Agricultural Impact Assessment

Bright Meadows Solar Project

Client: Revolve Meadows Solar GP Inc.
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Report Prepared for:
Revolve Meadows Solar GP Inc.

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1 Introduction

1.1 Project Description

Green Cat Renewables Canada Corporation (GCR) was retained by Revolve Meadows Solar GP Inc. (the Proponent) on behalf of Revolve Meadows Solar Limited Partnership (a subsidiary of Revolve Renewable Power Corporation) to complete an Agricultural Impact Assessment (AIA) for the Bright Meadows Solar Project (the Project). The Project is a 15.7 megawatt (MW_{ac}) solar energy development located within the County of Wetaskiwin No. 10 (County of Wetaskiwin) approximately 6 kilometers (km) east of the village of Ma-Me-O Beach, Alberta. The Project is situated on the southeast quarter of Section 29, Township 46, Range 27, West of the Fourth Meridian (SE-29-46-27-W4M; Appendix A) and will occupy approximately 48 hectares (ha) of privately owned land within 64.1 ha of the Host Parcel.

1.2 Purpose

Alberta Utilities Commission (AUC) Bulletin 2024-25 (AUC 2024) requires that all new applications for solar power plants on high-quality agricultural land as defined by the *Electric Energy Land Use and Visual Assessment Regulation* (Regulation) include an AIA. The Regulation defines "high-quality agricultural land" as land rated under the Land Suitability Rating System (LSRS) as Class 1 or Class 2 land, or Class 3 land that is situated within a municipality with no Class 1 or Class 2 lands present.

As assessed in the Conservation and Reclamation Plan (C&R Plan; EDI Environmental Dynamics Inc. 2025a) prepared for the Project, the Project is sited within soil polygon ID 18677 2H(9) – 5W(1), and Polygon ID 18690 2H(10) as rated under the LSRS, and primarily Canadian Land Inventory (CLI) Class 6 and Class 7 agricultural lands. As required by Section 4(2)(a) of the *Electric Energy Land Use and Visual Assessment*, this AIA assesses the potential effects of the Project on agricultural productivity, and 4(2)(b), demonstrates the Project is designed to achieve coexistence with agricultural use.

1.3 Objectives

The objective of this AIA is to meet the requirements set out in Bulletin 2024-25 (AUC 2024) and the *Electric Energy Land Use and Visual Assessment Regulation*. The AIA assesses the potential impacts of the Project on agricultural productivity and demonstrates how the Project will mitigate these impacts, if applicable, to maintain existing agricultural use.

Primary goals of the AIA include:

- Describing the existing agricultural productivity and assessing the anticipated impacts of the Project on agricultural value.
- Assessing land capability, identifying opportunities and limitations for agricultural production.
- Identify areas within the Project that may be suitable for agricultural activities and opportunities for co-location.
- Evaluating the possible agricultural productivity during the Project's operational phase.

2 Existing Agricultural Description

This section provides an overview of the agricultural land use, land cover, soil characteristics, and agricultural suitability within the Project area. The data for this AIA was sourced from the Project's Conservation and Reclamation Plan (C&R Plan; EDI 2025a) and Environmental Evaluation (EDI 2025b). Historical and existing land use and productivity data were based on communications with the landowner (Section 3) to better understand the current land use, the proposed land use for the Project's operational phase, and the overall productivity of the land for agricultural uses.

2.1 Existing Land Cover

The Project is sited predominantly on chronically disturbed modified pasture (defined as land that has been anthropogenically disturbed through tree clearing and soil breaking/tilling for the purposes of livestock grazing; EDI 2025b). The landowner has indicated that the lands have been used for cattle grazing since being purchased in 2005, and the lands have never been farmed or cropped, due to wet conditions and generally peaty and boggy conditions he has observed on the land. Since 2017, the landowner has leased out the Host Parcel for cattle grazing. Prior to his purchase, the landowner confirmed that the previous owner used the land primarily for cattle grazing and substantially cleared the land of trees and altered the landscape to increase grazing area for cattle within the Host Parcel. This history was corroborated with historical aerial imagery review showing deforestation in the 1980's and 1990's (EDI 2025b).

