ATC CONSTRUCTION and MITIGATION PLAN

Cardinal - Hickory Creek 345 kV Transmission Line Project

Substation Construction Activities

American Transmission Company LLC, by its corporate manager, ATC Management Inc. (ATC), ITC Midwest, LLC (ITC), and Dairyland Power Cooperative (DPC) were granted a Ch. 30.025 utility permit by the Wisconsin Department of Natural Resources (WDNR) for work in and adjacent to wetlands and waterways for the Cardinal - Hickory Creek 345 kV Transmission Line Project (Permit #IP-SC-2019-25-03588). This permit requires the Applicants prepare a Construction and Mitigation Plan (CMP) for work in wetlands and waterways for WDNR approval prior to beginning work in these features (General Conditions #76). The Public Service Commission of Wisconsin granted the applicants a Certificate of Public Convenience and Necessity (CPCN) for the project under docket 5-CE-146.

The purpose of this CMP is to provide an overview of construction activities at the substations associated with the Project. Sections A-M of this CMP follow those items outlined in General Condition #78 of the WDNR utility permit, although many of the items are not applicable to the substation work. Additionally, items N-P address additional items specified in the Public Service Commission of Wisconsin (PSCW) Order. The CMP provides additional detail as required by several permit conditions and order points. It does not list every permit condition or order point, and ATC understands that all permit conditions are required, even if not described within this document. Attachments are labeled according to the CMP Sections and are included as outlined below:

Attachment D1: Location Map

Attachment N1: Hill Valley Substation Pollinator Habitat Implementation Plan

Summary of Substation Construction Activities:

Hill Valley

The Hill Valley Substation will be a newly built facility on an approximate 80-acre parcel in Montfort, WI. The substation will be about 22-acres in size including the gravel substation pad, stormwater facilities (i.e. drainage swales, stormwater basins, and berms), perimeter fencing, and access road. The facility will be constructed as a typical substation with standard construction practices.

The remaining portion of the Hill Valley property has been planted with native pollinator habitat and tallgrass prairie seed mixes. The Pollinator Habitat Implementation Plan (Attachment N1) describes the implementation and planned management activities for the establishment of native vegetation on the Hill Valley property surrounding the substation footprint. Prior to facility construction, the substation footprint will remain vegetated with temporary cover.

An erosion control and stormwater management plan will be developed to meet the requirements of NR 151 and NR 216. The plan will be included in ATC's Notice of Intent to be submitted to WDNR under separate cover.

Cardinal

All work will be completed inside the existing substation fence. New equipment will be installed to support the termination of the new 345 kV transmission line. New foundations will be installed to support an expanded bus, structures, breaker, and transformers. Spoils or other waste generated from the installation of new equipment will be disposed of according to WDNR standards.

Eden

All work will be completed inside the existing substation fence. Line work will occur to facilitate new conductor and communications within the substation. Spoils generated from the installation of underground communication lines will be disposed of according to WDNR standards.

Nelson Dewey

All work will be completed inside the existing substation fence. New equipment will be installed to facilitate the Project. New foundations will be installed to support rearranged and new equipment. Spoils or other waste generated from the installation of new equipment will be disposed of according to WDNR standards.

Wyoming Valley

All work will be completed inside the fence within the existing facility. Ground rods will be installed and connected to the existing facility.

A. Project Sequencing and Scheduling

The ATC Managed portion of the project consists of transmission line segments for which CMPs will be submitted under separate cover. Work will also be conducted at substations connected to this portion of the Project including Hill Valley, Cardinal, Eden, Nelson Dewey, and Wyoming Valley. ATC's transmission line and substation work will begin in October 2021 and ending with restoration in late 2023 or early 2024.

B. Substation Sequencing and Scheduling

Hill Valley

The following summarizes the anticipated timing of construction of the new Hill Valley Substation:

- Site Grading*, Storm Water, Erosion Control: October-December 2021
- Site Restoration: Spring 2022
- Below Grade/Foundation Construction: Begins Spring 2022
- Above Grade/Equipment Construction, Commissioning: Fall 2022-March 2023

Restoration is scheduled to occur in the spring of 2022 as completion of grading is expected to occur during winter conditions. The disturbed area will be protected until permanent restoration can be completed.

*A small portion of the site grading will be delayed until 2023 when an existing transmission line structure will be relocated.

Cardinal

Work at Cardinal is anticipated to occur in 2022.

Eden

Work at Eden is anticipated to occur in 2023.

Nelson Dewey

Work at Nelson Dewey is anticipated to begin in October 2021 and continue into 2022.

Wyoming Valley

Work at Wyoming Valley is anticipated to occur in 2022 or 2023.

C. GIS Shapefiles

GIS shapefiles of access routes or other environmental features are not applicable to this portion of the Project.

D. Location Map

Access to the substation facilities will follow existing driveways and established entrances. Attachment D1 provides a location map of the facilities. Any material storage/laydown areas will be located at the existing substations or laydown yards approved as part of the other Project Segments.

