



SOMERSET SOLAR, LLC

MATTER NO. 22-00026

§900-2.12 EXHIBIT 11

Terrestrial Ecology

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Appendix 11-A. Wildlife Species Likely to Occur and/or Observed in Vegetative Community Types

Acronym List

%	Percent
§	Section
Facility Substation	Somerset Collector Substation
HDD	horizontal direction drilling
LOD	limit of disturbance
NYCRR	New York Codes, Rules and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
ORES	Office of Renewable Energy Siting
PEM	palustrine emergent
PFO	palustrine forested
PSS	palustrine scrub-shrub
PV	Photovoltaic
SWDA	Solid Waste Disposal Area
USCs	Uniform Standards and Conditions

Glossary Terms

Applicant	Somerset Solar, LLC, a subsidiary of The AES Corporation, Inc. (AES), the entity seeking a siting permit for the Facility Site from the Office of Renewable Energy Siting (ORES) under Section (§) 94-c of the New York State Executive Law.
Application	Application under §94-c of the New York State Executive Law for review by the ORES for a Siting Permit.
Facility	The proposed components to be constructed for the collection and distribution of energy for the Somerset Solar Facility, which includes solar arrays, inverters, electric collection lines, and the collection substation.
Facility Site	The limit of disturbance (LOD) that will be utilized for construction and operation of the Facility, which totals about 696 acres on the Project Parcels in the Town of Somerset, Niagara County, New York (Figure 2-1).
Project Parcels	The parcels that are currently under agreement with the Applicant and Landowner, totaling about 1,784 acres in the Town of Somerset, Niagara County, New York, on which the Facility Site will be sited (Figure 3-1).
Project Site	The acreage of the Project Parcels under agreement between the Applicant and the Landowner, consisting of approximately 1,396 acres, in which the Applicant has performed diligence, surveys and assessments in support of Facility design and layout.

EXHIBIT 11 Terrestrial Ecology

This exhibit addresses the requirements specified in 19 New York Codes, Rules and Regulations (NYCRR) §900-2.12. This exhibit includes descriptions of the various plant communities found within the approximately 696-acre limit of disturbance (LOD or Facility Site) identified for the Somerset Solar Facility (Facility), descriptions of any unique or protected vegetation, and the methods the Applicant will employ to minimize impacts to these vegetation resources.

Facility components have been sited on contiguous parcels and confined to the smallest area possible, and linear Facility components have been co-located to the extent practicable, thereby avoiding fragmentation of vegetative community types. The portion of the Facility located north of NYS Route 18/Lake Road will be repurposed by utilizing previously disturbed and developed areas of the dormant, former coal-fired electrical generating facility (Somerset Station), further minimizing new disturbance areas needed for Facility construction. The photovoltaic (PV) arrays and supporting infrastructure also have been sited within open agricultural fields (which are monotypic and have been cleared, mowed, plowed, and harvested) to the extent practicable to minimize disturbance to forested habitat of the Project Site. No single habitat type present within the Facility Site will be eradicated, and none are designated as significant natural communities. Once construction has been completed and the Facility is operational, there will be few, if any, impacts to wildlife. The revegetation effort following construction is likely to produce higher quality habitat in areas beneath and between panels, with the cessation of fertilizer, herbicide and pesticide inputs in agricultural areas anticipated to have a beneficial effect on soil conditions and water quality. The Facility has been designed to comply with 19 NYCRR §900-2.12 and the Uniform Standards and Conditions (USCs), and impacts related to terrestrial ecology have been avoided and minimized to the maximum extent practicable.

11(a) Existing Conditions

Plant Communities

Plant communities were characterized according to Ecological Communities of New York State (Edinger et al., 2014) and identified for the Facility Site and 100-foot buffer based on field observations. Plant communities were identified with the assistance of available geospatial data and aerial imagery, and plant species documented by Tetra Tech, Inc. during on-site field surveys conducted in the spring of 2021. These plants communities were categorized into four Community Types consisting of Agricultural Land, Forested Land, Open Land, Delineated Wetlands and

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Cultural Land¹ (here and after referred to as Developed Area). The Facility Site contains approximately 53.9 percent (%) Agricultural Land, 8.2% Forested Land, 13.7% Open Land, 22.6% Developed Area and 1.6% Delineated Wetlands. Table 11-1 provides a summary of plant communities within the Facility Site, plus a 100-foot buffer.

The following sections describe the major natural communities observed in the Facility Site and 100-foot buffer (Figure 11-1), all of which are common to New York State (NYS). Detailed descriptions of wetland community types encountered during on-site wetland delineations are provided in Exhibit 14. Table 11-1 provides the approximate acreages and percentages of the plant communities identified within the Facility Site and 100-foot buffer.

Table 11-1. Summary of Plant Community Classifications within Facility Site and 100-foot buffer.

Plant Community ¹	Approximate Acreage within Facility Site	Approximate Percentage (%) of Facility Site	Approximate Acreage within Facility Site and a 100-foot Buffer	Approximate Percentage (%) of Facility Site and a 100-foot Buffer
Agricultural Land				
Cropland/Row Crops	356.24	51.18%	382.66	39.21%
Orchard	18.71	2.69%	21.68	2.22%
Vineyard	-	-	1.50	0.15%
Forested Land				
Successional Northern Hardwood Forest	21.81	3.13%	31.04	3.18%
Appalachian Oak-Hickory Forest	14.14	2.03%	39.34	4.03%
Beech-Maple Mesic Forest	7.37	1.06%	22.65	2.32%
Spruce-Northern Hardwood Forest	8.70	1.25%	17.30	1.77%
Hemlock-Northern Hardwood Forest	4.43	0.64%	7.67	0.79%
Floodplain Forest	0.50	0.07%	1.68	0.17%
Open Land				
Successional Shrubland	46.89	6.74%	75.62	7.75%

¹ Per Edinger et. al., 2014 Cultural Land is defined as either created and maintained by human activities, or are modified by human influence to such a degree that the physical conformation of the substrate, or the biological composition of the resident community is substantially different from the character of the substrate or community as it existed prior to human influence.