The Project is located within the Dry Mixedwood Natural Subregion (Subregion; Natural Regions Committee 2006) with approximately 50% of this Subregion under cultivation. Similar to the Project lands, a large portion of this Subregion has been reserved for livestock grazing and forage crops. The Project footprint is predominately located on modified pasture (45.16 ha, 94.1%; Table 4-10 [EDI 2025b]), with small patches of remaining deciduous treed areas (1.77 ha, 3.7%), wetlands (0.95 ha, 2.0%), and one dugout (0.13 ha, 0.3%).

A review of historical imagery from 1950 to 2024 conducted by EDI (2025b) demonstrated chronic anthropogenic disturbance within the Project footprint. This includes the continued clearing of trees and shrubby areas.

2.2 Water Resources

Water resources refer to the wetlands, surface water, and hydrology within the Project area, as sourced from the Environmental Evaluation (EDI 2025). EDI identified two ephemeral (Class 1) water bodies, two temporary (Class 2) wetlands, one seasonal (Class 3) wetland, and a dugout within the Host Parcel. No watercourses or water wells were identified within the Host Parcel. The total area of wetland disturbance within the Project fenceline is approximately 0.95 ha (Table 4-5 [EDI 2025b]).

Historical imagery (Google Earth 2024) shows that the dugout has been used extensively by cattle as a water resource, as corroborated by the landowner; however, the landowner has stated that the dugout within the Project boundary is not consistently full, and cattle prefer other water sources in adjacent parcels. Based on the current Project layout, it is assumed that the dugout will be infilled during construction and will no longer be available for cattle use. Section 4.1.3 of the AIA addresses the loss of this historical water resource and recommends alternative water sources outside of the Project fenceline to maintain agricultural productivity for cattle grazing.

2.3 Soils and Terrain

Soil types, terrain, and land suitability information is sourced from the C&R Plan (EDI 2025a), AGRASID 4.1 (Government of Alberta 2018a), the Canadian Soil Information System (Agriculture and Agri-Food Canada 2022), and

the County of Wetaskiwin. Detailed assessment methodologies are available in these references. The terrain within the Project area is characterized by level to undulating surface expressions, with high relief and nearly level to gentle slopes. The predominant soil types are Benalto (Dark Grey Luvisol) and Falun (Orthic Dark Gray Chernozem) soil series, with secondary soil types of Breton (Orthic Gray Luvisol) and a miscellaneous Gleysolic soil series (Orthic Humic Gleysol; Table 3 [EDI 2025a]).

2.4 Land Suitability for Agriculture

The Land Suitability Rating System (LSRS) developed by the Government of Alberta (2017a) evaluates the soil-climate-landscape potential for agricultural spring-seeded small grains (SSSGrain). The Project area is classified as a combination of Class 2 and Class 5 (Table 2 [EDI 2024a]) lands. These classes indicate that there are slight (Class 2) to very severe (Class 5) limitations on agricultural productivity, primarily related to climate (inadequate heat for optimal growth) and soil (excess water restricting production).

The CLI system classifies the Project area as a Class 3 (Agriculture and Agri-Food Canada 2025) indicating soils with moderately severe limitations that restrict the range of crops or require specialized conservation practices. The County of Wetaskiwin conducted farmland evaluations for SE-29-46-47-W4 in 1983 and 2023, as confirmed on January 21, 2025, by the Director of Assessment (Personal Communications 2025). These evaluations included comprehensive field-level surveys and digging of soil pits, to identify site-specific agricultural capability. The evaluation assessed the Project lands as CLI Class 6 and 7, where:

- Class 6 represents soils that are limited to perennial forage crops with improvement being generally unfeasible (comparable to LSRS Class 6 which have extremely severe limitations for SSSG; Government of Alberta 2017a).
- Class 7 represents soils that are unsuitable for arable agriculture or permanent pasture (comparable to LSRS Class 7 which is unsuitable for agriculture; Government of Alberta 2017a).

