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CONSULTING

BLUEARTH RENEWABLES

Outlaw Trail Wind Energy Project Terms of Reference

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Abbreviations

AUC	Alberta Utilities Commission
EA	Environmental Assessment
EASB	Environmental Assessment and Stewardship Branch
EIS	Environmental Impact Statement
ENV	Saskatchewan Ministry of Environment
EPP	Environmental Protection Plan
GDP	Gross Domestic Product
GIS	Geographic Information System
ha	hectare
HCB	Heritage Conservation Branch
HRIA	Heritage Resources Impact Assessment
km	kilometre
LAA	Local Assessment Area
m	metre
MW	megawatt
NAD	North American Datum
NGO	Non-Governmental Organization
PDA	Project Development Area
RAA	Regional Assessment Area
RM	Rural Municipality
SOMC	Species of Management Concern
TOR	Terms of Reference
TPP	Technical Project Proposal
US	United States of America
UTM	Universal Transverse Mercator
VEC	Valued Ecosystem Component
WHPA	Wildlife Habitat Protection Act
WTG	wind turbine generator

1 Introduction

BluEarth Renewables Inc. (BluEarth) is proposing to develop the Outlaw Trail Wind Energy Project (the Project), an up to 230 MW power generating facility located approximately 20 km east of the Village of Coronach, in south-central Saskatchewan, and approximately 14 km north of the Canada/US border (Figure 1-1).

In 2018, BluEarth submitted an Application for Ministerial Determination to the Saskatchewan Ministry of Environment (ENV) – Environmental Assessment and Stewardship Branch (EASB) for the Project. The Application included the following components:

- Technical Project Proposal – Outlaw Trail Wind Energy Project (Stantec 2018), referred hereafter as the TPP;
- GIS files of the Project; and
- Subsequent email correspondence responding to information requests during the regulatory review.

On November 15, 2018, following their review of the Application, the ENV issued a Ministerial Determination to BluEarth, in which the Project was deemed a “development” as per the criteria under Section 2(d) of The Environmental Assessment Act, 1980. As such, a detailed environmental assessment will be required, and an Environmental Impact Statement (EIS) will be prepared and submitted to the ENV for regulatory and public review, upon which a Ministerial Decision will be made on the Project.

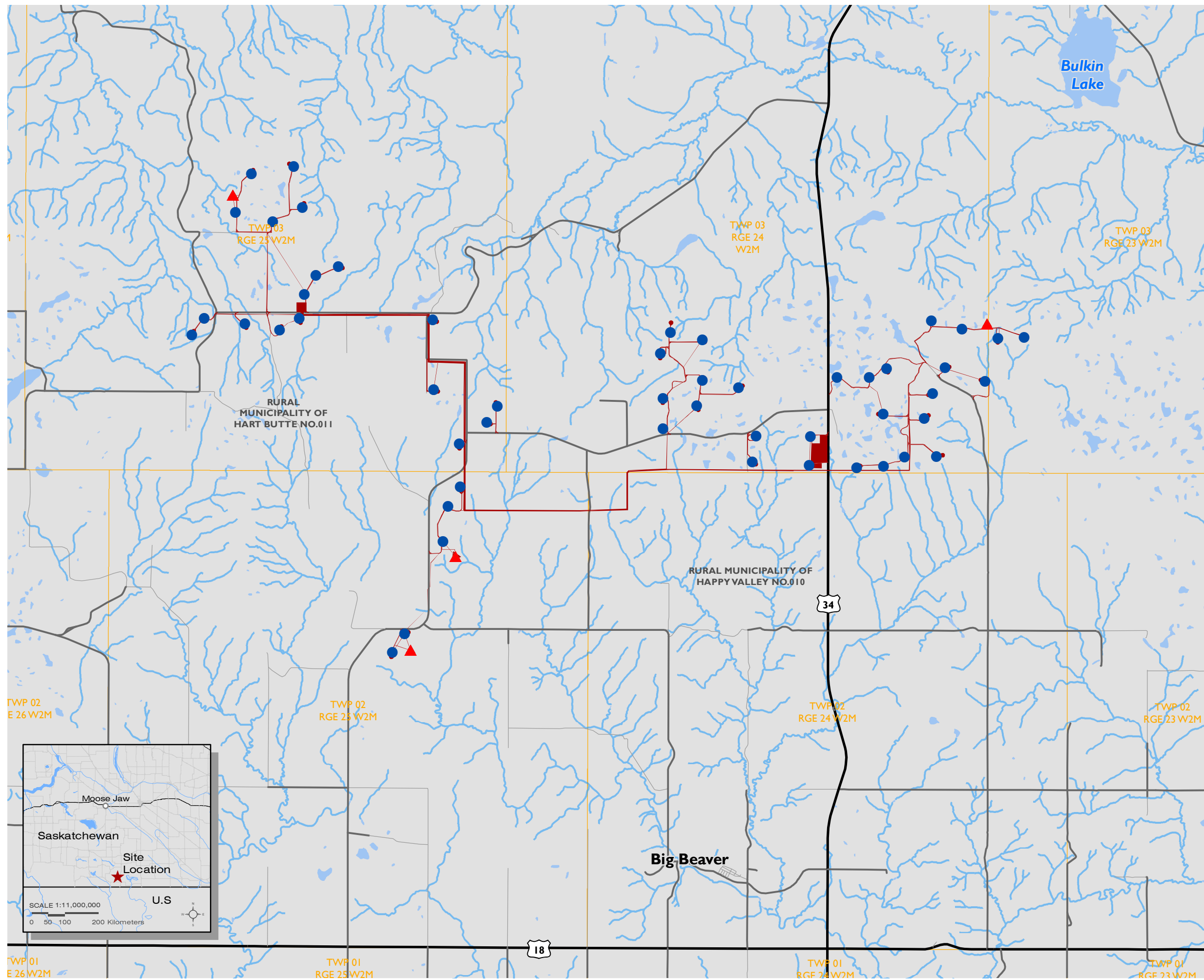
These Terms of Reference (TOR) are intended to outline the information that will be gathered during the EA, and to guide the preparation of the EIS, in accordance with The Environmental Assessment Act, 1980. This TOR document was prepared in consideration of the Guidelines for the Preparation of the Terms of Reference (ENV 2014a).

These TOR have taken into consideration the ENV’s review of the documents included in the Application for Ministerial Determination, as well as feedback received during subsequent meetings with the ENV following their review. As such, the TOR provide focus on the primary issues and concerns that were identified in the Ministerial Determination and enclosed Reasons for Determination.

BLUEARTH RENEWABLES INC.

OUTLAW TRAIL WIND ENERGY PROJECT

**FIGURE 1-1
PROJECT OVERVIEW**



- Wind Turbine Generators
- ▲ MET Tower
- Proposed Project Layout
- Highway
- Arterial Roads
- Other Roads
- Watercourse
- Township
- Waterbody

SCALE 1:75,000
0 0.5 1 2 Kilometers



MAP DRAWING INFORMATION:
DATA PROVIDED BY ESRI, DILLON, GEOSASK AND CANVEC
MAP PROJECTION: NAD 1983 UTM Zone 13N



PROJECT: 191825
MAP CREATED BY: 44PH
MAP CHECKED BY: 44JD
DATE: 2019-11-25

2 Project Overview

The Project is proposed to have a total generating capacity of up to 230 MW with a maximum of 60 wind turbine generators (WTGs). The Project anticipates including up to 60 WTG locations, which includes up to 10 alternative locations. The specific number of turbine locations proposed, including alternative locations, will be finalized in the EIS. Each WTG will have a generating capacity between 3.8 and 5.8 MW; the final turbine selection and number of turbines will be determined at the time of procurement. Other permanent Project infrastructure includes access roads to each WTG, pad-mounted transformers, an above and below-ground electrical collector system, a transformer substation, communications and control system, operation and maintenance building, up to four meteorological (MET) towers, and other ancillary equipment. The proposed Project Development Area (PDA) encompasses approximately 278 ha; however, only 29 ha are expected to be occupied by permanent infrastructure, and 142 ha of the PDA will remain predominately undisturbed.

2.1 Project Description

A clear and detailed description of the Project will be provided in the EIS. The Project description will describe all phases of the Project, including Project planning, construction, operation and decommissioning.

The Project description will include the following:

- A profile of the Proponent, name of the legal entity, contact person and mailing address.
- The Project location and maps that identify the Project's spatial boundaries in relation to nearby communities, as well as other past, present or reasonably foreseeable future projects.
- Appropriately-scaled maps and/or figures of the Project components and activities. Additionally, a GIS shapefile of the Project's spatial boundaries will be included with the digital submission of the EIS, in a NAD 1983 (CSR98) datum and UTM zone 13 projection, as required by ENV.
- The on-site components, associated on-site and off-site infrastructure and other facilities associated with the proposed Project. This will include, but not be limited to:
 - Temporary work spaces;
 - Access management;
 - Waste management; and
 - An environmental management framework.
- Activities associated with the construction, operation, and decommissioning phases of the proposed Project.
- The capital construction phase and the predicted duration of the Project.
- The benefits of the Project, including job creation, local training employment and business opportunities.

2.2 Project Boundaries

2.2.1 Spatial Boundaries

The spatial boundaries will represent the areal extent in which the Project's environmental effects may occur. The extents of these boundaries will be specific to each valued ecosystem component (VEC) that is included in the EIS. As such, the spatial boundaries, as they are applied to each VEC, are defined in Sections 4.2 to 4.9.