In the case that additional laydown yards or off-ROW access paths are identified, the Applicants will complete an environmental review of these areas and submit the necessary information to the PSCW prior to establishing any such areas in accordance with Wis. Admin. Code § PSC 111.71.

E. Wetland Impact Minimization

Work at Hill Valley and the other Project Substations will not impact wetlands.

F. Waterway Crossings and Impact Minimization Discussion

Work at Hill Valley and the other Project Substations will not impact or cross waterways. The use of Temporary Clear Span Bridges (TCSBs) is not anticipated.

G. Endangered Resources Plan

ATC consulted with the WDNR to develop a Certified Endangered Resources (ER) Review (ERR18-130) for the Project, which includes the Hill Valley Substation. The Certified ER Review has been amended annually and incorporates species survey results. The amendment identifies which state-listed species have required follow-up actions and the specific areas where measures are required to avoid and minimize direct or indirect impacts to state-listed species. These follow-up actions and measures will be implemented as described in the ER Review. Furthermore, the amendment identifies voluntary measures recommended to avoid and minimize impacts to other sensitive state-listed species or resources. These measures will be implemented where feasible. The amendment table will continue to be updated and will serve as a communication and coordination tool to be used among ATC, WDNR, and the construction contractor(s).

Work at all other substations associated with the Project will occur within the existing developed and graveled facilities. As a result, work at the substations is covered under the WDNR Broad Incidental Take Authorization for No/Low Impact activities for all species.

A Biological Opinion was issued for the project for potential adverse effects to federally listed species. Nondiscretionary measures were included to minimize effects from the Project. ATC will implement those measures within the applicable locations.

H. Invasive Species Management Plan

As part of the Hill Valley Substation Restoration Plan, potential invasive species will be managed during the implementation of the native vegetative community. Work at other substations will occur within existing facilities which do not contain vegetation or invasive species.

I. Wetland Restoration and Revegetation Plan

Work at the Project Substations do not impact wetlands therefore a Wetland Restoration and Revegetation Plan has not been developed.

J. Post-Construction Monitoring Plan

Post-construction monitoring will not be required as part of the work at the Project Substations, as the work will not affect wetlands, waterways, or other natural communities.

In accordance with Conditions #32 and #38 of the WDNR utility permit and as required by NR 216, ATC will conduct weekly and post rainfall inspections of erosion and sediment controls during and after construction. These inspections will occur until disturbed areas are stabilized and meet the thresholds outlined in NR 216.

K. Revised WDNR Table 1

Wetlands and waterways are not impacted by the work at the Project Substations, therefore a WDNR Table 1 has not been developed for this part of the Project.

L. Fisheries Waiver

Work at Hill Valley and the other Project Substations will not impact or cross waterways, therefore a fisheries waiver is not requested for this part of the Project.

M. Waterway Navigability Determination Request

Work at Hill Valley and the other Project Substations will not impact or cross waterways. A navigability determination is not being requested.

In addition to the components outlined in General Condition #78 of the WDNR utility permit (Sections A-M), the following information is provided in this CMP as requested by the PSCW Order:

N. Revegetation Plan

A revegetation plan has been developed for the Hill Valley Substation. The Pollinator Habitat Implementation Plan describes the implementation and planned management activities for the establishment of native vegetation on the Hill Valley property surrounding the substation footprint (Attachment N1). Prior to facility construction, the substation footprint will remain vegetated with temporary cover.

Work at the other substations is occurring within the existing footprint and therefore a revegetation plan is not applicable.

O. Independent Monitor Roles and Responsibilities

The PSC Final Decision and WDNR Utility Permit authorized the hiring of a combined Independent Environmental Monitor (IEM) and Independent Agricultural Monitor (IAM) for construction of the project. The Independent Monitor will work for and report directly to the PSC. The Independent Monitor will be responsible for monitoring ATC and contractor activities that might affect the environment and agricultural lands, during the construction project. The Independent Monitor will be responsible for monitoring the company's compliance with the requirements and practices identified in the following documents:

- PSC Final Decision and Order, including the agricultural conditions recommended by Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) and approved by the Commission.
- WDNR Utility Permit IP-SC-2019-25-03588
- WPDES Stormwater Discharge permit
- Certified Endangered Resource Review (#18-130)
- The project Avian Protection Plan, including Bald Eagle Nest Management Plan
- This Construction Mitigation Plan (CMP)

P. Agricultural Conditions

Work at the Project Substations do not impact agricultural lands.



















Stantec

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File:	Stantec Project #:193701503	Date:	April 16, 2020

Reference: Pollinator Habitat Implementation Plan, Hill Valley Substation Project Memo

American Transmission Company (ATC) will be constructing the Hill Valley Substation as part of the Cardinal-Hickory Creek Transmission Line Project. ATC purchased two adjacent 40-acre parcels for the substation in the Town of Wingville, Grant County, Wisconsin. The property is on rolling topography within an agricultural landscape and was primarily in row crop production for corn and soybeans prior to the purchase.

