

## **Appendix D** Natural Heritage Study

## **Draft Environmental Study Report**

Skyview 2 Battery Energy Storage Project

**Skyview BESS Inc.** 

SLR Project No.: 241.031524.00001

September 8, 2025







## **Natural Heritage Study**

## **Skyview 2 Battery Energy Storage Project**

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### **Revision Record**

Revision	Date	Prepared By	Checked By	Authorized By	
0	May 13, 2025	SP	MO	JW	



#### May 13, 2025

SLR Project No.: 241.031524.00001

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## **Acronyms and Abbreviations**

BESS	Battery Energy Storage System
°C	degrees Celsius
Class EA	Class Environmental Assessment for Transmission Facilities
cm	centimetre(s)
CVC	Credit Valley Conservation
DBH	Diameter at Breast Height
DFO	Fisheries and Oceans Canada
E-house	Electrical house
EIS	Environmental Impact Study
ELC	Ecological Land Classification
ESA	Endangered Species Act, 2007
ha	hectare(s)
HDF	Headwater Drainage Feature
km	kilometre(s)
m	metre(s)
MAS	Shallow Marsh
mg/L	milligrams per litre
MNR	Ministry of Natural Resources
MT	Minnow Trap
MW	megawatt(s)
MWh	megawatt hour(s)
ORP	Oxidation-Reduction Potential
рН	Acidity or basicity (potential of hydrogen)
SAR	Species at Risk
SARA	Species at Risk Act, 2002
SNC	South Nation Conservation
SoCC	Species of Conservation Concern
SWD	Deciduous Swamp
SWH	Significant Wildlife Habitat
TRCA	Toronto and Region Conservation Authority
uS/cm	microsiemens per centimeter



#### May 13, 2025

SLR Project No.: 241.031524.00001

#### 1.0 Introduction

SLR Consulting (Canada) Ltd. (SLR) has been retained by Skyview BESS Inc. (an affiliate of Potentia Renewables Inc.) to provide environmental support services associated with the proposed installation of the Skyview 2 Battery Energy Storage System (BESS) in Spencerville, Township of Edwardsburgh Cardinal, United Counties of Leeds and Grenville, Ontario (the Project). The Project will have a proposed nameplate capacity of 411 megawatts (MW) (1,560+megawatt-hours (MWh)) and will contain approximately 500 battery containers. The Project will require approximately 12 hectares (ha) (or 30 acres) of land, located on rural, non-prime agricultural lands north of Dobbie Road and approximately 1.5 km east of Shanly Road (County Road 22) (the Site). The land is currently used for farming and there are no power generation facilities on site, but there is an available point of interconnection to the existing provincial electricity grid located near Dobbie Road and Branch Road North.

The ecological field program documented in this report was completed to inform the Class Environmental Assessment for Transmission Facilities (Hydro One, February 2024) (Class EA) process in accordance with the Ontario *Environmental Assessment Act* and future permitting. Surveys within the Site and adjacent lands completed as part of the ecological field program included vegetation community surveys via Ecological Land Classification (ELC), breeding bird surveys, amphibian call surveys, Significant Wildlife Habitat (SWH) assessment, incidental wildlife observations including Species of Conservation Concern (SoCC), and Headwater Drainage Feature (HDF) assessments.

#### 1.1 Objective and Relevant Policy

This Natural Heritage Study report is intended to be a technical supporting document as part of the Class EA process. The objective of this report is to present the results of the field program and existing conditions within the Study Area; it does not include a background review of available databases or in-depth analysis of potential impacts. A background review and impact analysis using the existing conditions presented in this report will be completed as part of the Class EA once the proposed project layout is confirmed.

In addition to their potential importance to Indigenous communities, natural heritage features within the Study Area are protected under several federal, provincial, and municipal Acts and regulations, including the:

- Endangered Species Act, 2007;
- Species at Risk Act, 2002;
- Fisheries Act, 1985;
- Provincial Planning Statement, 2024 under the *Planning Act*, 2005;
- Migratory Birds Convention Act, 1994;
- Fish and Wildlife Conservation Act, 1997;
- Township of Edwardsburgh Cardinal Official Plan and By-laws; and
- United Counties of Leeds and Grenville Official Plan and By-laws.



#### 2.0 Project Overview

#### 2.1 Project Location

The Project will be located approximately 1 km north of Dobbie Road and approximately 2 km east Shanly Road (County Road 22) in the Township of Edwardsburgh Cardinal, Ontario. The BESS location within the Site will be confirmed as the Project proceeds but will be approximately 12 ha in size and located to avoid sensitive natural heritage features.

**Figure 1** provides additional context regarding the proposed Project location and the various spatial boundaries referred to in this report, including:

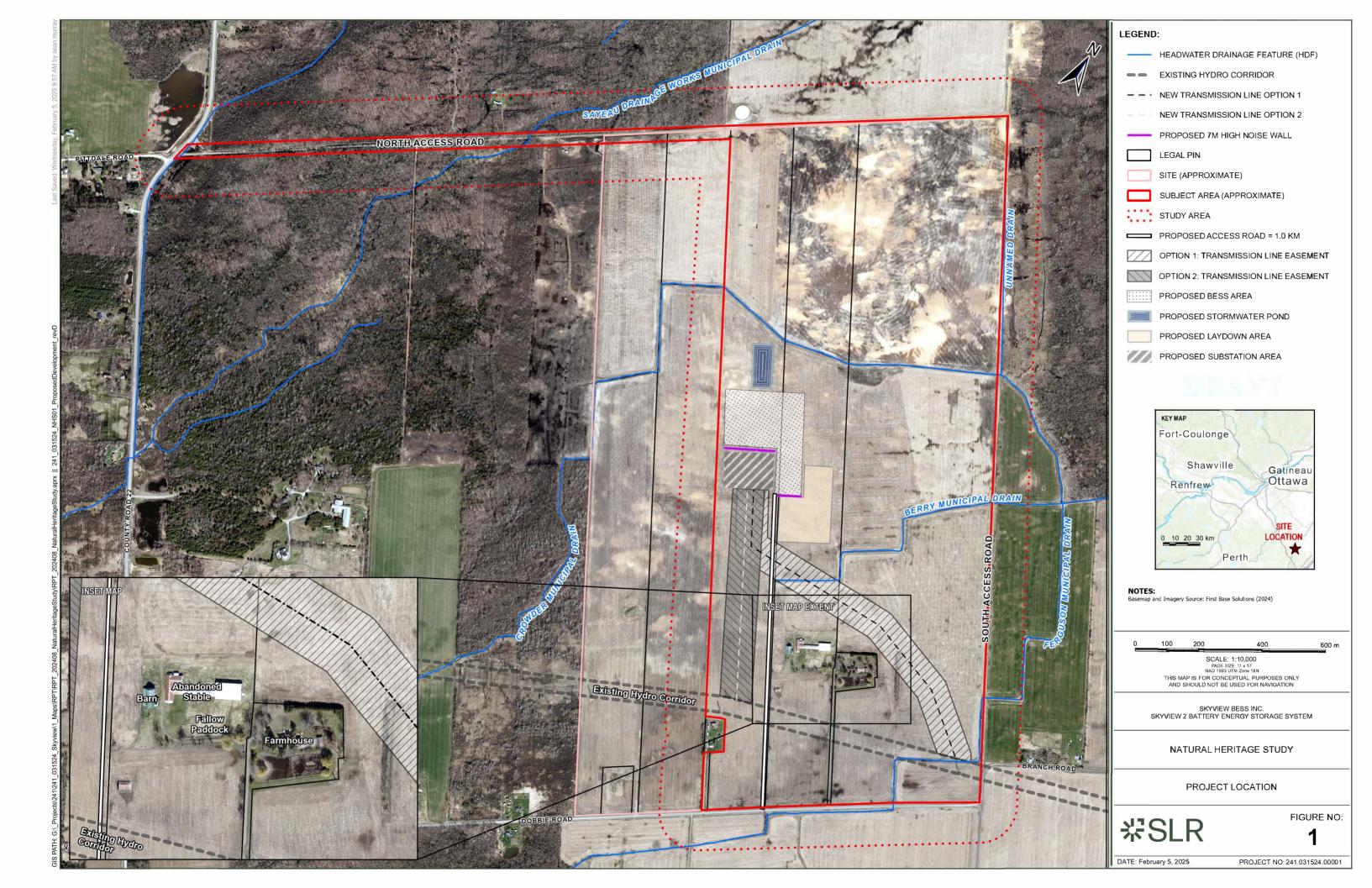
- **Site** An area comprised of five large properties, totaling approximately 260 ha (642 acres), within which the Project, totaling approximately 12 ha (30 acres), will be sited. Excludes the three smaller properties along Dobbie Road, municipally referred to as 302, 208, and 112 Dobbie Road, Spencerville.
- **Subject Area** The area within which the ecological field program focused. This area was based on earlier versions of the conceptual site layout and two other potential access routes as further described below.
- Study Area The Subject Area plus the adjacent lands within 120 m.<sup>1</sup>

It is currently anticipated that access to the BESS will be constructed off Dobbie Road, directly south of the BESS location. However, at the time of field investigations, two other potential access alternatives were being evaluated. One access route would have used an existing access road east of Shanly Road across from Pittdale Road. This access route is referred to in this report as the "north access road" and is an unopened road allowance owned by the municipality that has not been established as a public road. This road underwent considerable maintenance (by others) between April and June 2024, including grading, topping with coarse packed gravel, and the creation of pull-outs (i.e., areas where a driver may pull over to let drivers pass or oncoming vehicles through). The second alternative access route would have connected to Branch Road North following the eastern boundary of the Site. This route is referred to in this report as the "south access road". The ecological field program included both these alternative access routes, in addition to the entire Subject Area, but it was recognized that the BESS access road may be sited anywhere within the Site, including the access road currently proposed directly south of the BESS location (**Figure 1**).

<sup>1</sup> The Ontario Ministry of Natural Resources (MNR) (2010) "Natural Heritage Reference Manual for Natural Heritage Policies of the *Provincial Policy Statement*, 2005" defines adjacent lands as "lands relevant to which impacts must be considered and the compatibility of a proposed development or site alteration must be addressed", and provincial recommendations for adjacent land widths are typically 120 m from a natural heritage feature or area. Therefore, the Study Area was defined using these parameters to support future applications under the *Planning Act, 2005*, which are commonly adapted for use in provincial Class EAs.