The spatial boundaries used for the EA include the following:

- **Project Development Area (PDA):** the area comprising the Project footprint, which is the anticipated maximum area of physical disturbance associated with the construction and operation phases of the Project. The PDA includes the temporary (i.e., during construction) and permanent areas of physical disturbance.
- **Local Assessment Area (LAA):** encompasses the area in which the Project-related environmental effects can be predicted or measured with a level of confidence that allows for assessment, and in which there is a reasonable expectation that those potential effects in the LAA will be a concern. The LAA encompasses the PDA, and the extent is variable, dependent on the specific VEC with which the LAA is associated.
- **Regional Assessment Area (RAA):** the area within which potential cumulative effects – the residual effects from the Project in combination with those of past, present and reasonably foreseeable projects – are assessed. The extent of the RAA encompasses both the PDA and LAA.

2.2.2 Temporal Boundaries

Temporal boundaries identify when an environmental effect will be evaluated, relative to specific Project phases and activities. The temporal boundaries are based on the timing and duration of these Project phases and activities, as well as the nature of their interactions with each VEC. The temporal boundaries include Project construction, operation, and decommissioning, which will be defined in the EIS.

2.3 Project Alternatives

A description of the Project alternatives that were considered during the Project planning phase will be provided in the EIS. This section will include a brief description of the alternatives, identify the key issues in considering and evaluating these alternatives, provide an analysis of the technically and economically feasible alternatives, and the justification for the selection of the preferred Project alternative. It will also outline the revisions to the Project layout following ENV's review of the Application for Ministerial Determination.

2.4 Ancillary Projects

A description of the ancillary projects that will be associated with the Project will be provided in the EIS. This will include the timeline and location (if known) of each ancillary project, as well as any major social, economic, and environmental implications that may result from these ancillary projects as permitted, given the availability of information.

2.5 Regulatory Requirements

As described in Section 1, following their review of BluEarth's Application for Ministerial Determination, the ENV issued a Ministerial Determination to BluEarth, in which the Project was deemed a "development" as per the criteria under Section 2(d) of The Environmental Assessment Act, 1980. As such, the Project will be required to undergo an EA and an EIS will be submitted for regulatory and public review, upon which a Ministerial Decision will be issued for the Project. The Project is not anticipated to require federal review or approval, as it is not identified as a "designated project" per the Physical Activities Regulations under the Impact Assessment Act, (Government of Canada 2019a).

A description of the regulatory framework for the Project will be provided in the EIS, which will include a list of the required approvals, permits, licenses, and letters of approval that will regulate all phases of the Project should the Ministerial Decision provide approval for the Project to proceed.

3 Indigenous, Public and Regulatory Engagement

The EIS will provide an up to date summary of the engagement undertaken by BluEarth with First Nations and Métis communities, interested parties, and regulators. This summary will include any issues, concerns, and questions raised, and how these were addressed through Project planning and design.

3.1 Overall Objectives

The objectives of the engagement program are to:

- Present information about wind energy projects, their construction, operation, and potential effects to the human and natural environments;
- Present the specific Project design, location, schedule, the field studies that have been completed, and the regulatory process requirements;
- Obtain local knowledge, ideas, concerns, and information about the Project area to facilitate the Project planning process;
- Inform Indigenous communities, stakeholders, and the general public about how their input and concerns are considered in the Project planning process; and
- Discuss any changes implemented or planned in the Project design or development process.

Engagement activities consisted of public open houses, direct stakeholder engagement, and distribution of information about the Project. Information collected by BluEarth throughout the engagement program will be considered during the preparation of the EIS.

3.2 Indigenous Engagement

Engagement with Indigenous communities has been, and will continue to be undertaken as part of the EA for the Project. The Indigenous engagement program will continue to be conducted in accordance with Proponents Guide – Consultation with First Nations and Métis in Saskatchewan Environmental Impact Assessment (ENV 2014b) and in alignment with the following objectives:

- To inform Indigenous communities of the nature of the Project and the potential environmental and socio-economic effects associated with all phases of the Project;
- To help BluEarth identify the current uses of land and resources by Indigenous Peoples for traditional purposes that may be affected by the Project;
- To identify and present any potential adverse effects of the Project on Indigenous Peoples' abilities to exercise their rights for traditional land and resource use;

- To provide opportunities for Indigenous communities to voice concerns and ask questions about the Project;
- To provide feedback describing how the EIS addresses any raised concerns;
- To apply the benefits of first-hand knowledge received during the Indigenous engagement program to all phases of the Project; and
- To consider relevant first-hand knowledge when developing the scope of the EA.

3.2.1 Identification of Potentially Affected Indigenous Communities

A contact list of potentially affected Indigenous communities was compiled based on geographic proximity to the Project. The following communities were identified:

- Wood Mountain First Nation; and
- Willow Bunch Métis Local 139.

BluEarth recognizes that additional Indigenous communities may be identified through the engagement process. As such, this list will be updated as appropriate in the EIS, and included in future engagement efforts.

3.2.2 Approach to Indigenous Engagement

During the TPP preparation, Project information packages were mailed to Wood Mountain First Nation and Willow Bunch Métis Local. Information provided included a description of the Project, Project layout and studies completed.

A follow-up phone discussion regarding the Project was held with Willow Bunch Métis Local in December 2017. The discussion involved questions about the Project location, including siting of the operations and maintenance building, and benefits to the local economy.

Indigenous community engagement will continue throughout the EA process. All Indigenous communities that are identified as being potentially affected by the Project will continue to receive invitations to public open houses. If requested, additional engagement activities with leaders and members of the individual Indigenous communities may be conducted.

3.3 Public and Regulatory Engagement

3.3.1 Stakeholder Identification

A contact list of potentially interested individuals and organizations was generated based on the following parameters:

- All Rural Municipalities (RMs) within 20 km of the Project;

- Individual landowners, residents, and business owners within 2 km of the Project;
- All municipalities within 20 km of the Project;
- Relevant Non-governmental Organizations (NGOs) with a provincial mandate; and
- Local residents and landowners within the Project area; and
- Government ministries and organizations.

BluEarth recognizes that, through the community engagement process, additional interested individuals and organizations will be identified and therefore the list of interested stakeholders will be updated on an on-going basis and included in future consultation efforts.

3.3.2 Engagement Methods

BluEarth has used a range of engagement tools throughout Project development to make information accessible and provide opportunities for participation and feedback by interested parties. These tools are described in more detail in the sections below.

3.3.2.1 In-Person Meetings and Phone Calls

BluEarth met with and/or made direct calls to landowners, municipal leadership and government ministries and organizations throughout the Project development and during the preparation of the TPP. The objective of these meetings was to supplement information provided by other means, and allow BluEarth to focus attention on specific comments and questions of a particular stakeholder or group.

Regulatory engagement activities have included three meetings with the ENV–EASB prior to BluEarth’s submission of the Application for Ministerial Determination, and two meetings following the ENV’s review and subsequent issuance of the Ministerial Determination to BluEarth. All meetings were held at the ENV office in Regina, Saskatchewan.

A summary of the meetings with held with ENV to date, including the dates, objectives, and key points of discussion is provided in Table 3-1.

Table 3-1 Summary of Regulatory Engagement Meetings

Date	Meeting Objectives	Key Discussion Points
June 27, 2016	<ul style="list-style-type: none"> ● Introduction of Project and Project Location ● Identify the completed and proposed biophysical field surveys to assess environmental constraints in the Project area. 	<ul style="list-style-type: none"> ● Discussed the field survey design and target locations identified for surveys. It was stated that target locations for surveys followed the ENV protocols and focused on areas of suitable habitat. The ENV agreed with the surveys listed for completion of the Project assessment. ● The ENV requested that vegetation surveys also be completed to characterize the vegetation community of the Project area. A vegetation community survey was included as part of the field studies plan. There was also discussion of a snake hibernacula survey, as there are historical detections of snakes in the area (e.g., eastern yellow-bellied racer, smooth greensnake, and bullsnake). Snake hibernacula surveys were planned to be conducted as pre-construction surveys when a confirmed Project infrastructure layout could focus the areas to survey.
March 30, 2017	<ul style="list-style-type: none"> ● Discuss the results of 2016 surveys and planned 2017 surveys ● Re-engage ENV on the anticipated plan to develop the Project ● Discuss the implications of the draft 2017 ENV Wildlife Siting Guidelines for Wind Energy Projects 	<ul style="list-style-type: none"> ● Provided a review of the surveys completed in 2016, surveys planned for 2017, and pre-construction surveys planned to be completed following submission of the TPP. The ENV requested that amphibian surveys be completed to provide a complete assessment of potential constraints prior to submitting the TPP. ● Concerns were raised about the extent of native grassland in the Project area; ENV encouraged BluEarth to consider this land cover carefully when siting turbines and other infrastructure. As a result, no turbines or turbine temporary workspaces have been sited on native grassland. ● ENV inquired about the potential heritage sensitivity of the area; Stantec indicated that an initial screening was completed for the preliminary Project target lands. Once the layout was received, an HCB referral would be completed to determine the requirement to complete a Heritage Impact Risk Assessment (HRIA).

