatum*), junegrass (*Koeleria macrantha*), white sweet clover (*Melilotus alba*), Russian thistle (*Salsola iberica*), Lewis blue flax (*Linum lewisii*), leafy spurge (*Euphorbia esula*), and Indian blanket (*Gaillardia aristata*). Junegrass was the dominant cover within the plot (20%). Invasive species cover was estimated to be 40%-45% within the plot.

Additional notes:

Sampling point 3 is within a strip of grassland restoration surrounded by wetland restoration area. This point could have drastically different species composition year to year dependent on water holding and annual rainfall.

****Submission of photos from designated photo sites required with this form.**

Attachment 2:

Grassland Restoration Monitoring Form

Grassland Latitude/Longitude: _____48.4351, -100.8271_____

Checked by: _____Andrew Pyszka_____

Date: _____8/15/2023_____

Approved by: _____

Date: _____

Brief description of current grassland condition:

Herbaceous vegetation within the 10-foot radius sampling plot included sedges (*Carex sp.*), purple prairie clover (*Dalea purpurea*), Canada goldenrod (*Solidago canadensis*), Canada thistle (*Cirsium arvense*), absinth wormwood (*Artemisia absinthium*), white sweet clover (*Melilotus alba*), alfalfa (*Medicago sativa*), green needlegrass (*Nassella viridula*), and prairie cordgrass (*Spartina pectinata*). The *Carex(s)* was the dominant species in the sampling point at 30% cover. All vegetation in this area was stunted and had less vigor than other sections. This is most likely because of the Hecla loamy fine sand within this area of the site, making water retention minimal. There were small sections of Canada thistle and absinth wormwood combining to 5-10% invasive cover within this sampling point.

Additional notes:

Seeding efforts took very well in this area, similar to point 1. White sweet clover is scheduled to be treated in the spring of 2024.

*****Submission of photos from designated photo sites required with this form.***

Attachment 2:

Grassland Restoration Monitoring Form

Grassland Latitude/Longitude: _____48.4360, -100.8245_____

Checked by: _____Andrew Pyszka_____

Date: _____8/15/2023_____

Approved by: _____

Date: _____

Brief description of current grassland condition:

Herbaceous vegetation within the 10-foot radius sampling plot included sow thistle (*Sonchus oleraceus*), white sweet clover (*Melilotus alba*), Canada goldenrod (*Solidago canadensis*), black eyed Susan (*Rudbeckia hirta*), annual ragweed (*Ambrosia artemisiifolia*), diffuse knapweed (*Centaurea diffusa*), alfalfa (*Medicago sativa*), and yellow sweet clover (*Melilotus officinalis*). The dominant species within the plot was white sweet clover (25%). Total invasive species cover was estimated to be 25%.

Additional notes:

Previous seeding trials have been successful in this area. Management of the sweet clover (mowing and herbicide treatment) is scheduled to occur in 2024.