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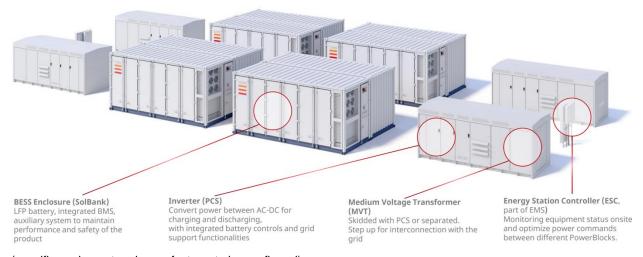


#### 2.2 Project Description

The BESS will generally store electrical power from the electricity grid during periods of excess supply or low demand. This stored electrical power will then be discharged directly to the grid during periods of high demand. The BESS will be remotely monitored and controlled through the BESS' energy management system and dispatch model.

The BESS will consist of numerous, weather-proof modular enclosures that house interconnected lithium-ion batteries. The BESS enclosures are similar in size to shipping containers, approximately 6 m long, 3 m wide, and 2.5 m tall, depending on the manufacturer (**Exhibit 1**). Noise reduction baffles may also be attached to each BESS enclosure, adjusting its dimensions. Each BESS enclosure will be fully sealed, centrally controlled, and individually temperature monitored. Each enclosure will also have its own heating, ventilation, and air conditioning system to ensure optimal performance. The specific equipment to be procured will be confirmed as the Project progresses.

**Exhibit 1: BESS Example** 



(specific equipment and manufacturer to be confirmed)

Source: e-STORAGE, A Subsidiary of Canadian Solar (2024)

Other key Project components are expected to include the equipment listed below, which will be confirmed as the design progresses:

- A substation consisting of five main power transformers, above ground structures, wires, busbar, electrical (E)-house, circuit breakers and other electrical equipment.
- New transmission lines between the substation and the point of interconnection on the existing lines, approximately 600 m long.
- Other electrical components such as medium voltage transformers, inverters, switchgears, cabling (low and high voltage), electrical enclosures, and other electrical protection and communication equipment.
- Foundations for the BESS enclosures, anticipated to be pile foundations. Alternatively, depending on design loads and/or final geotechnical site investigations, slab-on-grade with relatively shallow excavations, or other soil stabilization technology may be used. The final foundation design and configuration will be determined as detailed design progresses.



- Graded and gravelled laneways for accessing the Project and its associated infrastructure. It is anticipated that ancillary roads will extend around the perimeter of the enclosures.
- An engineered stormwater management pond and associated system.
- Other miscellaneous equipment, such as a security perimeter fence, noise wall(s) approximately 8 m high, water tank, and lighting.

The BESS area that includes the battery storage enclosures and the access road will be graded and graveled. A temporary construction laydown area will be necessary during construction to receive equipment deliveries, to set-up temporary site offices, and for parking for the construction crew.

The construction phase is expected to commence in late 2025 to early 2026 and is anticipated to take approximately 12 to 18 months. Construction activities will include: site preparation; foundation and road construction; equipment delivery and installation, including crane(s) required for placement of large equipment; and post-construction site restoration of temporary construction areas.

#### 3.0 Methods

The methods used during the ecological field program are detailed in the following sections.

As landowner permission to access most of the adjacent lands was not provided, lands outside of the Site were assessed from within the Site via visual or auditory observations. Aerial imagery was also used to characterize vegetation communities within the adjacent lands.

#### 3.1 Vegetation Community Characterization

Vegetation community characterization is important to assist in evaluating habitat types within the Study Area, including potential and/or critical habitat for SoCC and Species at Risk (SAR), and to inform the evaluation of candidate SWH.

Vegetation community characterizations were completed on May 24 and June 25, 2024 to capture multiple season (spring and summer) vegetation characteristics. Each vegetation community within the Study Area was delineated and classified according to the "Ecological Land Classification for Southern Ontario: First Approximation and its Application" (Lee *et al.*, 1998), which is the standard classification system for southern Ontario.

Dominant species within each community were recorded to provide an overview of community composition. As landowner permission to access most of the adjacent lands was not obtained, vegetation communities outside of the Site and proposed access roads were assessed from nearby vantage points within the Site. As such, soil samples could not be collected to differentiate between vegetation communities with organic and mineral soils for a more refined classification.



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#### 3.2 Breeding Bird Surveys

Breeding bird surveys were completed to identify the species with potential or confirmed breeding evidence within the Study Area, including SoCC. Breeding bird surveys were conducted during the mornings of May 24 and June 25, 2024, following the protocols outlined in the "Ontario Breeding Bird Atlas Guide for Participants" (Bird Studies Canada *et al.*, 2001). Eight breeding bird point count stations were selected to target swamp habitats within the Study Area (west and east of the proposed Project, as well as along the north access road) and the fallow horse paddock near the barn and stable (**Figure 2**).

Each point count was five minutes in duration and was completed between dawn and five hours after dawn in good weather (low wind, minimal precipitation). All species heard or seen within the five-minute point count were recorded, including flyovers. Surrounding habitat was recorded at each point count station. For each species observed, direction and distance from the surveyor as well as breeding evidence was recorded. Incidental species heard outside of the five-minute point count were recorded separately. Breeding bird survey locations are mapped on **Figure 2**.

#### 3.3 Amphibian Call Surveys

Amphibian call surveys were completed to characterize the amphibian community within the Study Area, including SoCC, and to confirm presence or absence of amphibian SWH for future SWH assessments.

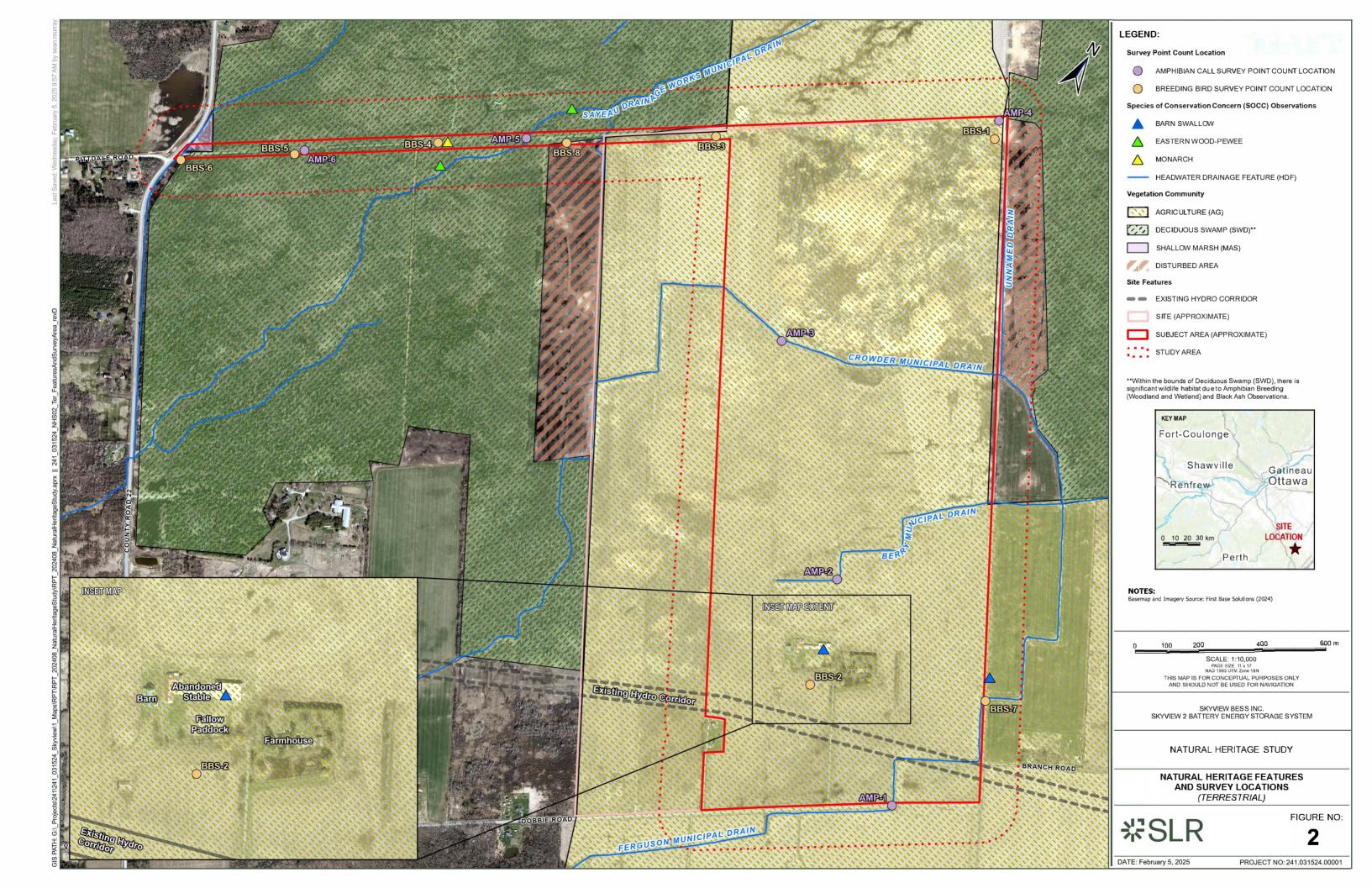
Amphibian call surveys were conducted on April 18, May 23, and June 24, 2024. Nocturnal (night-time) call-count surveys were conducted during appropriate weather conditions and followed the general methodology of the "Marsh Monitoring Program Participant's Handbook for Surveying Amphibians" (Bird Studies Canada, 2008). Point count stations (shown on **Figure 2**) were selected to target any potentially suitable amphibian breeding habitat within the Study Area, including wetlands, drainage channels, and seasonally flooded areas.

Calling evidence was recorded on a scale of L1-L3, interpreted as follows:

- L1: Individuals can be accurately counted, calls do not overlap;
- L2: Some calls simultaneous, number of individuals can be estimated; and
- L3: Full chorus, calls overlap, individuals cannot be estimated.