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Plant Community ¹	Approximate Acreage within Facility Site	Approximate Percentage (%) of Facility Site	Approximate Acreage within Facility Site and a 100-foot Buffer	Approximate Percentage (%) of Facility Site and a 100-foot Buffer
Successional Old Field	48.15	6.92%	66.61	6.83%
Developed Land				
Construction	91.88	13.20%	105.22	10.78%
Landfill/Dump	26.95	3.87%	49.35	5.06%
Mowed Lawn with Trees	20.16	2.90%	36.36	3.73%
Paved Road/Path	7.64	1.10%	46.73	4.79%
Mowed Roadside/Pathway	5.00	0.72%	20.68	2.12%
Railroad	3.63	0.52%	7.79	0.80%
Open Water	1.04	0.15%	2.58	0.26%
Rural Structure Exterior	0.84	0.12%	1.46	0.15%
Mowed Lawn	0.07	0.01%	2.34	0.24%
Urban Structure Exterior	0.06	0.01%	1.38	0.14%
Delineated Wetlands				
Palustrine Emergent Wetland (PEM)	5.84	0.84%	9.26	0.95%
Palustrine Scrub-Shrub (PSS)	0.02	<0.01%	2.29	0.23%
Palustrine Forested Wetland (PFO)	5.99	0.80%	22.95	2.35%
Grand Total	696.04	100.0%	975.86	100.0%

1 – Plant Communities were classified according to Edinger et al. 2014.

Agricultural Land

Of the agricultural community types described by Edinger et al. (2014), three are present within the Facility Site and 100-foot buffer: Cropland/Row Crops, Orchard, and Vineyard, as described below.

Cropland/Row Crops

Cropland/Row Crops (unranked cultural) includes agricultural fields planted in row crops such as corn, potatoes, and soybeans, and includes vegetable gardens in residential areas. This community type covered a large proportion of the Facility Site and 100-foot buffer and typically included corn and soybeans.

Orchard

Orchard communities consist of a stand of fruit trees, observed to be apple (*Malus* spp.) and plum (*Prunus domestica*), with grasses as a ground cover. Orchards were currently under cultivation or recently abandoned.

Vineyard

Vineyard communities are comprised of cultivated vines such as grapes (*Vitis* spp.) or raspberries (*Rubus* spp.), often with grasses as groundcover. Vineyard communities are located entirely within the 100-foot buffer.

Forested Land

Forested land includes deciduous and mixed deciduous and coniferous forest types, particularly those described in Edinger et al. (2014) as Successional Northern Hardwood Forest, Appalachian Oak-Hickory Forest, Beech-Maple Mesic Forest, Spruce-Northern Hardwood Forest, Hemlock-Northern Hardwood Forest and Floodplain Forest. Also included are palustrine forested wetlands (Cowardin et al., 1979) identified during field surveys.

Successional Northern Hardwood Forest

Successional Northern Hardwood Forest is a hardwood or mixed forest that occurs on sites that have been cleared or otherwise disturbed. A broadly defined community, the dominant species observed include red maple (*Acer rubrum*), gray birch (*Betula populifolia*), white ash (*Fraxinus americana*), green ash (*Fraxinus pennsylvanica*), and American elm (*Ulmus americana*).

Appalachian Oak-Hickory Forest

Appalachian Oak-Hickory Forest is hardwood forest that occurs on well-drained sites, usually on ridgetops, upper slopes, or south- and west-facing slopes. The soils are usually loams or sandy loams. It is a broadly defined forest community with several regional and edaphic variants. In the Facility Site and 100-foot buffer, these communities included red oak (*Quercus rubra*), white oak

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(*Quercus alba*), pignut hickory (*Carya glabra*), white ash, red maple, and hop hornbeam (*Ostrya virginiana*).

Beech-Maple Mesic Forest

This community type is a northern hardwood forest that is dominated by sugar maple (*Acer saccharum*) and American beech (*Fagus grandifolia*). These forests typically occur on moist, well-drained soils and can have variable understory communities with shrub and herbaceous communities. The sapling/shrub layer is dominated by American hornbeam (*Carpinus caroliniana*), hop hornbeam, sugar maple, and common buckthorn (*Rhamnus cathartica*).

Spruce-Northern Hardwood Forest

Spruce-Northern Hardwood Forest is broadly defined mixed forest habitat that occurs on lower mountain slopes and upper margins of flats on glacial till. The dominant trees include red spruce (*Picea rubens*), sugar maple, American beech, yellow birch (*Betula alleghaniensis*) and red maple. Typical shrub species observed included hobblebush (*Viburnum lantanoides*), American fly honeysuckle (*Lonicera canadensis*), and Canada yew (*Taxus canadensis*).

Hemlock-Northern Hardwood Forest

Hemlock-Northern Hardwood Forest is a ubiquitous community with many variants. Within the Facility Site and 100-foot buffer, this community was found in relatively small patches adjoining forested wetlands. Dominant tree species observed included eastern hemlock (*Tsuga canadensis*), sugar maple, and white pine (*Pinus strobus*), with eastern red cedar (*Juniperus virginiana*) present in the mid-story. The sapling/shrub layer included viburnum species (*Viburnum* spp.) and raspberry.

Floodplain Forest

Floodplain Forest typically consists of hardwood forests that occur on low terraces of river floodplains, characterized by their flood regime; and in low areas that are flooded in spring and irregularly flooded in high areas. A broadly defined community, the dominant species observed include silver maple (*Acer saccharinum*), green ash, various willows (*Salix* spp.) and box elder (*Acer negundo*). Dominant emergent species include sensitive fern (*Onoclea sensibilis*), jewelweed (*Impatiens capensis*), wood nettle (*Laportea canadensis*), false nettle (*Boehmeria cylindrica*), and goldenrod (*Solidago* spp., including *S. gigantea* and *S. canadensis*).

Open Land

Open Land in the Facility Site and 100-foot buffer consisted of a variety of unforested land of several community types, including Successional Shrubland and Successional Old Field that have been removed from agricultural production.

