LAKE MANITOBA
LAKE ST. MARTIN

OUTLET CHANNELS PROJECT

MANITOBA TRANSPORTATION AND INFRASTRUCTURE

Eastern Whip-poor-will Habitat Management Plan

June 30, 2022

Manitoba
Transportation and Infrastructure

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DISCLAIMER

This document was developed to support the Environmental Management Program (EMP) for the Lake Manitoba and Lake St. Martin Outlet Channels Project (the Project). It has been prepared by Manitoba Transportation and Infrastructure as a way to share information and facilitate discussions with Indigenous rights-holders, stakeholders, and the public. It has been prepared using existing environmental and engineering information, professional judgement, as well as information from previous and ongoing public and Indigenous engagement and consultation. The contents of this document are based on conditions and information existing at the time the document was prepared and do not take into account any subsequent changes. The information, data, recommendations, and conclusions in this report are subject to change as the information has been presented as draft. This draft plan should be read as a whole, in consideration of the entire EMP, and sections or parts should not be read out of context.

Revisions to draft plans have been informed by and will be based on information received from the engagement and consultation process, the Environmental Assessment process, Project planning activities, and on conditions of provincial and federal environmental regulatory approvals received for the Project. As these will be living documents, any changes to the plans that occur after Project approvals are received will be shared with regulators, Indigenous rights-holders and stakeholders prior to implementation of the change. Either a revision number or subsequent amendment would be added to the specific environmental management plan to communicate the revision or change.

PREFACE

The Lake Manitoba and Lake St. Martin Permanent Outlet Channels Project (the Project) is proposed as a permanent flood control mitigation for Lake Manitoba and Lake St. Martin to alleviate flooding in the Lake St. Martin region of Manitoba. It will involve the construction and operation of two new diversion channels: the Lake Manitoba Outlet Channel (LMOC) will connect Lake Manitoba to Lake St. Martin and the Lake St. Martin Outlet Channel (LSMOC) will connect Lake St. Martin to Lake Winnipeg. Associated with these outlet channels are the development of bridges, control structures with power connections, a new realignment of Provincial Road (PR) 239, and other ancillary infrastructure.

Manitoba Transportation and Infrastructure is the proponent for the proposed Project. After receipt of the required regulatory approvals, Manitoba Transportation and Infrastructure will develop, manage and operate the Project. This Eastern whip-poor-will Habitat Management Plan (EWMP) is one component of the overall Environmental Management Program (EMP) framework, which describes the environmental management processes that will be followed during the construction and operation phases of the Project. The intent of the EMP is to facilitate the timely and effective implementation of the environmental protection measures committed to in the Environmental Impact Statement (EIS), the requirements and conditions of the provincial licence issued under *The Environment Act*, the federal Decision Statement issued under the *Canadian Environmental Act 2012*, and other approvals received for the Project. This includes the verification that environmental commitments are implemented, monitored, evaluated for effectiveness, and adjustments made if/as required. It includes a commitment that information is reported back in a timely manner for adjustment, if required.

A key component for the success of the EMP is environmental monitoring, such that environmental management measures are inspected and modified for compliance with environmental and regulatory requirements, including those set out in provincial and federal approvals received for the Project. As indicated, monitoring results will be reviewed and used to verify predicted environmental assessment conclusions and effectiveness of mitigation measures. If unanticipated effects occur, or if mitigation measures are inadequate, adaptive management measures and subsequent monitoring will be applied as described further in individual environmental management and monitoring plans.

Monitoring results and application of adaptive management measures will inform follow-up reporting to regulators and any required revisions to environmental management plans. Manitoba Transportation and Infrastructure has initiated discussions with Indigenous rights-holders and the Rural Municipality (RM) of Grahamdale in the Project area on the establishment of an Environmental Advisory Committee (EAC). The EAC would be a platform for sharing monitoring results and discussing issues of concern. In addition, Manitoba Transportation and Infrastructure anticipates that the EAC will coordinate Indigenous Environmental Monitors and communications during the construction period and will be working with Indigenous rights-holders and stakeholders on its structure and purpose.