The substation footprint is estimated to be 22.3 acres, which includes a gravel pad; graded swales, basins, and berms around the pad; and an access road. Although the substation will only occupy approximately one quarter of the property, it will be constructed in the center of the property, fragmenting the surrounding fields and making row crop production less efficient. Instead of renting out the remaining land within the property for continued agricultural purposes, ATC saw this as an opportunity for pollinator habitat restoration.

Global declines of pollinators have significant implications for ecosystem health and crop production, with most plants (including major agricultural crops) depending on animal pollinators to move pollen from plant to plant. Threats to insect pollinators include the loss and degradation of habitat as well as pesticide use. Transmission line rights-of-way (ROW) and open lands adjacent to electric facilities can provide pollinator habitat as the wire zones are typically managed to maintain herbaceous plants or low growing shrubs.

ATC worked with Stantec Consulting Services Inc. (Stantec) to develop a Pollinator Habitat Implementation Plan for the project (attached). This plan provides guidance on the implementation, short-term management, and long-term management of low maintenance pollinator habitat around the footprint of the Hill Valley Substation. Pollinator habitat contains native flowering plants, host plants, and nesting sites throughout the growing season, based on the definition by the University of Illinois-Chicago Rights of Way as Habitat Working Group (which ATC is involved).

Site preparation and the installation of two native seed mixes around the substation footprint was conducted in April 2020. An updated figure depicting the seeding plan is included as an attachment to this memo. Pollinator Friendly Habitat comprises approximately 22.3 acres of the property and contains species that will provide native nectar and pollen sources, host plants, and nesting sites for pollinators throughout the growing season. This habitat was installed across two areas that are not anticipated to be impacted by future transmission line activities, substation activities, or herbicide drift from adjacent farmland. Graminoid-Only Tallgrass Prairie comprises the remaining 33.2 acres of the property outside of the substation footprint and contains native prairie grasses and one sedge that will provide pollinator nesting habitat, stabilize soils, and buffer the Pollinator Friendly Habitat areas from adjacent land use. This habitat was installed in areas that may be subject to ongoing disturbance (e.g., adjacent to roadsides, agricultural fields, and transmission line and substation infrastructure).

Beyond creating pollinator friendly habitat, the incorporation of this plan provided a solution for ATC to stabilize the bare soils at the property during the transition from active farming to substation construction. A temporary cover crop was installed with the native seed mixes to stabilize soils as the native prairie species

April 16, 2020 Page 2 of 2

Reference: Pollinator Habitat Implementation Plan, Hill Valley Substation Project Memo

germinate and establish. The substation footprint was seeded with a temporary cover crop in April 2020, and temporary cover will be maintained until construction of the substation begins in early 2021.

ATC's conversion of cropland to native prairie at the Hill Valley Substation will have positive impacts beyond providing pollinator habitat including reduced soil erosion, enhanced rainwater infiltration and water quality, reduced pesticide use, improved soil health, carbon sequestration, improved habitat for other wildlife, and providing an aesthetically pleasing landscape that aligns with their transmission line operations.

Stantec Consulting Services Inc.

Sarah Kramon

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- Attachments: Figure 2. Hill Valley Substation Pollinator Habitat Implementation Plan (updated 4/6/2020) Pollinator Habitat Implementation Plan
- c. Justin Funk, Senior Scientist/Project Manager, Stantec, Justin.Funk@stantec.com Johanna Sievewright, ATC, jsievewright@atcllc.com









Pollinator Habitat Implementation Plan

Hill Valley Substation Project Grant County, Wisconsin Stantec Project #: 193701503

January 29, 2020

Prepared for:

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Stantec Consulting Services Inc. 209 Commerce Parkway P.O. Box 128 Cottage Grove, WI 53527 Phone: (608) 839-2039 This document entitled Pollinator Habitat Implementation Plan was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of American Transmission Company (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

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Project Overview

1.0 PROJECT OVERVIEW

American Transmission Company (ATC) is in the planning phases of construction of the new Hill Valley Substation within an 80-acre property (the "Site") in T6N, R1W, Section 36, in the Town of Wingville, Grant County, Wisconsin (Appendix A, Figure 1). The substation footprint is estimated to be 22.3 acres, which includes a gravel pad; graded swales, basins, and berms around the pad; and an access road. Construction of the substation is anticipated to begin in January 2021. A new high voltage transmission line will be constructed and tie into the substation as part of ATC's Cardinal-Hickory Creek Transmission Line Project. ATC intends to restore prairie, including areas of pollinator friendly habitat, within an estimated 55.5 acres of the 80-acre Site that are outside of the substation footprint.

Existing Conditions

The Site consists of agricultural lands that have primarily been used for row crop production of corn and soybeans. An approximate 0.8-acre hayfield dominated by Timothy (*Phleum pratense*) and smooth brome (*Bromus inermis*) is in the northwest corner of the Site. Farming at the Site will cease after the corn and soybeans from the 2019 growing season are harvested. The Site is bound by Stockyard Road to the west, State Trunk Highway (STH) 80 to the east, and agricultural lands in row crop production or hay to the north and south. An existing high-voltage transmission line runs southwest to northeast through the western half of the Site.

