

FREE STATE SOLAR PROJECT, LLC

VEGETATION & AGRIVOLTAICS MANAGEMENT PLAN

KANSAS SKY ENERGY CENTER (KSEC)

PROJECT NO. 147658

REVISION 0

AUGUST 17, 2023

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Introduction

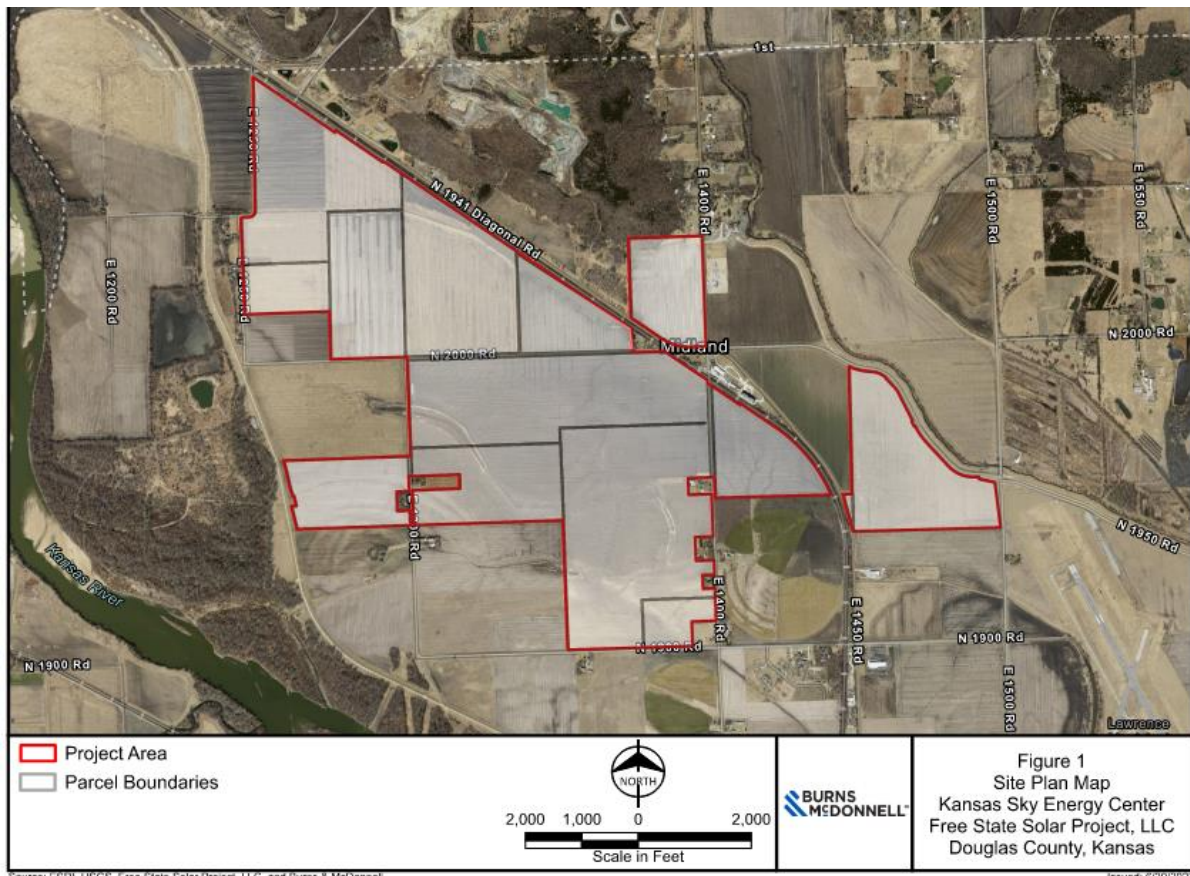
A. Overview

Free State Solar Project, LLC (Free State), a subsidiary of Savion, LLC, is proposing to receive all the necessary regulatory permits for a new utility scale photovoltaic (PV) solar generation facility in Douglas County, Kansas. Pending regulatory approval, The Kansas Sky Energy Center (KSEC, Project) will be constructed by Evergy, Inc. The project would have a nameplate capacity of 159 Megawatts (MW). The Project is located approximately 1 mile north of Lawrence, Kansas. The Project parcels are depicted on the Project Location Map shown below in Figure 1. The Project would include PV solar arrays containing PV panels attached to a single-axis tracking system mounted to steel piles. The PV panels will track the sun during the day. Direct current (DC) electricity generated from the PV panels will be routed underground through wiring to Power Conversion Units (PCUs), also known as inverters, located throughout the PV solar arrays. The electricity will then move to the Project substation via underground wiring and ultimately the interconnection point at an existing substation. Each PV solar array will be within security fencing and have gated access at the access road entrances. Constructed access roads will be gravel and approximately 16 feet wide. Pending regulatory approval, construction of the Project is anticipated to begin in 2024 and be completed in 2025.

1. Area Description

The total Project Area is approximately 1,152.4 acres (Figure 1). For the purpose of this Vegetation Management Plan (Plan), Project Area will refer to areas leased by the Project (1,153-acres). Areas that are disturbed for Project purposes will be re-vegetated per the Storm Water Pollution Prevention Plan (SWPPP). This Plan supplements and does not replace the long-term goal for permanent vegetation as defined in the National Pollutant Discharge Elimination System (NPDES) Permit that will be submitted for the Project.

Figure 1: Project Location Map



2. Array Spacing and PV Panel Ground Clearance

The typical minimum leading-edge height between the PV panels and the ground is approximately 18 inches. Post-to-post spacing between rows is approximately 21 feet. Final spacing within the arrays will be determined once equipment selection is finalized and the detailed engineering plan is complete. The installation of low-growing plant species and performance of vegetation management practices within the PV panel areas will be conducted to minimize vegetation touching or shading the panels.

B. Vegetation Management Plan Purpose and Intent

This Plan addresses the management of vegetation in the Project Area during operation of the Project. Vegetation management during the construction and decommissioning of the Project is separately addressed.

This Plan includes the steps for the following:

- Preservation of topsoil
- Use of native and/or naturalized plant species
- Use of pollinator-friendly plant species
- Control of noxious weeds and invasive species,
- Prevention of erosion and control of stormwater

- Vegetation management

The Plan is designed to manage the soil and vegetation in the Project Area so that the Project Area can readily return to cultivation after decommissioning. This Plan was prepared alongside several other plans relating to land and water management in the Project Area, including those addressing erosion and sediment control, stormwater management, vegetative screening, and decommissioning. This Plan may be updated as needed based on changing conditions, new methods, and/or Project needs.

Specific goals of this Plan include the following:

- Compatibility, adaptability, and compliance with the SWPPP to be completed prior to Site Plan Approval.
- Compliance with post-construction re-vegetation requirements per Section 12-306-49 of the Douglas County, Kansas Code Zoning and Land Use Regulations.
- Maintain and improve soil health so that the Project lands may be potentially returned to productive agricultural land use after Project decommissioning.
- Develop and install permanent seed mixes that support the following objectives:
 - Low growth, low maintenance, shade tolerant grasses and forbs for areas under panels and between panel rows,
 - Species adapted to site specific environmental parameters including soils, drainage, and local climate,
 - Compatible with engineering objectives including height restrictions as well as capacity to form continuous, dense vegetation stands, and
 - Use of native or naturalized species, including pollinator-friendly plantings, in select areas.
- Prepare soils and employ seed installation methods suitable for temporary and permanent seed; and
- Establish and maintain a vegetation maintenance program for the Project Area through the anticipated life span of the facility.