Date	Meeting Objectives	Key Discussion Points
January 18, 2018	<ul style="list-style-type: none"> • Discuss the surveys completed to date, including survey locations and results, regional context plans for a 2018 regulatory submission 	<ul style="list-style-type: none"> • ENV expressed satisfaction with the suite of surveys completed for the Project. BluEarth provided an update on engagement activities including stakeholder feedback to date. • ENV confirmed that the Adaptive Management Plan Guidelines would be finalized soon.
December 17, 2018	<ul style="list-style-type: none"> • Discussion and clarification regarding ENV's concerns following issuance of Ministerial Determination • Describe integration of ENV's feedback and discuss mitigation options • Discuss the approach to the TOR to address the ENV's concerns, using key principles to guide future data collection and analysis 	<ul style="list-style-type: none"> • Discussed the content included in the Reasons for Determination document, and the ENV's comments therein. The Project team provided additional information and proposed mitigation measures that would be incorporated into the EIS. • Discussed themes to guide revisions to the Project layout, including reviewing turbine locations with reference to coulees and slope breaks, reviewing the Project location with reference to direct and indirect effects to native grassland, and micrositing Project components with respect to wetlands. • Discussed the approach to the TOR, which would be focused on the effects pathways that concerned the ENV, including effects to native grassland, plant species of management concern (SOMC), and interactions with wildlife, as well as those required for re-evaluation following changes to the Project layout, including changes in ambient noise (i.e., acoustic environment), and cumulative effects. Other effects pathways will not require further analyses.
April 25, 2019	<ul style="list-style-type: none"> • Describe the integration of ENV's feedback • Review Project layout revisions • Use feedback from the meeting to inform development of the TOR • Discuss the next steps including field surveys, the approach to the TOR to address ENV's concerns, and a timeline to finalize the TOR 	<ul style="list-style-type: none"> • Provided an overview of the constraints to the Project design, which included the wind resource, wake effects, results of the noise assessment, landowner requirements, constructability, the Project generating capacity, the Project economics. • Discussed the siting considerations to optimize the Project layout, and an overview of the key changes made to date, with examples • Reviewed the Ministerial Determination triggers, and the additional information that will be included in the EIS to address the triggers. • Discussed the approach to proceeding with the TOR

3.3.2.2 Open Houses

Two open houses were held in the Community of Big Beaver, Saskatchewan to provide Project information to potentially interested members of the public, Indigenous communities, government and regulatory agencies and non-government organizations. The first open house was held on June 7, 2016 and the second was held on June 8, 2017. Representatives from BluEarth and Stantec Consulting Ltd. (Stantec) were on hand to answer questions, address concerns and discuss various aspects of the Project.

The open houses were advertised in the local newspapers, the South Central Star and Coronach Triangle, two weeks prior to each open house. Invitations were also mailed directly to landowners in and within 2 km of the Project area.

The open houses provided opportunities for the public to learn about the Project including project planning and development activities, ask questions or express concerns about the Project and meet the BluEarth project team. Feedback mechanisms such as comment forms were used to receive feedback and provide opportunity for follow up. Attendance sign-in sheets were used to track the level of attendance at each open house.

An additional open house was held November 26, 2019, to present the EA process and proposed changes to the project layout.

Comments made at the public open houses as well as BluEarth's responses to the comments are summarized in Table 3-2.

Table 3-2 Summary of Public Open House Comments and BluEarth Responses or Commitments

Concern/Comment	Summary of Discussion	Commitments/Explanations to Address Concerns	Outstanding Concerns and Actions
Health Effects	Concern related to the potential health effects to cattle.	Provided feedback regarding experiences with cattle at other projects and the absence of concerns from cattle ranches with wind turbines on their properties.	Committed to follow-up with additional health information and material
Land Agreements	Interest in landowner compensation and possibility of including his property in the Project.	Explained the current proposed Project layout does not require additional land. Explained at a high-level how agreements are structured but that we could not disclose specific terms and compensations as they are confidential.	No further concerns or follow-up actions
Visual Impact	Concerns related to visual impact. Landowner explained that the valley is beautiful, and they wish the turbines weren't going to disturb the natural beauty. However, the landowner believes progress is good and understands why the project is moving forward.	Discussed that visual simulations were done to show the change in the landscape caused by the project.	No further concerns or follow-up actions
Impacts to Groundwater and Soil Compaction	Concern over vibrations from the turbines causing soil compaction and impacting groundwater movement and availability in the area.	Provided documentation and research that discussed these concerns related to another wind project in Alberta. Studies demonstrate that wind projects are extremely unlikely to cause compaction resulting in issues with aquifers and groundwater.	No further concerns or follow-up actions
Substation Location	Concern related to the proximity of one of the proposed substation locations and its proximity to a residence. Landowner would prefer that an alternate substation location is chosen.	Feedback was considered and that potential location was removed from consideration. This decision was communicated to the landowner.	No further concerns or follow-up actions

Concern/Comment	Summary of Discussion	Commitments/Explanations to Address Concerns	Outstanding Concerns and Actions
Wind Technician Jobs	Discussion on how many permanent job opportunities would be available and what would the salary ranges be for the roles.	Provided the salary ranges for a wind technician and the number of positions that would be anticipated for the project.	No further concerns or follow-up actions
Investment Opportunity	Inquiry on how one could invest in the project.	Provided feedback that the company is not publicly traded and that investment opportunities are not available.	No further concerns or follow-up actions
Impact to local tourism industry	Discussion on how the project may impact the tourism in the area.	Arranged a follow-up meeting with tourism operator to discuss the project, review the proposed layout, review the tour route and discuss incorporating the wind project into their tour if it proceeds. Agreed to provide project information to the tour operator that they can use to incorporate the wind project into their tour if the proceeds.	No further concerns or follow-up actions
Community Benefits	Discussion of what local benefits the project would bring to the area.	Arranged presentations with both RM Councils to discuss the project benefits and explain the number of permanent jobs, construction jobs and local spending and long-term property tax expected for the municipalities. Communicated the benefits at the most recent public open house.	No further concerns or follow-up actions

3.3.3 Information Materials and Sources

Project information was made available to attendees at the open houses, which included poster boards, anticipated milestone dates, a frequently asked questions document, and visual simulations.

Additionally, Project information was made available online through a website that was developed for the Project (www.blueearthrenewables.com/portfolio/outlawtrail/). The Project website provides a widely accessible venue for interested parties to obtain Project information, including a Project summary, preliminary layout figures, information about the open houses, Project contact information, and links to additional information. BluEarth has an email address (projects@blueearth.ca) and phone number (1-844-214-2578) to receive comments, collect feedback and answer questions related to the Project.

Project information packages were mailed to all landowners within 2 km of the Project area in May 2017. Information provided included an overview of the Project and a development schedule. Additional information will be mailed to landowners upon progression of the Project, as necessary.

3.3.4 Tracking and Documentation

Throughout the engagement process, contact information of interested parties has been maintained in a database that is updated as required. Issues, concerns, comments and questions have been, and will continue to be, logged in an engagement database for further consideration and/or action, where appropriate. A detailed description of the engagement program since its onset will be provided in the EIS. This will include any documented concerns or issues raised by the Indigenous community, general public, regulatory agencies, NGOs, or other interested parties, and the measures taken to address those concerns or issues. Attendance at future open houses or engagement events for the Project will also be recorded and documented in the EIS.

4 Environmental Assessment

4.1 Overview of Assessment Approach

This section provides an overview of the methods that will comprise the EA process included in the preparation of the EIS. The EA will follow a structured approach that is consistent with the provincial requirements, as described by ENV in Guidelines for the Preparation of the Terms of Reference (ENV 2014a). The objectives of the EA approach are to:

- Focus on the key issues, as determined through regulatory engagement;
- Consider the concerns and feedback from the public, Indigenous communities, stakeholders, and other interested parties; and
- Incorporate mitigation strategies and engineering design in the preparation of comprehensive environmental management plans for all phases of the Project.

The focus of the EA will be to identify and assess the potential effects of the Project on a selection of biophysical or socio-economical attributes of the environment, referred to as VECs in the EIS, which hold important value from a scientific, cultural, legal, economic or aesthetic perspective.

A standardized method will be used in the EA to evaluate both the Project-specific and cumulative environmental effects on each VEC included in the EIS, which will incorporate standard tables and terminology into the evaluation. Mitigation measures will be applied to the Project-related environmental effects to reduce or avoid the potential effects on the VECs. Where residual Project-related environmental effects remain following application of mitigation measures, they will be characterized using a set of criteria (e.g., direction, magnitude, geographic extent, duration, frequency, and reversibility), specific to each VEC. Following characterization, the significance of the Project-specific environmental effects will be determined, based on a set of pre-determined criteria specific to each VEC.

The residual Project-specific environmental effects will be compared to the environmental effects of other projects or developments from the past, present, or reasonably foreseeable future to determine if a spatial or temporal overlap exists between the effects. Where cumulative environmental effects are identified, the EIS will evaluate these effects to determine their significance and consider the Project's contribution to them.

4.1.1 Scoping of the Assessment

Scoping of the assessment is the initial step in the EA process. It will take into account inputs received from various sources through engagement, including guidance provided by regulatory agencies; information and feedback received from the public, Indigenous communities, and local stakeholders; and the expertise and professional judgement of the Project team.

These TOR have taken these inputs into consideration in establishing the EA approach, as well as the information that will be addressed in the EIS, which includes the following:

- Selection of appropriate VECs, including rationale for their selection and the exclusion of others;
- Incorporation of feedback received during engagement and consultation in scoping the assessment;
- Identification of the environmental effects to be assessed for each VEC;
- Selection and definition of measurement parameters used to quantitatively or qualitatively evaluate the potential Project-specific environmental effects and cumulative environmental effects, which will in turn be used to characterize these effects and determine their significance;
- Description of the spatial, temporal, administrative, and technical boundaries for each VEC; and,
- Description of the criteria used to determine the significance of environmental effects.

4.1.2 Existing Conditions

Following the scoping of the assessment, the existing environmental conditions will be established for each of the selected VECs. The description of the existing environmental conditions will focus on the VECs, and will provide sufficient detail and breadth to support a thorough assessment of the potential environmental effects of the Project.

Information on the existing environmental conditions was obtained from available sources (including scientific literature and online databases), field reconnaissance, biophysical field studies, and data analyses. This information was compiled to support the preparation of the TPP for the Project (Stantec 2018), which was previously submitted to the ENV for Ministerial Determination. As such, the information included in the TPP will be incorporated with information obtained from subsequent field studies and review of new information to support this EA. Additionally, information on the existing conditions of the biophysical and socio-economic environments will be provided at a high-level in the EIS, to provide a landscape perspective of the setting in which the Project is located, and to facilitate a broad understanding of the receiving environment. The description will be of sufficient detail to allow an understanding of how the Project could affect current conditions of the environment. The baseline data provided in the EIS will allow for a discernment of trends and changing conditions in the environment, as appropriate. Baseline information will be limited to that which is necessary to appropriately assess the environmental effects of the Project, and to develop recommendations and strategies for mitigation, monitoring, and follow-up to address these environmental effects.