The road rights-of-way (ROW) along the western and eastern Site perimeters are dominated by smooth brome and weedy disturbance-tolerant forbs (herbaceous flowering plants that are not grass-like) with scattered native forbs present such as common milkweed (*Asclepias syriaca*) and sunflowers (*Helianthus* spp.). Tree saplings and shrubs are common along the northern Site perimeter and the northern portion of the western perimeter. Five invasive species that are listed as 'Restricted' per Wisconsin's Invasive Species Rule (Wis. Adm. Code ch. NR 40) were identified within or directly adjacent to the Site during the 2019 field investigation: wild parsnip (*Pastinaca sativa*), plumeless thistle (*Carduus acanthoides*), Canada thistle (*Cirsium arvense*), invasive bush honeysuckle (*Lonicera* spp.), and black locust (*Robinia pseudoacacia*).

A variety of silt loam soils are mapped by the Natural Resource Conservation Service (NRCS) within the Site (Appendix A, Figure 1). Some mapped soil types are classified as moderately eroded and the drainage class is generally moderately well-drained to well drained. Soil borings evaluated on-site in 2019 indicated that soils were very compacted with silt loam or silty clay loam over silty clay at approximately 18 inches in depth. Rolling topography is present throughout the Site with slopes ranging from 2-20%, based on NRCS mapping, with most of the Site in mapped soils with 2-6% and 6-10% slopes.

Purpose

The purpose of this plan is to guide pollinator friendly habitat restoration around the footprint of the proposed Hill Valley Substation. Pollinator habitat contains native flowering plants, host plants, and nesting sites throughout the growing season, based on the definition by the University of Illinois-Chicago

Vegetation Installation

Rights of Way as Habitat Working Group (which ATC is involved). The pollinator habitat goal for the Site is to provide a diversity of plants with flowering occurring over each of the three blooming periods (spring, summer, and fall) and native bunch grasses and sedges to provide potential nesting and overwintering sites for insects. The seed mixes included within this plan are intended to be cost-effective yet robust and provide native plant cover and diversity. The restored habitat is intended to be relatively minimally managed following installation, with management consisting primarily of mowing and spot herbicide applications to control invasive species.

This Pollinator Habitat Implementation Plan will provide information and guidance on the seeding plan and seed mixes for the Site, site preparation, seed installation, short-term management during the establishment phase (2020-2024), and long-term management. This plan is based on ATC's construction plans to date, information gathered at the Site during a 2019 field investigation, and information provided by the previous landowner/farmer. Construction plans are subject to change. An adaptive management approach will be used during vegetation installation and management to address changing construction, weather, and Site conditions.

2.0 VEGETATION INSTALLATION

The seeding plan, site preparation, and seed installation methods are described in the following section.

2.1 SEEDING PLAN

Prairie will be restored over approximately 55.5 acres of the Site, outside the approximate grading limits of the substation. There will be two prairie seeding areas consisting of Pollinator Friendly Habitat and Graminoid-Only Tallgrass Prairie. These seeding areas and specific seed mixes are described below. Seed will be sourced from a native plant nursery that can provide seed from the region.

Pollinator Friendly Habitat

Pollinator Friendly Habitat is planned for two areas totaling approximately 22.3 acres (Appendix A, Figure 2). The goal of this seeding area is to provide native nectar and pollen sources, host plants, and nesting sites for pollinators throughout the growing season. The Pollinator Friendly Habitat Seed Mix will be installed within this seeding area (Appendix B, Table B.1). Details regarding the seed mix include the following:

- Mix contains 6 grass species, 1 sedge species, and 21 forb species. Adjustments and substitutions can be made based on nursery availability and cost at the time of the seed order.
- Species selected are generally hardy, economical, historically found in Grant or Iowa County, and readily establish from seed.
- Tall stature grass species are kept at low to moderate seeding rates to still provide native perennial grass cover on the moderately erodible slopes but also to allow for forbs to establish.

Vegetation Installation

- Canada wild rye (*Elymus canadensis*) is included as a nurse crop that is anticipated to establish during the first growing season following seed installation and provide vegetative cover. It is expected to decline in abundance as other species establish and provide competition.
- Mix contains forbs that flower in the spring, summer, and fall; providing nectar and food supply for pollinators throughout the season.
- Common milkweed (*Asclepias syriaca*) is included specifically to support monarch butterflies. Milkweeds are host plants for monarchs. The seed mix contains several other host plants for a variety of other pollinators.