Supplementary surveys for Western Chorus Frog (*Pseudacris triseriata*) were completed in conjunction with other diurnal (daytime) field surveys on April 18, 2024. Western Chorus Frog is one of a few species that calls during the day as well as at night, but this quiet-calling species can go undetected during nocturnal surveys when calling in the presence of more prolific, nocturnal-only callers (e.g., Spring Peeper [*Pseudacris crucifer*]).





#### 3.4 Fish and Fish Habitat

#### 3.4.1 Headwater Drainage Feature Assessments

HDF assessments are used to assess surficial inputs of water across the landscape and to quantify them into categories that can be used to understand their functions, flow, and impact on the drainage channels located within the Study Area. Impacts to HDFs due to development can have implications for water quality and quantity, recharge and infiltration, and the overall health of downstream habitats (Toronto and Region Conservation Authority [TRCA] and Credit Valley Conservation [CVC], 2014).

An HDF assessment was conducted over three visits on April 18, May 23, and June 25, 2024. Prior to conducting the 2024 HDF assessment, the Study Area was screened through a desktop analysis using air photos spanning several recent years (2017 to 2024) to determine potential HDF locations. The assessment was conducted using the "Evaluation, Classification and Management of Headwater Drainage Features Guidelines" (TRCA and CVC, 2014) to confirm the presence of HDF and assess feature function. The Fisheries and Oceans Canada (DFO) classification of each drain was retrieved from the Ontario AgMaps (Ministry of Agriculture, Food, and Agribusiness, 2024) website.

Aquatic ecologists investigated areas of flowing water (such as drainage channels), known as HDFs (shown in **Figure 3**), as well as areas of historical channel drainage and noted instances of habitat changes, channel form, riparian cover, flow conditions, vegetation within and adjacent to the HDF, and potential groundwater seepage. Three visits were conducted throughout the spring to capture changes in hydroperiod over time.

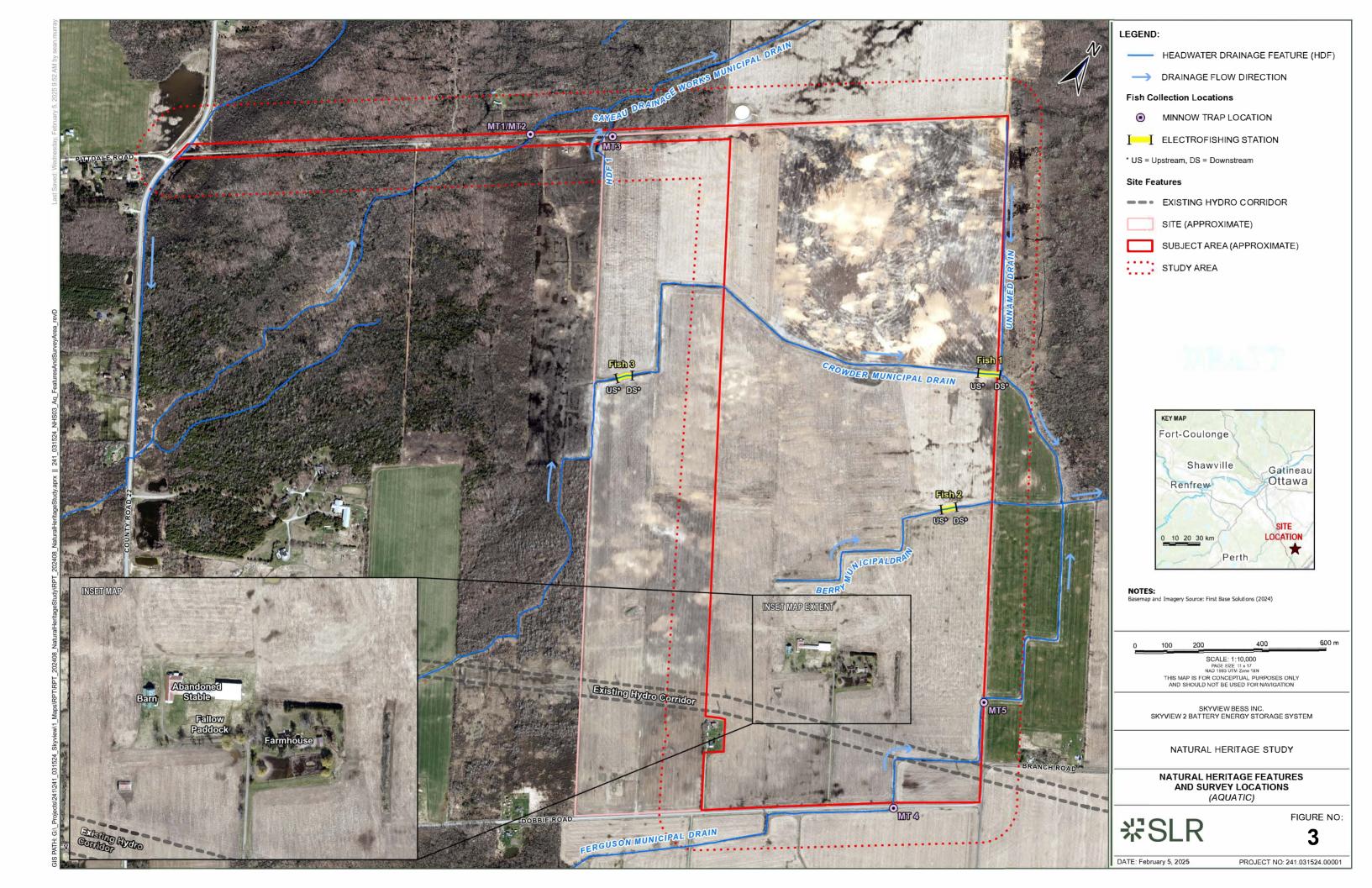
Prior to sampling, *in situ* water quality parameters were recorded at each aquatic sampling location using a YSI Professional Plus multi-meter field probe to provide an indication of habitat suitability. Specific parameters recorded were water temperature (°C), pH, Specific Conductivity (uS/cm), Conductivity (uS/cm), dissolved oxygen (mg/L) and Oxidation-Reduction Potential (ORP; mV).

#### 3.4.2 Fish Community Surveys and Aquatic Habitat Assessments

Fish community surveys are completed to characterize the fish community and habitat quality within a watercourse, as well as to identify SoCC and quantify habitat use by fish. The fisheries assessment took place on September 4 and 5, 2024. The Algonquins of Pikwakànagan and Mohawks of Akwesesne expressed interest in participating in the assessment. SLR staff met with Algonquins of Pikwakànagan and Mohawks of Akwesesne representatives on September 4, 2024, to conduct the fisheries assessment.

Candidate fish collection locations in potential fish habitat within the Study Area were selected based on satellite imagery and habitat conditions determined during the HDF assessment. These candidate locations were confirmed in-field based on sampling feasibility, which included water depth, substrate, and access restrictions. Similar to HDF assessments, aquatic ecologists characterized habitat at each fish collection location (**Figure 3**) by noting channel form, riparian cover, flow conditions, vegetation within and adjacent to the HDF, and potential groundwater seepage. A summary of fish community surveys and habitat assessments by watercourse is provided in **Table 1**.





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**Table 1: Fish Community Survey Summary** 

	Habitat	Water Quality	Fish Collection		
Watercourse	Assessment	Water Quality Reading	Minnow Trap (MT)	Backpack Electrofishing	
Ferguson Municipal Drain	Yes	At MT4, MT5	MT4, MT5	None	
Berry Municipal Drain	Yes	At Fish 2	None	Fish 2	
Crowder Municipal Drain	Yes	At Fish 1, Fish 3	None	Fish 1, Fish 3	
Sayeau Drainage Works Municipal Drain	Yes	At MT1, MT2	MT1, MT2	None	
HDF1	Yes	At MT3	MT3	None	
Unnamed Drain	Yes	None	None	None	

Five Frabill minnow traps, baited with soft dog food, were deployed at the five minnow trap (MT) locations mapped on **Figure 3** and left to sit overnight. SLR staff returned the following morning for removal of the traps and completion of the habitat assessments.

A Halltech HT200 backpack electrofisher was used to sample three locations in Crowder Municipal Drain and Berry Municipal Drain (**Figure 3**) using amended standard community sampling protocols from the "Ontario Stream Assessment Protocol" Version 10 (Stanfield, 2017). Backpack electrofishing provides an active collection method which uses an electric current to temporarily attract and immobilize fish allowing for immediate and effective capture.

Collected fish were placed immediately into freshwater buckets and transferred to aerated holding buckets for processing. These buckets were placed in shaded areas to reduce stress and maintain fish health. Fish were then identified, photographed, enumerated, measured by total length, weighed, and then released back into the watercourse from which they were captured. License to Collect Fish for Scientific Purposes No. KEKI-2024-00422 was received from the Ministry of Natural Resources (MNR) Kemptville-Kingston District on August 1, 2024 (**Appendix A**). Copies of the final permit were kept onsite while collection activities occurred. Mandatory reporting as requested in the permit will be submitted to MNR by January 31, 2025.

#### 3.5 Incidental Wildlife Observations

In addition to targeted surveys of breeding birds and amphibians, evidence of presence was recorded from incidental direct sightings and indirectly from such indicators as calls, nests, tracks, scat, browse, and burrows.

### 3.6 Species of Conservation Concern

For the purposes of this report, SoCC is an umbrella term that includes species designated as Extirpated, Endangered, Threatened, or Special Concern under the federal *Species at Risk Act, 2002* (SARA) or the provincial *Endangered Species Act, 2007* (ESA), species with a provincial S-Rank of S1 to S3, or regionally or locally rare species. As the Site is situated on private (not federal) land, all species ranked Threatened or Endangered under the ESA receive species or habitat protection, but only migratory birds and aquatic species ranked Threatened or Endangered under the SARA receive species or habitat protection (Environment and Climate Change Canada, 2021).