The federal CLI and provincial AGRASID LSRS classifications rely on generalized data and statistical modelling, whereas the County of Wetaskiwin evaluation provides a detailed field assessment. The 2023 evaluation also rated the quarter section overall agricultural capability at 19.8% with a farmland value of $10,200 per acre (ac), which demonstrate that the Project lands have limitations that reduce suitability for annual agricultural production. This is consistent with the Host Parcel history of cattle grazing rather than cultivation, which aligns with its CLI classification. The landowner has noted that historically, the land has been observed as a boggy (peat) area, as corroborated by other field observations (i.e., Sceptre Resources Limited Pipeline Right-Of-Way plan identifying Project lands as Pasture (peat moss); AMAR Surveys Ltd. 1993).

3 Existing and Historical Land Use

On January 23, 2025, a phone conversation was conducted with the landowner to discuss the land use of the Host Parcel and the historical productivity of the land. According to the landowner, the Host Parcel has been used exclusively for cattle grazing since it was acquired in 2005. The landowner has never cultivated the land, and in the landowner's understanding, the previous landowner cleared trees to increase grazing area and does not believe the land has ever been cultivated. The landowner characterizes the land as having persistent wet, low-lying areas, which encourage the growth of grasses, particularly reed canary grass, and has low capability for cultivation. The landowner has characterized the lands as boggy and poor crop growing lands.

The landowner currently owns seven quarter sections of land in his total agricultural operations, three of which are under cultivation. The remaining four, including the Host Parcel, are utilized for cattle grazing. The Host Parcel has been rented out for cattle grazing for the past seven years, which has typically supported up to 50 cattle during the grazing period from May to October (approximately 5 months). The grazing duration varies dependant on climate and forage conditions, with drier years resulting in shorter grazing periods due to reduced forage availability. During wetter years, supplemental hay for the 50 head of cattle is not required. The landowner receives between $7,500 and $10,000 in rental income annually for grazing on the Host Parcel (approximately $46.88 to $62.50 per acre). There is no overwintering or calving that occurs in the Host Parcel. These activities are conducted on other properties owned by the landowner. The Host Parcel only represents a small portion of the total land area the landowner uses for agricultural purposes (14%).

The revenue generated from the grazing on the Host Parcel has been relatively stable, though low compared to other cultivation productivity in the region, with fluctuations in rental income based on weather and forage conditions. The landowner intends to use the lease payments from the Project as an additional revenue steam to support his agricultural activities, including enhancing agricultural productivity on his other properties to offset some of the area lost to grazing. The new source of income will contribute to ongoing improvements. The following sections provide a comparison between the current grazing activities and objectives outlined in this AIA.

4 Agricultural Plan

The agricultural plan consists of a continuation of cattle grazing and hay production within and adjacent to the Project. Two distinct areas have been identified for agricultural use: the area inside the Project fenceline and the area outside the Project fenceline but still within the Host Parcel (SE-29-46-27-W4M; Appendix A). The area outside of the Project fenceline is unlikely to experience disturbance during construction and operation and will retain its existing vegetation. However, the area inside the fenceline is anticipated to experience limited disturbance associated with construction of the facility and will require additional modification (potentially including seeding) and interim reclamation to restore vegetation and productivity. To maintain current agricultural output during Project operations, a combination of cattle grazing outside of the fenceline and hay production within the fenceline will be implemented, with the ability for hay production to supplement feed available for livestock or to be sold for additional revenue.