Successional Old Field

Successional Old Field are areas that had been cleared in the past for farming and have since been abandoned and are now dominated by forbs and grasses. Within the Facility Site and 100-foot buffer, the dominant species observed in these communities were red fescue (*Festuca rubra*), timothy (*Phleum pratense*), Kentucky bluegrass (*Poa pratensis*), false baby's breath (*Galium mollugo*), red clover (*Trifolium pratense*), and other clover species (*Trifolium* spp.). This community occurs primarily in the northwest section of the Facility.

Successional Shrubland

Successional Shrubland occurs in sites that have been cleared or disturbed and that have at least 50% shrub cover. This community primarily occurs along the eastern edge of the Facility Site (primarily off-site, but within the 100-foot buffer) and included a shrub layer dominated by gray dogwood (*Cornus racemosa*), raspberry, multiflora rose (*Rosa multiflora*), honeysuckle (*Lonicera* spp.), and buckthorns (*Rhamnus cathartica* and *Rhamnus frangula*).

Developed Area

The layout has maximized use of previously developed and industrial lands to the maximum extent practicable. Developed Area within the Facility Site and 100-foot buffer consisted of a variety of land use types either created or maintained by human activities or modified by human influence.

Construction

Construction defines a site where soil from construction work and/or road maintenance materials have been recently deposited. There is little, if any, vegetation present. The current area described as Construction for the Facility Site and 100-foot buffer is associated with the former coal plant, and current and recent activities for removal of structures and equipment. Materials and sediment are being removed and placed in these areas.

Landfill/Dump

A Landfill/Dump site has been cleared or excavated and may include areas where garbage is disposed. The bulk of the material in a landfill or dump is usually paper and other organic biodegradable waste (e.g., food waste, yard waste, and wood). This community type described for the Facility Site and 100-foot buffer includes capped landfills (Solid Waste Disposal Area [SWDA] I located in the 100-foot buffer and SWDA II located in the Facility Site), fill material (including coal ash), soil, and is sparsely covered with vegetation.

Mowed Lawn with Trees

Mowed Lawn with Trees is a residential area that has groundcover dominated by landscaped grasses and shaded by at least 30% cover of trees and/or 50% shrubs. Species are ornamental or native that have been maintained by mowing and herbicide. On the Facility Site and within the 100-foot buffer, this community type primarily occurs in the Somerset Collector Substation (Facility Substation) area and south of Lake Road.

Paved Road/Path

Paved Road/Path includes a road or pathway that is paved with asphalt, concrete, brick, stone, or another hard surface. Within the Facility Site and 100-foot buffer there are several public roads (Lake Road, Hartland Road, Hosmer Road and Haight Road) and access roads within the former coal plant that are paved with asphalt or concrete.

Mowed Roadside/Pathway

Mowed Roadside/Pathway consists of a narrow strip of mowed vegetation along the side of a road, or a mowed pathway through taller vegetation (e.g., meadows, old fields, woodlands, forests), or along utility right-of-way corridors (e.g., power lines, telephone lines, gas pipelines). The vegetation in these mowed strips and paths may be dominated by grasses, sedges, and rushes, or it may be dominated by forbs, vines, and low shrubs that can tolerate infrequent mowing. This community type occurs within the Facility Site along the periphery of agricultural fields.

Railroad

Railroad consists of a permanent road having a line of steel rails fixed to wood ties and laid on a gravel roadbed that provides a track for cars or equipment drawn by locomotives or propelled by self-contained motors. There may be sparse vegetation rooted in the gravel substrate along regularly maintained railroads. An existing railroad occurs within the Facility Site and 100-foot

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buffer, and the vegetation observed in association with this community type included invasive species.

Open Water

Open Water features observed within the Facility Site were the result of drainage ditches and retention ponds within the former coal plant and landfill (SWDA I and SWDA II) areas.

Rural Structure Exterior

Rural Structure Exterior consists of the exterior surfaces of metal, wood, or concrete structures. For the Facility, this includes a storage shed within the Facility Site and residential homes located outside the Facility Site and within the 100-foot buffer.

Mowed Lawn

Mowed Lawn is a residential area that has groundcover dominated by landscaped grasses that have been maintained by mowing and herbicide. This community type occurs in both the Facility Site and the 100-foot buffer in the Facility Substation area and south of Lake Road.

Urban Structure Exterior

Urban Structure Exterior describes exterior surfaces of metal, wood, or concrete structures (such as commercial buildings, apartment buildings, houses, bridges) or any structural surface composed of inorganic materials (glass, plastics, etc.) in an urban or densely populated suburban area. These sites may be sparsely vegetated with lichens, mosses, and terrestrial algae, and occasionally vascular plants growing in cracks. Within the Facility Site and 100-foot buffer this community type includes portions of the former coal plant, as well as the existing Kintigh Substation.

Delineated Wetlands

Delineated Wetlands in the Facility Site and 100-foot buffer consisted of a variety community types, including palustrine emergent (PEM), palustrine scrub-shrub (PSS) and palustrine forested (PFO) wetlands. Of the 11.85 acres of delineated wetlands identified within the Facility Site, only 0.61 acres are Office of Renewable Energy Siting- (ORES-) jurisdictional. Detailed descriptions of wetland community types located within the Facility Site and 100-foot buffer are located in Exhibit 14.

Palustrine Emergent (PEM)

Palustrine emergent (PEM) include wetlands characterized by erect, rooted, herbaceous hydrophytes (i.e., aquatic plants), excluding mosses and lichens (Cowardin et al 1979). Vegetation was largely absent in wetlands delineated in active agricultural fields (except for crops) but included common reed (*Phragmites australis*) and reed canary grass (*Phalaris arundinacea*) in uncultivated areas. Observed as shallow emergent swamps or common reed marsh.

Palustrine Scrub-Shrub (PSS)

Palustrine scrub-shrub (PSS) wetlands include wetland areas dominated by woody vegetation less than 20 feet tall (Cowardin et al 1979). In the Facility Site, several PSS delineated wetlands were identified in uncultivated areas adjacent to active agricultural fields as well as in the floodplain edges of streams or successional growth areas. Dominant species were various dogwoods (*Cornus* spp.), grey alder (*Alnus incana*), and pussy willow (*Salix discolor*), along with sensitive fern (*Onoclea sensibilis*), giant goldenrod (*Solidago gigantea*), and reed canary grass. Observed as shrub swamps.