4.1.3 Assessment

The EIS will provide an assessment of potential environmental effects that are specific to the Project, as well as any potential cumulative environmental effects, taking into consideration other projects or activities (previously existing, existing, or proposed) in the region. A determination of significance will then be made, based on a set of pre-determined significance criteria, and specific monitoring measures will be proposed to evaluate the accuracy of the EA. These EA methods are outlined below, and will be described in detail in the EIS.

4.1.3.1 Assessment of Project-Specific Environmental Effects

Potential environmental effects of the Project will be identified and assessed with respect to each VEC. This process will begin by identifying potential effect pathways by which the Project could interact with the VECs. Where a complete effect pathway is identified, the Project activities that could interact with the VEC and result in an environmental effect will be assigned a check mark in a matrix table. These interactions between the Project activities and the VEC will be discussed in detail in subsequent sections of the EIS, with regard to effects pathways, application of standard and Project-specific mitigation measures or management strategies, and any resulting predicted residual effects. Where no residual effect is predicted, a justification will be provided following the table.

4.1.3.2 Assessment of Cumulative Environmental Effects

The EIS will identify and assess cumulative environmental effects of the Project for all phases, and will take into account other past, present or reasonably foreseeable future projects or developments in the RAA. Where a spatial or temporal overlap exists between Project-specific residual environmental effects and the residual environmental effects of other extant or proposed projects in the RAA, an assessment of potential interactions will be completed to determine if an assessment of cumulative environmental effects is required (i.e., there is potential for measurable interaction between the effects). The resulting residual cumulative environmental effects of the Project combined with other extant or proposed projects or developments will then be evaluated, including the Project's contribution to those cumulative environmental effects. The evaluation will also consider any mitigation measures or management plans that may be applied to the Project, or implemented on others.

4.1.3.3 Determination of Significance

Once the predicted Project-specific and cumulative residual environmental effects are identified, the significance of each will be determined using significance criteria specific to each VEC, which are discussed in Sections 4.2 to 4.9.

4.1.3.4 Monitoring

The EIS will describe the monitoring programs that will be required to verify the accuracy of the EA's predicted environmental effects or determination of significance, evaluate the effectiveness of proposed mitigation measures, and ensure compliance with regulatory requirements. The monitoring commitments will be included in the commitments register, which is described in Section 6.1. This will

include a monitoring program that is compliant with the Adaptive Management Guidelines for Saskatchewan Wind Energy Projects (ENV 2018).

4.1.4 Selection of Valued Ecosystem Components

The EA will focus on a selection of VECs, which are identified as the biophysical or socio-economical attributes of the environment that hold important value from a scientific, cultural, legal, economic or aesthetic perspective. Further, the selected VECs have the potential to be affected by the Project and/or cumulative effects in combination with other past, present, or reasonably foreseeable future projects or developments in the region.

The following factors influence the selection of the VECs to be incorporated into the EIS:

- Consultation with ENV following their review of the previously submitted Application for Ministerial Determination, and the subsequent Ministerial Determination and Reasons for Determination issuances by ENV, in which their primary concerns regarding the potential environmental effects of the Project were identified;
- Concerns and feedback provided by the public, Indigenous communities, stakeholders, NGOs and other interested parties during previous and upcoming events organized as part of the engagement plan;
- Acknowledgement by ENV during follow-up meetings after their review of the previously submitted Application for Ministerial Determination, that the potential effects of the Project on several ecological components were sufficiently evaluated in the TPP (Stantec 2018), and will not require further elaboration in the EIS;
- The Project team's understanding of the existing environmental conditions within the Project's areas of assessment, and the potential interactions between the Project and the environment; and
- The Project team's understanding of best management practices, and experience in the design and implementation of effective mitigation measures on projects of similar scale and in a similar environment.

The Guidelines for the Preparation of the Terms of Reference (ENV 2014a) include a list of suggested VECs that may be included in the preparation of an EIS. In consideration of these, as well as the influencing factors listed above, the EIS will focus and elaborate on the following seven VECs:

- Acoustic Environment
- Terrain and Soil
- Vegetation and Wetlands
- Wildlife and Wildlife Habitat
- Heritage Resources
- Employment and Economy

- Community Services and Infrastructure

During the process of selecting VECs to be included in the EIS, several other potential VECs were considered for further analyses, but it was determined that the potential environmental effects on these components would be low or negligible and could be addressed using industry best management practices and standard mitigation measures, they would be addressed through the consideration of particular interactions with another VEC, or they were sufficiently assessed to the satisfaction of ENV in the TPP (Stantec 2018). The potential VECs that will not be included in the EIS, and the rationale for this determination, are listed in Table 4-1.

Table 4-1 Screening Rationale for Ecological Components Excluded from Further Analysis in the EIS

Ecological Component	Rationale for Exclusion
Air Quality	The implementation of industry best management practices and standard mitigation measures during construction will reduce the degree to which air quality is affected by the Project. There are also no reported effects of operating wind turbines on air quality. Therefore, a change in air quality is expected to be negligible and Air Quality is not considered a VEC for this Project.
Geology	Foundations for each WTG are not expected to adversely affect the geology within the PDA. The foundation design (i.e., dimensions, depth and type) will be based on a geotechnical evaluation of the site and construction of a foundation will incorporate industry best practices and standard mitigation measures. Therefore, Geology will not be included as a VEC for the EIS.
Groundwater	Through the implementation of industry best management practices and standard mitigation measures during construction, groundwater quality and quantity are not expected to be adversely affected by excavation and dewatering (if necessary). Groundwater flows and recharge are not expected to be altered because disturbance related to foundation construction will be highly localized and shallow, and a very small proportion of the PDA will be developed as impervious surfaces. Groundwater as it relates to wetlands is included in the Vegetation and Wetlands VEC. Therefore, Groundwater is not considered a VEC for this Project.
Surface Hydrology	It is not anticipated that the Project will directly affect surface hydrology (i.e., surface water quality or quantity), as no permanent lakes or streams are located in the PDA. Existing drainage patterns in the landscape will be maintained with the use of appropriate mitigation measures during construction (e.g., culverts), and standard well-established mitigation measures such as erosion control measures will be implemented; therefore, the Project is not expected to cause a change in drainage patterns and drainage areas in the Project and surrounding areas. Surface water as it relates to wetland habitat is considered in the Vegetation and Wetlands component. Therefore, Surface Hydrology will not be included as a VEC for the EIS.
Fish and Fish Habitat	No fish bearing waterbodies are encountered by the PDA or within 1 km of the PDA. As such Fish and Fish Habitat will not be included as VECs for the EIS.

Ecological Component	Rationale for Exclusion
Human Health and Safety	Safety of the public and that of Project personnel are very important concerns to the Project. BluEarth and its contractors will implement industry best management practices and compliance with Occupational Health and Safety Guidelines through all phases of the Project. A comprehensive Emergency Response Plan will also be prepared prior to construction and operation of the Project. In addition, Human Health and Safety will be considered in the Acoustic Environment VEC. Therefore, Human Health and Safety will not be included as a VEC.
Land and Resource Use	Land and Resources Use was included under Human Environment as an environmental component with the potential to be affected by the Project in the TPP (Stantec 2018). The potential effect pathways included removal of lands within the PDA from current land use objectives, and changes to land and resource use capabilities during construction, operation and maintenance, and decommissioning of the Project. Following an assessment of the potential effects and proposed mitigation strategies, the predicted residual effects were determined to have a negligible effect to the current land use within the LAA. Further, following decommissioning of the Project, all facility components would be removed and the Project lands would be reclaimed to a suitable condition to allow pre-construction land use objectives to resume, or meet other land use objectives in consultation with the landowners and regulatory agencies at that time. Therefore, Land and Resource Use will not be included as a VEC in the EIS.

The following sections provide a description of each of the selected VECs, the VEC-specific spatial boundaries, proposed criteria for the evaluation of the significance of residual environmental effects, an outline of the baseline information that will be collected, as well as the methods used to collect the information, to characterize the existing conditions in the context of each VEC, and the approach to the environmental effects assessment.

4.2 Acoustic Environment

The Acoustic Environment refers to the type and intensity of sound that can be detected by one or more receptors. For the purpose of the EIS, the Acoustic Environment VEC pertains to sounds perceived by human receptors. Sounds perceived by wildlife will be assessed in the Wildlife and Wildlife Habitat VEC, specifically under sensory disturbance.

The Acoustic Environment is included as a VEC in the EIS, as there is potential for the Project to adversely affect the existing acoustic environment during the construction, operation, and decommissioning phases of the Project. Specifically, noise generated by the Project may result in unwanted sounds perceived by homeowners in the vicinity of the Project.

A Noise Impact Assessment (NIA) was completed for the Project in 2018 and included as an attachment to the TPP (Stantec 2018); however, due to revisions to the Project layout and WTG design considerations, the Acoustic Environment will be assessed as a VEC in the EIS using the revised layout.

4.2.1 Spatial Boundaries

The spatial boundaries used to assess effects of the Project on the Acoustic Environment VEC include:

- PDA: As defined in Section 2.2.1.
- LAA: The LAA is defined as the PDA and an area extending 1.5 km beyond the PDA boundary, based on the criteria outlined in AUC Rule 012.
- RAA: The RAA is also defined at 1.5 km beyond the PDA for assessment of cumulative noise effects of the Project and other energy generating facilities, as per the guidance in AUC Rule 012.