Graminoid-Only Tallgrass Prairie

Graminoid-only, tallgrass prairie is planned for 33.2 acres of the Site to stabilize soils and buffer the pollinator friendly habitat from the substation and adjacent land use. The Graminoid-Only Tallgrass Prairie Seed Mix (Appendix B, Table B.2) will be installed within the remaining project area outside the approximate substation grading limits; specifically in a 100-ft buffer around the perimeter of the Site, around the grading limits, and within the existing and proposed transmission line easements (Appendix A, Figure 2). This mix will buffer the Pollinator Friendly Habitat areas from adjacent land use such as mowing along roadsides, invasive species introduction from roadsides and agricultural lands, and herbicide drift from adjacent agricultural practices. Details regarding the seed mix include the following:

- Mix contains the same 6 grass species and 1 sedge species in the Pollinator Friendly Habitat Seed Mix but seeding rates of tall stature grasses and the nurse crop (Canada wild rye) have been increased. There are no forbs in this mix.
- Allows for broadleaf-specific broadcast herbicide treatments after establishment (flowering) of native grasses if invasive or noxious broadleaf weeds, such as wild parsnip and Canada thistle, are problematic.
- Mix may provide faster soil stabilization and may be more durable than Pollinator Friendly Habitat Seed Mix in areas where ongoing disturbance is anticipated (e.g., under transmission line ROW).
- Mix is considerably more economical than the Pollinator Friendly Habitat Seed Mix.

2.2 SITE PREPARATION

Areas of the Site that were planted to corn in 2019 will be lightly disced following crop harvest to break up corn stubble and to prepare a seed bed prior to native seed installation. It is anticipated that seed can be installed directly into portions of the Site that were planted to soybeans in 2019 or that only minimal seed bed preparation will be required.

The hayfield in the northwest corner of the Site will be tilled at the same time as the corn fields. Nonselective herbicide treatments will be required within the hayfield to remove the existing vegetation and prepare the area for native seed installation. Following green-up and regrowth of vegetation, this field will be treated with non-selective herbicide 2-3 times during the 2020 growing season.

Monitoring and Maintenance Plan

2.3 SEED INSTALLATION

The two native seed mixes will be installed with a native seed drill within the areas depicted on Figure 2 (Appendix A). Seed will be installed up to the edge of the existing tilled agricultural fields within the Site. Areas of the property within existing road shoulder or the transition between neighboring agricultural fields will not be seeded.

Native seed will 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). Seeding windows are generalized and actual installation timing should be based on weather and Site conditions. It is anticipated that native seed will be installed during the 2020 spring seeding window within the row crop areas, once the ground is workable. The anticipated seeding window is based on the current Project schedule and the assumption that the 2019 corn crop will have been harvested by the farmer. Seed will be installed during the 2020 fall/frost seeding window, following removal of existing vegetation.

The permanent native seed mixes will be installed with a temporary cover crop, which consists of common oats and annual rye if installed during the spring seeding window (Appendix B, Table B.3). The temporary cover crop will also be installed over the substation grading limits at the stand-alone rates (approximately 22.3 acres) during the spring seeding window to provide temporary vegetative cover during the 2020 growing season. Additional temporary cover crop may be required within the substation grading limits during 2021 and should be installed and maintained in accordance with any erosion control plans for the Project.

Additional native seed installation may be required following substation construction and completion of the transmission line work. It is anticipated that soil disturbance will be limited to Graminoid-Only Tallgrass Prairie areas; however, the appropriate seed mix should be installed within the spring or fall native seeding windows following construction completion.

3.0 MONITORING AND MAINTENANCE PLAN

The establishment period for prairie and pollinator habitat following seed installation is generally 3-5 years. This section provides information regarding management and monitoring during the establishment period (short-term) and guidance for long-term management of the established prairie communities. An adaptive management approach will be used to tailor management actions to changing conditions.

3.1 SHORT-TERM MANAGEMENT

Monitor slopes throughout the establishment period to determine if additional temporary cover crop or supplemental erosion control (erosion control blankets) is warranted to stabilize soil. Additional native seed will be installed in areas that lack perennial establishment after two years.

Monitoring and Maintenance Plan

3.1.1 Management Mowing

Mowing is the primary management tool used to establish desirable prairie vegetation. Management mowing is conducted to reduce seed production of weed species, suppress woody vegetation, and maintain light at the ground surface to encourage germination and growth of installed native species. Mowing can be conducted with a tractor-mounted deck (flail or rotary) mower.

Frequent mowing is typically required during Years 1-2 following seed installation to reduce fast-growing weeds and assist with the growth of planted species. Actual timing of mowing should be conducted when vegetation reaches a height of 24-30 inches and should occur approximately three times from May-September. During Years 1-2, mow vegetation to a minimum height of 6-8 inches. Mow vegetation to a minimum height of 10-12 inches after the second year following native seed installation and beyond, to leave insect habitat and to keep sufficient vegetative cover to provide competition for non-native species.

Years 3-5 represent a transition phase where desirable vegetation becomes increasingly established but remains susceptible to weed competition. Mowing frequency may be reduced (approximately once per year) by Year 3, or vegetation cutting may transition to selective mowing to target specific areas of weed growth. During Years 4-5, mowing will primarily be conducted to reduce vegetative litter if prescribed burning is not being used as a management tool. Starting at Year 4 and beyond, conduct mowing during non-blooming seasons and when plants are dormant, such as late fall or early spring, unless mowing is being conducted to control a target invasive species. The mown vegetation can be baled for hay and removed from Site.