Manitoba Transportation and Infrastructure remains committed to consultation and ongoing engagement with Indigenous rights-holders and stakeholders that are potentially impacted by the Project. Detailed EMP review discussions were incorporated into Indigenous group-specific consultation work plans. Engagement opportunities included virtual open house events, sharing draft environmental management and monitoring

plans, sharing plan-specific questionnaires, and meetings to discuss related questions and recommendations. The intent has been to offer multiple avenues to share information about the Project so that rights-holders and stakeholders would be informed and could provide meaningful input into Project planning. The original draft EMP plans and questionnaires that were posted on the Project website for public review and comment are being replaced by the second draft of each plan as it becomes available. Feedback and recommendations received were used to update the current version of the draft plans, which are posted to the Project website at: https://www.gov.mb.ca/mit/wms/lmblsmoutlets/environmental/index.html.

Figure A displays a summary of the EMP process. The EMP provides the overarching framework for the Project Construction Environmental Management Program (CEMP) and the Operation Environmental Management Program (OEMP). These will be updated prior to Project construction and operation, respectively, and will consider applicable conditions of *The Environmental Act* provincial licence, *Canadian Environmental Assessment Act 2012* federal Decision Statement conditions and other approvals, any other pertinent findings through the design and regulatory review processes, and key relevant outcomes of the ongoing Indigenous consultation and public engagement processes. Until such time, these plans will remain in draft form.

The purpose of the CEMP and OEMP is to guide how environmental issues will be addressed during construction and operation, respectively, and how adverse effects of activities will be mitigated. The CEMP is supported by several specific or targeted management plans that will guide Manitoba Transportation and Infrastructure's development of the Project's contract documents and subsequently, the Contractor(s) activities, in an environmentally responsible manner and to meet regulatory compliance in constructing the Project. The OEMP will include some of the same targeted plans developed to manage issues during construction, but prior to construction completion, they would be revised and adapted to suit the specific needs during the operation phase.