C. Existing Conditions

1. Land Use

Land use within the Project Area is primarily cultivated crops (95%), with interspersed pasture/hay, deciduous forest, wetlands, and developed areas (Table 1; Figure 2). Historically, this area was dominated by prairie and forest. Existing land uses in the Project Area are open water, open space development, low intensity development, medium intensity development, deciduous forest, pasture/hay, cultivated crops, and wetlands. Much of the Project Area is cultivated for corn or soybean production.

Deciduous forests occur near the stream and wetland corridors that are within the northern regions and boundary of the Project Area. The small areas of deciduous forests observed in the Project Area are comprised of cottonwood (*Populus deltoides*) and

common hackberry (*Celtis occidentalis*). However, no tree clearing activities will occur on the Project.

The areas surrounding the Project Area are similar in composition with a higher percentage of deciduous forest and open water (the Kansas River) southwest of the Project Area. The Lawrence Municipal Airport is southeast of the Project Area.

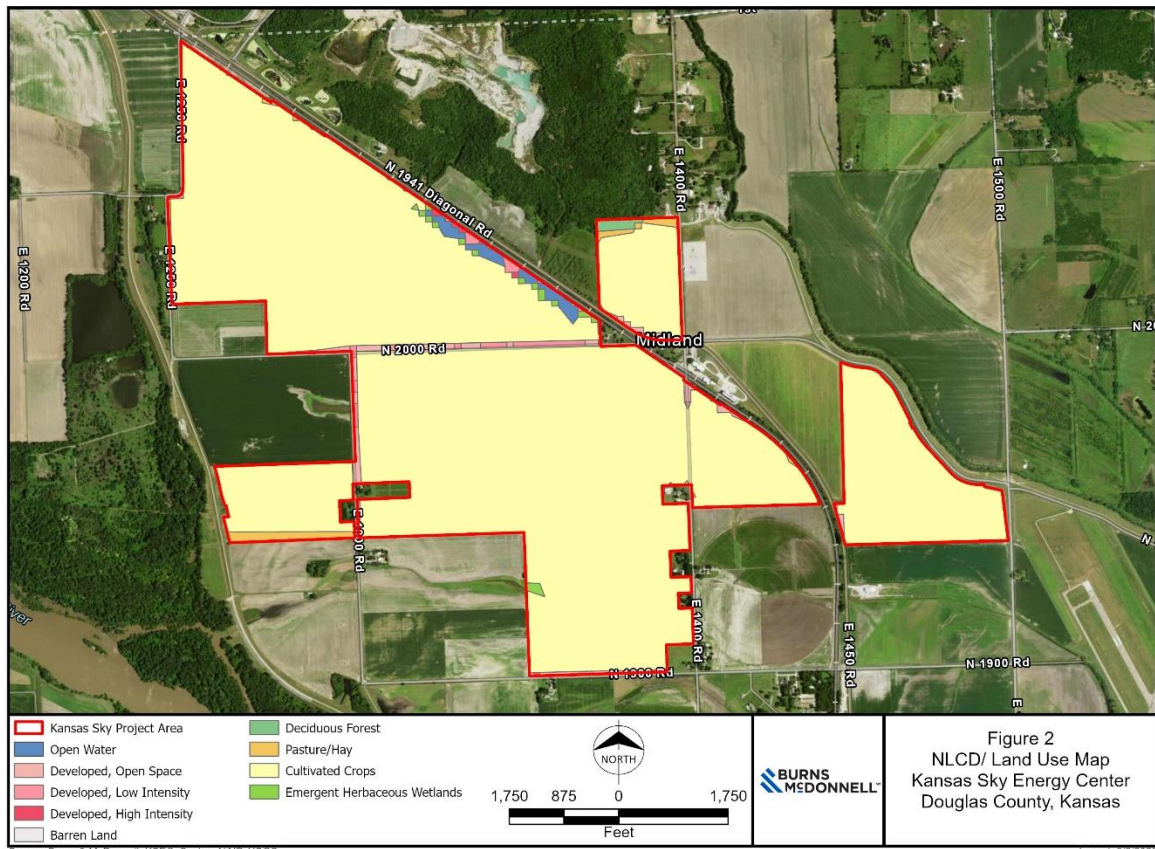
Based on the results of the desktop review, the Project Area land use is predominantly cultivated crops as summarized in **Error! Reference source not found.**

Table 1: Existing Land Cover within the Project Area

Land Use Type	Acres
Cultivated Crops	1099.7
Developed, Open Space	13.2
Pasture/Hay	11.8
Developed, Low Intensity	10.2
Open Water	8.6
Emergent Herbaceous Wetland	4.4
Deciduous Forest	2.6
Developed, Medium Intensity	1.7
Barren Land	0.1
Total	1152.4

Source: USGS National Landcover Database (2016)

Figure 2: NLCD/ Land Use Map



2. Soil Types

The NRCS Soil Survey Geographic Database (SSURGO) was used to identify the specific soil map units associated with the Project Area as mapped by the U.S. Department of Agriculture (USDA)-NRCS. The SSURGO dataset is generally the most detailed level of soil geographic data available and utilizes information contained in published NRCS soil surveys. The Project Area is comprised of 24 soil map units, as mapped by the USDA-NRCS and as depicted on Figure 3 and summarized in Table 2.

The following soil map units located within the Project Area are classified as hydric in Douglas County:

- Eudora-Bismarckgrove fine sandy loams, overwash, occasionally flooded
- Eudora-Bismarckgrove silt loams, rarely flooded
- Eudora silt loam, rarely flooded
- Reading silt loam, moderately wet, very rarely flooded
- Reading silt loam, moderately wet, very rarely flooded
- Reading silt loam, rarely flooded
- Eudora-Kimo complex, overwash, rarely flooded
- Kennebec silt loam, occasionally flooded
- Kennebec silt loam, occasionally flooded
- Kennebec silt loam, occasionally flooded
- Kennebec silt loam, occasionally flooded
- Kimo silty clay loam, rarely flooded
- Muscotah silty clay loam, very rarely flooded
- Wabash silty clay, very rarely flooded
- Wabash silty clay loam, occasionally flooded