Palustrine Forested (PFO)

Palustrine forested (PFO) wetlands are dominated by woody vegetation that is at least 20 feet tall (Cowardin et al. 1979). Dominant vegetation included red maple, box elder, black willow (*Salix nigra*), green ash, and eastern cottonwood (*Populus deltoides*), with an understory of dogwoods or open understory with limited hydrophytic herbaceous species. Observed communities include red maple-hardwood swamps and reverted drained muckland.

11(b) Temporary and Permanent Impacts to Vegetative Communities

The construction and operation of the Facility will result in temporary and permanent disturbance to plant communities. Temporary impacts will result from the installation of underground electrical lines, the racking area for the PV arrays, and areas where horizontal directional drilling (HDD) is proposed for the installation of electrical components that cross public rights-of-way, interior roads, easements, railroad, wetland or waterbodies; and within temporary laydown areas (Appendix 5-A, Sheets PV-C.02.00–PV-C.02.10). Permanent impacts will result from construction of overhead poles, graveled access roads, concrete equipment pads for electrical inverters, ballasted racking and cabling on sleepers and Facility Substation infrastructure; stormwater filter strips along impervious surface areas (access roads), fencing around the Facility, and within areas requiring grading (Appendix 5-A and Appendix 5-B). In addition to the permanent

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infrastructure which will remove vegetation, portions of the LOD include tree/shrub clearing and grubbing. This is considered a permanent impact (with the exception of removal of crops such as old orchard trees within agricultural land).

The vegetation community within all temporary disturbance and some of the permanent impact areas will likely be changed to a cover type that is different from pre-construction conditions. Areas that include selective tree/shrub cutting will be converted and maintained in an herbaceous or scrub-scrub state during operation of the Facility. Vegetation cover will therefore remain but will be of a different community type. Although the change of Cropland/Row Crops is considered a permanent conversion of a vegetation community, the replacement of an agricultural monoculture that involves periodic land disturbance, with a diverse community of grasses that will be maintained in place throughout the life of the Facility may result in cover type/vegetation improvements, by providing more suitable habitat for various vegetation and wildlife species that will not be subject to routine disturbance.

Table 11-2 and Figure 11-1 summarize the plant communities impacted within the Facility Site, according to the community groupings outlined in Table 11-1. The Agricultural Land community type makes up the majority of the Facility Site, consisting of approximately 375 acres (approximately 53.9% of the Facility Site).

The proposed impacts to vegetation communities were calculated using geographic information system software with the approximate limit of tree/shrub clearing and grubbing, and approximate limit of soil disturbance for each Facility component as identified in the Engineering Design Drawings (Appendix 5-A and Appendix 5-B).

The impact of PV array installation was calculated using an aggregated layout, which includes the area in between the arrays as the panels will be installed via driven H-piles and the ground will be reclaimed following construction and seeded using appropriate native upland or wetland seed mixes (described in section 11(f) of this exhibit).

As the layout includes 10 discrete development areas for the Facility (Areas 1–10) (Appendix 5-A, Sheet PV-C.02.00), laydown and temporary construction workspaces are required within each development area. In general, temporary construction workspaces will be located in areas also planned for other Facility components to limit community type impacts within the Facility Site. The Facility Site encompasses all of the various Facility components, which frequently overlap, as well as the temporary construction workspace, as discussed further below. The laydown area and temporary workspace in the 10 development areas includes the permanent footprint for the

Table 11-2. Construction Impacts to Plant Communities within Facility Site.

Community Type ¹	Temporary Impacts (acres)								Permanent Impacts (acres)						Total Temporary Impacts (acres) ^{2,3}	Total Permanent Impacts (acres) ^{2,3}
	Tree / Shrub Clearing and Grubbing ^{4, 5}	Fence	Limit of Disturbance	Racking Areas	Laydown	Storm Filter Strips	HDD	Electrical Collection Line Trenching	Selective Tree / Shrub Cutting	Tree / Shrub Clearing and Grubbing ⁴	Fence Posts	Unpaved Roads	Inverters	Facility Substation		
Agricultural Land	14.07	0.01	209.94	113.50	22.59	8.36	-	-	-	-	0.01	6.39	0.09	-	368.47	6.49
Forested Land	-	<0.01	4.82	0.46	0.17	0.36	0.02	0.01	7.67	42.55	0.01	1.24	<0.01	-	5.84	51.47
Open Land	-	<0.01	57.55	16.41	0.99	0.39	0.04	0.02	0.35	18.29	0.01	0.99	0.01	-	75.40	19.65
Developed Area	-	<0.01	103.43	37.33	3.70	1.63	0.10	0.14	0.02	3.02	0.01	6.09	0.04	0.74	146.33	9.92
PEM Wetlands	-	-	3.72	1.61	-	-	-	0.01	0.04	0.47	-	0.01	-	-	5.34 ⁶	0.52 ⁷
PSS Wetlands	-	-	0.02	-	-	-	<0.01	0.03	-	-	-	-	-	-	0.05 ⁶	0.00
PFO Wetlands	-	<0.01	0.92	-	-	-	<0.01	0.02	2.52	2.52	-	0.05	-	-	0.94 ⁶	5.09 ⁷
TOTALS^{2,3}	14.07	0.01	380.4	169.31	27.45	10.74	0.16	0.23	10.6	66.85	0.04	14.77	0.14	0.74	602.37	93.14

1 – Community types are comprised of multiple plant communities as described above in Table 11-1.

2 - Project components overlap during construction, and therefore the totals in individual columns are not complimentary. Grading impacts are covered by other component permanent impacts. Total disturbance for each component is mutually exclusive from the others.

3 - Grouping and rounding may result in minor, discountable acreage inconsistencies.

4 - Total acreage of tree/shrub clearing and grubbing is approximately 82.3 acres. Acreage depicted does not include impacts also associated with unpaved roads and other features identified to avoid double counting of impact acreages.

5 – Tree/shrub clearing and grubbing is not expected to permanently impact agricultural land given soils are manipulated on a routine basis, including plowing and tilling, for this land use type; therefore, tree/shrub clearing and grubbing is categorized as temporary impacts.

6 – Impacts calculated for Delineated Wetlands (PEM, PSS, and PFO) are for non-jurisdictional wetlands.