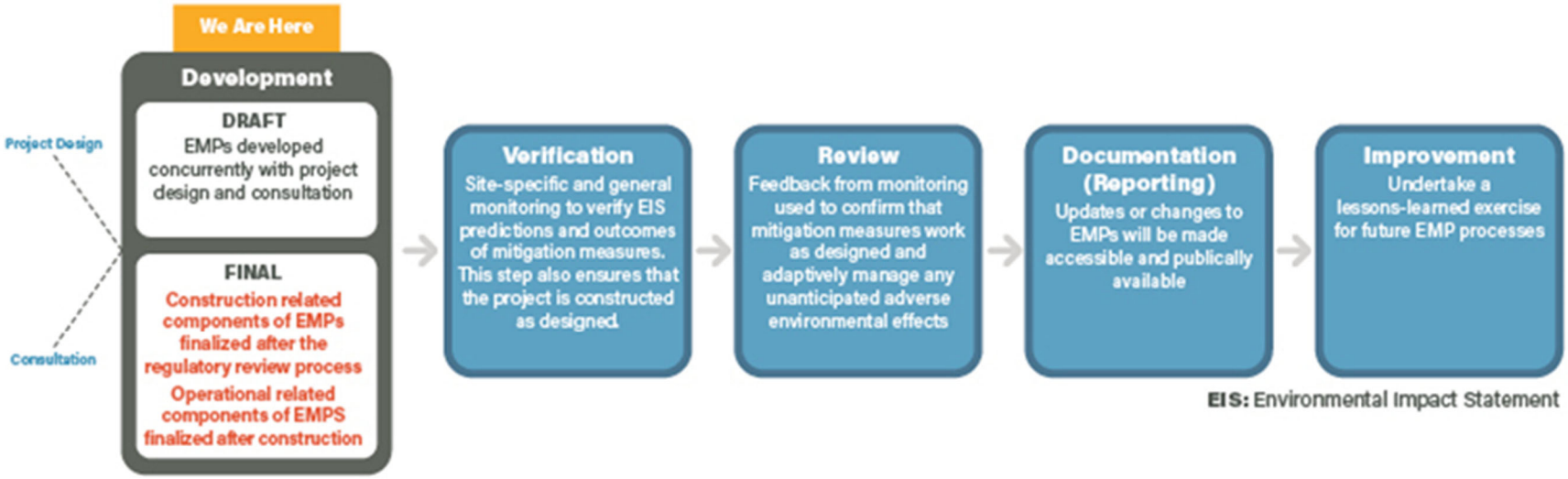

Figure A: EMP Process

LIST OF ACRONYMS

ARU	autonomous recording units
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
ECCC	Environment and Climate Change Canada
EHMP	Eastern whip-poor-will Habitat Management Plan
EIS	Environmental Impact Statement
ha	hectares
HMA	habitat mitigation area
km	kilometre
LMOC	Lake Manitoba Outlet Channel
LSMOC	Lake St. Martin Outlet Channel
m	metre
PDA	Project development area
PR	Provincial Road
the Project	The Lake Manitoba and Lake St. Martin Outlet Channels Project
RM	Rural Municipality
RVMP	Revegetation Management Plan
ROW	right-of-way

1.0 INTRODUCTION

1.1 Background and Purpose

The Lake Manitoba and Lake St. Martin Outlet Channels Project (the Project) proposed by Manitoba Transportation and Infrastructure overlaps potential critical habitat for eastern whip-poor-will (*Caprimulgus vociferus*), listed as threatened under the federal *Species at Risk Act* (Government of Canada 2020). Eastern whip-poor-will is a ground-nesting aerial insectivore that typically breeds in a variety of mature forest habitats, preferring well-drained sites that are structurally suitable with forest openings for nesting and foraging (Committee on the Status of Endangered Wildlife in Canada [COSEWIC] 2009, Environment and Climate Change Canada [ECCC] 2018a). In 2018, a federal recovery strategy was developed to provide guidance aimed at halting and reversing the population decline of eastern whip-poor-will and identifying critical habitat (ECCC 2018a).

The recovery strategy identifies multiple 10 by 10 kilometres (km) critical habitat squares throughout this species' Manitoba range. These standardized spatial units are used to identify known areas containing confirmed breeding evidence and potential critical habitat. The Project overlaps with one of these squares (14UNC53) at the Lake St. Martin Outlet Channel (LSMOC) inlet and associated distribution line (ECCC 2018a; Appendix 1, Figure 1-1). Construction in the Project development area (PDA, i.e., Project footprint) will require clearing of forested habitats that may support habitat for eastern whip-poor-will, but not critical habitat as defined in the species recovery strategy (ECCC 2018a; Appendix 1; Section 1.3).

As described in Chapter 12.7 of the Project Environmental Impact Statement (EIS), Manitoba Transportation and Infrastructure is using the precautionary approach and committing to additional mitigation measures to reduce potential Project-related effects to eastern whip-poor-will habitat, despite no evidence that critical breeding habitat will be directly affected by the Project.

The purpose of Eastern Whip-poor-will Habitat Management Plan (EHMP) is to describe the habitat management and monitoring activities that will be implemented along the outlet channel right-of-way (ROW).

1.2 Project Overview

The Project will develop a permanent flood control mitigation system for Lake Manitoba and Lake St. Martin for alleviating flooding in the Lake St. Martin region. This will be accomplished through construction of a new outlet channel from Lake Manitoba to Lake St. Martin (Lake Manitoba Outlet Channel [LMOC]) and a new outlet channel from Lake St. Martin to Lake Winnipeg (LSMOC). These new channels will allow for floodwaters to be moved more quickly through Lake Manitoba and Lake St. Martin into Lake Winnipeg. The Project will result in less flooding and reduced lake levels on Lake St. Martin during flood conditions. Other works include re-alignment of Provincial Road (PR) 239 and a hydroelectric distribution line for operation of the LSMOC water control structure (Appendix 1, Figure 1-1).