4.1 Cattle Grazing

Cattle grazing plays a crucial role in nutrient cycling and can support efficiency of nutrient cycling and production of more environmental services in grassland ecosystems if effectively managed (Dubeux and Sollenberger 2020). Historically, cattle grazing has occurred within the Host Parcel and will continue during Project operations outside of the Project fenceline (Appendix A). This approach aligns with the landowner's preference to maintain grazing activities as they have expressed no interest in cultivating or farming the land, as it is not suitable for annual production. It is assumed that the landowner will continue to rent the Host Parcel for grazing, with plans for his sons to take over farming operations once he has retired. They will decide whether to rent the lands or graze their own cattle in the Host Parcel. The cattle grazing area will remain connected to adjacent parcels owned by the landowner, allowing for continued grazing and access to water sources on those other sections as has been implemented in the past. To prevent damage to Project infrastructure, the grazing area will be separated from the solar infrastructure by security fencing and gates.

4.1.1 Carrying Capacity Determination

The grazing demand for cattle is defined as the forage requirements relative to the available forage, expressed as Animal Unit Month (AUM). An AUM represents the amount of forage required to sustain one animal unit (i.e., a 1000-pound cow) per one month (Kupsch et al., 2013; Government of Alberta 2017b). To determine the carrying capacity of the Host Parcel, the Ecological Sustainable Stocking Rate (ESSR) was back calculated using the typical historical stocking rate identified by the landowner.

The agricultural area designated for cattle grazing outside of the Project fenceline within the Host Parcel is approximately 16.1 ha (39.8 ac; Appendix A). Based on landowner records, historical stocking rates averaged 50 cattle over a five-month grazing period (May to October) within 64.5 ha (158.3 ac) of land. This equates to an ESSR of 1.58 AUM/ac (Table 4-1). Applying this ESSR to the available grazing area within this AIA, the estimated carrying capacity outside of the Project fenceline is approximately 63 AUM, or 16 cattle over a five-month grazing period. This would represent an approximate 68% reduction from historical stocking rates.

To further support agricultural productivity during Project operations, grass or hay production within the fenceline can be used to supplement feed to support similar historical stocking rates of cattle or be sold for additional revenue. Actual productivity of cattle grazing is expected to vary depending on seasonal factors affecting forage production and best use of the land as determined by the landowner. Annual actual productivity will be reported as described in Section 5.

Table 4-1: Carrying Capacity of Cattle Grazing

Stocking Timing	Total Agricultural Area (ha)	Total Agricultural Area (ac)	ESSR (AUM/ac)	Grazing Period (months)	Carrying Capacity (AUM)	Total Cattle
Average Historical Operations	64.1	158.3	1.58	5	250	50
AIA Operations	16.1	39.8	1.58	5	62.8	16

4.1.2 Overwintering

It is assumed that the cattle will overwinter on other lands located off the Project area, consistent with current practices. As such, the overwintering process for grazing cattle has not been included in this AIA.

4.1.3 Water Resources

Water requirements for grazing cattle depends on the size and type of the cattle. For feeder cows, which are young, growing cows being actively fed to gain weight, daily water consumption varies by weight. For example, a 550-pound (lb) feeder cow requires approximately 4 gallons per day (gpd), while a 900 lb feeder cow requires 7 gpd (Government of Alberta 2025). Larger cattle such as a 1,200 feeder, requires 9 gpd. These estimates are approximate, as actual water needs can vary based on factors such as temperature, season, and shading. The water requirements of feeder cows over a 153-day (5-month) grazing period is outlined in Table 4-2 below.

Table 4-2: Estimated Water Usage for Grazing Cattle

Type of Cow	Weight (lb)	Gallon Per Day[1]	Number of Days	Total Water Requirement (Gallons)
Feeder	550	4	153	612
Feeder	900	7	153	1,071
Feeder	1,200	9	153	1,377

Notes: [1] = Government of Alberta 2025.