7 - Impacts calculated for Delineated Wetlands (PEM, PSS, and PFO) include 5.56 acres of permanent impact to non-jurisdictional wetlands. There are 0.05 acres of permanent impact from unpaved access road to jurisdictional wetland WA-5 detailed in Exhibit 14.

operations and maintenance trailers that will remain in this location for the life of the Facility. Approximately 602.37 acres of temporary impact and 93.14 acres of permanent impact are expected within the LOD (Table 11-2). The majority of the LOD will be restored to vegetated cover with low-growing forbs and grasses that will be mowed periodically to ensure vegetation does not interfere with the equipment (Exhibit 15 provides additional details on Facility impacts to agricultural lands and co-use).

11(c) Avoidance and Minimization of Impacts to Vegetative Community Types

No rare or exemplary natural communities or critical habitats were identified within the Facility Site during the background data review, agency coordination, or on-site surveys. Impacts to vegetation associated with Facility construction and operation have been minimized through an informed design process including designing the Facility Site to closely represent the proposed Facility layout, placement of access roads and concrete pads outside of waterbodies and wetland communities; use of post driven racking system versus concrete foundation wherever feasible, narrow access roads, and placement of components within the former coal plant to reduce impacts to natural communities. Furthermore, linear Facility components (e.g., access roads and electrical trenches) have been collocated to the extent practicable, and previously disturbed areas, such as existing access roads, the coal storage pile and landfill (SWDA II), have been incorporated into the Facility design where practicable, further minimizing new disturbance areas needed for Facility construction.

The portion of the Facility located north of NYS Route 18/Lake Road will repurpose areas of the former coal plant, utilizing previously disturbed and developed areas for approximately 28% of the Facility Site. Approximately 192 acres of the total temporary and permanent disturbance areas (includes Open Land and Developed Area) consist of repurposing existing land and infrastructure associated with the industrial/developed area of the former coal plant, including stormwater control basins, access roads, coal storage pile, and coal ash landfill (SWDA II). Additionally, the land required for the Facility Substation and interconnection line are entirely located on the Facility Site, with the length of the interconnection line limited to 159 feet, due to the ability to site the Facility Substation adjacent to the existing Kintigh Substation located on the Project Site. Siting of the PV arrays include portions of the industrial area associated with the former coal plant, as well as utilizing open agricultural fields to the maximum extent. Use of agricultural fields is considered reuse of disturbed areas, in that soils are manipulated on a routine basis, including plowing and tilling, and application of fertilizers, herbicides and pesticides. Although wildlife utilize agricultural fields for foraging, removal of this vegetative community type, which includes

monotypic vegetation that is subject to routine disturbance and chemical inputs, is not anticipated to significantly impact wildlife or result in removal of rare or exemplary natural communities. The highest quality vegetative communities and wildlife habitat available on the Project Site have been avoided, including the large wetland complexes located south of NYS Route 18/Lake Road and in the eastern section of the Facility, and portions of Fish Creek that traverse the Project Site. These wetland and stream complexes also contain forested habitats that will not be impacted.

The proposed Facility footprint will result in impacts to mature and young successional forest habitats, including approximately 43² acres of tree/shrub clearing and grubbing, and approximately 8 acres of tree/shrub selective cutting³. Soil disturbance will be required to place equipment pad foundations, cabling on sleepers and ballasted racking, as well as to lay underground collection lines during construction. Areas where concrete foundations and aboveground cables on sleepers are required due to the presence of groundwater protection liners (coal storage pile and SWDA II landfill) are located in previously disturbed areas of the former coal plant. Following construction, the temporary disturbance areas will be stabilized, and where necessary, restored using appropriate native upland or wetland seed mixes. Upland areas will be reseeded with an upland-oriented mix of fescues/bluegrasses that is designed to be directly seeded under panels, such as Ernst Fuzz and Buzz Standard⁴, Fuzz & Buzz Premium⁵, and/or Showy Northeast Native Wildflower & Grass Mix⁶ (within buffers). Within wetland areas, the Applicant proposes using Ernst PA New England Province FACW Mix⁷. Promoting the growth of non-invasive grassland and wet meadow vegetation following construction will reduce the amount

² Total acreage of tree/shrub clearing and grubbing is approximately 82.3 acres. This calculation does not include the removal of orchard trees as this is categorized as Agricultural Land. This acreage (and as reported in Table 11-2) does not include impacts also associated with unpaved roads and other features to avoid double counting of impact acreages.

³Any vegetation that is removed from the Facility Site will require inspection for compliance with provisions of 6 New York Codes, Rules and Regulations §192 for Forest Insect and Disease Control, to prevent spread of invasive insect species (Exhibit 6(a)1). Training will be provided to all construction contractor personnel involved with clearing, grubbing and cutting of vegetation on controlling the spread of invasive insects (Exhibit 6(a)7).

⁴ Fuzz & Buzz Standard: <https://www.ernstseed.com/product/fuzz-buzz-mix-standard/>

⁵ Fuzz & Buzz Premium: <https://www.ernstseed.com/product/fuzz-buzz-mix-premium/>

⁶ Showy Northeast Native wildflower & grass mix (within buffer zones): <https://www.ernstseed.com/product/showy-northeast-native-wildflower-grass-mix/>

⁷ PA New England Province FACW Mix: <https://www.ernstseed.com/product/pa-new-england-province-facw-mix/>

of mowing necessary for regular site maintenance. In addition, vegetative cover on the soil surface will be maintained underneath the solar panels, allowing the native vegetation communities to recover from past agricultural use.

The Applicant will implement appropriate Best Management Practices to ensure that impacts related to Facility construction and/or operation are limited to the Facility Site and are minimized to the extent practicable. This includes the implementation of a comprehensive erosion and sediment control plan as part of the Facility's Stormwater Pollution Prevention Plan. Prior to the commencement of construction activities, temporary erosion and sediment controls will be installed to prevent erosion of the soils and prevent water quality degradation in wetlands and waterbodies. Anticipated stormwater practices may include vegetated swales and level spreaders. A Stormwater Pollution Prevention Plan is included as Appendix 13-C of this Application. The Applicant will also comply with the USCs as presented in §900-6 of 94-c regulations, including proper notification procedures and compliance with other applicable regulations (such as Sections 401 and 404 of the Clean Water Act). As the impacts associated with construction of the Facility are typical, the use of alternative technologies during construction is not likely to reduce impacts and/or benefit the Facility significantly.

