

APPENDIX K – VEGETATION MANAGEMENT PLAN

Vegetation Management Plan

Flickertail Solar Project

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Prepared for

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Acronyms and Abbreviations

EPA	U.S. Environmental Protection Agency
Flickertail Solar	Flickertail Solar Project, LLC, a subsidiary of Savion Energy, LLC
gen-tie	Generation tie line
kV	Kilovolt
MET	Meteorological
MIPN	Midwest Invasive Plant Network
MW	Megawatt
NAISMA	North America Invasive Species Management Association
NDDA	North Dakota Department of Agriculture
NDDEQ	North Dakota Department of Environmental Quality
NDGFD	North Dakota Game and Fish Department
NDSU	North Dakota State University
NRCS	Natural Resources Conservation Service
O&M	Operations and maintenance
Plan	Vegetation Management Plan
PLS	Pure live seed
Project	Flickertail Solar Project
Project Area	Approximately 3,500 acres located north of Galchutt within Abercrombie Township, Richland County, North Dakota
PV	Photovoltaic
SCADA	Supervisory Control and Data Acquisition
USGS	U.S. Geological Survey

1.0 OBJECTIVES

1.1 Project Description

Flickertail Solar Project, LLC (Flickertail Solar), a subsidiary of Flickertail Solar Project, LLC (Flickertail), proposes to construct the Flickertail Solar Project (the Project), which will have a nameplate capacity of up to 300 megawatts (MW). The proposed Project is located on approximately 3,464 acres located north of Galchutt within Abercrombie Township, Richland County, North Dakota (Project Area; Figure 1). The Project will include photovoltaic (PV) solar panels and tracking racking systems; inverters; transformers; underground and aboveground electrical collection lines; security fencing, gates and equipment; new access roads, ingress/egress points, and improvements to existing roads; an operations and maintenance (O&M) facility; a collector substation; a 230-kilovolt (kV) overhead generation tie (gen-tie) line; and a supervisory control and data acquisition (SCADA) system; control house for protective relay panels and site controllers; meteorological equipment, including, but not limited to, up to six (6) anemometer meteorological (MET) monitoring weather stations; stormwater basins and/or other stormwater/drainage measures, as needed; and additional temporary facilities, including laydown yard(s), and improvements to public and private roads and driveways for delivery of materials and equipment. Flickertail has developed this Vegetation Management Plan (Plan) that will establish stable ground cover, promote pollinator habitat, reduce the potential for erosion and runoff, and improve infiltration.

1.2 Purpose of Vegetation Management Plan

The purpose of this Plan is to provide methods for planting, monitoring, and reporting with respect to the revegetation of areas temporarily disturbed during construction of the Project. This Plan specifically focuses on the restoration of lands within the solar array fence line. Outside of the solar array fence line, this Plan focuses on the restoration of disturbed, non-cultivated lands. Revegetation of disturbed cultivated crops beyond the solar array fence line during construction would occur in consultation with the landowner or farm operator.

Tree planting, if required, will comply with the North Dakota Public Service Commission's tree and shrub mitigation plan. The planting of trees per the mitigation plan may occur within portions of the Project Area not being proposed for Project facilities. Species composition and placement will be coordinated with the North Dakota Forest Service and participating landowners, and adhere to setbacks outlined by Abercrombie Township. The Project may also explore options within the surrounding community to coordinate on tree/shrub planting or engage in other activities that would provide long-term wildlife habitat and conservation benefits.

1.3 Project Impacts

Construction and operation of the Project will result in temporary and permanent impacts to vegetation, including alteration of existing ground cover within the solar array's perimeter fence lines. Temporary impacts to existing ground cover will occur in those work areas both within and outside of the solar array perimeter fence that will be disturbed during construction, but not occupied by permanent facilities. Temporary disturbance will occur in association with Project components such

as temporary laydown areas and temporary access roads, pulling areas for the transmission line, and areas around the perimeter fence.

Permanent impacts to vegetation will occur in locations where Project components are installed for the operational life of the Project (e.g., solar array panel posts, inverter pads, new permanent access roads, O&M building, Project substation, MET monitoring stations, stormwater basins, poles for overhead generation tie lines). Areas disturbed during construction that are not permanently impacted will be revegetated following completion of construction activities, as described in Section 2.0.

1.4 Environmental Setting

1.4.1 Ecoregion

The Project Area is in the U.S. Environmental Protection Agency (EPA) Lake Agassiz Plain Level III Ecoregion and the Glacial Lake Agassiz Basin (48a) Level IV Ecoregion. The Glacial Lake Agassiz Ecoregion is characterized by flat, cultivated farmland with stream networks feeding into the Red River (Bryce et al. 2006). Low gradients across the landscape leave this area prone to flooding and result in highly productive soils. Common crops grown in this fertile land include soybeans (*Glycine max*) and corn (*Zea mays*).