4.2.2 Significance Criteria

Currently, the Government of Saskatchewan does not have any standards or guidelines specific to the Acoustic Environment. As such, the EIS will follow the specific guidelines for wind energy projects set forth by the Alberta Utilities Commission (AUC) under Rule 012: Noise Control (AUC 2019). These comprehensive guidelines will be used to determine the thresholds for significant adverse effects to the Acoustic Environment within the spatial boundaries specific to this VEC, and will apply permissible sound levels within the guidance.

4.2.3 Existing Conditions

The EIS will quantify the existing conditions of the Acoustic Environment by the ambient sound level (ASL) at predetermined receptor locations within the LAA.

As defined in the AUC Rule 012 (AUC 2019), noise-sensitive receptors include any permanent or seasonally occupied dwelling within 1.5 km of a facility. Therefore the dwellings located within or in proximity to the LAA will be used as receptors in the NIA. The effects of the Project noise were predicted at these receptors. The 2018 NIA identified thirteen receptors within the LAA, and sixteen potential third-party sources of noise emissions within the LAA; however, all of which were identified as abandoned well sites. A field reconnaissance verified that no noise sources were present on these sites. No active commercial facilities were identified in the LAA.

The existing Acoustic Environment is consistent with a typical prairie landscape, with sources of periodic or irregular noise including the following:

- Residential activities;
- Residential and commercial vehicle traffic;
- Agricultural activities;
- Aircraft flyover; and

- The natural environment (i.e., wind, rain, birds, and insects).

4.2.4 Environmental Effects Analyses

The EA will evaluate the Project's predicted effects, based on the revised layout, on the Acoustic Environment based on the requirements outlined in the AUC Rule 012 (AUC 2019). The effects assessment will evaluate all sources of noise emissions during Project operation (i.e., operation of the wind turbines and substation), based on information provided by the turbine manufacturers and using a worst-case scenario of the turbine models being considered for the Project. The predicted effects of the Project on the Acoustic Environment in the LAA will be determined using modelling software. The noise effects during the construction, maintenance, and decommissioning phases of the Project are anticipated to be temporary and localized in nature, and as such will be qualitatively assessed in the EIS.

The existing conditions, modelling results, and proposed mitigation measures will be used to determine the significance of the Project-specific and cumulative residual effects on the Acoustic Environment, based on the significance criteria outlined in Section 4.2.2.

4.3 Terrain and Soil

The Terrain and Soil VEC is defined as the topography and soil characteristics that exist within the spatial boundaries of the Project (described in Section 4.3.1).

Terrain and Soils are included as a VEC in the EIS because there is the potential for the Project to affect the terrain and soil during the construction, operation, and decommissioning phases of the Project. Specifically, the potential effects are associated with changes in terrain stability, wind and water erosion potential, soil quality, soil quantity, and agricultural capability of the soils within the assessed spatial boundaries.

4.3.1 Spatial Boundaries

- PDA: As defined in Section 2.2.1.
- LAA: The LAA is defined as the extents of the PDA. This area accounts for the maximum area of physical disturbance associated with the construction and operation phases of the Project, including temporary (i.e., during construction) and permanent areas of physical disturbance. The potential effects of the Project on Terrain and Soils are anticipated to be limited to the extents of physical disturbance, which will be contained within the boundaries of the PDA. Therefore, the extents of the LAA will allow for an effective assessment of the potential effects of the Project on Terrain and Soils.
- RAA: The RAA is also defined as the extents of the PDA. Any potential residual effects of the Project on Terrain and Soils that may be included in a cumulative assessment will be limited to the extents of physical disturbance, which will be contained within the boundaries of the PDA.

4.3.2 Significance Criteria

The significance of Project effects on Terrain and Soils will be determined using a set of appropriate qualitative and quantitative approaches that are based on the judgement of qualified professionals, previous experience assessing the effects of wind energy projects on Terrain and Soils, and knowledge of the existing conditions of the landscape in which the Project is located.

As such, the criteria used to determine the significance of Project effects on Terrain and Soil include:

- Effects that pose a risk to the long-term stability or integrity of landforms, where appropriate mitigation measures are not available;
- Effects that pose a risk to the quality or agricultural capability of soils to support the continued production of agronomic crops, and
- Effects that will result in the permanent loss of soil volumes, where appropriate mitigation measures are not available.

4.3.3 Existing Conditions

A description of the existing conditions of Terrain and Soil within the LAA will be included in the EIS. This will include the characteristics of landforms and topography, as well as the qualities and distribution of mapped soil units encountered by the LAA. A description of each soil unit identified within the LAA will be provided in the EIS, including dominant texture, agricultural capability, soil salinity, surficial stoniness, and the potential risk for wind and water erosion.

The description of existing conditions will incorporate Terrain and Soil data that were previously collected, analyzed, and presented in the TPP for the Project (Stantec 2018), as well as data collected on the revised Project layout through completion of a desktop review of available databases, aerial photography, and literature sources related to the Project.

4.3.4 Environmental Effects Analyses

An evaluation the Project's predicted effects on Terrain and Soil will be included in the EIS by focusing on the following effects pathways:

- Changes in terrain integrity; and
- Changes in soil quality and quantity.

Analyses will consider the effects specific to the Project, including the placement of permanent Project infrastructure (i.e., WTGs, MET towers, permanent access roads, electrical collector lines and the substation), activities associated with construction (i.e., vehicle and equipment traffic volumes and routes, use of temporary equipment laydown yards), and activities during Project operation (i.e., access road and facility maintenance). Indirect effects will be considered in the analyses, including changes to the agricultural productivity of the lands on which the Project is located, and changes to surficial drainage patterns. Cumulative effects will be assessed within the RAA by examining the interaction of

residual effects of the Project with those effects of other past, present and reasonably foreseeable future project effects.

These effect analyses will be used to determine the likelihood that the Project will have a significant adverse residual effect on Terrain and Soil, based on the criteria included in Section 4.3.2. The determination of significance will also consider mitigation measures proposed to reduce or avoid effects of the Project on Terrain and Soil (e.g., siting of Project components to avoid steep, unstable landforms or erosion sensitive soils, implementing an Environmental Protection Plan (EPP), compensation for effects, and managing for erosion and sediment transfer through all phases of the Project).

4.4 Vegetation and Wetlands

The Vegetation and Wetlands VEC is defined as the land cover types within the spatial boundaries of the Project (described in Section 4.4.1), and plant SOMC. Plant SOMC will be defined as plants meeting the following criteria:

- Listed under Schedule 1, Schedule 2, or Schedule 3 of the federal SARA as endangered, threatened or special concern (Government of Canada 2002);
- Listed in The Wildlife Act of Saskatchewan as endangered, threatened or vulnerable (Government of Saskatchewan 1998);
- Listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as endangered, threatened or special concern (Government of Canada 2019b) but not yet listed under SARA;
- Assigned a ranking of S1, S2, or S3 (or a combination of these rankings) by the Saskatchewan Conservation Data Center (SKCDC) (SKCDC 2017a, 2017b); or,
- Included in the Saskatchewan Activity Restriction Guidelines for Sensitive Species (SK MOE 2017)

Vegetation and Wetlands are included as a VEC in the EIS because of the potential for the Project to result in changes to natural land cover types (i.e., native vegetation communities and wetlands), biodiversity of vegetation communities (i.e., loss of plant SOMC and introduction of non-native invasive species), and wetland function in the vicinity of the Project. Native vegetation communities and wetlands serve an important role in the function of a natural ecosystem, in that they support species biodiversity, provide necessary habitat for wildlife (see Section 4.5), and support human land and resource use for recreational activities. Plant SOMC, as well as select non-native invasive plant species, are protected or managed under several pieces of federal and provincial legislation.

Following their review of the Application for Ministerial Determination, in which the Project was deemed a “development” under section 2(d) of The Environmental Assessment Act (1980), the ENV identified the potential adverse effects of the Project on native vegetation communities as a specific concern. BluEarth has since consulted with ENV and revised the Project layout with the objective of reducing or avoiding adverse environmental effects on vegetation and wetlands. Therefore, the Vegetation and Wetlands VEC will be an area of specific focus in the EIS.

4.4.1 Spatial Boundaries

The spatial boundaries used to assess effects of the Project on the Wildlife and Wildlife Habitat VEC include:

- PDA: As defined in Section 2.2.1.
- LAA: Encompasses the PDA and an area extending 300 m beyond the PDA boundary. This area accounts for the maximum setback distance from plant SOMC for high intensity construction projects, as outlined in the Saskatchewan *Activity Restriction* Guidelines for Sensitive Species (ENV 2017).
- RAA: Encompasses the PDA and an area extending 10 km beyond the PDA boundary. This area represents the extent in which the indirect or cumulative effects on Vegetation and Wetlands by the Project and other projects or developments in the region can be assessed.

4.4.2 Significance Criteria

No specific federal or provincial regulations define a set of criteria for determining the significance of environmental effects on Vegetation and Wetlands. As such, the criteria used to determine the significance of Project effects include:

- Effects that pose a risk to the long-term viability and persistence of native vegetation communities in the RAA, including those that are not consistent with federal recovery strategies or provincial conservation objectives where appropriate mitigation (including compensation) options are not available;
- Effects that pose a risk to the long-term viability and persistence of plant SOMC identified within the RAA, including those that are not consistent with federal recovery strategies or provincial conservation objectives; and
- Effects that will result in the permanent loss of wetlands, where appropriate mitigation or compensation options are not available.

4.4.3 Existing Conditions

The EIS will include a detailed characterization of the baseline Vegetation and Wetland resources within the PDA and LAA of the revised Project layout. These resources include native vegetation communities, plant SOMC, non-native invasive species, and wetlands. Within the RAA, vegetation communities and land cover will be based on available desktop information.