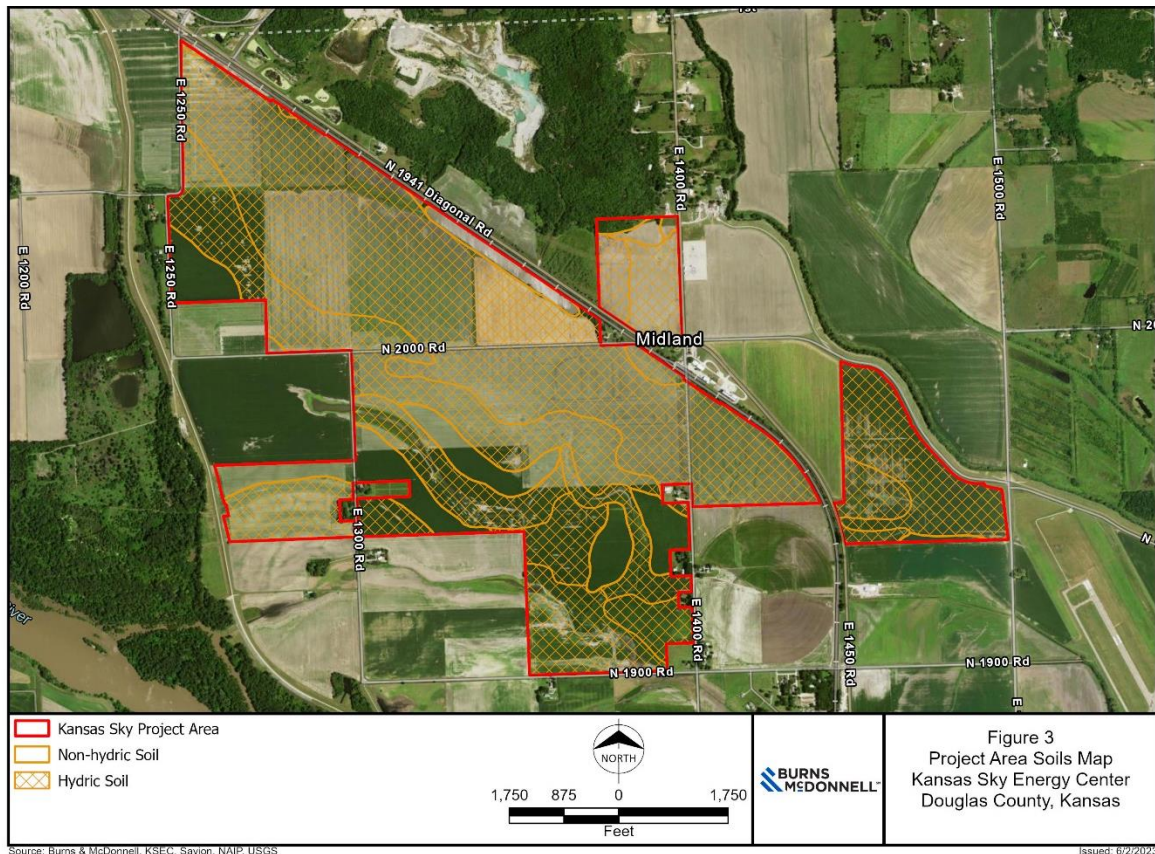
Hydric soil map units account for a total of 87% of the Project Area (1,007 acres).

Table 2: Soil Map Units within the Project Area

Mapunit Name	Mapunit Symbol
Eudora-Bismarckgrove fine sandy loams, overwash, occasionally flooded	7035
Eudora-Bismarckgrove silt loams, rarely flooded	7106
Eudora-Kimo complex, overwash, rarely flooded	7127
Eudora silt loam, rarely flooded	7123
Falleaf-Grinter soils, 8 to 20 percent slopes	7271
Kennebec silt loam, occasionally flooded	7050
Kennebec silt loam, occasionally flooded	7050
Kennebec silt loam, occasionally flooded	7050
Kennebec silt loam, occasionally flooded	7050
Kimo silty clay loam, rarely flooded	7155
Martin silty clay loam, 3 to 7 percent slopes	7302
Muscotah silty clay loam, very rarely flooded	7208

Reading silt loam, moderately wet, very rarely flooded	7213
Reading silt loam, moderately wet, very rarely flooded	7213
Reading silt loam, rarely flooded	7170
Rossville silt loam, very rarely flooded	7176
Rossville silt loam, very rarely flooded	7176
Rossville silt loam, very rarely flooded	7176
Rossville silt loam, very rarely flooded	7176
Rossville silt loam, very rarely flooded	7176
Vinland-Martin complex, 7 to 15 percent slopes	7657
Wabash silty clay loam, occasionally flooded	7090
Wabash silty clay, very rarely flooded	7280
Water	9999

Figure 3: Project Area Soils Map



3. Hydrology

A wetland delineation of the Project Area to identify wetlands and other water resources was conducted in June 2022 by Burns & McDonnell wetland scientists. Hydrologic indicators were recorded at sample plots across the site. The site topography is relatively flat with few low spots. The primary source of hydrology for the wetlands identified was overland flow. Indicators within the wetlands included surface water, high water table, saturated soils, aquatic fauna, and drainage patterns.

a. Delineated Areas

Eleven wetlands and seven streams were identified during the field survey. The wetlands and stream types included Palustrine Emergent (PEM) and Palustrine Unconsolidated Bottom (PUB) wetlands. The PEM wetlands encompassed 6.24 acres and PUB wetlands consisted of 16.13 acres. The streams identified were intermittent and ephemeral. Delineated features are anticipated to be avoided during Project construction and operations.

4. Vegetation

The current Project Area vegetation is comprised mostly of agricultural row crops including corn (*Zea mays*) and soybeans (*Glycine max*). Some types of row crop fields provide ideal mediums for planting seed mixes for solar projects, however, bare ground, herbicides, and fertilizers previously used could cause increased potential of excessive weed growth.

Vegetation within delineated PEM wetlands consisted of fox sedge (*Carex vulpinoidea*), common spikerush (*Eleocharis compressa*), bur-reed sedge (*Carex sparganioides*), Pennsylvania smartweed (*Persicaria pennsylvanica*), pale knotweed (*Persicaria lapathifolia*), American water plantain (*Alisma subcordatum*), and reed canary grass (*Phalaris arundinacea*).

Vegetation surrounding delineated PUB wetlands included bur-reed sedge, Johnson grass (*Sorghum halepense*), Pennsylvania smartweed, Bermudagrass (*Cynodon dactylon*), common spike rush, pale knotweed, fox sedge, and Canada wildrye (*Elymus canadensis*).

Plan Objectives

The seeding plan for this Project includes temporary seed installation and permanent seed installation, as described in detail in the following sections and included in the Kansas Sky Energy Center Vegetation Management Decision Tree (Appendix A).

A. Installation & Seeding Plan

The dominance of hydric soil in the Project, and potential soil compaction during solar construction could decrease water infiltration resulting in wetter soils that favor graminoid species more tolerant to moist conditions. Construction phasing is still to be determined and the amount of soil compaction will depend on a variety of factors including time of year, existing vegetation/crop residue, and precipitation. The combination of potential soil compaction, different soil types, construction intensities, coupled to Project vegetation height compatibility goals requires site-specific seed mix design. The proposed seed mixes, consist of low growth stature species suitable to dry mesic through moist mesic conditions, and tolerant to both full sun and shade. The diverse species seed mixes and corresponding seeding rates allow for a variety of species suitable to site-specific parameters for rapid and robust establishment throughout the Project Area.

1. Temporary Seed Installation

Temporary seeding will be done to stabilize soils disturbed by the Project prior to and immediately following construction or that have been removed from productive land use until permanent vegetation establishes to meet two primary objectives:

- Compliance with the SWPPP.
- Enhancement of soil quality prior to installation of permanent seed mixes in the array areas.

Annual grasses will be utilized to stabilize soils and enhance soil organic matter. The specific species to install and the installation rate shall be selected based on the timing of installation and whether the temporary cover is being installed with or without permanent seed.

a. Pre-Construction Site Preparation

Depending on the type of field crops in production, different pre-construction treatments will be required before solar construction and temporary cover crop installation begins. Soybeans, small grains, and forage crops produce minimal crop residue and thus provide ideal soil surfaces for temporary plantings. Corn field production generally produces excessive crop residue and compacts soils which can lead to decreases in evaporation and drainage, creating issues for vegetation management and solar construction. Final crops prior to construction should be determined in consultation with the current land management. The best final crop before construction begins is one that will produce minimal field residue and the least amount of compaction. If past herbicide use on the Project is listed as having a residual affect that would negatively impact the germination and growth of the closed seed cover crop, a seed mix will be designed to counteract the herbicide residual affect period, which can be upwards of 18 months.

b. Temporary Seed Cover Crops & Installation

Temporary cover (crop) species will be comprised of native and naturalized annual grasses. Annual cereal grasses such as oats (*Avena sativa*), annual rye (*Lolium multiflorum*), or winter wheat (*Triticum aestivum*) establish quickly, provide erosion control, establish residue for later permanent seedings, build soil organic matter, and assist with weed suppression.