Interstate 29 divides the Project Area, and Pitcairn Creek intersects the northern Project Area (Figure 1). A railroad also runs northwest to southeast through the central portion of the Project Area. Notably, the Wild Rice River is located 0.5 miles directly east of the Project Area. The predominant land use in and surrounding the Project Area is cultivated crops.

1.4.2 Land Use and Land Cover

Based on a desktop review of the National Land Cover Database (USGS 2019), land cover for the Project Area consists primarily of cultivated crops, amounting to 3,280.2 acres (94.71 percent of the Project Area; Table 1). A field assessment conducted by Tetra Tech in 2024 substantiated this data.

Table 1. Land Cover Types in the Project Area

Land Cover Type ^{1/}	Acres ^{2/}	Percent of Project Area
Cultivated Crops	3,280.2	94.71
Developed, Open Space	86.1	2.49
Developed, Low Intensity	46.6	1.34
Emergent Herbaceous Wetland	24.7	<1
Developed, Medium Intensity	11.4	<1
Pasture/Hay	7.5	<1
Woody Wetlands	5.0	<1
Developed, High Intensity	0.9	<1
Deciduous Forest	0.6	<1
Herbaceous	0.3	<1
Barren Land (Rock/Sand/Clay)	0.2	<1
Total	3,463.4	100

1/ 2019 National Land Cover Database (USGS 2019)

2/ Acreage is approximate based on the KMZ file provided by Flickertail Solar for GIS desktop data and is not an official land survey or tax assessor parcel boundary

2.0 VEGETATION MANAGEMENT

2.1 Schedule

Temporary ground cover and pre-seeding will take place prior to construction. Permanent seeding and planting will occur following construction of the solar panels and tracking system, as planting before the post and panel installation would result in poor seed germination due to ongoing equipment maneuvering. The seeding methods and timing of planting will be appropriate for the seed mixes used (see Section 2.4), weather conditions (e.g., precipitation, wind speed, temperature, etc.), and site conditions (including area size, soil salinity, slope, and erosion potential) based upon recommendations by local and state agencies, as well as consultation with the seed supplier. Based on the high soil alkalinity present within the Project Area, seeding operations are recommended when soil salinity is at its lowest (NRCS 2019).

Growing season plantings should occur from May 1 through July 1, when soil temperature is at least 60 degrees Fahrenheit; however, the ideal timeframe for an early spring seeding is May 1 through June 15 (NDDEQ 2022; NRCS 2021a). Dormant seeding occurs after November 1, or after soil temperatures fall below 40 degrees Fahrenheit for a minimum of 5 consecutive days, but before soils freeze. Seeding rates are typically increased for frost seeding (i.e., late winter or early spring) due to lower germination rates and loss of seed consumed by wildlife over the winter months. If the planting is not successful, reseeding must be addressed when appropriate (NRCS 2021a; NDDEQ 2022).

If seeding is not accomplished within the specified dates above, a temporary cover crop may be planted and then tilled prior to permanent seeding, or a nurse crop may be planted along with the planned seed mix. Nurse and cover crop guidance is provided below in Sections 2.6.1 and 2.6.2.

Additionally, a variety of pollinator species should be planted beyond the solar array fence line (NRCS 2010). The purpose of this planting is to reduce windspeeds and promote pollinator habitat around the solar array. These plantings should occur post-construction and will coincide with reseeding effort timelines in the Project Area (Appendix 1). A variety of trees should be selected for buffering and screening, as needed. The tree planting locations should be selected in a manner that will maximize the trees' chances of survival. This is species-dependent and may require alternating species or other best practices.

2.2 Site Preparation

Mulching and other appropriate practices (e.g., soil binders or tackifiers) to control erosion and sediment will be used during revegetation work, as required. Additionally, mulching can reduce evaporation from the soil surface, thereby reducing the accumulation of salts in the soil surface. Methods of mulching may include crimping straw into the ground to a depth of 2 inches using a crimping disc or similar device to anchor the straw into the ground. If mulching is scheduled during periods of high winds, an alternative method to crimping is a uniformly applied soil bind or tackifier using hydroseed equipment (e.g., hydromulching, hydraulic mulching). If initial applications of mulch or other erosion and sediment control measures are not successful, they should be reapplied, as necessary.

2.3 Seedbed Preparation

The primary goals of seedbed preparation are: 1) to control weed species, and 2) to provide ideal growing conditions for the seed to be established. If undesirable weed vegetation is present, it must be removed prior to seeding. An herbicide application may be appropriate provided an EPA-approved formulation is used in adherence with labeled instructions by a licensed applicator. Herbicide should be selected and applied sufficiently in advance of seeding so as not to inhibit germination and growth of planted species. If glyphosate is used, seeding should be conducted at least 14 days after herbicide application.