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#### 3.7 Significant Wildlife Habitat

Under the *Provincial Planning Statement, 2024*, planning authorities, including MNR and regional and local municipalities, have the responsibility to identify, designate, and protect SWH. The "Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E" (MNR, 2015) use habitat descriptions, wildlife species, and ELC ecosite codes to evaluate the potential suitability of habitat available and designate SWH within the following four categories:

- Seasonal concentration areas of animals:
- Rare vegetation communities or specialized habitats for wildlife;
- Habitat for SoCC (excluding the habitats of endangered and threatened species which are protected under the SARA and ESA); and
- Animal movement corridors.

The scope of this report is intended to present the results of the field program. A full desktop assessment of SoCC and SWH potential within the Study Area was not completed for this phase of the investigation as the proposed BESS Project is entirely situated in an agricultural field that does not provide SWH or SoCC habitat. SoCC observed incidentally or during targeted species surveys are discussed in **Section 4.6**. SWH confirmed during the scoped field surveys are discussed in **Section 4.7**.

### 4.0 Existing Conditions

#### 4.1 Vegetation Communities

Except for the proposed north access road, the Site consists entirely of agricultural fields planted with row crops and did not contain any vegetation communities at the time of field investigations. The Study Area to the north, west, and south of the Subject Area (except for the proposed north access road) is also entirely agricultural. Most of the Study Area to the east of the Subject Area is also agricultural or disturbed, though small portions are classified as Deciduous Swamp (SWD).

The proposed access route to the north is entirely surrounded by this SWD community. This community is very wet with ponded water throughout and has a canopy layer dominated by Silver Maple (*Acer saccharinum*). Other species noted within the canopy and sub-canopy layers include Sugar Maple (*Acer saccharum*), Red Maple (*Acer rubrum*), Basswood (*Tilia americana*), Bur Oak (*Quercus macrocarpa*), Eastern Cottonwood (*Populus deltoides*), and Eastern White Cedar (*Thuja occidentalis*). Understory and ground cover species include Black Ash (*Juglans nigra*), Sensitive Fern (*Onoclea sensibilis*), Alder Buckthorn (*Frangula alnus*), Reed Canary Grass (*Phalaris arundinacea*), Willow species (*Salix spp.*), and various grasses, sedges, and mosses. Species apparent along the drier and anthropogenically impacted edges of these communities include Large-toothed Aspen (*Tilia grandidentata*), Trembling Aspen (*Populus tremuloides*), American Elm (*Ulmus americana*), and Alder Buckthorn.

Large dead trees (snags) were noted within the SWD community. This could be due to increased flooding, leading to fatal stress for trees that are not used to high levels of water, or they could be dead standing Ash trees that have succumbed to the invasive Emerald Ash Borer (*Agrilus planipennis*).



Adjacent to the entrance of the north access road off Shanly Road is a Shallow Marsh (MAS) community dominated by Narrow-leaved Cattail (*Typha angustifolia*) and Reed Canary Grass. Small open pockets of water were observed. Vegetation communities are mapped on **Figure 2** and shown in the photographic log in **Appendix B**.

#### 4.2 Breeding Birds

A total of 37 bird species were recorded during the breeding bird surveys, with an additional seven species incidentally recorded outside of breeding bird survey point counts. Most of the Site consists of agricultural fields planted with row crops (corn, at the time of field investigations), which are considered unsuitable for bird habitat. Of the 44 species recorded, 39 exhibited evidence of breeding and may be breeding within the Study Area; five species were observed foraging or flying overhead and are not considered to be breeding within the Study Area.

Breeding was confirmed within the Study Area for Mourning Dove (*Zenaida macroura*) with fledged young and a Song Sparrow (*Melospiza melodia*) adult carrying food for young. Breeding evidence for 22 species indicates possible breeding within the Study Area, including American Redstart (*Setophaga ruticilla*), Least Flycatcher (*Empidonax minimus*), Magnolia Warbler (*Setophaga magnolia*), Savannah Sparrow (*Passerculus sandwichensis*), and Vesper Sparrow (*Pooecetes gramineus*). Another 15 species were observed in pairs or groups or on territories, indicating probable breeding within the Study Area, including Barn Swallow, Great Crested Flycatcher (*Myiarchus crinitus*), and White-throated Sparrow (*Zonotrichia albicollis*). Avifauna species observations with breeding evidence are provided in **Appendix C**.

SoCC observed include Barn Swallow (*Hirundo rustica*) and Eastern Wood-pewee (*Contopus virens*), which are discussed in **Section 4.6**. None of the bird species that receive year-round nest protection until they can be deemed abandoned under the Migratory Bird Regulations, 2022 (e.g., Pileated Woodpecker [*Dryocopus pileatus*] or Great Blue Heron [*Ardea herodias*]) were observed during field investigations.

### 4.3 Amphibians

Five species of amphibians were heard calling within the Study Area during amphibian call surveys. In April, American Toad (*Anaxyrus americanus*) was heard calling in full chorus (call level 3) throughout the agricultural field and associated drainage channels. American Toads often take advantage of wide-open areas and are often observed outside of wetland areas. Spring Peeper (*Pseudacris crucifer*) was also heard calling in full chorus (call level 3) during April surveys within the agricultural field, in the SWD community, and in the drainage channel along the east Site boundary. Two Northern Leopard Frogs (*Lithobates pipiens*) were also heard calling from the Crowder Municipal Drain during April surveys.

In May, American Toad was heard calling at call levels 1 and 2 throughout the agricultural field. Gray Treefrog (*Dryophytes versicolor*) was heard in full chorus (call level 3) near the farmhouse and at call levels 1 and 2 within the SWD community. One Green Frog (*Lithobates clamitans*) was heard calling within the Crowder Municipal Drain in May.

In June, American Toad and Gray Treefrog were calling in full chorus (call level 3) throughout the Study Area. Green Frog was heard calling at call levels 1 and 2 in the SWD community. One Spring Peeper was heard calling from the SWD community in June.

Amphibian species observations are provided in **Appendix C**. A discussion of amphibian call survey results as they pertain to classification of SWH is provided in **Section 4.7**.



#### 4.4 Fish and Fish Habitat

#### 4.4.1 Headwater Drainage Feature Assessments

HDF assessments are used to assess surficial inputs of water across the landscape and to quantify them into categories which can be used to understand their functions, flow, and impact on the drainage channels located in the Study Area. Impacts to HDFs due to development can have implications for water quality and quantity, recharge and infiltration, and the overall health of downstream habitats (TRCA and CVC, 2014).

The Site has been graded for agricultural purposes and uses a series of tile drains that feed into channelized municipal drains located to the north, south, and central areas of the proposed BESS location (**Figure 3**). These drains are listed as:

- Ferguson Municipal Drain (located near the south Site boundary);
- Berry Municipal Drain (located within the centre of the Site);
- Crowder Municipal Drain (located within the central-north portion of the Site);
- Sayeau Drainage Works Municipal Drain (located near the north Site boundary); and
- An unnamed drain near the east Site boundary.

Due to the installation of tile drains and the presence of these municipal drains, the Site contains little overland drainage. Channelized roadside ditches convey surface and groundwater from tile drain outlets into the municipal drains, which then move the water off-site. Due to the compactness of the surface soils, the Site is influenced by rainfall, resulting in intermittent ponding in areas at the base of slopes either within the agricultural field or along roadways and the municipal drainage channels. No flow was observed into or out of these intermittent ponds. Water quality parameters at each sampling location are provided in **Table 2**.



**Sampling Location Water Quality Readings** 

Station ID	UTM Location (18T)	Air Temperature (°C) <sup>2</sup>	Water Temperature (°C)	Dissolved Oxygen (mg/L)	рН	Conduct- ivity (uS/cm)	SPC (uS/cm)	ORP (mV)
Fish 1	463214 E, 4975435 N	24	18.1	11.21	8.11	553	637	179.8
Fish 2	463322 E, 4975005 N	17	14.3	3.97	7.37	616	779	199.7
Fish 3	462235 E, 4974815 N	21.8	19.1	4.10	7.63	702	791	228.9
MT1	461573 E, 4975286 N	16	14.5	3.2	6.93	3833	480.1	111.9
MT2	461564 E, 4975290 N	16	14.4	0.33	7.02	3822	478.9	123.1
MT3	461767 E, 4975419 N	16	15.8	10.77	6.85	366	446.7	188.1
MT4	463648 E, 4974117 N	16	13.5	3.05	7.51	605	776	192.2
MT5	463716 E, 4974550 N	16	13.6	2.90	7.59	608	783	167.6

The results shown in **Table 2** indicate the conditions and thermal ranges at each sampling location on the date of sampling. Each sampling location contained water of varying conductivity. Conductivity was especially high at MT1 and MT2, but these readings are expected in a roadside location that is part of a potentially stagnant swamp system. Thermal regimes range from cool- to warmwater throughout the Study Area. Sampling locations with higher dissolved oxygen indicate stronger flow patterns. Sampling locations with low dissolved oxygen and/or cold water are likely to indicate areas of lower flow with nearby groundwater inputs; this is also to be expected given the extensive tile draining throughout the Site.

The municipal drain classification, drain type (i.e., underground or open), source water, riparian coverage, and fish habitat for each drain is provided in **Table 3**.