Once desirable vegetation is established, the ground-nesting bird season, approximately May 15-August 1, should be taken into consideration when scheduling and conducting mowing activities. If mowing cannot be scheduled outside this time period, staff should be trained to identify and avoid typical signs of nesting activity during routine maintenance events. Cutting with hand-held trimmers during this time period, as feasible to control small weed populations, would additionally reduce potential impacts to ground-nesting birds.

3.1.2 Invasive Species Control

Herbicide is the primary tool to remove undesirable perennial invasive species. Herbicide type and method of application are highly dependent on target species and vegetation maintenance goals. Herbicide use will be minimized to the extent practicable and be conducted by trained and licensed personnel in accordance with herbicide label rates. In general, aquatic-approved herbicides and adjuvants will be used when possible to minimize potential impacts on wildlife, including pollinators.

Invasive species that may impact the establishment of the prairie areas, particularly species listed as 'Restricted' or 'Prohibited' per Wisconsin's Invasive Species Rule, will be targeted to reduce extent and spread. Broadcast treatments of broadleaf-selective herbicide using a boom, boomless sprayer tank, or pistol sprayer mounted to a utility terrain vehicle (UTV) are recommended to reduce invasive species populations along the Site perimeters. Spot herbicide applications with a backpack sprayer may be suitable for small invasive species populations within the interior of the Site.

Monitoring and Maintenance Plan

3.1.3 Prescribed Burning

Prescribed burning is an important prairie management tool that is used to reduce vegetation thatch, support native prairie plant establishment and vigor, and reduce the presence of non-native herbaceous species and woody vegetation. Prescribed burning can be implemented after native vegetation has established and there is sufficient fuel to carry a fire, which typically occurs three years following seed installation. Burning should be conducted by trained professionals with necessary permits and under appropriate weather conditions. Prescribed burns are recommended to occur every 3-5 years, Site conditions permitting.

Management mowing can be conducted outside of the growing season, in lieu of prescribed burning, to reduce vegetation thatch build-up and suppress woody vegetation after the establishment period, as discussed in Sections 3.1.1 and 3.2. Cut vegetation can be baled for hay and removed from Site, as feasible.

3.1.4 Short-Term Management Schedule

Table 1 provides a recommended implementation and management schedule for the Site. It is assumed that most of the native seed installation will occur during spring 2020, with 2020 representing Year 1 of the prairie establishment period. This table is intended to serve as a guide; monitoring and adaptive management should be used to evaluate the success of the implementation and previously conducted tasks in order to identify the actual timing and specific guidance for remaining management items. Site conditions, growing season, and weather patterns play a large role in determining management prescriptions.

Estimated Timing	Management Task
April/May 2020	 Lightly disc fields planted to corn in 2019 to break up stubble and prepare seed bed
	Till up hayfield in northwest corner of Site and prepare seed bed
	 Install native seed mixes according to seeding plan with a native seed drill, excluding previous hayfield area
	 Install oats and annual rye temporary cover crop over entire Site (including substation footprint) except for hayfield. Temporary cover crop will be installed with the native seed mixes in the prairie seeding areas.
June/July 2020	Mow areas planted with native seed mixes to a minimum height of 6-8 inches
	Conduct non-selective herbicide treatment to the previous hayfield
	 Conduct broadleaf-specific herbicide treatment to the western and eastern project area perimeters between maintained road ROW and prairie planting areas to target thistles, wild parsnip, and other persistent broadleaf weeds
August 2020	 Mow areas planted with native seed mixes to a minimum height of 6-8 inches Conduct non-selective herbicide treatment to the previous hayfield

Table 1. Pro	posed Implem	entation and	Short-Term	Management	Schedule	(2020-2024	۱.
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Monitoring and Maintenance Plan

Estimated Timing	Management Task		
September 2020	Mow areas planted with native seed mixes to a minimum height of 6-8 inches		
	Conduct non-selective herbicide treatment to the previous hayfield (if needed)		
November-December 2020	Install native seed mix within previous hayfield		
2021 (Year 2)	 Mow all areas seeded with native seed mixes 3 times during growing season to a minimum height of 6-8 inches. Estimated timing: 		
	• June		
	Mid-July		
	Late August		
	 Conduct broadleaf-specific herbicide treatment to western and eastern project area perimeters between maintained road ROW and prairie planting areas to target persistent broadleaf weeds. Estimated timing: July 		
2022 (Year 3)	 Install supplemental native seed in bare or disturbed areas, as needed, during the spring or fall/frost seeding windows 		
	• Mow all areas seeded with native seed mixes 2-3 times to a minimum height of 12 inches. Estimated timing:		
	Early to mid-July		
	August (if needed)		
	Fall (October-November)		
	 Conduct selective herbicide treatments to target invasive species over one event in late July or early August. May consist of boom spray broadleaf-selective herbicide treatments in Graminoid-Only Tallgrass Prairie areas and/or spot herbicide treatments within Pollinator Friendly Habitat. 		
2023-2024 (Year 4-5)	Conduct prescribed burn (if feasible and conditions permit)		
	 In lieu of burning, mow all areas seeded with native seed mixes in fall (October- November). Bale cut vegetation for hay and remove from Site, if feasible. 		
	 Scout for persistent invasive species. Conduct selective herbicide treatments to target invasive species over one event in mid-July. May consist of boom spray broadleaf-selective herbicide treatments in Graminoid-Only Tallgrass Prairie areas and/or spot herbicide treatments within Pollinator Friendly Habitat. 		