Areas to be seeded will be prepared to produce a friable, smooth, firm seedbed. Conventional tillage should result in a clean tilled, smooth seedbed. Soil particles should be one-half of an inch or smaller in the top 1 inch of soil. Compacted soil prevents the seed from being planted at a proper depth and inhibits root penetration by new seedlings, severely reducing the establishment of the planted seed. Decompaction will be conducted by tilling the site to loosen the upper 4 inches of soil, followed by harrowing the site using a drag harrow or similar equipment. Use of a no-till seed drill requires a firm seedbed before seeding. The seedbed is considered firm when you can walk on it without sinking more than one-quarter to three-quarters of an inch (sole of shoe). Firming the seedbed after tillage operations can be achieved by rolling or culti-packing prior to planting. However, if a broadcast seeder is used for seeding, the site should be culti-packed only after seeding (NDSU 2022).

2.4 Seeding Method

The seeding method chosen will be based on site-specific factors, such as slope, erosion potential, and the size of the area in need of revegetation. Per general best practices and guidance from the Natural Resources Conservation Service (NRCS) Herbaceous Vegetation Establishment Guide (NRCS 2021a), recommended seeding methods include drill seeding or broadcast seeding. Although not specifically recommended in the reclamation techniques documents, hydroseeding is another common seeding method.

Native grasses and forbs may be planted by seed drill or broadcast. Use of a seed drill designed specifically to plant prairie grasses and forbs typically achieves greater stand success due to maximized seed to soil contact during planting. Guidance for both planting methods is provided below.

2.4.1 Drill Seeding

Drill seeding may be chosen for larger areas with deeper soils and moderate to gentle terrain to accommodate mechanical equipment. Native seeding is best achieved by use of a seed drill equipped with a double disc, or coulter furrow openers with depth bands and press wheels, cultipacker, or drag chains. Seed should be planted 1/8 to 1/2 inch deep. Application in two sweeps, with the second sweep applied at a right angle to the first, will promote even distribution of the seed. When seeding in two sweeps, calibrate the drill to apply seed at half of the required seeding rate. This method should also blend a nurse crop seed with the native seed to help distribute small, fine-textured native seed evenly across the site (see nurse crops in Section 2.6.1).

Seed drills should always be operated at the recommended speed (consult manual for model specifications). Excessive ground speed will cause the drill to plant the seed improperly. The seed drill

operator should inspect the drill and avoid use in wet conditions. Mud buildup on the depth bands should be cleaned off to prevent the seed box feeder tubes from becoming clogged. Should this happen, the operator can squeeze or shake the tubes to remove lodged seed.

If the seed level drops below the agitators in the seed boxes, seed will not feed as efficiently, resulting in uneven seeding. The drill operator should add seed to the seed boxes, as necessary. Toward the end of seeding the site, if the seed level drops below the agitators, filler material similar in size to the seed can be added to the seed box to increase the volume; however, this may necessitate adjusting the seeding rate. Vermiculite, cat litter or cracked corn can be used as filler.

2.4.2 Broadcast

Broadcast seeding is the application of seed directly on the ground surface. This method may be chosen for areas with shallow and rocky soils; the type of broadcast spreader used will depend on the size of the area to be seeded, as well as the terrain. If the broadcast seeding method is employed, selection of the broadcaster should account for mixes with varying seed sizes. Broadcast application should be performed in two sweeps in alternate directions, with half the seed applied in each sweep to ensure even distribution. This method should also blend a nurse crop seed with the native seed to help distribute small, fine textured native seed evenly across the site (see nurse crops in Section 2.6.1). After the seed is broadcast, it should be incorporated into the soil, which may be done using a drag harrow, dragging a piece of heavy chain, or raking in the seed with a garden rake before packing the soil with a culti-packer or lawn roller. Seeds should be planted 1/8 to 1/2 inch deep; however, it is acceptable to see up to one-third of the seed on the soil surface.

2.5 Seed Source and Quality

Seed and planting materials will meet North Dakota quality standards. All seed analyses must be conducted in accordance with the North Dakota Seed Law (N.D.C.C. Ch. 4.1-53), which specify the kind and amount of weed seed permitted, the requirements for a current analysis report, and labeling of all seed to show its purity, germination, date of last germination test, and weed content.

Seed will be obtained from a local seed supplier who can verify that the seed is best adapted to the topography, hydrology, soil, and climate conditions of the site and will provide genetic compatibility with native vegetation in proximity to the Project. Genetic source origin of all native seed should be from within a 200-mile radius of the site, and species should be true to their scientific names as specified. The contractor must provide Flickertail Solar with seed tags or nursery confirmation of the seed order prior to planting. Flickertail Solar will review and must approve in writing any species eliminations, substitutions, or source origin exceptions. Seeds should have proper stratification and/or scarification to break seed dormancy if planting in spring. All legumes shall be inoculated with proper rhizobia at the appropriate time before planting. The seed mixes selected for this site should not contain species considered noxious by federal, state, or local regulations (see Appendix A).