The Host Parcel historically included a dugout (Section 2.2) that served as a water source for grazing livestock; however, it is assumed that the dugout will be infilled and removed during construction of the Project. As discussed with the landowner, cattle have access to several other water sources in adjacent parcels under the landowner's control, which have been consistently used for cattle grazing operations in the Host Parcel since 2005. A gate on the north end of the Host Parcel provides direct access to these preferred water sources. A new water retaining area may be required for the Project if standing water or water drainage is identified as a design concern. This aspect will be designed later on but could also be used for supporting livestock at the site. The Project Environmental Evaluation (EDI 2025b) identified no water wells within the Host Parcel. Therefore, if additional water is needed to support cattle grazing, options may include excavating a new dugout, trucking supplemental water onto the site, or drilling a new well.

4.2 Hay Production

To further support co-location of agricultural activities, a perennial hay or grass crop in the Project fenceline will provide a year-round vegetative groundcover that will reduce soil erosion, retain soil structure, and provide wildlife

habitat. This area will undergo seeding in areas of disturbance during interim reclamation to restore vegetation after construction and support agricultural use. Vegetation disturbance during construction will be minimized to promote natural vegetation regrowth. Supplemental seeding will be applied in areas where disturbance is unavoidable, or where the landowner deems that forage production needs to improve (Section 4.2.1). The seed mix to be used will be selected in consultation with the landowner, ensuring it complements the natural vegetation community type of the Host Parcel while enhancing hay productivity.

Hay production may take place within the fenceline, excluding areas occupied by permanent infrastructure. The panel rows have a row spacing of approximately 5.6 m (Appendix A). A 1.3 m buffer was applied on each side of every panel row, while a 0.3 m buffer was applied around inverters to ensure safe access around sensitive Project infrastructure without risking damage. It is assumed in hay productivity calculations that the area will be hayed once per year, though this is dependant on climatic variations, yearly precipitation, and landowner's preferences and could be hayed multiple times per year. The landowner has existing haying equipment with a header to safely work between Project infrastructure (Section 4.2.2).

4.2.1 Forage Management

Forage management involves the planting and maintenance of the hay crop within the Project fenceline. Seed mixes should be planted in sparse areas before construction and in disturbed areas during or after construction to encourage new vegetative growth. Short-term management will focus on weed control (as outlined in the Project Environmental Protection Plan [EDI 2025c]) which may involve hand-pulling or spot-treating invasive species, especially during the first few years of operation. Once established, a hay stand is typically too dense for the introduction of weeds. However, weed management may be revisited if the hay stand is observed to be thinning. Remedial seeding may be required in some spots where the hay did not successfully establish following initial seeding. The landowner has committed to managing weed concerns within the Project.

Long-term management is expected to be minimal, as the existing vegetation is likely to persist throughout the Project's lifecycle. However, adaptive management may be necessary if the landowner determines that hay yield or quality declines as the vegetation ages. The landowner will assess forage management annually, including a review of productivity and whether practices such as breaking, reseeding, resting, fertilizing, or soil amendments are required to enhance hay productivity. Natural vegetation, if not heavily disturbed during construction, should persist over a long period, but may require these adjustments as necessary to maintain yield.

4.2.2 Hay Production Logistics and Revenue

The landowner has confirmed that all necessary equipment for hay production within the Project area is available and is compatible with the spatial constraints of a solar project (Personal Communication 2025). Equipment for harvest could include a tractor, a baler, an accumulator, and a header attachment, all provided by the entity (landowner or contractor) performing the activities. Either a front -mounted or discbine, of suitable size will be used, and smaller mowers, such as 3 m models, could also be utilized by making one pass along each panel row. It is recommended that a baler with an accumulator attached is used, as this setup allows bales to efficiently be moved to the end of each row for collection, reducing time and effort to remove them from the rows. The calculated revenue for hay production, is provided in Table 4-3. As with the current grazing operations, the calculation does not account for general inputs required to operate the agricultural plan (e.g., fuel, equipment maintenance, staff). The landowner has assumed that these input costs are aligned with his current agricultural activities and can be offset by the revenue generated from the Project solar lease.

Typically, hay production is expected to involve two cuts annually. However, since both the landowner and County of Wetaskiwin have mentioned the Host Parcel is lower agricultural quality, a more conservative approach was applied.