The description of existing conditions will incorporate Vegetation and Wetlands data that were previously collected, analyzed, and presented in the TPP for the Project (Stantec 2018), as well as data collected during subsequent rare plant surveys conducted in 2019. These data were obtained through completion of a desktop review of available databases, aerial photography, and literature sources related to the Project; and completion of field surveys in 2016 and 2017, which included vegetation community surveys and wetland classification surveys, using the Stewart and Kantrud (1971)

classification system. In 2019, following BluEarth's revisions to the Project layout, rare plant field surveys were conducted in natural land cover within the LAA. The field surveys were completed by qualified professionals in accordance with the appropriate published survey protocols.

Land cover composition within the PDA, LAA, and RAA will be determined using the data from the verified online resources and field surveys. Specifically, the EIS will focus on the abundance and distribution of native vegetation communities and wetlands within each assessment area, following the revisions to the Project layout.

The results of the desktop review and field surveys will also be used to characterize the quality of native vegetation communities (i.e., rangeland health assessment) within the PDA and LAA, based on the species composition and biodiversity. This will include the abundance and distribution of plant SOMC, and non-native invasive plant species within these spatial boundaries.

4.4.4 Environmental Effects Analyses

The EA will evaluate the Project's predicted effects on Vegetation and Wetlands by focusing on the following effects pathways:

- Changes in the spatial extent of native vegetation communities and wetlands;
- Changes in plant species diversity, including plant SOMC and non-native invasive plant species; and
- Changes in wetland function.

Analyses will consider Project-specific effects, including the placement of permanent Project infrastructure (i.e., WTGs, MET towers, permanent access roads, electrical collector lines and the substation), activities associated with construction (i.e., vehicle and equipment traffic, use of temporary equipment laydown yards), and activities during Project operation (i.e., access road and facility maintenance). Indirect effects will be considered in the analyses, including fragmentation of native vegetation communities and introduction of weed species. Cumulative effects will be assessed within the RAA by examining the interaction of residual effects of the Project with those effects of other past, present and reasonably foreseeable future project effects.

These effect analyses will be used to determine the likelihood that the Project will have a significant adverse residual effect on Vegetation and Wetlands, based on the criteria included in Section 4.4.2. The determination of significance will also consider mitigation measures proposed to reduce or avoid effects of the Project on Vegetation and Wetlands (e.g., siting of Project components, implementing an EPP, compensation for effects, and managing the introduction of non-native invasive plant species through all phases of the Project).

4.5 Wildlife and Wildlife Habitat

Wildlife and Wildlife Habitat are critical components of a functional natural ecosystem. Changes in wildlife species abundance or diversity, or losses of available wildlife habitat can result in alterations to the overall function of an ecosystem, which in turn can adversely affect the ability of humans to enjoy or benefit from these natural resources. As such, several pieces of federal and provincial legislation have been established to protect or manage specific wildlife SOMC and designated areas of wildlife habitat. Wildlife SOMC will be defined as species meeting one or more of the following criteria:

- Listed under Schedule 1 of the federal Species at Risk Act as endangered, threatened or special concern (Government of Canada 2002)
- Listed in The Wildlife Act of Saskatchewan as endangered, threatened or vulnerable (Government of Saskatchewan 1998)
- Listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as endangered, threatened or special concern (Government of Canada 2019b) but not yet listed under SARA
- Assigned a ranking of S1 or S2 (or a combination of these rankings) by the SKCDC (SKCDC 2018c, 2018d)
- Included in the Saskatchewan Activity Restriction Guidelines for Sensitive Species (SK MOE 2017)

Wildlife and Wildlife Habitat will be included as a VEC in the EIS because of the potential for the Project to result in direct changes to available wildlife habitat, changes in habitat suitability through sensory disturbance, and wildlife mortality risk within the spatial boundaries of the Project.

Following their review of the Application for Ministerial Determination, the ENV stated that the Project will likely result in direct and indirect effects on important wildlife habitat, due to its proximity to large, contiguous tracts of native prairie habitat designated under the Wildlife Habitat Protection Act (WHPA). Further, the ENV determined that the Project will likely result in direct and indirect effects on wildlife mortality, specifically in relation to wildlife SOMC and migratory bats. These concerns were primary factors in the ENV's determination that the Project be deemed a "development" under section 2(d) of The Environmental Assessment Act (1980). As described in Section 4.4, BluEarth continued discussions with the ENV regarding the key concerns about the Project, and the Project layout was subsequently revised with the objective of reducing or avoiding potential adverse effects on Wildlife and Wildlife Habitat. Therefore, the Wildlife and Wildlife Habitat VEC will be an area of specific focus in the EIS.

4.5.1 Spatial Boundaries

The spatial boundaries used to assess effects of the Project on the Wildlife and Wildlife Habitat VEC include:

- PDA: As defined in Section 2.2.1.

- LAA: Encompasses the PDA and an area extending 1 km beyond the PDA boundary. This area accounts for the maximum setback distance from wildlife SOMC potentially occurring in the region and sensitive wildlife features for high intensity construction projects, as outlined in the Saskatchewan *Activity Restriction Guidelines for Sensitive Species* (ENV 2017).
- RAA: Encompasses the PDA and an area extending 10 km beyond the PDA boundary. This area represents the extent in which the indirect or cumulative effects on Wildlife and Wildlife Habitat by the Project and other projects or developments in the region can be assessed.

4.5.2 Significance Criteria

The significance of Project effects on Wildlife and Wildlife Habitat will be determined using a set of appropriate qualitative and quantitative approaches that are based on the judgement of qualified professionals, previous experience assessing the effects of wind energy projects on Wildlife and Wildlife Habitat, and knowledge of the landscape in which the Project is located.

The criteria used to determine the significance of Project effects on Wildlife and Wildlife Habitat include:

- Effects that pose a risk to the long-term viability and persistence of protected or managed wildlife habitat in the RAA (i.e., WHPA designated lands, Important Bird Areas), including those that are not consistent with federal recovery strategies or provincial conservation objectives; and
- Effects that pose a risk to the long-term viability and persistence of wildlife SOMC in the RAA, including those that are not consistent with federal recovery strategies or provincial conservation objectives.

4.5.3 Existing Conditions

The EIS will include a detailed characterization of the existing conditions of Wildlife and Wildlife Habitat within the PDA and LAA of the revised Project layout. This will include information on the abundance, diversity, and distribution of wildlife species (including wildlife SOMC) wildlife habitat, and information on wildlife movement and use of the available habitat within the spatial boundaries of the Wildlife and Wildlife Habitat VEC. Wildlife and wildlife habitat within the RAA will be characterized based on detailed information within the LAA and available desktop resources available beyond the LAA. The focus of these studies is on SOMC or species groups (e.g., birds and bats) with the greatest potential for effects from the Project.

The description of existing conditions will incorporate Wildlife and Wildlife Habitat data that were previously collected, analyzed, and presented in the TPP for the Project (Stantec 2018). These data were obtained through completion of a desktop review of available databases, aerial photography, and literature sources related to the Project; and completion of wildlife field surveys in 2015, 2016 and 2017.

The desktop review of data sources provided information about potential and historical wildlife SOMC occurrences, sensitive features (e.g., perennial nests), and habitat types present within the LAA (based

on a predetermined set of land cover classes). Historical records, species ranges, life history requirements, and land cover available in the RAA were used to compile a list of potential SOMC that may interact with the Project. Wildlife habitat availability was evaluated based on the identified land cover classes.

The wildlife field surveys were completed to document wildlife occurrences (specifically wildlife SOMC) and obtain information on species occupancy in the various habitat types within the LAA. The wildlife field surveys included the following:

- Raptor stick nest surveys (2015 and 2017);
- Bat activity surveys (2015 and 2016);
- Bird movement surveys (2016);
- Breeding bird surveys (2016 and 2017);
- Burrowing owl (*Athene cunicularis*) surveys (2016 and 2017);
- Common nighthawk (*Chordeiles minor*) surveys (2016);
- Sharp-tailed grouse (*Tympanachus phasianellus*) lek surveys (2016 and 2017);
- Auditory amphibian surveys (2017); and
- Yellow rail (*Coturnicops noveboracensis*) surveys (2016).

In addition to the above focused wildlife surveys, incidental observations of wildlife SOMC made by qualified field staff will be included in the EIS. These wildlife field surveys were completed by qualified professional biologists, and followed the appropriate published species detection survey protocols where available, or alternate methods that were previously approved by the ENV.

4.5.4 Environmental Effects Analyses

The EA will include an evaluation the Project's predicted effects on Wildlife and Wildlife Habitat by focusing on the following effects pathways:

- Changes in wildlife habitat; and
- Changes in wildlife mortality risk.

The analyses will consider the effects specific to the Project, including the siting of permanent Project infrastructure (i.e., WTGs, MET towers, permanent access roads, electrical collector lines and the substation), activities associated with construction (i.e., vehicle and equipment traffic, establishment of temporary equipment laydown yards), and activities during Project operation (i.e., WTG operation, vehicle and equipment traffic). Indirect or cumulative effects of the Project will also be considered in the analyses, such as fragmentation of available habitat and changes in mortality risk within the RAA.

The results of the effects analyses will be used to determine the likelihood that the Project will have a significant adverse residual effect on Wildlife and Wildlife Habitat, based on the criteria included in

Section 4.5.2. The determination of significance will also consider mitigation measures proposed to reduce or avoid effects of the Project on Wildlife and Wildlife Habitat (e.g., siting of Project components, implementation of an EPP, compensation for effects to wildlife habitat, and development of an Adaptive Management Plan).

4.6 Heritage Resources

The Heritage Resources VEC as defined in this TOR as remnants and features associated with historic and pre-contact archaeological sites, palaeontological resources, and structures of architectural significance. Heritage resources, once identified, are placed under the administration of the HCB under The Heritage Property Act, 1980.

Heritage Resources will be included as a VEC in the EIS because there are small portions of the Project located within natural land cover and construction of the Project will require ground disturbance, which has the potential to result in adverse effects on heritage resources, if present.