2.6 Seeding Mixtures

Revegetation will consist of seeding disturbed areas with a mix of primarily native grasses and forbs or a mix of native grasses, forbs, and shrubs that reflect the types of plants found in the Project Area and the region. Seed mixes will be purchased from a reputable seed supplier and will be North American

Invasive Species Management Association (NAISMA) certified weed-free. The seed mixes proposed for revegetation include a mixture of deep-rooted grass and forb plant species that promote site longevity and are best suited for site-specific conditions (i.e., soil salinity, climate, and erosion potential). Forbs included in the seed mixes were also chosen based on bloom period and pollinator preference (NRCS 2021a).

Seed mixes have been developed in consultation with the Richland County Soil Conservation District, North Dakota NRCS, and local seed retailers (Millborn 2023). Flickertail has developed native seed mixes for short-grass prairie, tall-grass prairie, and wet prairies suitable for the vegetative management practices of either traditional mowing or natural grazing (Appendix A). The actual seed mixes and composition will be based on available seed stock. The maintenance method has yet to be determined for the Project and will be selected prior to seed selection.

A short-grass prairie seed mix will be established within the panel footprint, and a tall-grass prairie seed mix will be planted in the open space between the fence and the array. For areas with a higher potential for water conveyance and storage, a wet prairie seed mix will be used. Both warm-season and cool-season native grasses and forbs were selected to promote pollinator habitat (NRCS 2011), enhance the diversity of native vegetation, and reduce the presence of non-native vegetation occurring in the Project Area.

2.6.1 Nurse Crop

A nurse crop should be planted with the planned seed mix to control erosion and suppress weeds. Seeding guidance (USDA 2020; NRCS 2021a) is as follows:

- Spring (May 1 to July 1): 10 pounds per acre pure live seed (PLS) oats or barley
- Fall (after September 15): 10 pounds per acre PLS winter wheat

Mowing the nurse crop before it forms a dense canopy and before it produces a seedhead will promote the growth of the native species. Winter wheat nurse crops must be mowed two or three times the following spring prior to seedhead emergence to prevent seed production and reduce long-term persistence.

2.6.2 Cover Crop

When cover crops are planted alone, pending a more favorable time to establish native vegetation, they are called temporary cover crops. Seeding recommendations (NRCS 2021b; NDSU 2022) are as follows.

- May 1 to August 5: 30 pounds per acre PLS oats or barley, and one of the following warm-season species:
 - 3 pounds per acre PLS alfalfa,
 - 8 pounds per acre PLS proso millet, or
 - 2 pounds per acre PLS sorghum grain.
- August 1 through winter months: 60 pounds per acre PLS winter wheat or cereal rye.

Cover crops should be destroyed the following spring with herbicides, tilling or mowing to prevent seed production and competition with the native seed.

2.7 Mulching

Preventive measures should be taken with respect to soil erosion, which can wash away seed and smother new seedlings. If temporary cover crops are not used, and if sufficient crop stubble is not present, noxious weed seed-free mulch (certified by NAISMA) should be applied at 2,000 pounds per acre in upland areas. The mulch should be disk-anchored to prevent movement and maintain 10 percent soil surface visibility (NDDEQ 2022). Hydromulch is a more expensive but also more effective option for soil stabilization. Hydromulch can be used in conjunction with the desired seed mix.

2.8 Management During Establishment

Prairie establishment in the first 2–3 years must focus on control of noxious weeds and other invasive vegetation. Species currently listed as noxious in North Dakota (NDDA 2023) that should be eradicated include:

- Absinth wormwood (*Artemisia absinthium*)
- Canada thistle (*Cirsium arvense*)
- Dalmatian toadflax (*Linaria genistifolia*)
- Diffuse knapweed (*Centaurea diffusa*)
- Houndstongue (*Cynoglossum officinale*)
- Leafy spurge (*Euphorbia esula*)
- Musk thistle (*Carduus nutans*)
- Palmer amaranth (*Amaranthus palmeri*)
- Purple loosestrife (*Lythrum salicaria*)
- Russian knapweed (*Acroptilon repens*)
- Saltcedar (*Tamarix chinensis*, *T. parviflora*, *T. ramosissima*)
- Spotted knapweed (*Centaurea maculosa*)
- Yellow toadflax (*Linaria vulgaris*)

The primary management tasks during establishment of the revegetation areas include site-wide mowing, spot-mowing, hand weeding, or spot-spraying to reduce shading of native seed and prevent invasive weeds from developing seed (NDSU 2024). The following sections describe the implementation of these measures.

2.8.1 Site-Wide Mowing

During the first three growing seasons after planting, the Contractor should mow all native seeded areas to a height of 8–10 inches after vegetation reaches a height of approximately 30 inches, but before non-native, invasive species go to seed (NRCS 2021a). Mowing below the recommended height can damage the long-term health of the planting. If practicable, mowed vegetation should be bagged and removed off site to prevent smothering new growth. Mowing equipment should be cleaned prior to use on site to prevent the spread of non-native and invasive species into the planting. Mowing should occur a minimum of two times during the first year and two times during the second and third year, or as necessary to achieve project goals.