*****Submission of photos from designated photo sites required with this form.***



Exhibit D

Site Photographs



Monitoring Point 1, facing North



Monitoring Point 1, facing East



Monitoring Point 1, facing South



Monitoring Point 1, facing West



Monitoring Point 2, facing North



Monitoring Point 2, facing East



Monitoring Point 2, facing South



Monitoring Point 2, facing West



Monitoring Point 3, facing North



Monitoring Point 3, facing East



Monitoring Point 3, facing South



Monitoring Point 3, facing West



Monitoring Point 4, facing North



Monitoring Point 4, facing East



Monitoring Point 4, facing South



Monitoring Point 4, facing West



Monitoring Point 5, facing North



Monitoring Point 5, facing East



Monitoring Point 5, facing South



Monitoring Point 5, facing West



Monitoring Point 6, facing North



Monitoring Point 6, facing East



Monitoring Point 6, facing South



Monitoring Point 6, facing West



Monitoring Point 7, facing North



Monitoring Point 7, facing East



Monitoring Point 7, facing South



Monitoring Point 7, facing West



Monitoring Point 8, facing North



Monitoring Point 8, facing East



Monitoring Point 8, facing South



Monitoring Point 8, facing West



Monitoring Point 9, facing North



Monitoring Point 9, facing East



Monitoring Point 9, facing South



Monitoring Point 9, facing West



Attachment 4. Grassland Reconstruction for Energy Development Offsets Guidance

PDF inserted after this page

Governor
Doug Burgum

Director
Jeb Williams

Deputy Director
Scott A. Peterson

Grassland Reconstruction for Energy Development Offsets

Background

North Dakota is a top producer of coal, oil and gas, and wind energy. Increased demand for energy causes stress on the state's wildlife resources from direct and indirect impacts to habitat. Voluntary offset measures by energy developers can help alleviate these impacts. This document outlines the parameters of a grassland reconstruction program for offsetting impacts to native grassland as a result of energy development. Delivery of grassland reconstruction will be accomplished through funding assistance provided to willing landowners and is completely voluntary.

Grassland Reconstruction Parameters

Grassland reconstruction is considered the reestablishment of native grassland habitat in key areas important to declining wildlife where it has been lost due to conversion. This would include, in most cases, planting cropland back to a diverse native grass/forb planting specifically designed for the soils, topography, precipitation, and other characteristics of the local area. A management plan is required to be implemented by the owner/operator on the newly established grassland acres. The reestablished grassland is intended to be utilized as working lands in a haying or grazing operation and not remain idle indefinitely. Because this grassland is reconstructed to offset for impacts resulting from an energy development project, the grassland will need to stay intact for the life of the specific development project.

I. Administrative Parameters

1. Eligible vendors:
 - a. Registered with the North Dakota Secretary of State.
 - b. Deliver all aspects of grassland reconstruction, including locating willing private landowners, execute and enforce the lease agreement(s), verify the grassland management plan is being implemented, and distribute payments.
 - i. use the flow chart "Evaluation for Grassland Offset" to prioritize offers
2. Geographic constraints:
 - a. Offset project delivered within county of impact (preferred) or county adjacent to impact (secondary).
 - b. Preference to local landowners within general vicinity of impact, but not within 0.5 miles of direct impact.
3. Lease agreements:
 - a. Commensurate with projected length of impact.
 - b. Notice of Agreement recorded on title.
4. Reporting requirements:
 - a. For all candidate restorations, a written summary for plans and specifications, including but not limited to worksheets detailing the acreage and depth of each restored wetland, seeding list, management plan, and a map showing the project location and wetland boundaries must be submitted to NDGF for approval.

5. Monitoring requirements:

- a. Verification the restoration was completed in year 1 and that it is not compromised in following years is required. See attachment 1 and 2 for the forms that must be submitted during monitoring.
 - i. Field monitoring: In-person field verification performed by third party or NDGF and photos will be submitted to both the third-party vendor and NDGF in years 1, 3, 15, and 25.
 1. In year 3, stand evaluation must be carried out by third-party and approved by NDGF before restoration can be fully incorporated into operation. (See Attachment 1)
 2. Years 1, 15, and 25 the standard from (Attachment 2) should be used for monitoring.
 - ii. Remote monitoring: Can include NDGF aerial image verification or with photos submitted by landowner.
 1. The standard form, as well as photo from points designated by NDGF will have to be submitted to both the third-party vendor and NDGF in years 5, 10, and 20.

II. Biological Parameters

1. Size/location constraints:
 - a. If the grassland reconstruction is <55 acres, it must be located adjacent to an extant grassland tract so the entire parcel will be ≥55 acres.
 - b. Land tract is adjacent to an extant grassland tract >55 acres (high priority).
 - c. Land tract is within 0.5 miles of an extant grassland tract >55 acres (medium priority).
 - d. Land tract is >0.5 miles from an extant grassland tract >55 acres (low priority).
2. Grassland establishment:
 - a. Refer to and follow *USDA-NRCS Herbaceous Vegetation Establishment Guide*:
 - i. Seeding dates (Part 1)
 - ii. Seedbed preparation (Part 2)
 - iii. Seeding equipment (Part 3)
 - iv. Drill calibration (Part 4)
 - v. Seed requirements (Part 5)
 - vi. Seeding depth (Part 6)
 - vii. Cover and companion crops (Part 7)
 - viii. Management and protection during establishment (Part 8)
 - ix. Procedure for stand evaluation (Part 9)
3. Selecting species and varieties:
 - a. Native grasses and forbs only.
 - b. Mixes designed to mimic the local natural conditions.
 - c. Determine the Ecological Sites from the soils information located in either the *Web Soil Survey* or the county specific soil interpretations (see FOTG, Section II - Soil Information).