Temporary cover installation rates are higher when the seed is not installed concurrently with permanent seed in order to provide adequate vegetative cover. Seeding rates will also vary depending on the season they are installed.

2. Permanent Seed Installation

Proposed Project seed mixes will be in alignment with Kansas native and naturalized species and the requirements developed in the [2020 Nationwide Monarch Candidate Conservation Agreement with Assurances \(CCAA\)](#). Proposed seeding locations are dependent on the final design (e.g., panel placement, distance between panels, fence placement). Figure 4 indicates the different vegetation and land use options for the leased land inside and outside of the project fence. Final seeding preparation will depend on vegetation management during construction, soil amendment and reparation, and eradication of undesirable vegetation.

a. Soil Reparation & Seed bed Preparation

Vegetation management should be ongoing during the construction period and not performed in areas under active construction. Weed control is critical to promote establishment of root systems in native seedlings. Control of invasive and noxious weeds may consist of mowing or herbicide treatments (See [Invasive Weed Control & Management](#)). Coordination of vegetation management and construction should be established during the development of the construction schedule.

Soils sampling timings and analyses will be in accordance with Section 12-306-49 of the Douglas County, Kansas Code Zoning and Land Use Regulations, and include but are not limited to total carbon, heavy metals, and phospholipid fatty acid. More details are provided in the Project Soil Sampling Plan. No phosphorous shall be used at the time of planting unless soil testing indicates a phosphorous deficiency that is harmful or will prevent new vegetation from proper establishment. If tests indicate a phosphorous deficiency that will impact establishment of vegetation, then phosphorous will be applied at the minimum recommended level prescribed in the soil test following all applicable standards, requirements, and regulations. Compacted soils should be chisel plowed or disc harrowed and then drag harrowed to create a suitable bed for seeding. If space is limited, such as under PV panels, for tilling/harrowing equipment, plant species can be selected and application rates can be adjusted to mitigate the lack of seed bed preparation. Soil amendments may be necessary if topsoil conditions are depleted or deviate from pre-construction conditions. Amendments may consist of biochar, compost, fertilizer, and mycorrhizae applications.

Prior to the final installation of a permanent seed mix, existing temporary vegetation should be removed by mowing to a height of <4 inches at least 1 week prior to final seed installation. Vegetation cutting shall be appropriately timed to assist with control of invasive species (e.g., mow biennial species during flowering but prior to seed production) and to remove vegetation to assist with site seedbed preparation. Hand mowing may be required if equipment cannot access certain areas due to standing water, slopes, or tight

spaces. Depending on the herbicides used for weed control, the application should occur at least two weeks prior to seeding. One application may be sufficient as the land was previously used for agriculture. Use of herbicides will be in accordance with local and state ordinances. Alternatively, tilling to a depth of 3 to 6 inches typically kills existing weeds.

b. Permanent Seed Mix and Post-Construction Installation Inside the Project Fence

In accordance with the Project decision tree, permanent seed will be installed after construction, after weedy and invasive species of concern have been managed. The permanent native and naturalized seed mixes should be installed during the spring seeding window (approximately March 15-June 15) or the fall/frost seeding window (October 30-snow cover or during a period of light snow in the winter). A temporary cover crop may be installed with the permanent seed if installed during the spring (common oats) but may require a separate and earlier installation than the permanent seed if installed during the fall/frost seeding window (annual rye or winter wheat).

Seed may be installed with a seed drill or with a broadcast seeder within and between the PV panel rows and near above-ground structures. Following seed broadcasting, a roller should be used to facilitate good seed to soil contact. Areas receiving permanent seed mixes should be mulched with clean, weed-free straw, as needed to retain moisture and promote seed germination. Areas without remnant temporary cover crop thatch may need mulching. Once seeded, spot treatment of weeds will be completed manually or using spot application of herbicide.

One permanent seed mix has been identified for the Project within the array (Figure 4), that is based on commercial availability and meeting the requirements for the Nationwide Monarch CCAA and with input from the Kansas Biological Survey. The permanent seed mix can be found in Appendix B and is as follows:

1. Mesic-Moist Short Mix

The seed mix is intended to provide permanent, low maintenance, low growth, shade, and drought tolerant vegetative cover containing native grasses, sedges, rushes, and wildflowers. Additionally, this mix is designed to be cost-effective, while providing deep-rooted plants that are highly diverse in locations where other wildflowers are not suitable. Once established, this seed mix has the potential to offer a variety of wildlife benefits. This mix may be installed within the paneled areas where the establishment of permanent, low growing (less than 24 inches in height), shade tolerant and drought tolerant species are needed, such as under and between the PV panel arrays. This mix may also be installed around the PCUs/inverters, as they may be subject to frequent disturbance, and within a five-foot buffer from the access roads to maintain low growing and green vegetative cover where there is adjacent vehicle traffic. Please see Appendix B for the full species list.

c. Permanent Seed Mixes & Post-Construction Installation Outside of the Project Fence

In accordance with the Project decision tree, permanent seed will be installed outside of the Project fence after construction, if the landowner has not elected to revert the land to agriculture production, and after weedy and invasive species of concern have been managed. The permanent native and naturalized seed mixes should be installed during the spring seeding window (approximately March 15-June 15) or the fall/frost seeding window (October 30-snow cover or during a period of light snow in the winter). A temporary cover crop may be installed with the permanent seed if installed during the spring

(common oats) but may require a separate and earlier installation than the permanent seed if installed during the fall/frost seeding window (annual rye or winter wheat).

Seed may be installed with a seed drill or may also be broadcast. Following seed broadcasting, a roller should be used to facilitate good seed to soil contact. Areas receiving permanent seed mixes should be mulched with clean, weed-free straw, as needed to retain moisture and promote seed germination. Areas without remnant temporary cover crop thatch may need mulching. Once seeded, spot treatment of weeds will be completed manually or using spot application of herbicide.

Two permanent seed mixes have been identified for the Project within the wetter or drier areas outside of the Project fence (Figure 4), that are based on commercial availability and input from the Kansas Biological Survey. The permanent seed mixes can be found in Appendix B and are as follows:

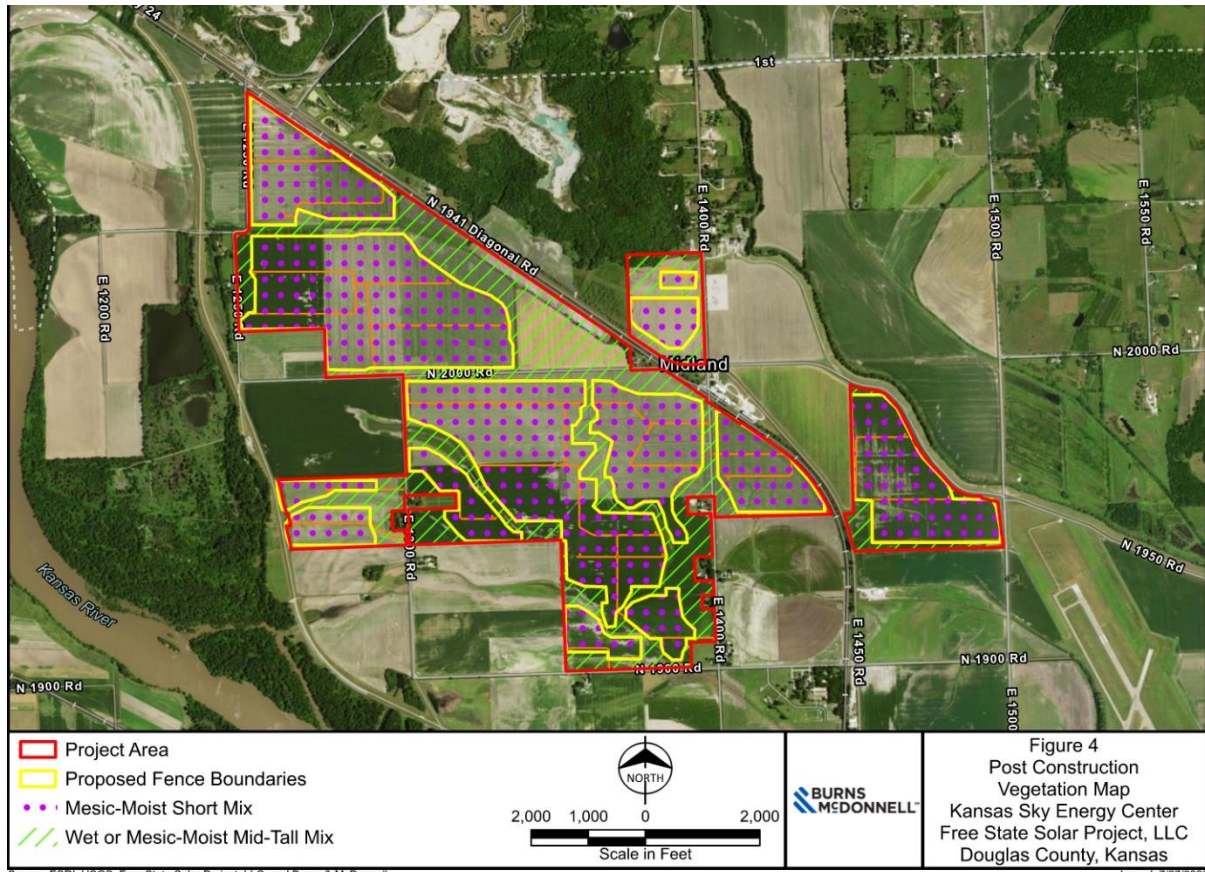
1. Wet Mid-Tall Mix

This mix contains native grasses, sedges, rushes, and wildflowers. The mix is intended to promote a diversity of wildflowers, with flowering occurring over each of the three blooming periods (spring, summer, and fall), along with native bunch grasses and sedges that are friendly to pollinators and can tolerate wetter conditions. The seed mix is intended to be cost-effective yet robust, provide native plant cover and diversity, and improve soil health. This mix may be installed in the drainageways and wetlands outside of the Project fence.

2. Mesic-Moist Mid-Tall Mix

This mix contains native grasses, sedges, rushes, and wildflowers. The mix is intended to promote a diversity of wildflowers, with flowering occurring over each of the three blooming periods (spring, summer, and fall), along with native bunch grasses and sedges that are friendly to pollinators. The seed mix is intended to be cost-effective yet robust, provide native plant cover and diversity, and improve soil health. This mix may be installed outside of the Project fence in the drier areas, especially near existing habitat; specifically, areas such as tree lines and grasslands.

Figure 4: Post-Construction Vegetation Map



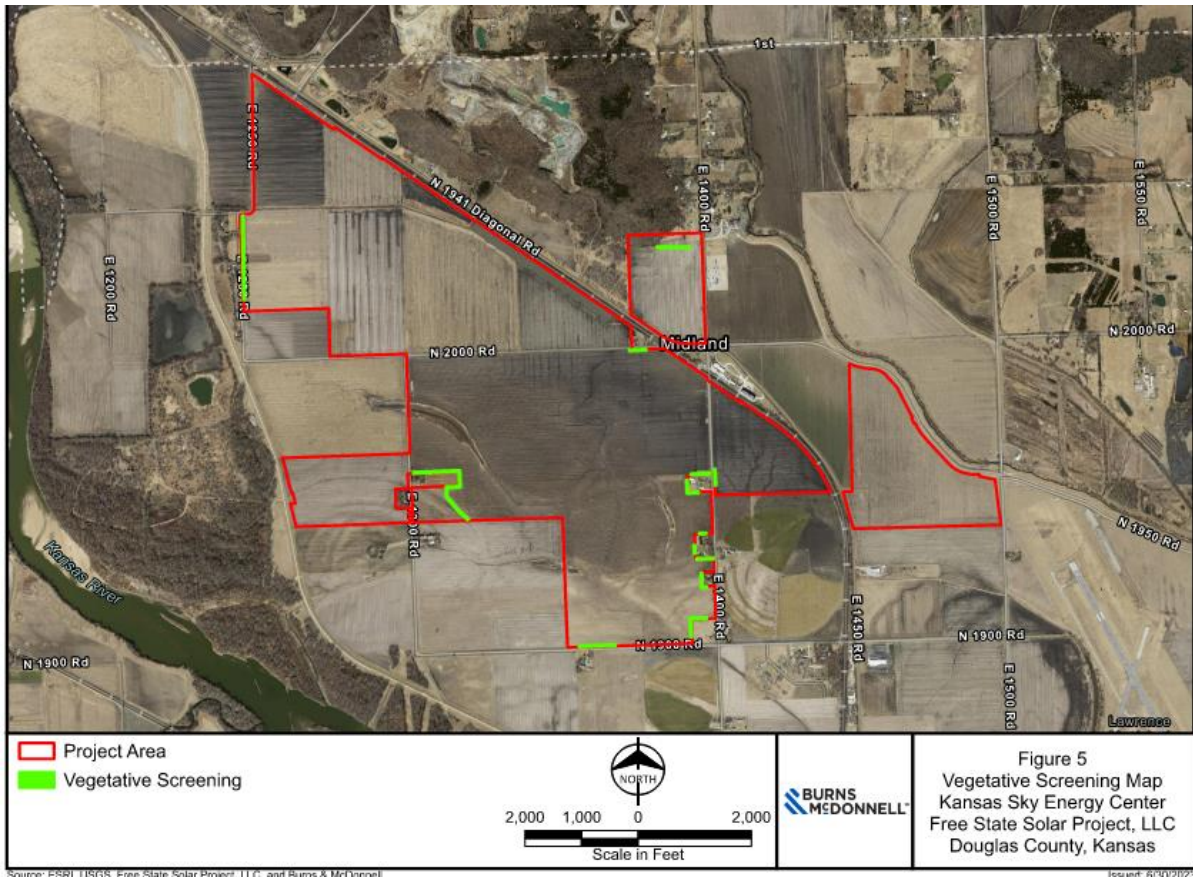
B. Buffering & Screening

Landscape buffer requirements in Section 12-306-49 of the Douglas County Code Zoning and Land Use Regulations state:

“Unless waived by the property owner, a 25-foot deep buffer area shall be provided, and maintained, along property lines between the systems and adjoining nonparticipating residential properties, or along the Site Area fencing for participating residential properties, for the purpose of screening the residential portion of the property.”

Free State is proposing to install approximately 4.6 acres of vegetative screening near residences (Figure 5) to buffer the view of the facility from the residence and the residential portion of the property. The specifications of the landscape buffer can be found in the Landscaping Plan documents.

Figure 5: Vegetation Screening Map



C. Wildlife Corridors

Based on preliminary survey data and habitat evaluations, the Project is proposed to be primarily built on land that has been cleared and is actively maintained for agriculture. The conversion from cropland to solar infrastructure (and future return to agricultural use following decommissioning) is not likely to have a significant adverse impact on the wildlife currently utilizing the area, and a significant shift in the wildlife community is not anticipated. Existing wildlife corridors (stream channels and wetlands) are not expected to be impacted during solar construction and operation. However, any wildlife corridors that require re-seeding will be included in the post-construction installation outside of the Project fence.