1.3 Project Interaction with Eastern Whip-poor-will Habitat

The LSMOC and distribution line PDA overlaps 149.6 hectares (ha) of an eastern whip-poor-will critical habitat square near the northern part of Lake St. Martin (Appendix 1, Figure 1-2). Approximately 23.0 ha (15.4%) of overlap consists of upland habitats (e.g., forest) on imperfectly drained or poorly drained soils. Clearing of the LSMOC PDA would result in the loss of this habitat, which based on Project EIS modeling of biophysical attributes outlined in the recovery strategy, is not considered critical habitat for eastern whip-poor-will (ECCC 2018a; Appendix 2, Table 2-1). The closest modelled eastern whip-poor-will habitat was identified within the southeastern portion of the critical habitat square, which is located over 5 km from the LSMOC PDA (Appendix 1, Figure 1-2).

2.0 OBJECTIVE

The objective of the EHMP is to understand how eastern whip-poor-will are distributed along, and adjacent to, the outlet channel ROWs following Project construction, including the application of revegetation prescriptions and vegetation management practices, that provide habitat opportunities for eastern whip-poor-will.

3.0 PROJECT MITIGATION

3.1 General Project Mitigation Measures

Construction of the outlet channels will require clearing of the 400 metre (m)-wide ROWs and the 30 m-wide distribution line, but mitigation measures outlined in the Project Environmental Requirements (PERs) will reduce potential effects to eastern whip-poor-will and their habitats. These include:

- Treed habitats within the ROW will be retained where safe and technically feasible to do so.
- Clearing will not occur between April 1 and August 31 to avoid disturbance to nesting birds and other wildlife (ECCC 2018b).
- If clearing is scheduled to occur within the nesting period (April 1 to August 31), a nest survey may be undertaken by a qualified wildlife biologist if warranted. In the event an active nest is found, it will be subject to site-specific mitigation measures (i.e., clearly marked protective buffer around the nest and/or non-intrusive monitoring).
- The provincially recommended setback distance of 300 m from an active eastern whip-poor-will nest will be adhered to for vegetation clearing and construction activities between May 15 to July 16 (MB CDC 2021).
- Revegetation activities will occur in spring or fall depending on the construction schedule and, if applied in the fall, prescriptions may require adjustments to improve survivability of seed during winter for herbaceous cover (see Revegetation Management Plan [RVMP]).

To promote establishment of a healthy vegetation cover for the Project and to allow for the proper function of water flow the following measures are part of the maintenance program during the operations phase:

- maintenance of the vegetation cover in areas where erosion might be present.
- ongoing mowing of the outside drain to promote drainage.
- occasional mowing of shrubs and trees that encroach on berms to maintain channel hydraulic function.
- ongoing weed control.

3.2 Outlet Channel Right-of-way Habitat Mitigation Areas

The goal of the RVMP is to revegetate upland areas of the outlet ROWs in a manner that promotes the establishment of grassland communities consisting of native and agronomic grasses and forbs along the LMOC, as well as perennial native grass groundcover along the LSMOC. Portions of the LSMOC cleared but not heavily disturbed will be encouraged to naturally regenerate. To protect structural integrity and maintain hydrological function, shrubs and trees are discouraged from growing along the channel and on spoil piles/berms but are acceptable at the base of spoil piles in peripheral areas of the ROW (Appendix 1, Figure 1-3). Figure 1 and Figure 2 identify where shrubland prescriptions may be added to a schematic cross section of the LMOC and LSMOC, respectively. Revegetation prescriptions involving shrub plantings will provide habitat for wildlife including eastern whip-poor-will, as this species nests in forests with well-drained soils and forages in open habitats containing shrubs and herbaceous plants (Appendix 2). For the purposes of

the EHMP, eastern whip-poor-will habitat mitigation areas (HMAs) are those areas where shrub plantings are planned in the upland portions of the LMOC and LSMOC ROWs (i.e., adjacent to the channel berms and in areas adjacent to forest habitats; Figure 1 and Figure 2; Appendix 1, Figure 1-3, and Figure 1-4). Shrub enhancements in the eastern whip-poor-will critical habitat square will be done in proximity to deciduous forest on imperfectly drained soil (Appendix 1, Figure 1-4).