- d. Mix must be selected from the Recommended Species by Ecological Site list associated with the MLRA (see FOTG, Section II- Upland and Riparian Ecological Site Descriptions, Range Site Descriptions and Reference Worksheets) of the site.
 - e. Mix must be a ratio of 50-to-50 grasses-to-forbs. However, spiking individual forb seeding rates is encouraged (see *Prairie Reconstruction Guidebook for North Dakota*), as this will promote establishment success.
 - f. The mix must contain a minimum of 6 grass species, 1 sedge, and 15 forbs. More specifically, the mix should include at least:
 - i. 1 cool-season bunch grass
 - ii. 1 cool-season rhizomatous grass
 - iii. 1 warm-season bunch grass
 - iv. 1 warm-season rhizomatous grass
 - v. 1 sedge species
 - vi. 4 forbs with early summer bloom period
 - vii. 4 forbs with mid-summer bloom period
 - viii. 4 forbs with late summer bloom period
 - g. Refer to Table 1 of the *Herbaceous Vegetation Establishment Guide* for recommended species and percent minimums and maximums for the Ecological Site(s).
 - h. Refer to *Herbaceous Vegetation Establishment Guide* for approved named varieties and full seeding rates of native grasses, forbs and shrubs. Use named varieties when available.
 - i. Refer to *ND-CPA-Planning or Data Sheet for Grass and/or Legume Seeding* to determine proper seeding rates (see FOTG, Section II, Ecological Sciences Forms).
4. Planning considerations:
- a. Where water erosion is a concern, all tillage and seeding operations should be performed across the general slope of the fields where appropriate. When seeding into light textured soils, adequate cover is required to prevent excessive erosion.
 - b. For improved germination, scarification of legumes with hard seed coats is recommended. Scarification is especially important with the following species: purple prairie clover, white prairie clover, leadplant and Canada milkvetch.
 - c. Slender wheatgrass and Canada Wildrye are short-lived species but establish rapidly and provides quick cover.
5. Guidelines for stand evaluation:
- a. Stand must have a minimum density of two rhizomatous grass plants per square foot, or four plants per square foot for bunchgrasses or mixtures of bunch and rhizomatous type grasses; or in the case of grass/legume/forb mixtures, two grass plants and one legume or forb plant per square foot.
 - i. See Part 9 of *Herbaceous Vegetation Establishment Guide* for additional guidance on stand evaluation.
 - ii. Stand success must be evaluated prior to fully incorporating restoration into operation.
 - 1. Stand evaluation will be carried out by third-party vendor in year 3 and submitted to NDGF for approval.

III. Landowner/Operator Parameters

1. Privately owned land only.
2. Public access encouraged but not required.
3. Commitment to a grassland management plan (required):
 - a. Grazing prohibited the first three years of contract to allow vegetation establishment
 - b. Managed grazing encouraged after the first three years.
 - i. Refer to *Prescribed Grazing - 528 Specification* for management after establishment.
 - c. Haying/mowing allowed on 1/3 tract annually with timing restrictions.
 - d. Prescribed fire allowed.
4. Offset payments:
 - a. Payment to landowner may be provided in lump sum or periodic disbursements, per landowner and vendor agreement.
 - b. Payments may include up to:
 - i. 100% cost-share for seed mix, site preparation, seeding, and management treatments.
 - ii. Loss of production (foregone revenue) payment for Years 1 - 3 of establishment. Suggest using the 5-year average non-irrigated cropland rental rate for the specified county per North Dakota Trust Lands current county rents and prices.
 - iii. Graduated operational transition payment provided for Years 4+ (declining percentage of full county rental rate/acre).
 - iv. Infrastructure cost-share for fencing and water development.
5. Buyout option:
 - a. If an agreement is exited, landowner must make a prorated repayment to account for remaining agreement services no longer provided. The vendor must determine a new offset site to replace the remaining services of the previous agreement.
6. Agreement extensions or alternatives to provide additional environmental benefits and services past the term of the original agreement are optional based on mutual consent of both parties or other conservation program providers.