<sup>2</sup> Taken with handheld YSI Professional Plus unit by holding it out of the water and allowing it to acclimatize to air temperature

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 Table 3:
 Summary of HDF Assessment for Municipal Drains and Other Features

Channel Name	DFO Class <sup>1</sup>	Drain Type	Source Water	Riparian	Fish Habitat	Photos
Sayeau Drainage Works Municipal Drain	F	Open	Tile drain, groundwater upwelling, precipitation	100% coverage from treed swamp	Present, in-stream coverage	DIRECTION 18T 461575 ACCURACY A IN DATUM MISS84
HDF 1	NR	N/A	Standing water, seasonal flow Defined channel in ditching, culverts installed	Limited function, cropped land	Contributing function, allochthonous transport (i.e., transport of detritus, insects, and other sources of food to downstream fishbearing reaches)	



Channel Name	DFO Class <sup>1</sup>	Drain Type	Source Water	Riparian	Fish Habitat	Photos
Crowder Municipal Drain	F	Open	Tile drains and off- site contributions as drain runs across multiple properties	Low, herbaceous vegetation along edges and within watercourse	Present, in-stream vegetation throughout channel	DIRECTION 18T 462871 ACCURACY 5 m 4975262 DATUM WGS84
Ferguson Municipal Drain	E	Open	Tile drains and off- site contributions as drain runs across multiple properties	Low, herbaceous vegetation along edges and within watercourse	Present, in-stream vegetation throughout channel	DIRECTION 18T 463650 ACCURACY 5 m DATUM WGS84



Channel Name	DFO Class <sup>1</sup>	Drain Type	Source Water	Riparian	Fish Habitat	Photos
Berry Municipal Drain	NR	Open	Tile drains and off- site contributions as drain runs across multiple properties	Low, herbaceous vegetation along edges and within watercourse	Present, in-stream vegetation throughout channel	DIRECTION 18T 463311 ACCURACY 5 m 975804 DATUM WGS44
Unnamed Drain	NR	Open	Tile drains and precipitation	None, loose soil banks with erosion	Limited, sandy substrate present with no in-stream vegetation	DIRECTION 18T 462888 ACCURACY 5 m 4976136 DATUM W6S84

#### Notes:

- 1) Drain classes are created through the identification of key characteristics as listed below (DFO, 2022) note that DFO records may not be up to date:
- Class C: Permanent flow with no sensitive fish species present, restrictions on work within spawning period (spring);
- Class D: Permanent flow with sensitive fish species present, restrictions on work within spawning period (fall or combination of spring/fall);
- Class E: Permanent flow with sensitive fish species present; restrictions on work within spawning period (spring);
- Class F: Intermittent flow (dry ≥ 3 months per year, except after rain events) with no applicable fish species present; and,
- NR (Not Rated): Drains that have been classified as "Unrated" are those where data (fish sampling data) has not been collected.



HDF 1 was assessed as providing valuable function for hydrology and contribution to fish habitat through allochthonous transport (i.e., transport of debris/detritus, insects, and other sources of food to downstream fish-bearing reaches) to the Sayeau Drainage Works Municipal Drain. HDF 1 may also provide contributing function to surrounding terrestrial habitats as a movement corridor.

HDF1 was designated for "mitigation" under the "Evaluation, Classification and Management of Headwater Drainage Features Guidelines" (TRCA and CVC, 2014) as it is a shallow engineered swale that provides overland flow to offsite natural features and a constructed municipal drain. For features designated for "mitigation", recommendations include replication of feature functions through enhanced lot level conveyance measures such as vegetated swales, to mimic online wet vegetation pockets, to constructed wetlands connected to downstream features as appropriate. Flows and recharge to these features should be maintained through lot level conveyance, low-impact developments, or stormwater management facilities. With the implementation of appropriate quality control measures, impacts to fish and fish habitat are not expected.

Flow remained continuous for most of the drains except for the Sayeau Drainage Works Municipal Drain, which was ponded during the May 2024 visit, though aquatic connection remained. All other drains contained flow throughout each monitoring event due to the contribution of the tile drain outlets and cross-property connection.

#### 4.4.2 Fish Community Surveys and Aquatic Habitat Assessments

The fish collection results are discussed in the following subsections categorized by waterbody and channel drainage.

#### 4.4.2.1 Ferguson Municipal Drain

A summary of the four species captured in the two minnow traps deployed in the Ferguson Municipal Drain is provided in **Table 4**.

**Table 4: Ferguson Municipal Drain Species Summary** 

Common Name	Scientific Name	Largest Total Length (mm)	Smallest Total Length (mm)	Bulk Weight (g)	Bulk Tally		
Brook Stickleback	Culaea inconstans	50	-	1	1		
Central Mudminnow	Umbra limi	55	-	2	1		
Creek Chub	Semotilus atromaculatus	60	-	2	1		
White Sucker	Catostomus commersonii	110	-	11	1		
	Total Individuals Caught with Minnow Trap						
	Total Individuals Retained						
	Total	Individuals Released	d		4		



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Two fish, (Brook Stickleback (*Culaea inconstans*) and Central Mudminnow (*Umbra limi*), were caught with the baited minnow traps in the on-site upstream section (MT4) of Ferguson Municipal Drain. Habitat at MT4 was heavily vegetated with grasses, herbaceously vegetated sloped banks, and some presence of riparian tree cover (**Photo 1**). MT4 had only a small, open water area with a soft, silty muck substrate with organic debris. At the time of sampling, water was observed flowing into the Site from the south side of Dobbie Road and out of the Site across its eastern boundary through large, corrugated steel pipes.

Photo 1: MT4 deployment location



Photo 2: MT5 deployment location



Two fish, White Sucker (*Catostomus commersonii*) and Creek Chub (*Semotilus atromaculatus*), were caught with the baited minnow traps in the downstream section of Ferguson Municipal Drain (MT5). Habitat at MT5 was mostly open for several metres with algae, duckweed (*Lemna spp.*), herbaceous overhang, and large boulders stabilizing the northern banks (**Photo 2**). Riparian cover was observed to be sparse, with smaller Willow (*Salix spp.*) saplings near the channel. The substrate at MT5 was also soft, silty muck with organic debris.

All four species prefer coolwater habitats (Eakins, 2024). Brook Stickleback and Central Mudminnow are also often found in vegetated ponds, wetlands, bogs and small creeks (Eakins, 2024), and are tolerant of low dissolved oxygen and high water temperatures.

Creek Chub is usually found in small creeks and rivers with coarse substrates such as gravel but can also be found in sandy vegetated areas. They have been documented by South Nation Conservation (SNC) as found within their fisheries and prefer coolwater temperatures of 20.8°C (South Nation Conservation, 2020). Similar to Brook Stickleback and Central Mudminnow, Creek Chub is tolerant of pollution and low dissolved oxygen levels (Eakins, 2024).

White Sucker is often found in warm shallow lakes and pools and riffles of creeks and rivers, preferring water temperatures between 17°C and 24°C (Eakins, 2024).



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#### 4.4.2.2 Berry Municipal Drain

A summary of the three species captured via electrofishing in Berry Municipal Drain is provided in **Table 5**.

Table 5: Berry Municipal Drain Species Summary

Common Name	Scientific Name	Largest Total Length (mm)	Smallest Total Length (mm)	Bulk Weight (g)	Bulk Tally		
Brook Stickleback	Culaea inconstans	54	33	13	15		
Central Mudminnow	Umbra limi	81	55	29	13		
Northern Redbelly Dace	Chrosomus eos	54	-	2	1		
Total Individuals Caught by Backpack Electrofishing							
Total Individuals Retained							
Total Individuals Released							

A total of 29 fish were captured via backpack electrofishing at Fish 2. The sampling location is located at the furthest downstream extent of the Berry Municipal Drain and is connected off site through a large, corrugated steel pipe culvert. The habitat within the drain is densely vegetated with grasses, cattails (*Typha* spp.), and duckweed. Riparian coverage for the channel is sparse with the occasional Willow (*Salix* spp.) sapling and tall herbaceous vegetation (**Photo 3**).

Photo 3: Fish 2 sampling location, facing upstream



As previously described, Brook Stickleback and Central Mudminnow are tolerant of degraded systems (Eakins, 2024). Northern Redbelly Dace (*Chrosomus eos*) is often found in lakes, ponds, bogs, and still areas of creeks where organic substrate is present (Eakins, 2024). Due to the similarity of their preferred habitats, Northern Redbelly Dace is often associated with Brook Stickleback and has a preferred water temperature of 25.3°C (Eakins, 2024).



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Key habitat features for a successful population of Northern Redbelly Dace include clear, cool groundwater input from seeps or springs, lack of a strong current and lack of predatory fish (Stasiak, 2006).

Vegetation within the drainage channel was herbaceous, with all grasses and no riparian trees. Water quality readings were taken where groundwater was draining from the tile drain at the furthest upstream extent. The substrate was coarse with larger gravel and fine sand (**Photos 4** and **5**, below).

Photo 4: Upstream extent of Berry Municipal Drain



Photo 5: Upstream extent of Berry Municipal Drain



#### 4.4.2.3 Crowder Municipal Drain

A summary of the seven species captured via electrofishing in Crowder Municipal Drain is provided in **Table 6**.



**Table 6: Crowder Municipal Drain Species Summary** 

Common Name	Scientific Name	Largest Total Length (mm)	Smallest Total Length (mm)	Bulk Weight (g)	Bulk Tally					
Black Bullhead	Ameiurus melas	101	-	13	1					
Brook Stickleback	Culaea inconstans	49	44	88	95					
Central Mudminnow	Umbra limi	123	32	63	15					
Creek Chub	Semotilus atromaculatus	160	53	173	15					
Fathead Minnow	Pimephales promelas	54	40	8	7					
Northern Redbelly Dace	Chrosomus eos	56	55	10	5					
Pumpkinseed Lepomis gibbosus 70 - 8										
Total Individuals Caught by Backpack Electrofishing										
Total Individuals Retained										
Total Individuals Released										

A total of 93 fish were captured at the Fish 1 sampling location via backpack electrofishing. The station is located at the furthest downstream extent of the Crowder Municipal Drain and is connected off-site through a large, corrugated steel pipe culvert. The drain receives water from the north through an Unnamed Drain, which is located along the east Site boundary. The habitat within the drain is vegetated with grasses and at this location there is faster flow, though pooling does exist within the vegetated areas. As with the other drains, the riparian coverage for the channel is mostly sparse with occasional Willow saplings and tall herbaceous vegetation (**Photo 6**).

Photo 6: Fish 1 sampling location, Crowder Municipal Drain – downstream extent



Photo 7: Fish 3 sampling location, Crowder Municipal Drain – upstream extent





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A total of 48 fish were captured at the Fish 3 sampling location via backpack electrofishing. The station is located in Crowder Municipal Drain upstream of the Study Area. As extremely low water levels were observed at the initial sampling location, the station was moved slightly downstream where sufficient water was available. At the adjusted sampling location, water levels were much higher and a high density of Watercress (*Nasturtium officinale*) was present, as well as Arrowhead (*Sagittaria* spp.) and algae (**Photo 7**).

Overall, seven species were captured in the Crowder Municipal Drain, including Brook Stickleback, Central Mudminnow, Creek Chub, Fathead Minnow (*Pimephales promelas*), Northern Redbelly Dace, Pumpkinseed (*Lepomis gibbosus*), and Black Bullhead (*Ameiurus melas*). Pumpkinseed and Black Bullhead were only collected at the Fish 3 sampling location; all other species were caught at both sampling locations.