3.2 LONG-TERM MANAGEMENT

The Graminoid-Only Tallgrass Prairie and Pollinator Friendly Habitat areas are intended to be relatively self-sustaining following establishment and the short-term maintenance period; however, continued monitoring and management is recommended as follows:

- Scout for invasive species, particularly species covered under the Wisconsin NR 40 Invasive Species Rule or noxious weeds, on an annual or bi-annual basis and apply adaptive management depending on identified needs (e.g., mowing, selective herbicide treatments).
- Conduct prescribed burns every 3-5 years, if feasible.
- Mow the entire site once every two years to reduce vegetative litter build-up to support forbs and suppress woody vegetation. Mowing may be less frequent if prescribed burning is used as a management tool. Cut vegetation to a minimum height of 12 inches to leave insect habitat. Conduct mowing during non-blooming seasons and when plants are dormant, such as late fall or

Summary

early spring, unless mowing is being conducted to control a target invasive species. Bale cut vegetation for hay and remove from Site, if feasible.

4.0 SUMMARY

This Pollinator Habitat Implementation Plan outlines goals and provides guidance for the implementation and maintenance of pollinator friendly habitat outside the footprint of the proposed Hill Valley Substation. The seeding plan includes the installation of native prairie seed mixes that include pollinator friendly wildflowers, bunch grasses, and sedges. The implementation and maintenance tasks provided in this plan will assist ATC with developing habitat that is self-sustaining and requires relatively low management following the establishment period. It is anticipated that the planting plan will result in improved plant species diversity, pollinator and wildlife habitat, and soil health compared to the existing agricultural land use conditions at the Site.

APPENDICES

Appendix A Figures

Appendix A FIGURES

Figure 1. Project Area and 2017 Orthophotography

Figure 2. Hill Valley Substation Pollinator Habitat Implementation Plan





Son Synnson	Son one name
ChB	Chaseburg silt loam, moderately well drained, 2 to 6 percent slopes
DbC2	Dodgeville silt loam, 6 to 10 percent slopes, moderately eroded
DbD2	Dodgeville silt loam, 10 to 15 percent slopes, moderately eroded
DcB2	Dodgeville silt loam, deep, 2 to 6 percent slopes, moderately eroded
DcC2	Dodgeville silt loam, deep, 6 to 10 percent slopes, moderately eroded
DeB2	Dodgeville soils, deep, 2 to 6 percent slopes, moderately eroded
JuA	Judson silt loam, 0 to 3 percent slopes
SoE2	Sogn silt loam, 15 to 20 percent slopes, moderately eroded



Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 Data Sources Include: Stantec, ATC, WDNR, WisDOT, NRCS
 Orthophotography: 2017 NAIP

💻 Feet 1:2,400 (At original document size of 11x17)



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Appendix B Seed Mixes

Appendix B SEED MIXES

- Table B.1. Pollinator Friendly Habitat Seed Mix
- Table B.2. Graminoid-Only Tallgrass Prairie Seed Mix
- Table B.3. Temporary Cover Crop Seed Mix