4.6.1 Spatial Boundaries

- PDA: As defined in Section 2.2.1.
- LAA: The LAA is defined as the extents of the PDA. This area accounts for the maximum area of physical disturbance associated with the construction and operation phases of the Project, including temporary (i.e., during construction) and permanent areas of physical disturbance. The potential effects of the Project on Heritage Resources are anticipated to be limited to the extents of ground disturbance, which will be contained within the boundaries of the PDA. Therefore, the extents of the LAA will allow for an effective assessment of the potential effects of the Project on Heritage Resources.
- RAA: The RAA is also defined as the extents of the PDA. Any potential residual effects of the Project on Heritage Resources that may be included in a cumulative assessment will be limited to the extents of ground disturbance, which will be contained within the boundaries of the PDA.

4.6.2 Significance Criteria

The significance of Project effects on Heritage Resources will be determined where the predicted residual effects will result in disturbance or destruction to all or a portion of a Heritage Resource, where appropriate mitigation or compensation options are not available.

4.6.3 Existing Conditions

Results of a heritage sensitive lands screening against the PDA submitted for the TPP completed by HCB during preparation of the TPP indicated that a Heritage Resource Impact Assessment would be required for the Project (Stantec 2018).

As there have been small adjustments to the layout of the Project since submission of the TPP, the final layout submitted in the EIS will be provided to the HCB for screening against the heritage sensitive lands to determine areas where an HRIA will be required for this layout. The HRIA will include a field assessment of the PDA by qualified archaeologists, including shovel tests at locations determined to have a higher potential to encounter heritage features or artifacts than other areas. The HRIA will be completed in 2020 following the issuance of an Archaeological Research Investigation Permit by the HCB. A technical report of the HRIA results will be completed and submitted to the HCB for review. The HRIA findings, as well as the results of the HCB review will be summarized in the EIS. As mitigation for all potential effects to heritage resources is a requirement under The Heritage Property Act, 1980, all potential effects will be mitigated to the satisfaction of the HCB.

4.6.4 Environmental Effects Analyses

The EA will include an evaluation of the potential Project effects on Heritage Resources by comparing the location of the PDA to the data obtained on previously documented heritage resources and any heritage resources identified in the HRIA. The assessment will discuss mitigation options to address any future potential overlap between the PDA and heritage resources, and commit to meeting the mitigation requirements to the satisfaction of the HCB as required by legislation.

In order for the Project to be compliant with the requirements of The Heritage Property Act (1980), all effects to heritage resources must be mitigated to the satisfaction of the HCB. As such, there may be no residual effects of the Project on Heritage Resources.

4.7 Employment and Economy

The TOR define the Employment and Economy VEC as the workforce, services, and materials required during all phases of the Project.

Employment and Economy will be included as a VEC in the EIS because of the potential for the Project to result in changes to employment rates and the economy at the local and provincial scales.

4.7.1 Spatial Boundaries

The spatial boundaries used to assess effects of the Project on the Employment and Economy VEC include:

- PDA: As defined in Section 2.2.1.
- LAA: Encompasses the RMs in which the PDA is located (i.e., Happy Valley [RM No. 10] and Hart Butte [RM No. 11]), and the communities beyond the RMs from which Project workforce, services, and materials may be procured.
- RAA: Includes the municipalities within the Swift Current–Moose Jaw Economic Region, as defined by Statistics Canada's 2016 Census. This area represents the extent in which the indirect

or cumulative effects on Employment and Economy by the Project and other projects or developments in the region can be assessed.

4.7.2 Significance Criteria

The EIS will include a characterization of both adverse and beneficial residual effects of the Project on the Employment and Economy VEC using the following criteria:

- Effects that will result in measureable net change in employment rates that are distinguishable from the overall trends and conditions within the LAA or RAA; and
- Effects that will result in measureable net change in provincial gross domestic product (GDP) or government revenue that are distinguishable from the overall trends and conditions within the LAA or RAA.

While the assessment of residual effects will consider both positive and adverse effects of the Project, as well as any proposed mitigation measures and management strategies, the significance of the effects will only be determined for adverse effects.

4.7.3 Existing Conditions

The EIS will include a detailed characterization of the existing conditions of Employment and Economy within the LAA and RAA. This will include the most recent information available on population levels and rates, employment rates and trends, employment income, and levels of education within the LAA and RAA.

The existing conditions of Employment and Economy within the spatial boundaries will be characterized using information obtained from a desktop review of available online resources, including demographic and census information provided by Statistics Canada (2017). Additionally, information previously included in the TPP (Stantec 2018) will be used to supplement the description of existing conditions, where applicable.

4.7.4 Environmental Effects Analyses

The EA will include an evaluation of the Project's predicted effects on Employment and Economy by focusing on the following effects pathways:

- Changes in the local or regional workforce throughout all phases of the Project;
- Changes to the provincial GDP throughout all phases of the Project; and
- Changes in municipal and provincial government revenue throughout all phases of the Project.

The analyses will consider effects to Employment and Economy that are specific to the Project, including employment of Project personnel, Project expenditures on consumer goods and services from local businesses, and contributions to federal and provincial government revenue through corporate and income taxes. Indirect or cumulative effects will also be considered in the analyses, including the

cumulative labour demand from the Project and other projects or activities that may interact with the Project, and the indirect effects on economic diversification within the RAA.

These effects analyses will be used to determine the likelihood that the Project will have a significant adverse residual effect on Employment and Economy, based on the criteria included in Section 4.7.2. The determination of significance will also consider any proposed mitigation measures or management strategies to reduce or avoid effects of the Project on Employment and Economy (e.g., promoting employment and business opportunities associated with the Project through the engagement and consultation program).

4.8 Community Services and Infrastructure

The TOR define the Community Services and Infrastructure VEC as the existing services provided by local businesses and governments (e.g., commercial retail and emergency services, respectively) and public infrastructure (e.g., municipal roads and power distribution lines) within the spatial boundaries of the Project.

During the construction, operation, and decommissioning phases of the Project, the use of Commercial Services and Infrastructure will be required. As the Project is located in a sparsely populated, rural area of southern Saskatchewan, and resources may be limited to support or maintain these Commercial Services and Infrastructure, this VEC will be included in the EIS.

4.8.1 Spatial Boundaries

The spatial boundaries used to assess effects of the Project on the Community Services and Infrastructure VEC include:

- PDA: As defined in Section 2.2.1.
- LAA: Encompasses the RMs in which the PDA is located (i.e., Happy Valley [RM No. 10] and Hart Butte [RM No. 11]), and the communities beyond the RMs with services and infrastructure that are likely to be most affected or used by the Project.
- RAA: Includes the extent of the LAA, as well as the Town of Assiniboia and the City of Weyburn. This area represents the extent in which the indirect or cumulative effects on Community Services and Infrastructure by the Project and other projects or developments in the region can be assessed.

4.8.2 Significance Criteria

The assessment will determine the significance of adverse residual effects of the Project on the Community Services and Infrastructure VEC using the following criteria:

- Effects that will result in a disruption to quality or exceedance in capacity of community services over an extended period of time, such that these services are unable to maintain the standards of their business; and
- Effects that will result excessive strain or damage to existing infrastructure over an extended period of time, which cannot be mitigated or repaired through the proposed mitigation measures or management plans.

4.8.3 Existing Conditions

The EIS will include a detailed account of the existing Community Services and Infrastructure within the spatial boundaries of the Project. This will include information on Community Services, such as emergency medical, police, and fire protection services, available accommodations, and industry service providers; and information on Infrastructure, such as the accessibility of existing road networks and road maintenance schedules.

The existing Community Services and Infrastructure will be characterized using information obtained from a desktop review of information provided by a variety of sources, including the following:

- Government agencies, such as regional municipality offices and the Saskatchewan Health Authority;
- Business information sources, such as municipal chambers of commerce and business directories;
- Consultation and engagement with local municipal governments during open houses or face-to-face meetings; and,
- Project information related to the workforce, accident rates, construction schedule and other relevant Project information.

The EIS will also incorporate information previously included in the TPP for the Project (Stantec 2018) to supplement the description of existing conditions, where applicable.

4.8.4 Environmental Effects Analyses

The EA will include an evaluation of the Project's predicted effects on Community Services and Infrastructure by focusing on the following effects pathways:

- Changes in the availability or quality of local or regional commercial services; and
- Changes in existing the availability or quality of infrastructure.

The analyses will consider effects to Commercial Services and Infrastructure that are specific to the Project, including changes in vehicle traffic patterns, impacts to provincial and municipal roads, and capacity of available accommodations. Indirect or cumulative effects will also be considered in the

analyses, including the cumulative demand on Commercial Services and Infrastructure from the Project in combination with other projects or activities that may interact with the Project within the RAA.

These effects analyses will be used to determine the likelihood that the Project will have a significant adverse residual effect on Community Services and Infrastructure, based on the criteria included in Section 4.8.2. The determination of significance will also consider any proposed mitigation measures or management strategies to reduce or avoid effects of the Project on Community Services and Infrastructure (i.e., developing an Emergency Response Plan specific to the Project and the availability of emergency services, implement a traffic control plan to reduce the overall strain on transportation infrastructure associated with Project activities).

4.9 Effects of the Environment on the Project

The potential effects that environmental conditions may have on the Project will be characterized in the EIS. Environmental conditions refer to natural or anthropogenic events that may affect the normal function or stability of Project-related activities or operation, and may include severe weather events (e.g., heavy precipitation events, extreme temperatures and winds, and severe lightning), wildfires, seismic events, and events associated with the effects of climate change.

The effects of these environmental conditions on the Project may in turn result in effects to the VECs included in the EIS. As such, the effects of the environment on the Project will be evaluated in the EA.