Native plant species will be used to revegetate the ROWs where possible, including native shrubs within the HMAs. The ROW outside of the HMAs will be revegetated with a native and agronomic seed mix designed to allow for potential future haying, as well as include native wildflowers to provide pollinator habitat (see RVMP).

Figure 1 schematic illustrates the main components of the LMOC ROW. The HMAs will be located between the ROW boundary and outer edge of the outside drain (as shown on the left of the diagram) and between the ROW boundary and outer edge of the channel soil berm or topsoil berm (as shown on the right of the diagram).

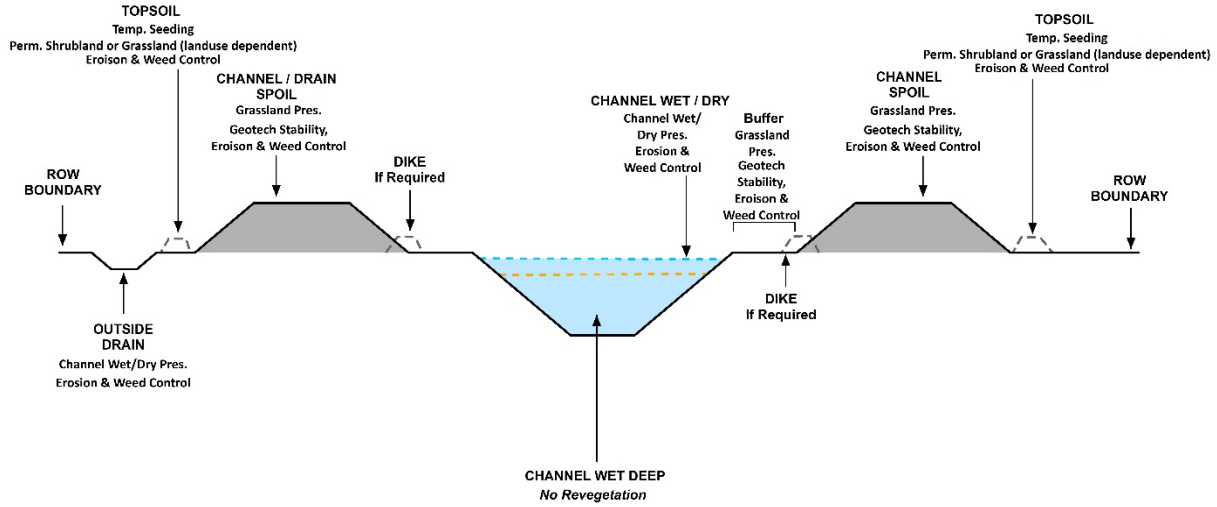

Figure 1: Schematic of LMOC ROW

Figure 2 schematic illustrates the main components of the LSMOC ROW. The HMAs will be located between the ROW boundary and outside edge of the channel spoil berm (as shown on the left of the diagram) and between the ROW boundary and outer edge of the outside drain (as shown on the right of the diagram).

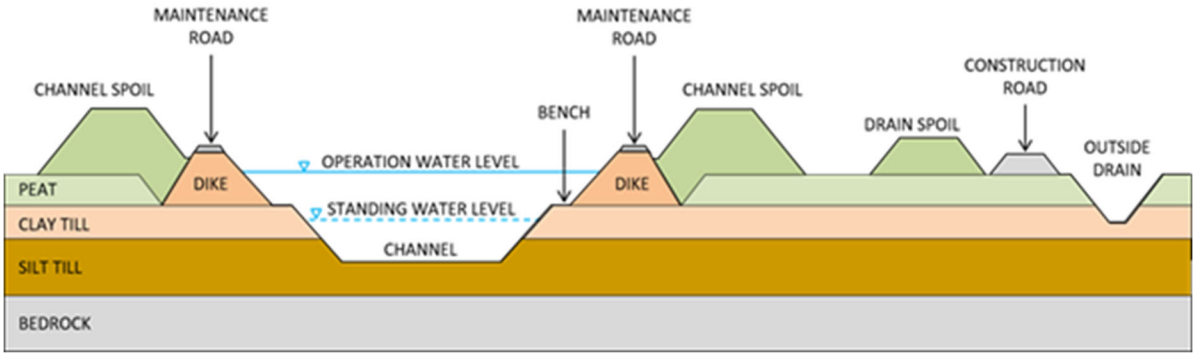

Figure 2: Schematic of LSMOC ROW

4.0 MONITORING AND FOLLOW-UP

To assess the effectiveness of the implementation of the EHMP, monitoring activities within the HMAs will include an eastern whip-poor-will survey and an associated habitat survey which are described in greater detail below.