Table B.1. Pollinator Friendly Habitat Seed Mix¹

Nomenclature		Pollinator At	Seed Metrics				
Scientific Name	Common Name	Blooming Period	Primary Pollinators	Oz/Acre	No. Seeds/Acre	Mix %	Seeds/Oz
Grasses and Sedges				•			
Andropogon gerardii	Big Bluestem	Late Summer-Fall	Wind	4.00	40,000	1.42	10,000
Bouteloua curtipendula	Side-oats Grama	Late Summer	Wind	22.00	132,000	4.69	6,000
Carex molesta	Field Oval Sedge	Early Summer	Wind	2.00	50,000	1.78	25,000
Elymus canadensis	Canada Wild Rye	Early Summer	Wind	32.00	166,400	5.92	5,200
Panicum virgatum	Switch Grass	Mid-Summer	Wind	1.50	21,000	0.75	14,000
Schizachyrium scoparium	Little Bluestem	Late Summer	Wind	32.00	480,000	17.06	15,000
Sorghastrum nutans	Indian Grass	Late Summer-Fall	Wind	4.00	48,000	1.71	12,000
Forbs							
Spring Bloomers (April-May)							
Allium canadense	Wild Garlic	Spring-Early Summer	Bees	1.00	560	0.02	560
Tradescantia ohiensis	Ohio Spiderwort	Spring-Early Summer	Bees	2.50	20,000	0.71	8,000
Zizia aurea	Golden Alexanders	Spring-Early Summer	Bees and Butterflies	3.00	33,000	1.17	11,000
Summer Bloomers (June-August)							
Agastache foeniculum	Blue Giant Hyssop	Mid to Late Summer	Bees	1.00	90,000	3.20	90,000
Asclepias syriaca	Common Milkweed	Early Summer	Bees and Butterflies	2.50	10,000	0.36	4,000
Chamaecrista fasciculata	Partridge Pea	Summer-Fall	Bees	8.00	21,600	0.77	2,700
Dalea purpurea	Purple Prairie Clover	Early Summer	Bees	3.00	45,000	1.60	15,000
Echinacea pallida	Pale Purple Coneflower	Early to Mid-Summer	Bees and Butterflies	2.50	13,000	0.46	5,200
Eryngium yuccifolium	Rattlesnake Master	Mid-Summer	Bees and Butterflies	2.50	18,750	0.67	7,500
Heliopsis helianthoides	False Sunflower	Early to Late Summer	Bees and Butterflies	3.50	22,050	0.78	6,300
Monarda fistulosa	Wild Bergamot	Mid-Summer	Bees and Butterflies	2.00	140,000	4.98	70,000
Oenothera biennis	Common Evening Primrose	Mid-Summer to Fall	Moths	1.00	90,000	3.20	90,000
Penstemon digitalis	Foxglove Beardtongue	Late Spring-Early Summer	Bees	2.00	260,000	9.24	130,000
Pycnanthemum virginianum	Mountain Mint	Summer-Fall	Bees and Butterflies	0.50	110,000	3.91	220,000
Solidago juncea	Early Goldenrod	Mid-Summer to Fall	Bees and Butterflies	0.50	145,000	5.15	290,000
Ratibida pinnata	Yellow Coneflower	Early to Late Summer	Bees	2.00	60,000	2.13	30,000
Rudbeckia hirta	Black-eyed Susan	Early Summer-Early Fall	Bees	6.00	552,000	19.62	92,000
Verbena stricta	Hoary Vervain	Mid to Late Summer	Bees and Butterflies	2.25	63,000	2.24	28,000
Fall Bloomers (September-Octobe	r)						
Liatris aspera	Rough Blazing Star	Late Summer-Fall	Bees and Butterflies	1.50	24,000	0.85	16,000
Solidago rigida	Stiff Goldenrod	Late Summer-Fall	Bees and Butterflies	2.50	102,500	3.64	41,000
Symphyotrichum laeve	Smooth Blue Aster	Late Summer-Fall	Bees	1.00	55,000	1.96	55,000

Diversity and Density Metrics

Plant Type	Total Oz/Acre	% Mix by Weight	% Mix by No. Seeds	Species Richness	Total Seeds/Acre	Total Seeds/ft ²
Grasses and Sedges	97.50	65.77	33.33	7	937,400	22
Forbs	50.75	34.23	66.67	21	1,875,460	43
Totals	148.25	100.00	100.00	28	2,812,860	65

¹Seed Mix is designed for 1.0 acre and should be installed with an appropriate temporary cover crop based on installation timing.

²Species information regarding blooming period and primary pollinators were obtained from the Prairie Moon Nursery 2019 Cultural Guide (https://www.prairiemoon.com/catalogs/2019-Prairie-Moon-Cultural-Guide.xlsx) and the Illinois Wildflowers webpage (http://www.illinoiswildflowers.info/index.htm).

Table B.2. Graminoid-Only Tallgrass Prairie Seed Mix¹

Nomenclature		Seed Metrics			
Scientific Name	Common Name	Oz/Acre	No. Seeds/Acre	Mix %	Seeds/Oz
Grasses and Sedges					
Andropogon gerardii	Big Bluestem	12.00	120,000	8.92	10,000
Bouteloua curtipendula	Side-oats Grama	18.00	108,000	8.02	6,000
Carex molesta	Field Oval Sedge	2.00	50,000	3.71	25,000
Elymus canadensis	Canada Wild Rye	60.00	312,000	23.18	5,200
Panicum virgatum	Switch Grass	6.00	84,000	6.24	14,000
Schizachyrium scoparium	Little Bluestem	32.00	480,000	35.66	15,000
Sorghastrum nutans	Indian Grass	16.00	192,000	14.26	12,000

Diversity and Density Metrics

Total Oz/Acre	Total Seeds/Acre	Total Seeds/ft ²	Species Richness
146.00	1,346,000	31	7

¹Seed Mix is designed for 1.0 acre and should be installed with an appropriate temporary cover crop based on installation timing.

Pollinator Habitat Implementation Plan Hill Valley Substation Project Appendix B. Seed Mixes

Table B.3. Temporary Cover Crop Seed Mix

Scientific Name	Common Name	Ion Name Installation Timing		Installation rate with permanent seed (lbs/acre)
Avena sativa	Common Oats	May-early August	96	40
Lolium multiflorum	Annual Rye	Year-round	5	5
Triticum aestivum	Winter Wheat	August-April	96	40
		Total lbs/acre ^{1,2}	101	45

¹Seed mix is designed for 1.0 acre.

² Select appropriate species from table above based on timing of installation and select appropriate rates based on whether temporary cover is being installed with or without permanent seed.