11(d) Wildlife Species Likely to Occur in Ecological Communities on the Project Site

A list of wildlife species observed during various field surveys is provided in Appendix 11-A, and includes other mammals, birds, amphibians, terrestrial invertebrates, and reptiles that are most likely to occur in the vegetative community types identified on the Project Site. Wildlife and wildlife habitat were documented during ecological surveys conducted onsite, including a wildlife site characterization (Appendix 12-A), wetland and stream delineations (Appendix 14-A), spring breeding bird survey (Appendix 12-B), and a wintering grassland raptor survey (Appendix 12-C). Publicly available data from the following sources also were reviewed to identify species likely to occur on the Project Site:

- New York Natural Heritage Program database;
- NYS Amphibian and Reptile Atlas Project (Herp Atlas);
- NYS Breeding Bird Atlas and range maps;
- United States Geological Survey breeding bird survey data;
- National Audubon Society Christmas Bird Count data;

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- Hawk Migration Association of North America hawk watch count data;
- eBird;
- The Nature Conservancy data; and
- The Kingbird publication.

The New York State Department of Environmental Conservation (NYSDEC) maintains a list of wildlife species including ones that are considered rare, in the Nature Explorer website (NYSDEC 2022). The database was searched for Niagara County to identify wildlife species that could potentially occur within or in the vicinity of the approximately 1,396-acre boundary (Project Site). A complete discussion of the use of the Facility Site by NYS or federally listed species is included in Exhibit 12.

The occurrence of mammalian species was documented through observations made during on-site field surveys for wetland and stream delineations. Field observations included direct observations of individuals as well as secondary observations of signs such as tracks or scat, and evaluation of available habitat. In addition, the Applicant conducted two grassland bird surveys and a winter grassland raptor survey. These are described further below in this section.

Spring Breeding Bird Survey

Surveys were conducted for grassland breeding birds between May 25 and July 15, 2021 and involved fixed point count surveys of a 100-meter radius area distributed across 16 survey points throughout the Project Site (Appendix 12-B). Surveys were conducted in general accordance with the NYSDEC Survey Protocol for State-listed Breeding Grassland Bird Species (Draft 2015) (NYSDEC 2015a). A total of 87 species were observed with 1,635 sightings throughout the survey. The five most common species included: northern cardinal (*Cardinalis cardinalis*), American robin (*Turdus migratorius*), yellow warbler (*Setophaga petechia*), red-winged blackbird (*Agelaius phoeniceus*), and barn swallow (*Hirundo rustica*). One NYS-listed threatened species (bald eagle [*Haliaeetus leucocephalus*]) and one NYS-endangered species (peregrine falcon [*Falco peregrinus*]) were observed. Additional discussion regarding threatened and endangered species is included in Exhibit 12.

Winter Grassland Raptor Survey

Surveys were conducted during the 2021 winter season from January 8 through April 5, 2021 to assess the presence of grassland raptor species that may be utilizing the Project Site for wintering habitat, in general accordance with the *NYSDEC Survey Protocol for State-listed Wintering*

Grassland Raptor Species (Draft 2015) (NYSDEC 2015b). Surveys included stationary point surveys and a driving route survey. A total of five raptor species were observed within the Project Site, including northern harrier (*Circus hudsonius*) and short-eared owl (*Asio flammeus*), which are both NYS-listed threatened species; and bald eagle (additional discussion for listed species is provided in Exhibit 12). Field observations also documented red-tailed hawk (*Buteo jamaicensis*), rough-legged hawk (*Buteo lagopus*), and turkey vulture (*Cathartes aura*). Complete results from the surveys are provided in Appendix 12-C.

The plant communities identified within the Facility Site boundary are relatively common across NYS. The New York Natural Heritage Program maintains a database of known significant natural communities, including rare communities or exemplary occurrences of common communities. No significant communities were identified within the Project Site. The following sections describe the wildlife communities that could be present based on the ecological communities observed within the Facility Site, and includes a discussion of any impacts on any important wildlife migration routes.

Wildlife Habitat

Descriptions of wildlife species observed within, or expected to use, the various plant communities of the Facility Site follow.

Agricultural Land and Open Land

These open or densely vegetated herbaceous communities support a wide variety of wildlife species for several important life history characteristics. Species which forage or breed in these community types include eastern cottontail rabbit (*Sylvilagus floridanus*) or the white-tailed deer (*Odocoileus virginianus*), whitetail deer, coyote (*Canis latrans*), Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*), gray fox (*Urocyon cinereoargenteus*), eastern chipmunk (*Tamias striatus*), woodchuck (*Marmota monax*), voles (*Microtus* spp.), and deer mice (*Peromyscus* spp.). A variety of birds may utilize these vegetation communities including bobolink (*Dolichonyx oryzivorus*), savannah sparrow (*Passerculus sandwichensis*), mourning dove (*Zenaida macroura*), and rock pigeon (*Columba livia*). Several amphibian and reptile species could utilize these communities including eastern garter snake (*Thamnophis sirtalis*) and spring peeper (*Pseudacris crucifer*).

Public data on terrestrial invertebrate occurrences is not available for the majority of NYS, but the varied habitats within the Facility Site are likely suitable for several groups of these organisms. Open habitats such as Cropland/Row Crops and Successional Old Field are likely to be abundant

with pollinators such as bees, butterflies, and moths that rely on wildflower nectar, as well as herbivores such as grasshoppers and ladybugs and predators such as dragonflies, damselflies, mantises, and spiders. Parasites such as fleas, ticks, and mites are likely to occur throughout the Facility Site, but especially in degraded habitats.