Several of the species found within Crowder Municipal Drain are coolwater species described in the preceding sections, apart from Pumpkinseed, Fathead Minnow, and Black Bullhead (Eakins, 2024). Preferred temperatures for Pumpkinseed, Fathead Minnow, and Black Bullhead range between 22-30°C, and these species prefer densely vegetated areas with soft substrates and still or slow-moving waters (Eakins, 2024).

#### 4.4.2.4 Sayeau Drainage Works Municipal Drain and HDF 1

A summary of the two species captured via minnow traps in the Sayeau Drainage Works Municipal Drain and HDF 1 is provided in **Table 7**.

Table 7: Sayeau Drainage Works Municipal Drain and HDF 1 Species Summary

Species Common name	Scientific Name	Largest Total Length (mm)	Smallest Total Length (mm)	Bulk Weight (g)	Bulk Tally				
Central Mudminnow	Umbra limi	67	-	3	3				
Northern Redbelly Dace	Chrosomus eos	66	-	3	5				
Total Individuals Caught with Minnow Trap									
Total Individuals Retained									
Total Individuals Released									

Eight fish were captured via baited minnow traps at sample stations MT1, MT2 and MT3. No fish were captured at MT1, three fish (Central Mudminnows) were captured at MT2, and five fish (Northern Redbelly Dace) were captured at MT3. In addition to the fish, tadpoles were also captured in the minnow traps. Habitat is similar between the MT1 and MT2 sample locations; both locations contain ponded, open water with duckweed and mature riparian coverage from the surrounding woodland (**Photos 8** and **9**). No active flow was observed in the drainage ditch connecting MT1/MT2 and MT3.

Sampling location MT3 is situated in HDF 1 approximately 250 m northeast from MT1/MT2 along the south side of the northern access road (**Figure 3**). The baited minnow trap captured five Northern Redbelly Dace and over 40 tadpoles. Hydrologic connection between HDF 1 and the wooded swamp located within the Sayeau Drainage Works Municipal Drain was observed at the time of sampling; however, no observable flow was noted. Habitat within MT3 included grasses, tea-coloured water, and herbaceous vegetation (**Photo 10**). No riparian tree coverage was observed, and most in-water coverage was provided by aquatic vegetation.



Habitat preferences for species caught within the Sayeau Drainage Works Municipal Drain and HDF 1 are similar to those observed in other areas such as pooled water, cool temperatures, and lack of predatory fish species.

Photo 8: MT1 sampling location on the south side of the north access road

Photo 9: MT2 sampling location on the north side of the north access road





Photo 10: MT3 sampling location on the south side of the north access road





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#### 4.4.2.5 Unnamed Drain

No sampling was conducted within the Unnamed Drain due to the soft banks, shallow water within the drain, and lack of substantial habitat. Most of the drain is completely open with little to no instream cover, and little riparian cover is provided on the east side of the creek by sparse herbaceous vegetation. The drain is dominated by open water with no areas for refuge or feeding. Due to the drain's unstable banks, no water quality readings were taken. The water within the drain was flowing southward, fed by tile drain outflow (**Photo 11**).

Photo 11: Habitat within the Unnamed Drain



#### 4.5 Incidental Wildlife Observations

Wildlife incidentally recorded during ecological field investigations includes Coyote (*Canis latrans*), White-tailed Deer (*Odocoileus virginianus*), Raccoon (*Procyon lotor*), Green Frog, Spring Peeper, American Woodcock (*Scolopax minor*), Broad-winged Hawk (*Buteo platypterus*), Great Blue Heron, Mallard (*Anas platyrhynchos*), Turkey Vulture (*Cathartes aura*), Veery (*Catharus fuscescens*), Wild Turkey (*Meleagris gallopavo*), and Monarch. Monarch is a SoCC ranked Special Concern in Ontario. Amphibian tadpoles were observed in the Sayeau Drainage Works Municipal Drain, but they could not be identified to species.

### 4.6 Species of Conservation Concern

Multiple adult Barn Swallows (16 individuals) were observed during the second round of breeding bird surveys entering and exiting the vacant stable within the Study Area, and therefore the species is presumed to be nesting within this structure and potentially within the adjacent barn. Barn Swallow was downlisted from Threatened to Special Concern under the ESA in January 2023 and no longer receives species or habitat protections under the ESA. Barn Swallow is still listed as Threatened under the SARA and receives species and habitat protections on private land (Environment and Climate Change Canada, 2021).



One Eastern Wood-pewee was heard singing at different stations in deciduous swamp habitat during both rounds of breeding bird surveys. Eastern Wood-pewee is listed as Special Concern under both the ESA and the SARA and does not receive species or habitat protection under these Acts. However, the presence of this Special Concern species confirms the SWD community as SWH for Special Concern and Rare Wildlife Species.

Black Ash was recently listed as Endangered under the ESA and new regulations protecting the species came into effect in January 2024.

Several dead and live Black Ash trees were observed within the SWD communities outside of the Site but within the Study Area, although many dead Ash trees could not be identified to species due to advanced decay. No Black Ash trees were observed within the Site.

Monarch (*Danaus plexippus*), ranked Special Concern in Ontario, was incidentally observed along the north access road during breeding bird surveys. The presence of Monarch confirms the SWD community as SWH for Special Concern and Rare Wildlife Species. No other SoCC were recorded during the ecological field program.

#### 4.7 Significant Wildlife Habitat

The MNR (2010) "Natural Heritage Reference Manual for Natural Heritage Policies of the *Provincial Policy Statement, 2005*" provides guidance on policy regarding SWH, which is the responsibility of the planning authority to enforce. In general, development and site alteration are not permitted in or within 120 m of SWH unless it has been demonstrated that there will be no negative impacts on the feature or its ecological function. This assessment of impacts is typically completed during an Environmental Impact Study (EIS). While the Project is not proposed within 120 m of areas that have the potential for SWH status, studies were conducted to document species and known SWH from accessible lands.

While a full assessment of SWH using the MNR (MNR, 2015) SWH Criteria Schedules for Ecoregion 6E was not completed for this report, the scope of work included documentation of any SWH confirmed during the ecological field program. Surveys within the swamp were limited to the eastern edge of the Site and along the north access road which is owned by the municipality. Landowner permission to access the swamp interior would be required to complete additional surveys; however, no development or site alteration within these areas or within 120 m is proposed.

Breeding bird surveys determined the presence of singing individual Ovenbird (*Seiurus aurocapilla*), Scarlet Tanager (*Piranga olivacea*), Veery, and Yellow-bellied Sapsucker (*Sphyrapicus varius*) within the swamp habitat along either side of the north access road. Additional breeding bird surveys within the swamp (not just from edge rights-of-way) would be required to determine probable or confirmed breeding for at least three of these species, which would confirm Woodland Area-Sensitive Breeding Bird Habitat SWH.

Incidental observations from edge and access road vantage points determined the presence of several dead trees (snags) within the swamp habitat that contain suitable bat habitat attributes (cracks, cavities, crevices, and loose or peeling bark). Based on the size, maturity, and number of snag trees within the swamp habitat, the swamp constitutes high quality bat habitat and is likely to provide Bat Maternity Colony SWH. Targeted bat acoustic surveys would be required to confirm SWH, but these treed habitats are greater than 120 m from the proposed Project location.



Amphibian call surveys determined high levels of calling within the Study Area during all three rounds of surveys. Based on the species and call levels observed, the swamp habitat to the west and east of the Site is confirmed Amphibian Breeding Habitat (Woodland) and Amphibian Breeding Habitat (Wetland) SWH.

As the Site is actively farmed, it does not qualify as SWH even though high levels of calling were heard throughout the farm fields and associated drainage channels.

### 5.0 Conclusions and Next Steps

The Site has been cleared for agriculture and consists of fields planted with row crops and associated drainage channels. Vegetation communities surrounding the Site are entirely deciduous swamp communities, which are situated to the west and east of the Site. SoCC observed within the Study Area include multiple Barn Swallows likely nesting within the stable in the south portion of the Site, Eastern Wood-pewee in the swamp habitat west of the Site, and Monarch along the north access road alternative. Black Ash was observed in the swamp habitats to the west and east of the Site. Although the proposed works are not anticipated to impact these swamp habitats, Black Ash habitat is protected within a 30 m radius around each healthy tree measuring at least 8 cm diameter at breast height (DBH). A tree inventory and Black Ash health assessment should be completed for any proposed works within 30 m of these habitats to confirm the size and health of any Black Ash trees present, which dictates their protection under the ESA.

Amphibian calling from five species was heard throughout the Study Area. Call levels and community composition confirmed the presence of Amphibian Breeding Habitat (Woodland) and Amphibian Breeding Habitat (Wetland) SWH within the swamp habitats in the Study Area outside of the Site. However, the Site does not contain Amphibian Breeding Habitat SWH as it has been completely cleared for agriculture and agricultural communities cannot be considered Amphibian Breeding Habitat SWH. Proposed works within 120 m of the swamp SWH may be required to demonstrate no negative impacts to the SWH via an EIS to be reviewed and approved by the Township; however, the site layout as currently proposed is more than 120 m from the swamp SWH.

HDF surveys concluded that HDF1 was identified as "mitigation", as it is a shallow engineered swale that provides overland flow to offsite natural features and a constructed municipal drain. Recommendations include replication of feature functions through enhanced lot level conveyance measures such as vegetated swales to mimic online wet vegetation pockets, to constructed wetlands connected to downstream features as appropriate. Flows and recharge to these features should be maintained through lot level conveyance, low-impact developments, or SWM facilities. Flow and/or connection remained continuous for all municipal drainage channels throughout each monitoring event due to the contribution of the tile drain outlets and cross property connection.

Fish community surveys indicate that a total of seven separate species utilize drains within the Site. No SAR or Critical Habitat were observed during the surveys and fish collected have a habitat preference for slow moving, vegetated waters in a coolwater thermal regime. With the implementation of appropriate quality control measures, impacts to fish and fish habitat are not expected.