D. Agrivoltaics

Agrivoltaics is the dual use of land on solar facilities for agricultural practices. In accordance with Section 12-306-49.06 of Resolution 22-16 for Douglas County, the Project will include agrivoltaics on site. Areas within the Project fence will be selected for agrivoltaic research that would fall into one of the following categories:

1. Ecosystem Services

Ecosystem services include creating or restoring wildlife habitat, improving soils, and restoring the ecosystem function of the area. The Project will be using vegetative cover containing native grasses, sedges, rushes, and wildflowers to re-establish the native prairie ecosystem in the area. The establishment of native and naturalized vegetative systems

provides many benefits including soil stabilization, nitrogen fixation, and a variety of wildlife cover and habitat.

2. Grazing

Grazing within the Project fence and at a designated area or areas would include the use of livestock such as sheep to perform routine maintenance on vegetation without the use of mowing or other equipment. Replacing traditional methods of vegetation maintenance with grazing decreases fuel emissions and makes the area safer for wildlife, especially ground nesting birds. A grazing agreement would be developed between a shepherd and the Project once the area and shepherd has been identified.

3. Specialty Crops

The planting of specialty crops such as sunflowers, lavender, or vegetable crops will be used to assist in nutrient retention and water infiltration into the soil.

4. Perennial Agriculture

Perennial grain crops such as legumes, oilseeds, rice, sorghum, and wheat are species that do not need to be reseeded, replanted, or controlled with the use of herbicides. These plants assist in nutrient retention and water infiltration into the soil. The aim of perennial agriculture is to assist in restoring the ecosystem to what is found in natural and undisturbed systems.

5. Apiary

The Project will be planting vegetative cover containing native grasses, sedges, rushes, and wildflowers, which is the preferred habitat for pollinators. Specific beehives or boxes will be established onsite and maintained.

Establishment & Management Methods

A. First Three Years

The Project Area will be monitored after construction, during the vegetation establishment period when the site is most vulnerable to colonization by invasive vegetation and noxious weeds. The establishment period typically lasts 2-3 years, while native plants establish root systems and have periods of flowering and germination. Invasive species and weeds will be controlled using methods deemed appropriate for maintenance of the solar array and soil integrity (e.g., spot application of herbicide, manual removal). Monitoring and maintenance of vegetation within the Project Area will be completed in coordination with SWPPP inspection requirements by a qualified person that is able to identify desired vegetation to facilitate proper establishment.

Areas of bare soil will be reseeded within six months to minimize soil erosion and loss of nutrients. Newly seeded areas will be inspected within six months following application, and in the spring, summer, and fall thereafter. Areas with less than 70% coverage will be repaired or reseeded. Overseeding to repair bare spots should be completed annually between March 15 and May 15 or between September 1 and October 15.

B. Invasive Weed Control & Management

Monitoring of established vegetation should be conducted by personnel that are qualified to identify undesirable plant species for treatment. Long-term vegetation monitoring should occur at least twice per year. Years 3-5 represent a transition phase where desirable vegetation becomes increasingly established but remains susceptible to weed growth.

1. Herbicide

Herbicide application should only occur when necessary and once vegetation has been established and applied by an applicator certified by the Kansas Department of Agriculture. Primary vegetation management with herbicides should focus on spot treatment. Broadcast herbicide treatment should only be considered if large areas of noxious or invasive weeds have been established. The use of herbicides will be in accordance with local and state ordinances. Herbicide use should be discontinued at least one year prior to decommissioning to ensure breakdown of residual herbicides prior to return to agricultural production.

2. Cutting/Mowing

To maintain access to infrastructure, mowing will be completed any time prior to seeding or after vegetation has been established in seeded areas. Mowing will be targeted to occur October 15th to April 1st to the extent practical to avoid monarch butterfly season and migratory bird nesting season. The secondary window for mowing, which is recommended only, if necessary, is June 30th to July 10th (Monarch Joint Venture, 2019). The number of mowing occurrences per year will vary based on conditions but should generally fall within these timeframes. Additional mowing events may be required depending on the seasonal rainfall events.

The frequency of mowing may be reduced (approximately once per year), or transition to selective mowing to target specific areas of weed growth and minimize vegetation height under the PV panels. Over the long-term (years 6-25), is expected that mowing can be

further reduced (approximately once every other year). Mowing at this time may be done to reduce thatch and litter build-up and minimize the establishment of woody vegetation.

3. Grazing

The Project Area will include areas for a pilot grazing program for vegetation maintenance. Replacing traditional methods of vegetation maintenance with grazing decreases fuel emissions and makes the area safer for wildlife, especially ground nesting birds. The Project has contracted with a local consultant to prepare a Grazing Management Plan, which has been included separately from this document.

Seed Planting Schedule

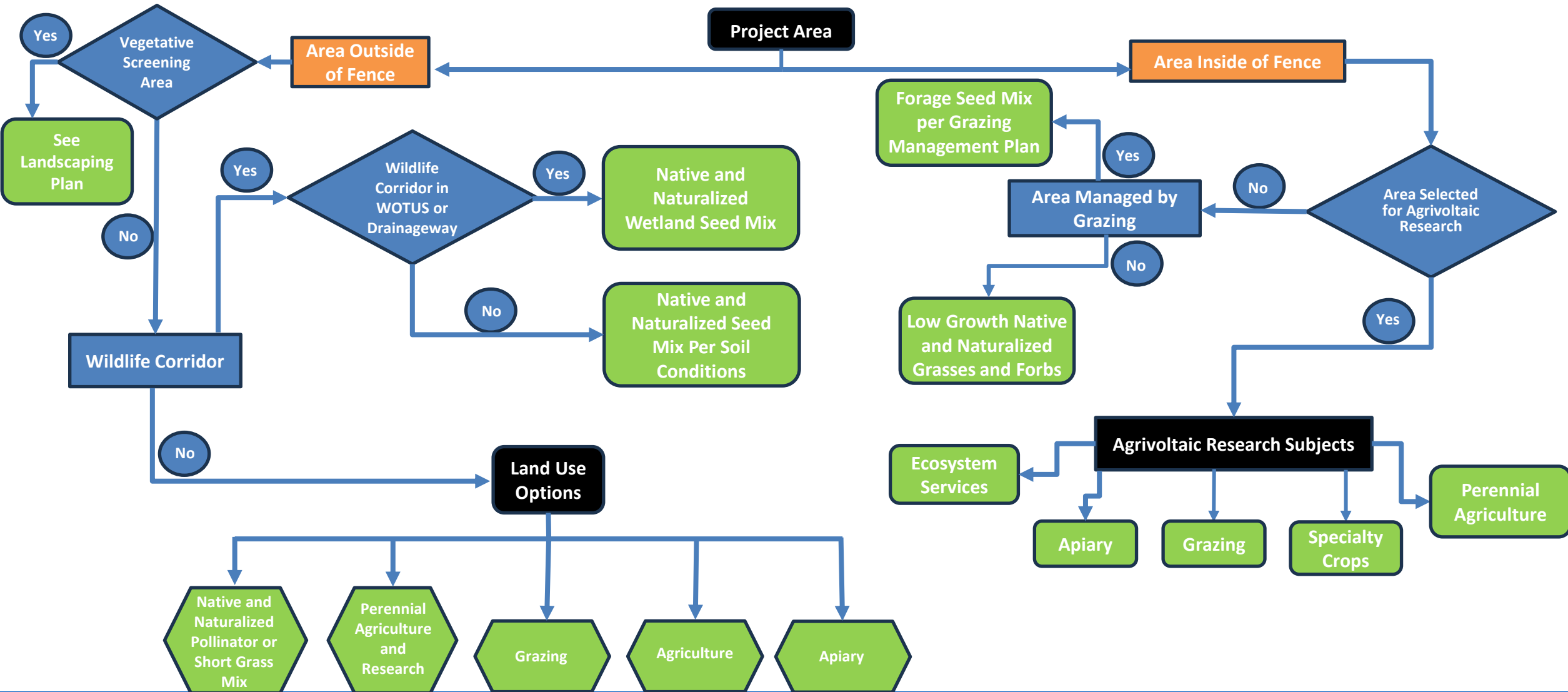
Annual oats will be hand broadcasted or drilled immediately after fine grading has occurred. The three potential seed mixes should be planted between April 1st through June 18th or October 1st through November 30th after construction is completed.