2.8.2 Spot-Mowing

Spot-mowing areas with aggressive, fast-growing invasive or noxious weed presence can stress and prevent production of weed seed, promoting the overall establishment of native species. Spot-mowing should be conducted when dense, weedy areas reach up to 12 inches in height and before seed is allowed to set (NDSU 2024). Spot-mowing can be done every year pre- and post-establishment to ensure native plant health.

2.8.3 Hand Weeding

Hand weeding can be an effective method of controlling small populations of weeds. Hand weeding should be done when soils are moist, and care should be taken to avoid disturbing the root systems of desirable plants. Weed-specific tools and proper pulling technique should be used.

2.8.4 Spot-Spraying

Spot-spraying should target only noxious or invasive weed species. The Midwest Invasive Plant Network (MIPN 2024) and the North Dakota Weed Control Guide (NDSU 2024) provide control methods and herbicides for specific invasive and noxious plant species. A licensed herbicide applicator should be hired to apply the appropriate herbicide(s). To prevent inadvertent broadcast spraying of the planted prairie, it is recommended to place the prairie on the local “do not spray” list.

3.0 PERPETUAL MANAGEMENT

Planted areas typically require a minimum of two growing seasons to become established. Subsequent yearly management is required to control the establishment and spread of invasive species and reduce biomass/fuel load on site. This management may take the form of mowing (or haying) or grazing (depending on owner preference, and in coordination with the seed mixes selected and installed). Some degree of continued hand weeding and/or spot-spraying (discussed above) may be warranted and is encouraged to maintain prairie quality and achieve project goals.

3.1 Mowing/Haying

Annual site-wide mowing should be done in the month of October, or when prairie plants have gone dormant. Mowed vegetation should be bagged and removed to prevent smothering new growth; similarly, haying practices can be used. A 12–24 inch height is recommended for plant species after mowing or haying. Spot-mowing may be required during the growing season if invasive species become an issue in localized areas (see above). Care should be taken during nesting season (April 15 through August 1) to protect grassland birds (NDGFD 2019). Mowing equipment should be cleaned prior to use on site to prevent the spread of non-native and invasive species.

3.2 Grazing

Flickertail may use sheep or lambs as grazers to manage vegetation. Well-managed grazing can restrict woody vegetation and non-native species encroachment into grasslands, prevent excessive litter accumulation, improve forage production, and accelerate decomposition and nutrient cycling. Grazing activities should be deferred until a stand is fully established. A Grazing Vegetation Management Plan should be developed defining factors such as timing, potential disturbance, herd size, water sources, and grazing objectives if this management technique is used.

4.0 VEGETATION MONITORING

Upon completion of construction and initiation of revegetation, biannual monitoring is required to determine adequacy of stands and effectiveness of revegetation efforts. Timing of monitoring efforts, techniques, and successful revegetation criteria are determined by guidelines outlined in Part 9 of the North Dakota Herbaceous Vegetation Management Guide (NRCS 2021a). An annual report of findings from each monitoring effort and, if necessary, any remedial actions or adaptive management recommendations, will be presented until successful revegetation criteria are met.

4.1 Remedial Action and Adaptive Management

Remedial or adaptive management action options will be identified based on the results of annual monitoring. Recommended actions may include reseeding the affected area, overseeding with grasses if forbs are slow to establish, applying an alternative seed mix if germination rates were not sufficient, planting container plants, tree species management (i.e., pruning or trimming) if growth alters pollinator habitat, performing additional noxious weed control, “spot” seeding specific areas of weaker plant growth, or other measures as needed. Adaptive management actions that are implemented will be documented in a Plan Amendment (see Section 5.0).

5.0 PLAN AMENDMENT

This Plan is considered a draft Plan and will be updated, if necessary, to reflect changes to the Project. This Plan will be finalized prior to construction and will reflect the final layout of the Project. During the construction and operation of the Project, this Plan may be amended to include new information, adaptive management actions, updates to seed plans based on seed availability, or other changes to the Plan.