Yearly yields were estimated by calculating the original forage production capacity needed to support historical stocking rates for a 1,200 lb cow requiring 30 lbs of hay per day (Drovers 2024). The forage produced historically was used to refine the hay that may be produced within the smaller area within the Project fenceline during operations.

Table 4-3 outlines the projected hay production, number of bales, and revenue under historical operations compared to Project operation, without using supplemental feed for additional cattle. Each hay bale (round, approximately 1.5 x 1.8 m) is estimated to contain 947 lbs of dry matter (Folio3AgTech 2023) with the market value based on a 5-year average in Alberta at $0.11 per lb (Government of Alberta 2024). The revenue on hay production within the Project fenceline is anticipated to be $9,382.

Table 4-3: Projected Hay Production

Harvest Timing	Area (ha)	Area (ac)	Hay Produced (lbs)	Number of Bales	Total Revenue
Hay Production	24.3	60	85,290	90	$9,382

The total hay production within the Project fenceline is estimated to be approximately 85,290 lbs per year with a revenue estimate of $9,382. If this hay is used as supplemental feed instead of sold, it offers the landowner an opportunity to increase cattle grazing and stocking rates affected by the Project. If a 15% wastage rate (Government of Alberta 2007, Canadian Cattlemen 2022) is applied, the usable hay for supplemental feed totals approximately 72,497 lbs. Therefore, it is estimated that hay production within the Project is sufficient to support up to 15 additional cattle outside of the Project fenceline. Table 4-4 outlines the supplemental feed required for these 15 additional cattle during a 153-day (five month) grazing period, along with excess revenue from any left-over hay.

Table 4-4: Supplemental Feed for 15 Additional Cattle and Excess Revenue

Cow weight (lbs)	Daily Hay Requirements (lbs)	Yearly Hay Used for 15 Cattle (lbs)	Hay Leftover (lbs)	Potential Revenue from Extra Hay ($)
550	24	55,080	17,417	$1,916
900	28.8	66,096	6,401	$704.06
1200	30	68,850	3,647	$401.12

Using the ESSR calculated from historical productivity (Table 4-1) the carrying capacity without supplemental forage is 16 cattle. With the inclusion of these additional 15 cattle, the landowner would be able to support up to 31 cattle outside of the Project fenceline, representing 62% of previous historical productivity.

4.3 Agricultural Revenue Comparison

The Project's impact on land available for grazing will result in a reduction in revenue from cattle grazing, which was previously estimated at $7,500 to $10,000 annually from existing grazing rental of the lands (Section 3) supporting 50 cattle in a typical year. If the landowner opts to sell all hay produced within the Project fenceline, total revenue from hay production is estimated at $9,382. A reduction in the Host Parcel from grazing 50 cattle to 16 (Table 4-1) represents an approximate 68% reduction in cattle grazing. It can be assumed that if 50 cattle are being grazed in the Host Parcel at $7,500 to $10,000, that the grazing rental in the Host Parcel would decrease to approximately $2,400

to $3,200 to reflect the reduced stocking rates. The total revenue for 16 cattle and selling all hay produced is estimated from $11,782 to $12,582. This represents a similar estimated revenue compared to historical operations. If stocking rates are increased from hay production to support 31 cattle, the rental income could vary from $4,650 to $6,400, with an excess hay revenue of $401.12 to $1,916, depending on cattle weight. This total revenue would result in a grazing revenue estimate of $5,051 to $8,116. Overall, this potential revenue loss will be offset by the substantially higher solar rental revenue to the landowner, and therefore the net overall productivity of the parcel for both activities (i.e., agricultural farming and solar farming), is expected to increase substantially.

It is important to note that it is projected that hay productivity will increase with supplemental seeding and forage manage practices (Section 4.2.1) not previously implemented during historical operations. These improvements, combined with the landowner's intention to use funds from the solar lease to support his existing agricultural activities and potentially increase productivity on the Host Parcel and adjacent lands, are anticipated to offset some of the reduction in grazing revenue.