4.9.1 Spatial Boundaries

The spatial boundaries used to assess effects of the environment on the Project will be limited to the PDA (defined in Section 2.2.1), in which all Project components are located.

4.9.2 Significance Criteria

The significance of adverse residual effects of the environment on the Project will be determined in the EIS using the following criteria:

- Effects that result in considerable delays to the Project construction schedule (i.e., delays that extend beyond a single construction season);
- Effects that result in a disruption of Project operation (i.e., power generation and transmission to the electrical grid);
- Effects that result in damages to Project infrastructure that in turn increase the risk to the health and safety of the public and/or Project personnel; and
- Effects that result in damages to the Project infrastructure at a scale such that completing repairs to the damaged infrastructure would be unfeasible from an economic or technical perspective.

4.9.3 Existing Conditions

The existing conditions that will be considered in the analysis of the effects of the environment on the Project will be those included in the existing conditions descriptions for each of the VECs included in the EIS.

4.9.4 Environmental Effects Analyses

The predicted effects of the environment on the Project will be evaluated in the EIS based on a review of existing resources to obtain historical meteorological data and documentation of past severe natural or anthropogenic events (e.g., wildfires and flood events) in the vicinity of the Project. The EA will also consider the predicted effects of climate change in the evaluation, based on the results of current accepted models.

Analyses of the historical data and information will determine the potential for significant adverse residual effects of the environment on the Project, based on the criteria included in Section 4.9.2. The determination of significance will also consider any proposed mitigation measures, contingency plans, or management strategies to reduce or avoid effects of the environment on the Project.

4.10 Accidents and Malfunctions

The potential effects on the environment as a result of accidents, malfunctions, and other unplanned events that may occur during all phases of the Project will be assessed in the Accidents and Malfunctions section of the EIS.

The types of accidents and malfunctions that may occur during Project construction, operation, and decommissioning activities, will be characterized in the EIS based on a review of historical information on wind energy projects similar in scale, landscape, and/or climate region. Where the occurrence of accidents or malfunctions are identified in the historical review, the resulting effects of these events will be considered in the characterization.

Each type of accident or malfunction that is characterized to potentially occur on the Project will be evaluated to determine if the potential effects may interact with any of the VECs assessed in the EA. The EIS will consider the proposed mitigation measures, emergency response plans, and EPPs in identifying and determining the significance of any predicted residual effects of accidents and malfunctions on the environment.

5 Decommissioning, Reclamation and Institutional Control

It is expected that decommissioning of the Project would not occur for at least 30 years, which is the approximate lifespan of the WTGs and Project components. At this time, the Project components may be reconditioned or replaced with the objective of continued operation, or Project and all associated components will be decommissioned. If it is determined that the Project will be decommissioned, a decommissioning plan, along with EPPs, reclamation plans, and other planning documents will be prepared in consultation with the landowners and the appropriate regulatory authorities.

The EIS will outline a conceptual decommissioning plan for the Project, with the understanding that the regulatory requirements for decommissioning a wind energy project may change between the time of Project approval and the determination of Project decommissioning. This conceptual plan will include the objectives, procedures, and any alternative procedures to decommission and remove all facility components associated with the Project. Mitigation measures and EPPs will be developed and implemented during the decommissioning activities, which will incorporate best management practices, erosion and sediment control plans, and emergency response plans, as appropriate.

5.1 Reclamation

As part of the EPP, a reclamation plan for areas of temporary disturbance during Project construction will be included in the EIS. This will include the approach to reclaiming areas of agriculture and natural land cover to a similar land cover and function as their original state, and a monitoring plan to verify that the approaches applied were successful, or to identify remedial actions necessary to achieve this goal.

A reclamation plan will accompany the conceptual decommissioning plan, which will be prepared to reclaim the Project lands to a condition similar to pre-development conditions, and to a condition appropriate for the future land use objectives, based on consultation with the landowners and regulatory requirements at that time. Project areas will be contoured to match the surrounding topography and restore pre-development surface drainage patterns.

5.2 Institutional Control

In Saskatchewan, the Institutional Control Program (Government of Saskatchewan 2005) was created for the management of decommissioned mines and mills on provincial Crown lands. Once this Project has been decommissioned, the components have been removed, and reclamation activities have been completed to the satisfaction of landowners and regulatory agencies, it is anticipated that no infrastructure will remain that would warrant institutional control. The Project lands will have been

reclaimed to a pre-development condition, or to a condition appropriate for future land-use objectives. The cost of removal of Project infrastructure will be the responsibility of the owner of the Project.

6 Conditions Management

6.1 Commitments Register

A tabulated list of commitments proposed by BluEarth, termed the commitments register, will be included as an appendix to the EIS. The register will consist of commitments towards monitoring and mitigating adverse environmental effects through all phases of the Project (e.g., EPP developed for Project construction, and implementation of an Adaptive Management Plan developed for Project operation). It will also include the follow-up monitoring programs described in the EIS. These commitments will apply to BluEarth, its contractors, and all other parties involved in the Project.

The commitments register will be organized by the VECs to which the mitigation measures and/or monitoring programs apply. Where a commitment originates from the EIS, the register will indicate the appropriate section to which the commitment is referred. Where a commitment originates outside of the scope of the EIS (i.e., a requirement of a specific approval or permit), the source of the commitment will be appropriately referenced.

7 References

- Alberta Utilities Commission (AUC). 2019. Rule 012 Noise Control. August 1, 2019 Edition. Calgary, Alberta.
- ENV (Saskatchewan Ministry of Environment). 2014a. Guidelines for the Preparation of the Terms of Reference. Available at: <https://publications.saskatchewan.ca/api/v1/products/78869/formats/89136/download>. Accessed: November 2019.
- ENV. 2014b. Proponents Guide – Consultation with First Nations and Metis in Saskatchewan Environmental Impact Assessment. Available at: <https://publications.saskatchewan.ca/api/v1/products/78868/formats/89135/download>. Accessed: November 2019.
- ENV 2017. Saskatchewan Activity Restriction Guidelines for Sensitive Species. Available at: <https://publications.saskatchewan.ca/api/v1/products/79242/formats/89555/download>. Accessed: November 2019.
- ENV 2018. Adaptive Management Guidelines for Saskatchewan Wind Energy Projects. Available at: <https://publications.saskatchewan.ca/api/v1/products/90235/formats/107072/download>. Accessed: November 2019.
- ENV 2019. Wildlife Siting Guidelines for Saskatchewan Wind Energy Projects. Available at: <https://publications.saskatchewan.ca/api/v1/products/101100/formats/111697/download>. Accessed: November 2019.
- Government of Canada. 2002. Species at Risk Act (S.C. 2002, c.29). Last amended: June 20, 2017. Government of Canada, Environment Canada. Available at: <http://laws-lois.justice.gc.ca/eng/acts/S-15.3/>. Accessed: November 2019.
- Government of Canada. 2019a. Impact Assessment Act (S.C. 2019, c.28, s.1). Last amended 2019-09-28. Available at: <https://laws-lois.justice.gc.ca/eng/acts/I-2.75/index.html>. Accessed: November 2019.
- Government of Canada. 2019b. Species at Risk Public Registry. Available at: http://www.sararegistry.gc.ca/search/advSearchResults_e.cfm?sttype=species&lng=e&advkeywords=&op=2&locid=3&. Accessed: November 2019.
- Government of Saskatchewan. 1980a. The Environmental Assessment Act, 1980 (Chapter e-10.1). Last amended 2018-10-29. Available at: <https://publications.saskatchewan.ca/#/products/488>. Accessed: November 2019.
- Government of Saskatchewan. 1980b. The Heritage Property Act, 1980 (Chapter H-2.2). Last amended on 2019-09-05. Available at: <https://publications.saskatchewan.ca/#/products/558>. Accessed: November 2019.
- Government of Saskatchewan. 1998. The Wildlife Act, 1998, Chapter W-13.12 of the Statutes of Saskatchewan. Last amended: May 14, 2015. Available at: <http://www.qp.gov.sk.ca/documents/English/Statutes/Statutes/W13-12.pdf>. Accessed: November 2019.

- Saskatchewan Conservation Data Centre (SKCDC). 2017a. Tracked Vascular Plant Taxa by Ecoregion. Available at: <http://www.biodiversity.sk.ca/SppList.htm>. Accessed: November 2019.
- SKCDC. 2017b. Taxa List: Vascular Plants. Last updated: May 15, 2017. Available at: <http://www.biodiversity.sk.ca/SppList/vasc.pdf>. Accessed: November 2019.
- SKCDC. 2018c. Taxa List: Vertebrates. Last updated: March 19, 2018. Available at: <http://www.biodiversity.sk.ca/SppList/verts.pdf>. Accessed: November 2019.
- SKCDC. 2018d. Taxa List: Invertebrates. Last updated: February 21, 2018. Available at: <http://www.biodiversity.sk.ca/SppList/invert.pdf>. Accessed: November 2019.
- SK MOE 2017. Saskatchewan Activity Restriction Guidelines for Sensitive Species. Fish and Wildlife Branch, Regina, Saskatchewan. Last updated: April 2017. Available at: <http://publications.gov.sk.ca/documents/66/89554-Saskatchewan%20Activity%20Restriction%20Guidelines%20for%20Sensitive%20Species%20-%20April%202017.pdf>. Accessed: November 2019.
- Statistics Canada. 2017. Census Profile, 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Last amended 2019-06-18. Available at: <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>. Accessed: November 2019.
- Stantec Inc. 2018. Technical Project Proposal – Outlaw Trail Wind Energy Project. July 2018.
- Stewart, R.E. and H.A. Kantrud. 1971. Classification of Natural Ponds and Lakes in the Glaciated Prairie Region. Bureau of Sport Fisheries and Wildlife, U.S. Fish and Wildlife Service, Washington, D.C., USA. Resource Publication 92. 57 pages.