IV. Ineligible Practices

1. Permanent easements.
2. Land acquisition.
3. Reconstruction on public land.

V. Resources

USDA Natural Resources Conservation Service Herbaceous Vegetation Establishment Guide
https://efotg.sc.egov.usda.gov/references/public/ND/Herbaceous_Veg_Est_Guide.pdf

USDA Natural Resources Conservation Service Web Soil Survey
<https://websoilsurvey.nrcs.usda.gov/app/>

Contact North Dakota Game and Fish for more information
ndgf@nd.gov Attn: Conservation Section

Updated: January 2020

NRCS Field Office Technical Guide (FOTG)

<https://efotg.sc.egov.usda.gov/#/details>

- Section II
 - *Soil Information*
 - *Upland and Riparian Ecological Site Descriptions, Range Site Descriptions and Reference Worksheets* (MLRA information)
- Section IV
 - Old Section IV
 - Ecological Sciences Forms
 - *ND-CPA-9 Planning or Data Sheet for Grass and/or Legume Seeding*
https://efotg.sc.egov.usda.gov/references/public/ND/ND-CPA-9_Herbaceous_Planting_Workbook.xlsm
 - Ecological Sciences Practices
 - *Herbaceous Vegetation Establishment Guide*
 - *Prescribed Grazing – 528 Prescribed Grazing Specification*
https://efotg.sc.egov.usda.gov/references/public/ND/528_specs_.pdf

Prairie Reconstruction Guidebook for North Dakota

<https://www.ag.ndsu.edu/publications/environment-natural-resources/prairie-reconstruction-guidebook-for-north-dakota>

Prairie Seedling and Seeding Evaluation Guide

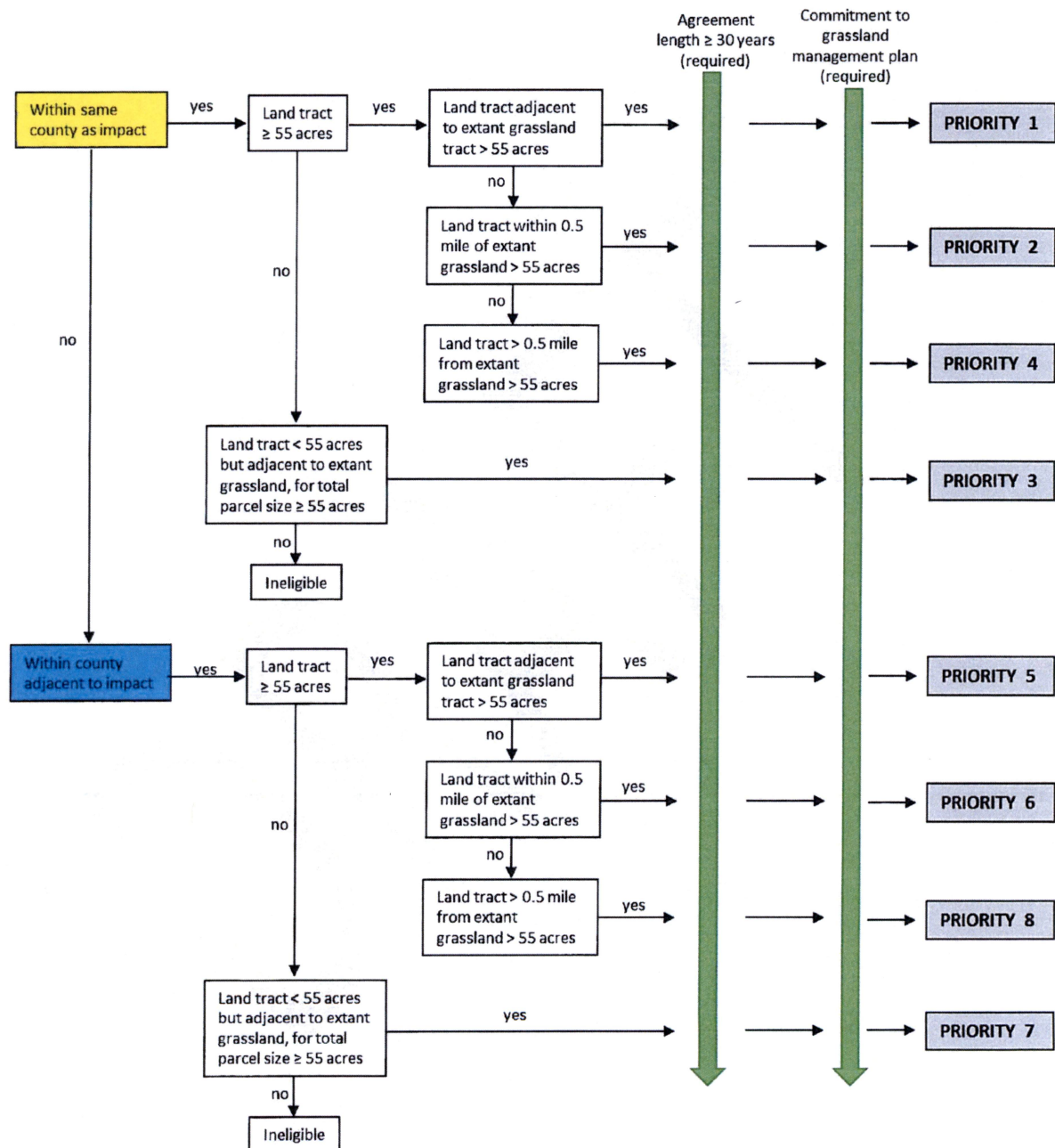
<https://secure.iowadot.gov/lrtf/docs/PrairieSeedlingGuide.pdf>