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FIGURES



APPENDIX A: VEGETATION MANAGEMENT SEED MIXES

GRAZING VEGETATION MANAGEMENT SEED MIXES

Short Prairie Mix (Array)
Grazing Vegetation Management Plan

Species	Common Name	Qty (lbs./acre)	% Composition
<i>Bouteloua curtipendula</i>	Side Oats Grama	1.9	25.0
<i>Schizachyrium scoparium</i>	Little bluestem	1.1	25.0
<i>Elymus trachycaulus</i>	Slender wheatgrass	0.7	12.5
<i>Pascopyrum smithii</i>	Western Wheatgrass	1.25	12.5
<i>Sporobolus heterolepis</i>	Prairie dropseed	0.25	5.0
<i>Achillea millefolium</i>	Yarrow	0.02	4.0
<i>Ratibida columnifera</i>	Upright prairie coneflower	0.03	2.0
<i>Rudbeckia hirta</i>	Black-eyed Susan	0.02	2.0
<i>Zizia aurea</i>	Golden alexanders	0.12	2.0
<i>Allium stellatum</i>	Prairie onion	0.06	1.0
<i>Anemonastrum canadense</i>	Canada anemone	0.1	1.0
<i>Aquilegia canadensis</i>	Wild columbine	0.03	1.0
<i>Artemisia ludoviciana</i>	White sagebrush	0.01	1.0
<i>Asclepias tuberosa</i>	Butterfly milkweed	0.16	1.0
<i>Astragalus canadensis</i>	Canadian milkvetch	0.04	1.0
<i>Dalia purpurea</i>	Purple prairie clover	0.04	1.0
<i>Helianthus maximiliani</i>	Maximilian sunflower	0.01	1.0
<i>Symphyotrichum ericoides</i>	White heath aster	0.01	1.0
<i>Trifolium pratense</i>	Red clover	0.05	1.0
Total		5.90	100.0

Tall Prairie Mix (Open)
Grazing Vegetation Management Plan

Species	Common Name	Qty (lbs./acre))	% Composition
<i>Andropogon gerardii</i>	Big bluestem	1.5	20
<i>Panicum virgatum</i>	Switchgrass	0.55	15
<i>Elymus trachycaulus</i>	Slender wheatgrass	0.65	15
<i>Sporobolus michauxianus</i>	Prairie cordgrass	1.0	10
<i>Sporobolus heterolepis</i>	Prairie dropseed	0.60	10
<i>Sorghastrum nutans</i>	Indian grass	0.45	5
<i>Bouteloua curtipendula</i>	Side oats grama	0.19	2.5
<i>Elymus canadensis</i>	Canada wild rye	0.19	2.5
<i>Helianthus maximiliani</i>	Maximilian sunflower	0.02	2
<i>Ratibida columnifera</i>	Upright prairie coneflower	0.03	2
<i>Rudbeckia hirta</i>	Black-eyed Susan	0.02	2
<i>Schizachyrium scoparium</i>	Little bluestem	0.09	2
<i>Achillea millefolium</i>	Yarrow	0.01	1
<i>Allium stellatum</i>	Prairie onion	0.06	1
<i>Asclepias tuberosa</i>	Butterfly milkweed	0.16	1
<i>Dalia purpurea</i>	Purple prairie clover	0.04	1
<i>Monarda fistulosa</i>	Wild bergamot	0.01	1
<i>Solidago altissima</i>	Tall goldenrod	0.01	1
<i>Solidago rigidum</i>	Stiff goldenrod	0.01	1
<i>Symphyotrichum ericoides</i>	White heath aster	0.01	1
<i>Verbena stricta</i>	Hoary vervain	0.02	1
<i>Veronia fasciculata</i>	Ironweed	0.03	1
<i>Zizia aurea</i>	Golden alexanders	0.06	1
<i>Liatris aspera</i>	Rough blazing star	0.01	0.5
<i>Liatris pycnostachya</i>	Prairie blazing star	0.01	0.5
Total		5.73	100.0

Wet Prairie Mix
Grazing Vegetation Management Plan

Species	Common Name	Qty (lbs./acre)	% Composition
<i>Andropogon gerardii</i>	Big bluestem	1.88	25
<i>Elymus virginicus</i>	Virginia wild rye	2.50	25
<i>Sporobolus michauxianus</i>	Prairie cord grass	0.70	10
<i>Pascopyrum smithii</i>	Western wheatgrass	1.25	5
<i>Asclepias incarnata</i>	Swamp milkweed	0.45	3
<i>Helianthus grosseserratus</i>	Saw-tooth sunflower	0.04	2.5
<i>Panicum virgatum</i>	Switch grass	0.11	2.5
<i>Sorghastrum nutans</i>	Indian grass	0.18	2.5
<i>Verbena hastata</i>	Blue vervain	0.03	2.5
<i>Achillea millefolium</i>	Western Yarrow	0.01	2
<i>Carex pellita</i>	Broad leaved woolly sedge	0.07	2
<i>Desmodium canadense</i>	Showy tick trefoil	0.25	2
<i>Bolboschoenus maritimus</i>	Salt-marsh bulrush	0.05	1
<i>Calamagrostis canadensis</i>	Blue joint grass	0.01	1
<i>Carex vulpinoidea</i>	Fox sedge, Brown fox sedge	0.01	1
<i>Eupatorium perfoliatum</i>	Common boneset	0.01	1
<i>Euthamia graminifolia</i>	Grass-leaved goldenrod	0.01	1
<i>Glyceria grandis</i>	Reed manna grass	0.02	1
<i>Glyceria striata</i>	Fowl manna grass	0.01	1
<i>Helenium autumnale</i>	Sneezeweed	0.01	1
<i>Melilotus officinalis</i>	Yellow sweet clover	0.04	1
<i>Mimulus ringens</i>	Monkey flower	0.01	1
<i>Poa palustris</i>	Fowl bluegrass	0.01	1
<i>Symphyotrichum puniceum</i>	Marsh aster	0.02	1
<i>Trifolium pratense</i>	Red Clover	0.05	1
<i>Vernonia fasciculata</i>	Common ironweed	0.03	1
<i>Veronicastrum virginicum</i>	Culver's root	0.01	1
<i>Zizia aurea</i>	Golden alexanders	0.06	1
Total		7.83	100.0