Summary

This Vegetation & Agrivoltaics Management Plan addresses the management of vegetation in the Project Area during the construction and operation of the Kansas Sky Energy Center. This plan satisfies the requirements Section 12-306-49.d.14 of the Douglas County, Kansas Code Zoning and Land Use Regulations by providing details of 1) where planting will occur and what species are proposed, 2) methods for installation, establishment, and maintenance of vegetation during construction, 3) management methodology and schedules for the first three years of Project operation, and 4) agrivoltaic activities planned for the Project. It is anticipated that by following this plan during the construction and operation of the facility, there will improved soil health, increased nutrient retention, higher native plant species diversity, and a preferred habitat for local wildlife and pollinators, including the Monarch butterfly, when compared to the conventional monoculture practices currently in use. This plan will allow the Project Area to become a more nutrient rich soil for any desired agricultural practices after Project decommissioning.

**APPENDIX A - KANSAS SKY ENERGY CENTER
VEGETATION MANAGEMENT
DECISION TREE**

Kansas Sky Energy Center Vegetation Management Decision Tree



APPENDIX B - SEED MIXES

Mesic-Moist Short Mix

Shorter statured species mix of native cool and warm season grasses, sedges, rushes and wildflowers/forbs. This mix is best where low growth height is desired, such as solar arrays, or other areas where low height vegetation is desired. If a taller visual screen is desired at the outer perimeter/buffer or to establish wildlife corridors, a tall native pollinator mix may be used in such areas. Forbs listed in this table are all nectar plants for the Monarch Butterfly, beneficial to other pollinators such as bees and other butterflies.

If any species of this mix are unavailable, omitting or a substitution of a species may be made after review and approval by Owner.

Project Name-

Acres Seeded with Mix-

Location-

Common & Scientific Name	Height of plant & species notes	Blooming Period (flowers all season provide nectar as the Monarch migrates spring thru fall)	Wetland Indicator Status (MW)	Color of Flower	PLS lbs./acre and % by weight
GRASSES and grass-like plants such as sedges or rushes –	Native grasses and grass-like are larval host plants to many species of pollinators.	Flowers of grasses and grass-like plants are small and inconspicuous			Approximately 60-90% by weight
Virginia Wild Rye, <i>Elymus virginicus</i>	24", seed head may extend to 36"		FACW		
Autumn Bentgrass, <i>Agrostis perennans</i>	24"		FAC		
Fox Sedge, <i>Carex vulpinoidea</i>	24", seed head may extend to 36"		FACW		
June Grass, <i>Koeleria macrantha</i>	24"		UPL		
Prairie Dropseed, <i>Sporobolus heterolepis</i>	24"		FACU		
Path Rush, <i>Juncus tenuis</i>	12"		FAC		
Inland Rush, <i>Juncus interior</i>	24"		FAC		
Dudley's Rush, <i>Juncus dudleyi</i>	24"		FACW		
EARLY SEASON BLOOMING FORBS –	High Quality Nectar Plants of the Monarchs and other pollinators.				Approximately 10-40% by weight
Blackeyed Susan, <i>Rudbeckia hirta</i>	12-24"	May-June-July-Aug.-Sept	FACU	yellow	
Dakota Verbena, <i>Glandularia bipinnatifida</i>	6-18"	May-June-July	NI	lavender	
Indian Paintbrush, <i>Castilleja coccinea</i>	6-24"	May-June-July	FAC	Red-orange	
Red Clover, <i>Trifolium pratense</i>	6-36"	May-June-July-Aug-Sept	FACU	Pink-purple	
Dutch Clover, <i>Trifolium repens</i>	8"	May-June-July-Aug-Sept	FACU	white	

MID-SEASON BLOOMING FORBS –		High Quality Nectar Plants of the Monarchs and other pollinators.				
Purple Prairie Clover, <i>Dalea purpurea</i>	12-24"	June-July-Aug.	NI	purple		
Lanceleaf Coreopsis, <i>Coreopsis lanceolata</i>	12-24"	June-July	FACU	yellow		
Slender Mountain Mint, <i>Pycnanthemum tenuifolium</i>	24"	July-Aug.	FAC	white		
Yarrow, <i>Achillea millefolium</i>	18"	June-July-Aug.-Sept	FACU	white		
LATE SEASON BLOOMING FORBS –		High Quality Nectar Plants of the Monarchs and other pollinators.				
Heath Aster, <i>Symphyotrichum erichoides</i>	12-24"	Sept.-Oct.	FACU	White		
Spotted Bee Balm, <i>Monarda punctata</i>	12-24"	July-Aug.-Sept	FACU	lavender		
Partridge Pea, <i>Chamaecrista fasciculata</i>	24"	July-Aug.-Sept	FACU	yellow		
American Wild Mint, <i>Mentha arvensis</i>	24"	July-Aug.-Sept	FACW	white		
						60-65 PLS/acre total

Seeding March thru September - Add Oats (*Avena sativa*) at rate of 10-20 lbs per acre, to the mix to serve as a temporary cover crop.

Seeding August thru November - Add Winter Wheat (*Triticum aestivum*) at 10-60 lbs per acre OR Annual Rye (*Lolium multiflorum*) at 30-45 lbs per acre to the mix to serve as a temporary cover crop.

Indicator Category

Estimated Probability of Occurrence in Wetlands

Obligate Wetland (OBL)	Plants that almost always occur in wetlands; >99% of the time.
Facultative Wetland (FACW)	Plants that usually occur in wetlands; 67–99% of the time.
Facultative (FAC)	Plants that are just as likely to occur in wetland and in non-wetland areas; 34–66% of the time.
Facultative Upland (FACU)	Plants that occasionally occur in wetlands; 1–33% of the time.
Upland (UPL)	Plants that almost always occur in uplands; 99% of the time.
No Indicator (NI)	Assigned to plants that lack sufficient information to base an indicator status.
No Agreement (NA)	Assigned where reviewers could not achieve a unanimous agreement for an

Wet Mid-Tall Mix

Forbs listed in this table are nectar plants for the Monarch Butterfly and beneficial to other pollinators such as bees and other butterflies. If any species of this mix are unavailable, omitting or a substitution of a species may be made after review and approval by Owner.