North Dakota Trust Lands County Rents and Prices North Dakota

<https://www.land.nd.gov/>

Or search for “County Rents and Prices North Dakota” and use current year.

Evaluation for Grassland Offset



Attachment 1.

Grass/Legume Stand Evaluation

Name: _____ Date: _____
 Transect No: _____ Clear Worksheet Tract / Field #: _____
 Completed By: _____ Legal Desc: _____ Sect: _____ Twshp: _____ Range: _____

Species and/or Variety	Plants / Square Foot Plot																									Total	Average Plants/SqR
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25		
1																											
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											
13																											
14																											
15																											
Totals Per Count																											

Indicate how field was sampled: 

Total number of plots: _____
 Average Density (plant/sq. foot): _____
 Plant Vigor: Low ☐ Medium ☐ High ☐
 Weed Competition: _____
 Comments: _____
 Recommendations to Cooperator: _____

Guidelines:
 → Sample in a systematic and uniform manner
 → Minimum of 10 plots for each 10 acres or less of field size
 → Avoid areas that may have been double-seeded
 → Sample perpendicular or diagonal to drill rows
 → Use a 1 square foot frame (12 in. X 12 in.) or count parallel drill rows:

Recommended Minimum Seeded Species Densities:
 Practices 512, 550: (3 - 5 plants per square foot)
 Practice 327 : (1 - 2 plants per square foot)

Use the lower limit for rhizomatous species; upper limit for bunch-type or mixtures) Refer to the "Herbaceous Vegetation Establishment Guide" for additional guidance.

Row spacing	No. of rows	Length
6 inches	2 rows	12.0 inches
7 inches	2 rows	10.3 inches
8 inches	2 rows	8.0 inches

Seeding Direction: _____
 Total Acres: _____

I certify that the above stand evaluation is documented per NRCS practice specifications.

NRCS Evaluator Signature: _____ Date: _____

Click and drag with your mouse the feature you want from the patterns below:

Transect Number & Lines	Field layout
 T 1  T 2  T 3  T 4  T 5  T 6	

Attachment 2:

Contact North Dakota Game and Fish for more information
ndgfg@nd.gov Attn: Conservation Section

Updated: January 2020

Grassland Restoration Monitoring Form

Grassland Latitude/Longitude:

Checked by:

Date:

Approved by:

Date:

Brief description of current grassland condition:

Additional notes:

*****Submission of photos from designated photo sites required with this form.***

Contact North Dakota Game and Fish for more information
ndgf@nd.gov Attn: Conservation Section

Updated: January 2020

Governor
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Deputy Director
Scott A. Peterson