MOWING VEGETATION MANAGEMENT SEED MIXES

Short Prairie Mix (Array)
Mowing Vegetation Management Plan

Species	Common Name	Qty (lbs./acre)	% Composition
<i>Bouteloua curtipendula</i>	Side Oats Grama	1.90	25
<i>Schizachyrium scoparium</i>	Little bluestem	1.90	25
<i>Elymus trachycaulus</i>	Slender wheatgrass	0.55	10
<i>Hesperostipa comata</i>	Needle and thread grass	0.95	10
<i>Sporobolus heterolepis</i>	Prairie dropseed	0.25	5
<i>Dalea candida</i>	White prairie clover	0.09	2
<i>Dalea purpurea</i>	Purple prairie clover	0.09	2
<i>Desmodium canadense</i>	Showy tick trefoil	0.25	2
<i>Helianthus maximiliani</i>	Maximilian sunflower	0.02	2
<i>Achillea millefolium</i>	Yarrow	0.01	2
<i>Allium stellatum</i>	Prairie onion	0.06	1
<i>Anemonastrum canadensis</i>	Canada anemone	0.01	1
<i>Aquilegia canadensis</i>	Wild columbine	0.03	1
<i>Artemisia ludoviciana</i>	White sagebrush	0.01	1
<i>Asclepias tuberosa</i>	Butterfly milkweed	0.16	1
<i>Astragalus canadensis</i>	Canadian milk vetch	0.04	1
<i>Gaillardia aristata</i>	Blanket flower	0.07	1
<i>Pedimelum argophyllum</i>	Silverleaf scurfpea	0.02	1
<i>Pycnanthemum virginianum</i>	Virginia mountain mint	0.01	1
<i>Ratibida columnifera</i>	Upright prairie coneflower	0.02	1
<i>Rudbeckia hirta</i>	Black-eyed Susan	0.01	1
<i>Solidago rigida</i>	Stiff goldenrod	0.01	1
<i>Symphyotrichum ericoides</i>	White heath aster	0.01	1
<i>Symphyotrichum laeve</i>	Smooth blue aster	0.02	1
<i>Zizia aurea</i>	Golden alexanders	0.06	1
Total		6.55	100.0

Tall Prairie Mix (Open)
Mowing Vegetation Management Plan

Species	Common Name	Qty (lbs./acre)	% Composition
<i>Andropogon gerardii</i>	Big bluestem	1.50	20
<i>Elymus canadensis</i>	Canada wild rye	1.50	20
<i>Bouteloua curtipendula</i>	Side Oats grama	0.75	10
<i>Elymus trachycaulus</i>	Slender wheatgrass	0.55	10
<i>Sorghastrum nutans</i>	Indian grass	0.35	5
<i>Panicum virgatum</i>	Switch grass	0.11	2.5
<i>Sporobolus heterolepis</i>	Prairie dropseed	0.13	2.5
<i>Asclepias tuberosa</i>	Butterfly milkweed	0.32	2
<i>Astragalus canadensis</i>	Canadian milk vetch	0.08	2
<i>Dalea candida</i>	White prairie clover	0.08	2
<i>Dalea purpurea</i>	Purple prairie clover	0.08	2
<i>Desmodium canadense</i>	Showy tick trefoil	0.25	2
<i>Gaillardia aristata</i>	Blanket flower	0.14	2
<i>Heliopsis maximiliani</i>	Maximilian sunflower	0.02	2
<i>Ratibida columnifera</i>	Upright prairie coneflower	0.03	2
<i>Schizachyrium scoparium</i>	Little bluestem	0.09	2
<i>Achillea millefolium</i>	Yarrow	0.01	1
<i>Allium stellatum</i>	Prairie onion	0.6	1
<i>Liatris pycnostachya</i>	Prairie blazing star	0.01	1
<i>Liatris aspera</i>	Rough blazing star	0.01	1
<i>Monarda fistulosa</i>	Wild bergamot	0.01	1
<i>Oligoneuron rigidum</i>	Stiff goldenrod	0.01	1
<i>Pycnanthemum virginianum</i>	Virginia mountain mint	0.01	1
<i>Rudbeckia hirta</i>	Black-eyed Susan	0.01	1
<i>Symphyotrichum ericoides</i>	Heath aster	0.01	1
<i>Symphyotrichum laeve</i>	Smooth blue aster	0.02	1
<i>Verbena stricta</i>	Hoary vervain	0.02	1
<i>Zizia aurea</i>	Golden alexanders	0.06	1
Total		6.76	100.0