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As the proposed Project will be situated entirely within an actively managed area, the proposed development is not anticipated to result in the permanent loss of established wildlife habitat. The Site does not contain sensitive natural heritage features, and any sensitive natural heritage features outside of the Site can be avoided during the Project design phase. Any remaining potential effects can likely be mitigated through the implementation of best management practices (e.g., dust management, construction waste management, erosion and sediment control, avoidance of migratory bird nesting and other wildlife breeding periods).

This report is intended to inform the Class EA, which will include an effects assessment using the results of this report to assess the significance and sensitivity of natural heritage features, including SoCC and SWH. If the current Project design is changed such that lands within 120 m of sensitive natural heritage features cannot be avoided, additional studies may be required once the Project layout is finalized.

#### 6.0 Closure

Regards,

**Ecologist** 

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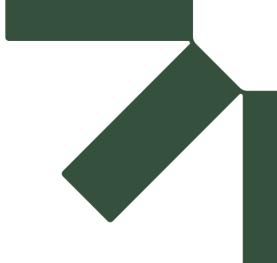
Kim Logan, B.Sc., P.Biol., P.Geo. (Limited) Senior Ecologist



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## **Appendix A** Fish Sampling Records

## **Natural Heritage Study**

Skyview 2 Battery Energy Storage Project

**Skyview BESS Inc.** 

SLR Project No.: 241.031524.00001

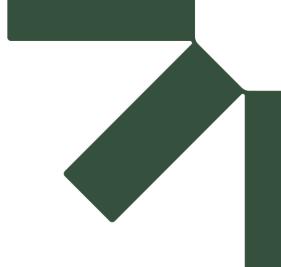
May 13, 2025



Appendix A: Baited Minnow Trap Station Fish Community Survey

MT1			MT2					MT3				MT4						MT5				
Deployment Date	•	4-Sep-	-24	Deployment Date		4-Se	p-24		Deployment Date		4-Sep	-24	Deployment Da	ate		4-Sep-	24		Deployment Date		4-Sep-	-24
Deployment Time		8:50	)	Deployment Time		8:5	53		Deployment Time		9:0	2	Deployment Ti	ime		8:23		ı	Deployment Time		10:0	0
Retrieval Date		5-Sep-	-24	Retrieval Date		5-Se	p-24		Retrieval Date		5-Sep	-24	Retrieval Date			5-Sep-	24	Re	etrieval Date		5-Sep	-24
Retrieval Time		9:25	5	Retrieval Time		9:2	26		Retrieval Time		9:0	3	Retrieval Tim	ne		9:56			Retrieval Time		9:45	i
Location UTM 18T	Γ 46	61573 E,49		Location UTM 18T	4	161564 E,	1975290 N	- 10	Location UTM 18T	4	461767 E, 4		Location UTM 1	18T	46364	8 E, 49	74117 N	_	Location UTM 18T	4	63716 E, 49	974550 N
AT °C	+			AT °C	1				AT °C				AT °C					16 AT				10
WT °C				WT °C					WT °C				WT °C					.5 W				13.6
DO/L (%)				DO/L (%)					DO/L (%)				DO/L (%)						O/L (%)			26.8
DO mg/L				DO mg/L					DO mg/L				DO mg/L						O mg/L			2.9
COND (us/cm)				COND (us/cm)					COND (us/cm)				COND (us/cm)						OND (us/cm)			608
SPC (us/cm)				SPC (us/cm)					SPC (us/cm)				SPC (us/cm)						PC (us/cm)			783
pH			6.93					7.02				6.85						51 <b>pH</b>				7.59
ORP (mV)				ORP (mV)				123.1	ORP (mV)			188.1	ORP (mV)					.2 <b>O</b> F	RP (mV)			167.6
Site Conditions	mature tree	es such as	nergent grasses	Site Conditions	extending Substrate	soft silty r	it ponding he road via cu nud with some ergent vegetat	e tion.	Site Conditions	Sayeau [ swamp. l Water tea deep/dar	a coloured a	d northern ses, duck weed. nd very asses/vegetation	Site Conditions	so ch de ba	annel not vis	ates. W sible due egetational all grass	getation, ater up into e to extremely in coverage fro ses, 5-10m is		ite Conditions	with some	algae. No i	of mucky type nstream vege (or ang from banks.
	Fish Caught				Fish Caught				Fish Caught					Fish Caught					Fish Caught			
Species			Bulk Tally	Species	TL	Weight	Bulk Tally		•	TL		Bulk Tally	Species	TL		ight	Bulk Tally		pecies	TL		Bulk Tally
	No fish, only	tadpoles		Central mudminnow	67	7	3 (1 mort)		Northern Redbelly Dace		6 3		White Sucker		110	11		_	entral Mudminnow	55		1
-	I - I	_	l -	-	1 -	1 -	-		Tadpol	es		40+	Creek Chub		60	2		Bro	rook Stickleback	50	)  1	l 1

Fish 1 Fish 2			Fish 2	Fish 2 Fish 3					Fish 4			Fish 5				Fish 6				
Date	4-S	ep-24			Date	Date 4-Sep-24		Date	e		Date		4-Sep-24	4	Date		5-Sep-24	,		
Location UTM 18T					Location UTM 18T				18T	1		Location UTM 18T				Location UTM 18T				1
(downstream)	463214 E	,49754	35 N		(downstream)	46	2235 E, 49	74815 N	(downstream)			(downstream)	463	322 E, 497	5005 N	(downstream)		-		
Location UTM 18T					Location UTM 18T				Location UTM	1		Location UTM 18T				Location UTM 18T				1
(upstream)	463165 E	,49754	10 N		(upstream)	462	2211 E, 49	74794 N	18T (upstream)			(upstream)	463	3297 E, 4974	4982 N	(upstream)	462	967 E, 4974	1517 N	
Distance		57			Distance		30		Distance	1		Distance		50m		Distance		-		1
Start time	13:00 <b>End</b>	ltime	13:30		Start time		End tin	пе	Start time			Start time	10:55	End time	e 11:20	Start time	-	End time	-	
		-					-	•	Shocking	1								-	•	1
Shocking Seconds	6	15			Shocking Seconds		487.6	i	Seconds	No fish same	oling conducted	Shocking Seconds		315.4		Shocking Seconds	No (	efishing con	ducted	]
Volts	150 <b>F</b>	req	40		Volts	150	Freq		Volts		9	Volts	150	Freq	40	Volts	-	Freq	-	Deployed Minnow
AT °C			24	No fishing	AT °C				8 AT °C	_		AT °C				AT °C			17.9	trap here instead.
WT °C			18.1	conducted	WT °C				1 WT °C			WT °C			WT °C	15		This would be MT		
DO/L (%)			119		DO/L (%)				4 DO/L (%)	]	DO/L (%)	3.97		7 DO/L (%)			83.5	-1		
DO mg/L			11.21		DO mg/L				1 DO mg/L					DO mg/L	DO mg/L			8.4		
COND (us/cm)			553		COND (us/cm)				2 COND (us/cm)			COND (us/cm)				COND (us/cm)			591	
SPC (us/cm)			637		SPC (us/cm)				1 SPC (us/cm)	_		SPC (us/cm)				SPC (us/cm)			732	
pН			8.11		рН				3 <b>pH</b>		рН	199.		7 pH			7.54			
ORP (mV)			179.8		ORP (mV)			228.	9 ORP (mV)					ORP (mV)	ORP (mV)	l l		167.5		
	sh Caught					sh Caught			Fish Caught		Fish Caught		Fish Caught		_	]				
Species	TL Weig	,	Bulk Tally		Species	TL	Weight	Bulk Tal	y Species	TL We	ight Bulk Tall	, - I	TL		Bulk Tall	Species	TL	Weight	Bulk Tally	4
Central Mudminnow		24	1		Creek Chub	16		46	<u>1</u>			Northern Redbelly Dace	5		2 1	4				
Central Mudminnow		21	8		Creek Chub	13		20	1 no	fishing conduct	ed	Central Mudminnow	6	-	3 1	no fis	shing condu	ıcted		
Brook Stickleback	41	63	65		Creek Chub	12		22	1			Central Mudminnow	5	<u> </u>	2	<u>1</u>				
Creek Chub	124	22	1		Creek Chub	13		25	1			Central Mudminnow	5	-	2	<u>1</u>				
Fathead Minnow	54	2	2		Creek Chub	13		22	1			Central Mudminnow	6	-	3	<u>1</u>				
Creek Chub	58	14	8		Pumpkinseed		70	8	3			Brook Stickleback	3	-	2 !	5				
Fathead Minnow	49	3	2		Central Mudminnow	10		15	4			Central Mudminnow	6		3 2	2				
Creek Chub	53	2	1		Central Mudminnow		50	2	1			Brook Stickleback	5		3 2	2				
Central Mudminnow	32	1	1		Fathead Minnow		59	2	1			Central Mudminnow	6		3 2	2				
Northern Redbelly Dace	56	9	4		Northern Redbelly Dace		55	1	1			Brook Stickleback (max)	3		1 :	,				
			·	-	Black Bullhead	10		13	<u>1</u>			Brook Stickleback (min)	3	_	<u>'</u>	]				
					YOY Fathead	4	10	1	2			Central Mudminnow	8	1 1:	2 4	1				
					Brook Stickleback	4	19	25 3	0			Brook Stickleback	4	5	7	6				
									_			Central Mudminnow	5	1	1	1				