Forested Land and Delineated Wetlands

These varied habitats dominated by shrubs or trees can be utilized by a wide range of wildlife. Typical mammals include big brown bat (*Eptesicus fuscus*), northern flying squirrel (*Glaucomys sabrinus*), eastern gray squirrel (*Sciurus niger*), black bear (*Ursus americanus*) and the American porcupine (*Erethizon dorsatum*). Several bird species utilize forestlands including white-breasted nuthatch (*Sitta carolinensis*), downy woodpecker (*Picoides pubescens*), blue jay (*Cyanocitta cristata*), house sparrow (*Passer domesticus*), wood thrush (*Hylocichla mustelina*), cerulean warbler (*Dendroica cerulea*), sharp-shinned hawk (*Accipiter striatus*), black-throated blue warbler (*Setophaga caerulescens*), and barred owl (*Strix varia*). Several amphibian and reptile species may utilize these communities including eastern red-backed salamander (*Plethodon cinereus*), spotted salamander (*Ambystoma maculatum*), wood frog (*Lithobates sylvaticus*), and green frog (*Lithobates clamitans*). Ants, aphids, beetles, cicadas, crickets, flies, spiders, and wasps are likely to utilize the many vertical layers of hardwood forest habitat, while earthworms and pill bugs are likely to be common in the shaded, humid soils.

Wildlife Corridors

Wildlife corridors are components of habitat and are not specifically associated with the habitat types described above. The prominent wildlife corridor in the vicinity of the Facility Site is likely the large contiguous forest habitats within the surrounding area that are separated by agricultural use and public roads. With the proposed design placing solar panel arrays almost entirely within areas associated with the former coal plant or open fields currently used for agriculture, tree/shrub clearing and grubbing has been minimized to the extent practicable. Minimal impacts to wildlife corridors are anticipated. As most of the vegetation communities within the Facility Site consist of open lands, like Cropland/Row Crops, grassland species may also utilize the open land within the Facility Site during migration and/or breeding activities. Use of the PV array areas will be prohibitive for large species of terrestrial wildlife by the security fence that will be installed around the Facility to prevent their access, though smaller mammal species and other fauna (including birds, bats, insects, and similar) will likely be unaffected by the fencing and able to access the array areas.

The Facility is not located within any Significant Coastal Fish and Wildlife Habitat Areas designated by the New York State Department of State and/or the NYSDEC (New York State Department of State 2014). In addition, no federally designated Critical Habitats were identified within the Facility Site or surrounding areas.

11(e) Impacts to Wildlife and Wildlife Habitat

Impacts to wildlife habitats can be categorized as temporary or permanent. Temporary impacts correspond to areas where habitat will be permitted to revegetate back to the cover type that is similar to what was present prior to Facility construction. These include areas within and around the panels, which will be maintained (periodically mowed) as low-growing grasses and forbs, a cover type that is similar to the Cropland/Row Crops community. Replacement of an agricultural monoculture that involves periodic land disturbance, with a diverse community of grasses that will be maintained in place through the life of the Facility will likely result in more diverse habitat conditions.

Certain areas within the Facility Site will result in permanent habitat loss, including access roads, storm water filter strips, tree/shrub clearing and grubbing, grading, and equipment pads for inverters and ballasted component foundations. Some of these impacts to habitats include conversion to a cover type that is different from pre-construction conditions. Vegetation cover will therefore remain but will be of a different habitat type. Table 11-2 provides a summary of proposed permanent impacts to habitat types within the Facility Site, and includes approximately 93.1 acres of permanent impacts from tree/shrub clearing and grubbing, selective tree/shrub cutting, fence posts, unpaved roads, inverter pads, and the Facility Substation. The majority of permanent impacts (approximately 51.5 acres) will occur in forested habitat due to selective tree/shrub cutting and tree/shrub clearing and grubbing, with the remaining permanent impacts occurring in Agricultural Land (approximately 6.5 acres), Open Land (approximately 19.7 acres), and Developed Area (approximately 9.9 acres). There are approximately 5.6 acres of proposed permanent impacts to Delineated Wetlands calculated in Table 11-2, however only 0.05 acre of impact will be to ORES-jurisdictional wetlands. The remaining impacts are allowed activities (not requiring mitigation) to non-jurisdictional wetlands (ORES and United States Army Corps of Engineers) (approximately 2.9 acres) and to Federally jurisdictional wetlands (approximately 2.6 acres).

Temporary impacts total approximately 602.4 acres, with the majority occurring in Agricultural Land (approximately 368.5 acres), which will be allowed to return to a similar pre-construction vegetative state for the operational life of the Facility. Temporary impacts associated with

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Developed Area include approximately 146.3 acres; these areas will be reseeded to provide additional or improved vegetation cover than is currently present, due to replacement barren land and mowed areas with meadow habitat. Temporary impacts associated with Open Land (approximately 75.4 acres) and Forested Land (approximately 5.8 acres) will replace the current shrub or forested vegetation with meadow habitat. There are approximately 6.3 acres of proposed temporary impacts to Delineated Wetlands calculated in Table 11-2, however these impacts are allowed activities (not requiring mitigation) within non-jurisdictional wetlands (ORES and United States Army Corps of Engineers) (approximately 4.8 acres) and Federal jurisdictional wetlands (approximately 1.5 acre).

Impacts to wildlife can be considered direct or indirect. Direct impacts include physical injury or harm, by being crushed or injured by heavy equipment. Indirect impacts include those that are not direct, such as displacement from preferred habitats during construction or a reduction in prey availability due to the destruction of habitat or displacement of fauna. Direct or incidental wildlife mortality/injury is possible during Facility construction, particularly in tree/shrub clearing and grubbing areas, and selective tree/shrub cutting areas. Arboreal or less-mobile species and tree nests may be present as trees are being cut. The majority of the Facility is sited within areas previously disturbed by human activity (active agricultural land, former coal plant, coal storage pile, SWDA II), minimizing the need to remove forested habitat, which takes longer to recover from disturbance than agricultural land. Focusing development in previously disturbed areas also maintains existing wildlife corridors that may be established along the boundaries of the Facility. During construction and operation, fencing of the Facility will prevent a majority of large wildlife from travelling through the Facility, preventing potential unintended injury or mortality from construction and operation.