Wet Prairie Mix
Mowing Vegetation Management Plan

Species	Common Name	Qty (lbs./acre)	% Composition
<i>Andropogon gerardii</i>	Big bluestem	1.88	25
<i>Elymus virginicus</i>	Virginia wild rye	2.50	25
<i>Spartina pectinata</i>	Prairie cord grass	0.70	10
<i>Pascopyrum smithii</i>	Western Wheatgrass	1.25	5
<i>Asclepias incarnata</i>	Swamp milkweed	0.38	2.5
<i>Carex vulpinoidea</i>	Fox sedge, Brown fox sedge	0.03	2.5
<i>Desmodium canadense</i>	Showy tick trefoil	0.31	2.5
<i>Panicum virgatum</i>	Switch grass	0.11	2.5
<i>Sorghastrum nutans</i>	Indian grass	0.18	2.5
<i>Verbena hastata</i>	Blue vervain	0.03	2.5
<i>Carex pellita</i>	Broad leaved woolly sedge	0.07	2
<i>Helianthus grosseserratus</i>	Sawtooth sunflower	0.03	2
<i>Anemone canadensis</i>	Meadow/Canada anemone	0.10	1
<i>Bolboschoenus maritimus</i>	Salt-marsh bulrush	0.05	1
<i>Calamagrostis canadensis</i>	Blue joint grass	0.01	1
<i>Eupatorium perfoliatum</i>	Common boneset	0.01	1
<i>Euthamia graminifolia</i>	Common grass-leaved goldenrod	0.01	1
<i>Glyceria grandis</i>	Reed manna grass	0.02	1
<i>Glyceria striata</i>	Fowl manna grass	0.01	1
<i>Helenium autumnale</i>	Sneezeweed	0.01	1
<i>Lobelia siphilitica</i>	Great blue lobelia	0.01	1
<i>Mimulus ringens</i>	Monkey flower	0.01	1
<i>Poa palustris</i>	Fowl bluegrass	0.01	1
<i>Scirpus atrovirens</i>	Green bulrush	0.01	1
<i>Symphotrichum puniceum</i>	Marsh aster	0.02	1
<i>Vernonia fasciculata</i>	Common ironweed	0.03	1
<i>Veronicastrum virginicum</i>	Culver's root	0.01	1
<i>Zizia aurea</i>	Golden alexanders	0.06	1
Total		7.85	100.0

EXTERIOR VEGETATION MANAGEMENT SEED MIX

Pollinator Mix (Outside Array)
Vegetation Management Plan

Species	Common Name	Qty (lbs./acre)	% Composition
<i>Bouteloua curtipendula</i>	Side Oats Grama	1.9	25.0
<i>Schizachyrium scoparium</i>	Little bluestem	1.9	25.0
<i>Hesperostipa comata</i>	Needle and thread grass	0.95	12.5
<i>Desmodium canadense</i>	Showy tick trefoil	0.25	3.3
<i>Asclepias tuberosa</i>	Butterfly milkweed	0.16	2.1
<i>Dalea candida</i>	White prairie clover	0.09	1.2
<i>Dalea purpurea</i>	Purple prairie clover	0.09	1.2
<i>Gaillardia aristata</i>	Blanket flower	0.07	0.9
<i>Allium stellatum</i>	Prairie onion	0.06	0.8
<i>Zizia aurea</i>	Golden alexanders	0.06	0.8
<i>Astragalus canadensis</i>	Canadian milk vetch	0.04	0.5
<i>Helianthus maximiliani</i>	Maximilian sunflower	0.02	0.3
<i>Pedimelum argophyllum</i>	Silverleaf scurfpea	0.02	0.3
<i>Ratibida columnifera</i>	Upright prairie coneflower	0.02	0.3
<i>Symphyotrichum laeve</i>	Smooth blue aster	0.02	0.3
<i>Achillea millefolium</i>	Yarrow	0.01	0.1
<i>Anemone canadensis</i>	Meadow/Canada	0.01	0.1
<i>Artemisia ludoviciana</i>	White sage	0.01	0.1
<i>Pycnanthemum virginianum</i>	Virginia mountain mint	0.01	0.1
<i>Rudbeckia hirta</i>	Black-eyed Susan	0.01	0.1
<i>Solidago rigida</i>	Stiff goldenrod	0.01	0.1
<i>Symphyotrichum ericoides</i>	Heath aster	0.01	0.1
Total		7.6	100.0