Project Name-

Acres Seeded with Mix-

Location-

Common & Scientific Name	Height of plant & species notes	Blooming Period (flowers all season provide nectar as the Monarch migrates spring thru fall)	Wetland Indicator Status	Color of Flower	PLS lbs./acre and % by weight
GRASSES and grass-like plants such as sedges or rushes –	Native grasses and grass-like are larval host plants to many species of pollinators.	Flowers of grasses and grass-like plants are small and inconspicuous			Approximately xx% by weight
Switchgrass, <i>Panicum virgatum</i> (Blackwell or Native)	48"		FAC		
Little Bluestem, <i>Andropogon gerardii</i> (Native or Aldous)	36", partial shade to sun		FAC		
Prairie Cordgrass, <i>Spartina pectinata</i>	8 feet – TALL, sharp grassbaldes		FACW		
Virginia Wild Rye, <i>Elymus virginicus</i>	24", partial shade to sun		FACW		
Franks Sedge, <i>Carex frankii</i>	24"		OBL		
Porcupine Sedge, <i>Carex hystericina</i>	36"		OBL		
Fox Sedge, <i>Carex vulpinoidea</i>	24"		FACW		
Path Rush, <i>Juncus tenuis</i>	12"		FAC		
Plains Oval Sedge, <i>Carex brevior</i>	12"		FAC		
Inland Rush, <i>Juncus interior</i>	24"		FAC		
EARLY SEASON BLOOMING FORBS –	High Quality Nectar Plants of the Monarchs and other pollinators.				Approximately XX% by weight
Golden Alexanders, <i>Zizia aurea</i>	36"	April-May-June	FAC	yellow	
Seedbox, <i>Ludwigia alternifolia</i>	36"	May-June-July	OBL	yellow	
Pale Spiked Lobelia, <i>Lobelia spicata</i>	24"	May-June-July-Aug.	FAC	purple	
MID-SEASON BLOOMING FORBS –	High Quality Nectar Plants of the Monarchs and other pollinators.				

Swamp Milkweed, <i>Asclepis Incarnita</i>	48"	June-July-Aug	OBL	pink	
Scarlet Toothcup, <i>Ammania coccinea</i>	48"	June-July-Aug.	OBL	pink	
Swamp Marigold, <i>Bidens aristosa</i>	48"	June- July-Aug.-Sept	FACW	yellow	
Frog Fruit, <i>Phyla lanceolata</i>	6"	June-July-Aug.-Sept	OBL	pink	
LATE SEASON BLOOMING FORBS -	High Quality Nectar Plants of the Monarchs and other pollinators.				
Great Blue Lobelia, <i>Lobelia siphilitica</i>	36"	July-Aug.-Sept	OBL	blue	
Cardinal Flower, <i>Lobelia cardinalis</i>	48"	July-Aug.Sept	OBL	red	
New England Aster, <i>Symphyotrichum nocae-angliae</i>	60"	Aug.-Sept.-Oct.	FACW	purple	

Seeding March thru September - Add Oats (*Avena sativa*) at rate of 10-20 lbs per acre, to the mix to serve as a temporary cover crop.

Seeding August thru November - Add Winter Wheat (*Triticum aestivum*) at 10-60 lbs per acre OR Annual Rye (*Lolium multiflorum*) at 30-45 lbs per acre to the mix to serve as a temporary cover crop.

Indicator Category

Estimated Probability of Occurrence in Wetlands

Obligate Wetland (OBL)	Plants that almost always occur in wetlands; >99% of the time.
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Facultative (FAC)	Plants that are just as likely to occur in wetland and in non-wetland areas; 34–66% of the time.
Facultative Upland (FACU)	Plants that occasionally occur in wetlands; 1–33% of the time.
Upland (UPL)	Plants that almost always occur in uplands; 99% of the time.
No Indicator (NI)	Assigned to plants that lack sufficient information to base an indicator status.
No Agreement (NA)	Assigned where reviewers could not achieve a unanimous agreement for an

Mesic-Moist, Mid-Tall Mix

Forbs listed in this table are nectar plants for the Monarch Butterfly and beneficial to other pollinators such as bees and other butterflies. If any species of this mix are unavailable, omitting or a substitution of a species may be made after review and approval by Owner.

Project Name-

Acres Seeded with Mix-

Location-

Common & Scientific Name	Height of plant & species notes	Blooming Period (flowers all season provide nectar as the Monarch migrates spring thru fall)	Wetland Indicator Status	Color of Flower	PLS lbs./acre and % by weight
GRASSES and grass-like plants such as sedges or rushes –	Native grasses and grass-like are larval host plants to many species of pollinators.	Flowers of grasses and grass-like plants are small and inconspicuous			Approximately xx% by weight
Switchgrass, <i>Panicum virgatum</i> (Blackwell or Native)	48"		FAC		
Indian Grass, <i>Sorghastrum nutans</i> (Native, Cheyenne or Scout)	6 feet tall		FACU		
Little Bluestem, <i>Andropogon gerardii</i> (Native or Aldous)	36", partial shade to sun		FAC		
Side Oats, <i>Bouteloua curtipendula</i> (Native or El Reno)	24"		NI		
Virginia Wild Rye, <i>Elymus virginicus</i>	24", partial shade to sun		FACW		
Autumn Bentgrass, <i>Agrostis perennans</i>	24", prefers partial shade		FAC		
Canada Wild Rye, <i>Elyms canadensis</i>	48"		FACU		
Fox Sedge, <i>Carex vulpinoidea</i>	24"		FACW		
Path Rush, <i>Juncus tenuis</i>	12"		FAC		
Plains Oval Sedge, <i>Carex brevior</i>	12"		FAC		
Inland Rush, <i>Juncus interior</i>	24"		FAC		
Copper Shouldered Oval Sedge, <i>Carex bicknelli</i>	36"		FACU		
EARLY SEASON BLOOMING FORBS –	High Quality Nectar Plants of the Monarchs and other pollinators.				Approximately XX% by weight
Blackeyed Susan, <i>Rudbeckia hirta</i>	12-24"	May-June-July-Aug.-Sept	FACU	yellow	
Lanceleaf Coreopsis, <i>Coreopsis lanceolata</i>	12-24"	June-July	FACU	yellow	
Common Milkweed, <i>Asclepias syriaca</i>	36"	June-July-Aug.	FACU	pink	
Indian Paintbrush, <i>Castilleja coccinea</i>	6-24"	May-June-July	FAC	Red-orange	

Golden Alexander, <i>Zizia aurea</i>	36"	April-May-June	FAC	yellow	
Butterfly Milkweed, <i>Asclepias tuberosa</i>	12-24" larval host plant of Monarch	May-June-July-Aug.-Sept.	NI	orange	
MID-SEASON BLOOMING FORBS –	High Quality Nectar Plants of the Monarchs and other pollinators.				
Purple Prairie Clover, <i>Dalea purpurea</i>	12-24"	June-July-Aug.	NI	purple	
White Prairie Clover, <i>Dalea candida</i>	12-24"	June-July-Aug.	NI	white	
Slender Mountain Mint, <i>Pycnanthemum tenuifolium</i>	24"	July-Aug.	FAC	white	
Sullivants Milkweed, <i>Asclepias sullivantii</i>	24"-48"	June-July	FAC	Pink- lt.purple	
Pale Spike Lobelia, <i>Lobelia spicata</i>	24"	May-June-July-Aug.	FAC	white	
LATE SEASON BLOOMING FORBS -	High Quality Nectar Plants of the Monarchs and other pollinators.				
Spotted Bee Balm, <i>Monarda punctata</i>	12-24"	July-Aug.-Sept	FACU	lavender	
Partridge Pea, <i>Chamaecrista fasciculata</i>	24"	July-Aug.-Sept	FACU	yellow	
American Wild Mint, <i>Mentha arvensis</i>	24"	July-Aug.-Sept	FACW	white	
Prairie Blazing Star, <i>Liatris pycnostachya</i>	48"	July-Aug.-Sept	FAC	purple	
Blue Vervain, <i>Verbena hastata</i>	5 feet	July-Aug.-Sept	FACW	purple	
Yarrow, <i>Achillea millefolium</i>	18"	June-July-Aug.-Sept	FACU	white	
Bearded Beggarticks, <i>Bidens polylepis</i>	48"	Aug.-Sept-Oct	NI	yellow	
					60-65 PLS/acre total

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<i>Indicator Category</i>	<i>Estimated Probability of Occurrence in Wetlands</i>
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