Non-listed grassland birds may also be affected by construction impacts to agriculture or habitats within the Facility Site, particularly as grasslands are fragmented and/or degraded by construction and installation of Facility infrastructure. The removal of large areas of Agricultural Land also removes a potential food source for wildlife, particularly for wildlife that feed on crops, and where crops provide a source of cover. However, impacts are anticipated to be short-term, as agricultural habitat will be reseeded with appropriate, native seed mixes and maintained in a grassland state for the life of the Facility. The revegetation of these grassland areas will provide habitat, foraging areas, and cover for certain wildlife species, as the security fencing during operation will prevent larger mammal species from accessing this habitat. Wildlife species that may benefit from the Facility include grassland birds and raptor species, and certain smaller mammal species such as

hares, vole, and woodchucks for foraging and cover that are likely to use the site for foraging and cover. Pollinating insect species also will benefit through use of the Facility for foraging, due to the presence of native species that will attract them. The remaining habitat types described will continue to function similarly to pre-construction conditions.

11(f) Avoidance and Minimization of Impacts to Wildlife and Wildlife Habitat

Impacts to wildlife habitat associated with Facility construction and operation have been minimized through an informed design process, including positioning the development envelope away from sensitive resources and reuse of previously disturbed areas in the layout to the maximum extent practicable. Approximately 28% of the total disturbance area (temporary and permanent impacts within the LOD) consists of repurposing areas associated with the former coal plant, which significantly minimizes the area of new disturbance required to construct the Facility. Existing infrastructure associated with the former coal plant area that is being reused and repurposed includes stormwater control basins, existing access roads, the coal storage pile, and SWDA II. Additionally, the land required for the Facility Substation and interconnection line is entirely located on the Project Site. Siting of the panel arrays include portions of the former coal plant, as well as utilizing the open agricultural fields to the maximum extent, minimizing the need for forest clearing. Linear Facility components, such as access roads and electrical cable trenches, have been co-located to the extent practicable.

No critical habitats have been identified within the Facility Site. A majority of the highest quality wildlife habitat present on the Project Site, including the large, forested wetland complexes and Fish Creek corridor have been avoided. The landfill where northern harrier were observed foraging during wildlife surveys (SWDA I) (Appendix 12-A) is located north of the Project Site and will not be impacted from development, with limited noise impacts anticipated to occur during active construction periods. Noise impacts to harrier utilizing SWDA I would be short-term and limited to the construction period. While agricultural fields do support wildlife by providing foraging habitats, they are also considered disturbed due to the routine nature of soil manipulation and application of fertilizers, herbicides and pesticides for production of agricultural products. Removal of these chemicals from the ecosystem by taking agricultural areas out of crop production and establishing meadow habitat throughout the panel arrays is anticipated to have a beneficial impact to soil conditions and water quality.

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Permanent impacts to mature and young forest habitats, is not significant, and limited to approximately 43 acres⁸ of tree/shrub clearing and grubbing and approximately 8 acres of selective tree/shrub cutting. Approximately 2.39 acres of selective tree/shrub cutting (use of non-mechanized, hand removal techniques) will occur within the riparian corridor of Fish Creek, where required to address potential for shading of panels. Although impacts to Agricultural Land, which constitute the majority of habitat available for grassland birds, are unavoidable, as addressed in Exhibit 12, the Applicant has proposed mitigation to address impacts to northern harrier occupied winter habitat as identified by the ORES (Appendix 12-F). Impacts to undisturbed vegetation communities and wildlife habitat by maximizing the use of the former coal plant and existing agricultural fields for construction of the Facility have limited new disturbance to wildlife habitat. For this reason, the use of alternative technologies during construction is not likely to reduce impacts and/or benefit the Facility significantly.

The Facility Substation footprint, which includes two overhead poles required for the interconnection line that will tie the Facility Substation to Kintigh Substation (Appendix 5-A, Sheet PV-C.02.01), is located within a previously disturbed area of the former coal plant.

Fencing will be placed to surround the Facility Site for security during construction and will be maintained throughout Facility operation to prevent larger wildlife from entering the area, where they could potentially become injured.

Tree removal has been reduced to areas necessary to construct the Facility or to prevent shading within the PV arrays. The Project Site does not contain large continuous tracts of forest preferred by wildlife for habitat and used as travel corridors. As is typical of the area surrounding the Project Site, small stands and forest tracts are interspersed among larger expanses of agricultural fields and bisected by roadways. The removal of approximately 52 acres of forested habitat is not anticipated to significantly impact the ability of displaced wildlife to relocate to other suitable habitat in the region due to these forested areas consisting of isolated stands surrounded by agricultural fields and developed areas. Large, contiguous forest areas were avoided and will provide travel corridors, habitat, and feeding areas for wildlife within the area.

During construction and operation activities, the Applicant will set speed limits on access roads to ensure safe and efficient traffic flow, thus minimizing risk of wildlife injury or mortality due to

⁸ Total acreage of tree/shrub clearing and grubbing is approximately 82.3 acres. This acreage (and as reported in Table 11-2) does not include impacts also associated with unpaved roads and other features to avoid double counting of impact acreages.

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traffic collision. The Applicant will hire an Environmental Monitor to conduct regular inspections of construction and operation activities, ensuring that sensitive habitats are flagged and avoided, and recording observations of any threatened and endangered species and reporting any of these observations or encounters to ORES and NYSDEC.

Temporary soil disturbance is associated with installation of racking for the PV arrays and trenching for installation of underground electrical collection lines during construction. Following construction, temporary disturbance areas will be stabilized and then restored using appropriate native upland or wetland seed mixes where seeding is necessary. Upland areas will be reseeded with an upland--oriented mix of fescues/bluegrasses that is designed to be directly seeded under panels, such as the Ernst seed mixes identified in section 11(c) of this exhibit, which includes seeding with pollinator-friendly seed mixes within buffer areas. Within wetland areas, the Applicant proposes using Ernst PA New England Province FACW Mix, or similar based on seed mix availability. Proposed seed mixes will be selected in consideration of proposed agricultural co-utilization activities (Appendix 15-E). Promoting the growth of non-invasive grassland and wet meadow vegetation following construction will reduce the amount of mowing necessary for regular site maintenance. In addition, vegetative cover on the soil surface will be maintained underneath the solar panels, allowing the native vegetation communities to recover from past agricultural use.

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