It is likely that the landowner will choose a balance between cattle grazing and hay production in a way that meets his agricultural goals for the Host Parcel. This decision will be based on agreements for renting of the land for grazing or grazing the land himself with his sons. Based on this assessment, the agricultural productivity of the Host Parcel during Project operations is expected to be similar to pre-Project existing agricultural productivity.

5 Monitoring and Reporting

As part of the AIA, the Proponent is committed to a minimum of three years of monitoring after Project commissioning. At the end of each year following commissioning, the landowner and Proponent will assess the productivity of agricultural components and submit a summary report to the AUC for post-disposition documentation. This update will demonstrate the effectiveness of the AIA. The annual report will include results on the following components:

- Hay crop yields.
- Cattle stocking rates.
- Weed management activities.
- Livestock water use on site, and
- Overall agricultural productivity.

This monitoring and reporting approach align with previous AUC approval (e.g., Decision 28723-D01-2024) for other AUAs, which require similar post-disposition documentation to track the effectiveness of agricultural operations.

A summary of adaptive management changes (Section 5.1) will be included to describe any proposed agricultural activity changes for the Project based on previous results. For the first three years after commissioning monitoring will be conducted in conjunction with Interim Monitoring Site Assessments. This ongoing management will support refinement of agricultural activities in the Host Parcel and assist the landowner in determining the best and most productive use of their land during the operational life of the Project. Like existing agricultural practices in the province, a multitude of factors including variable market conditions, drought, inclement weather, and variable productivity result in adapting a multitude of agricultural practices.

The landowner has a vested interest in managing the land in the best way possible, with long-term planning considerations in mind. Any discrepancies within the total agricultural productivity presented in this report (estimated at $15,189 to 15,989 annually; Section 4.3) will be addressed in the annual report. Adaptive management strategies to increase productivity will be explored by the landowner, if required. If this productivity target is not met, these adaptive management opportunities will be supported through revenue from the solar lease to further increase agricultural productivity to pre-Project levels.

This proposed monitoring and summary report will help the Project to maximize available agricultural productivity and adapt as necessary to help limit temporary reductions in agricultural production during Project operations may increase or sustain land suitability for agriculture over the long-term once the Project is decommissioned and reclaimed.

5.1 Adaptive Management

Adaptive management is integral to the long-term sustainability and productivity goals of this AIA and the agricultural activities integrated with the Project. Adaptive management will be a systematic approach that prioritizes learning and flexibility in decision-making, aiming to optimize land use and minimize loss of agricultural production. This approach is a cycle of planning, implementing, monitoring, evaluating, and adjusting strategies based on real-world outcomes and evolving conditions.

Evaluation of data will inform decisions on whether current strategies are achieving agricultural outcomes, such as maintaining or improving current agricultural productivity. Options may include the implementation of other agricultural activities, such as sheep grazing within the Project fenceline to address weed and vegetation management

concerns, dependent on market conditions and assessment of productivity results as documented in the yearly summary reporting for the first three years of implementation. The landowner will ultimately retain the authority to run their farming operations on their land and make decisions based on the observed data and outcomes as part of their overall farming practices. By continually refining and adapting different management strategies over the Project's lifecycle, the landowner will manage the land to remain productive and balance the needs of energy production and agricultural practices. This AIA will therefore allow for the landowner to contribute to agricultural value in a meaningful way and allow for co-location of agricultural production during the operational life of the Project.

6 Conclusion

In accordance with the requirements outlined by the AUC Bulletin, this AIA evaluates the potential effects of the Project on agricultural productivity. The Project is sited on lower value agricultural land (i.e., not under cultivation) and has been designed to minimize any reduction in agricultural productivity during its operational phase, and after the Project has been decommissioned. The design incorporates land use and design features for maintaining the landowner's ability to continue agricultural activities, including cattle grazing, on the Host Parcel. While the Project has been sited on LSRS Class 2 lands, the MD assessment as CLI 6 and 7 and historic use for grazing supports that these lands are not suitable to support higher value SSSG cultivated crops. Implementation of supplemental grass and hay production for additional cattle feeding allows for up to 62% of the existing agricultural grazing productivity to be maintained, or a similar total productivity if combining hay production with cattle grazing during operations.