## **Appendix B** Photographic Log

## **Natural Heritage Study**

Skyview 2 Battery Energy Storage Project

**Skyview BESS Inc.** 

SLR Project No.: 241.031524.00001

May 13, 2025



## Appendix B Photographic Log

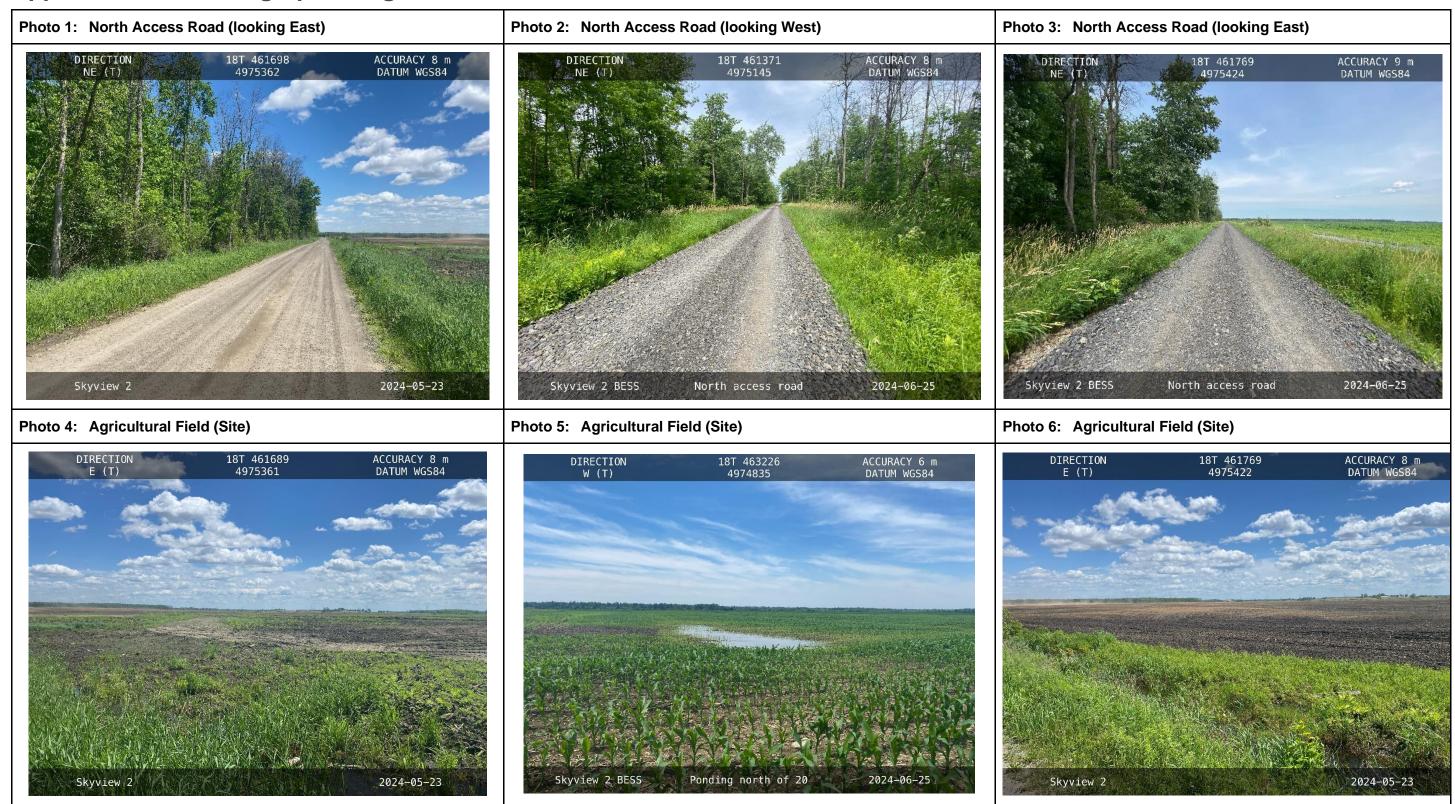




Photo 7: Agricultural Field (Site)

DIRECTION 18T 463315 ACCURACY 6 m DATUM WGS84

4975009 DATUM WGS84

Skyview 2 BESS Ponding north of 22B 2024-06-25

Photo 10: Swamp Community South of North Access Road

Photo 8: Agricultural Field (Site)



Photo 9: Swamp Community North of North Access Road





Photo 11: Swamp Community North of North Access Road



Photo 12: Marsh Community at Entrance to North Access Road







# **Appendix C** Species Observations

## **Natural Heritage Study**

Skyview 2 Battery Energy Storage Project

**Skyview BESS Inc.** 

SLR Project No.: 241.031524.00001

May 13, 2025



Common Name	Scientific Name	Highest Breeding Evidence	S-Rank	ESA Status	2022 MBR Schedule 1	Observation Comments
Birds	Scientific Name	riighest breeding Evidence	3-Nank	LOA Status	2022 FIDR Schedule 1	Observation Comments
American Crow	Corvus brachyrhynchos	T	S5			Breeding bird surveys
American Goldfinch	Spinus tristis	T	S5			Breeding bird surveys
American Redstart	Setophaga ruticilla	S	S5B			Breeding bird surveys
American Robin	Turdus migratorius	T	S5			Breeding bird surveys
American Woodcock	Scolopax minor	' H	S4B			Incidental
Barn Swallow	Hirundo rustica	M	S4B	SC		Breeding bird surveys
Black-capped Chickadee	Poecile atricapillus	S	S5	30		Breeding bird surveys
	·	S	S5			- ·
Blue Jay	Cyanocitta cristata		S5B			Breeding bird surveys
Broad-winged Hawk Canada Goose	Buteo platypterus	H X	S5			Incidental
	Branta canadensis	T	S5			Breeding bird surveys
Cedar Waxwing	Bombycilla cedrorum					Breeding bird surveys
Chestnut-sided Warbler	Setophaga pensylvanica	T	S5B			Breeding bird surveys
Chipping Sparrow	Spizella passerina	T	S5B,S3N			Breeding bird surveys
Common Grackle	Quiscalus quiscula	S	S5			Breeding bird surveys
Common Raven	Corvus corax	S	S5			Breeding bird surveys
Common Yellowthroat	Geothlypis trichas	T	S5B,S3N			Breeding bird surveys
Eastern Phoebe	Sayornis phoebe	S	S5B	00		Breeding bird surveys
Eastern Wood Pewee	Contopus virens	S	S4B	SC		Breeding bird surveys
European Starling	Sturnus vulgaris	M	SNA			Breeding bird surveys
Gray Catbird	Dumetella carolinensis	\$	S5B,S3N			Breeding bird surveys
Great Blue Heron	Ardea herodias	X	S4		Υ	Incidental
Great Crested Flycatcher	Myiarchus crinitus	T _	S5B			Breeding bird surveys
House Wren	Troglodytes aedon	T	S5B			Breeding bird surveys
Killdeer	Charadrius vociferus	\$	S4B			Breeding bird surveys
Least Flycatcher	Empidonax minimus	S	S5B			Breeding bird surveys
Magnolia Warbler	Setophaga magnolia	\$	S5B			Breeding bird surveys
Mallard	Anas platyrhynchos	X	S5			Incidental
Mourning Dove	Zenaida macroura	FY	S5			Breeding bird surveys
Northern Flicker	Colaptes auratus	T	S5			Breeding bird surveys
Ovenbird	Seiurus aurocapilla	S -	S5B			Breeding bird surveys
Red-eyed Vireo	Vireo olivaceus	T	S5B			Breeding bird surveys
Red-winged Blackbird	Agelaius phoeniceus	P	S5			Breeding bird surveys
Savannah Sparrow	Passerculus sandwichensis	S	S5B,S3N			Breeding bird surveys
Scarlet Tanager	Piranga olivacea	S	S5B			Breeding bird surveys
Song Sparrow	Melospiza melodia	CF	S5			Breeding bird surveys
Swamp Sparrow	Melospiza georgiana	S	S5B,S4N			Breeding bird surveys
Turkey Vulture	Cathartes aura	X	S5B,S3N			Incidental
Veery	Catharus fuscescens	S	S5B			Incidental
Vesper Sparrow	Pooecetes gramineus	S	S4B			Breeding bird surveys
White-throated Sparrow	Zonotrichia albicollis	T	S5			Breeding bird surveys
Wild Turkey	Meleagris gallopavo	X	S5			Incidental
Willow Flycatcher	Empidonax traillii	S	S4B			Breeding bird surveys
Yellow Warbler	Setophaga petechia	S	S5B			Breeding bird surveys
Yellow-bellied Sapsucker	Sphyrapicus varius	S	S5B,S3N			Breeding bird surveys
<u>Herpetofauna</u>	<b>4</b>		05			A In the transport
American Toad	Anaxyrus americanus		S5			Amphibian call surveys
Gray Treefrog	Dryophytes versicolor		S5			Amphibian call surveys
Spring Peeper	Pseudacris crucifer		S5			Amphibian call surveys
Green Frog	Rana clamitans		S5			Amphibian call surveys
Northern Leopard Frog	Lithobates pipiens		S5			Amphibian call surveys
<u>Mammals</u>	0 11		0-			
Coyote	Canis latrans		S5			Incidental
White-tailed Deer	Odocoileus virginianus		S5			Incidental
Raccoon	Procyon lotor		S5			Incidental
<u>Insects</u>	Danaua playinnua		CON CAD	SC		Incidental
Monarch	Danaus plexippus		S2N, S4B	30		Incidental

#### ESA designation

SC - Special Concern

#### Provincial S-rank

S2: Imperiled (i.e. fewer than 20 occurrences in the nation and/or province)  $\,$ 

S3: Vulnerable (i.e. 20-80 occurrences in the nation and/or province)

S4: Apparently Secure (uncommon, but not rare in the nation and/or province)

S5: Secure (common, widespread and abundant in the nation and/or province)

SNA: Not Applicable (species is not a suitable target for conservation activities)

B: Breeding migrants/vagrants

N: Non-breeding migrants/vagrants

#### Ontario Breeding Bird Atlas Breeding Evidence Codes

OBSERVED

Species observed during its breeding season, but not in suitable nesting habitat.

POSSIBLE H

Species observed in suitable nesting habitat during its breeding season.

Singing male or adult producing other sounds associated with breeding (e.g., calls or drumming) in suitable nesting habitat during the species'

S breeding season.

PROBABLE

Multiple singing/calling/drumming individuals (7 or more) heard during one visit and in suitable nesting habitat during the species' breeding season.

Pair observed in suitable nesting habitat during the species' breeding season.

Presumed territory based on the presence of an adult bird (usually singing, but not necessarily so), in the same suitable nesting habitat patch on at

I least two visits, one week or more apart, during the species' breeding season.

CONFIRMED

Recently fledged young (nidicolous species – whose young are raised in a nest) or downy young (nidifugous species – whose young leave the nest

FY soon after hatching) incapable of sustained flight.

CF Adult carrying food for young.