The AIA confirms that the Project's design and planned agricultural practices meet the requirements outlined in the *Electric Energy Land Use and Visual Assessment Regulation* incorporating co-location measures and supporting historical land use practices. The Project demonstrates a commitment to maintaining agricultural productivity while meeting the regulatory requirements for renewable energy development on high-quality agricultural land.

7 Certification

Janet Bauman, Senior Vegetation Ecologist, B.Sc., P.Biol., RPBio

Ms. Bauman is a Senior Biologist with Western EcoSystems Technology, ULC and a Professional Biologist (P.Biol.) in good standing with the Alberta Society of Professional Biologists (ASPB) since 2005. She has over 29 years of environmental consulting experience in Canada and has sat on the ASPB Registration Committee in several capacities since 2005, from member to committee chair. She then became Registrar in 2016 and is currently Deputy Registrar. Ms. Bauman has a diploma in Conservation and Reclamation as well as Fish and Wildlife from Lakeland College in addition to a Bachelor of Science (B.Sc.) in Wildlife and Rangeland Resources Management from the University of Alberta. This education included the principles and practices of rangeland management, such as conservation and sustainability. In addition to her formal education, Ms. Bauman also completed the Stockmen's Range Management Course and Alberta 2010 Reclamation Criteria training.

Ms. Bauman has a diverse background in environmental consulting spanning renewable energy, infrastructure, oil and gas, forestry, government, and conservation. Ms. Bauman was an Assistant Range Rider for a township of land spanning Kananaskis Country and Bow Crow Forest Reserve in the Rocky Mountains where she managed cattle and grazing resources for five summers. She has also worked at Alberta Environmental Protection where she was an Assistant Reclamation Inspector, reviewing conservation and reclamation plans, and inspecting reclaimed sites, pipelines, gravel pits and quarries throughout southern Alberta and at Ducks Unlimited Canada where she was a resource technician, completing range inventory and condition class rating surveys and range management plans. Ms. Bauman has provided Expert Testimony in hearings for the AUC as well as for joint review panels under the Alberta Energy Regulator with respect to vegetation, soils, and wetlands. Throughout her work experience, Ms. Bauman has completed range assessment and management, weed surveys and management, reclamation planning and reseeding on agricultural lands (native grassland, forages, pastures), conservation and reclamation planning for pipelines and aggregate pits, vegetation inventories and mapping, soils classification, vegetation health assessments and environmental impact assessments. Ms. Bauman has senior reviewed multiple Environmental Evaluations, Environmental Protection Plans, Conservation and Reclamation Plans, and has worked in consultation with landowners and solar developers to develop Agrivoltaics Plans for renewable energy projects.

Janet Bauman, B.Sc., P.Biol., RPBio

Senior Vegetation Ecologist

Western EcoSystems Technology, ULC

Glen Doll, Director, B.Sc.(Ag)(Dist), P.Ag., AACI, P.App.

Glen is a Director at Serecon Inc. and an accredited appraiser with the Appraisal Institute of Canada and a professional agrologist with the Institute of Agrologists. He provides specialized consulting services in the areas of rural and agricultural appraisals, farm agri-business management and farm financial management. Glen has completed numerous agricultural impact assessments regarding transmission lines, electrical substations, solar developments, wind power developments and expropriations. He has provided expert testimony before the Alberta Court of King's Bench, the Alberta Land and Property Rights Tribunal, the AUC, the Alberta Energy Regulator, the Manitoba Land Value Appraisal Commission and the Saskatchewan Court of King's Bench.

Glen Doll, B.Sc. (Ag) (Dist), P.Ag., AACI, P.App.

Director

Serecon Inc.

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