4.1 Eastern Whip-poor-will Survey

Rationale

Mitigation measures have been incorporated into the design of the outlet channels to provide habitat enhancements for wildlife; but benefits to eastern whip-poor-will are anticipated to be limited. However, the eastern whip-poor-will survey will be used to evaluate, if present, the distribution of eastern whip-poor-will, and adjacent to, the outlet channel ROWs following Project construction.

Objective

The objective of the eastern whip-poor-will survey is to understand if eastern whip-poor-will occupy habitats in, or adjacent to the HMAs, and along portions of the distribution line near the LSMOC.

Measurable Parameter

The measurable parameter for the eastern whip-poor-will survey is habitat occupancy by eastern whip-poor-will.

Methods

Eastern whip-poor-will surveys will occur at a subset of randomly selected HMAs. Surveys will follow a standardized survey protocol (Knight 2018) using autonomous recording units (ARUs); Wildlife Acoustics Song Meter SM4; Wildlife Acoustics 2020). ARU spacing may be less than the suggested 1.6 km, but no less than 800 m, as habitat occupancy of the species within the survey area is the parameter of interest and independence of sites may still be maintained with reduced spacing.

Surveys will occur over a 14-day period that will coincide with the eastern whip-poor-will breeding season and within 7 days of the full moon in late-June to early-July (Knight 2018), which will meet the objectives outlined above while also providing a design for ongoing monitoring efforts. The peak calling time for eastern whip-poor-will is for 90 minutes from 0.5 hours after sunset until 1.5 hours after sunset (Knight 2018). The ARUs will be programmed to collect three 6-minute audio recordings every 30 minutes during this peak period every evening (i.e., 18 minutes of audio per day). Wildlife detected during ARU deployment and retrieval will be recorded as incidental observations.

Upon retrieval of the ARUs, the data files will be processed using commercial software (e.g., Kaleidoscope Pro [Wildlife Acoustics 2019]) that automatically scans data files for the species of interest using a reference library; a qualified biologist will review and validate a sample of the results for false-negative and false-positive results. Eastern whip-poor-will detections will be summarized by site and mapped relative to the Project to provide an understanding of the presence and distribution of potential suitable breeding habitat within the survey area.

Frequency

The eastern whip-poor-will survey will be completed daily during the peak breeding period described above. Surveys will be undertaken in years 2, 4, and 6, post-construction.

Decision Trigger / Threshold for Action

There are no decision triggers or thresholds for action proposed for the eastern whip-poor-will survey as potential benefits to the species resulting from habitat enhancements are not anticipated to be measurable.

A summary of the monitoring criteria for the eastern whip-poor-will is provided in Table 1.

Table 1: Monitoring Criteria for the Eastern Whip-poor-will Survey

Monitoring Objective	Method	Monitoring Metric	Project Phase	Duration	Frequency
Evaluate Project effects on eastern whip-poor-will	Eastern whip-poor-will survey	Species occurrence	Operation	Post-construction Years 2, 4, 6	Daily during the peak breeding period

4.2 Habitat Monitoring

Habitat (i.e., shrub and tree) monitoring will be undertaken as part of the monitoring activities outlined in the RVMP for the LMOC (Section 8) and LSMOC (Section 14).

4.2.1 Adaptive Management

Adaptive management will be incorporated into the habitat monitoring described above and as part of the adaptive management process outlined in the RVMP (Section 9). Such measures will factor in input from Indigenous rights-holders, stakeholders, and regulators.

5.0 REFERENCES

COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2009. COSEWIC assessment and status report on the whip-poor-will (*Caprimulgus vociferous)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa, ON. vi + 28 pp.

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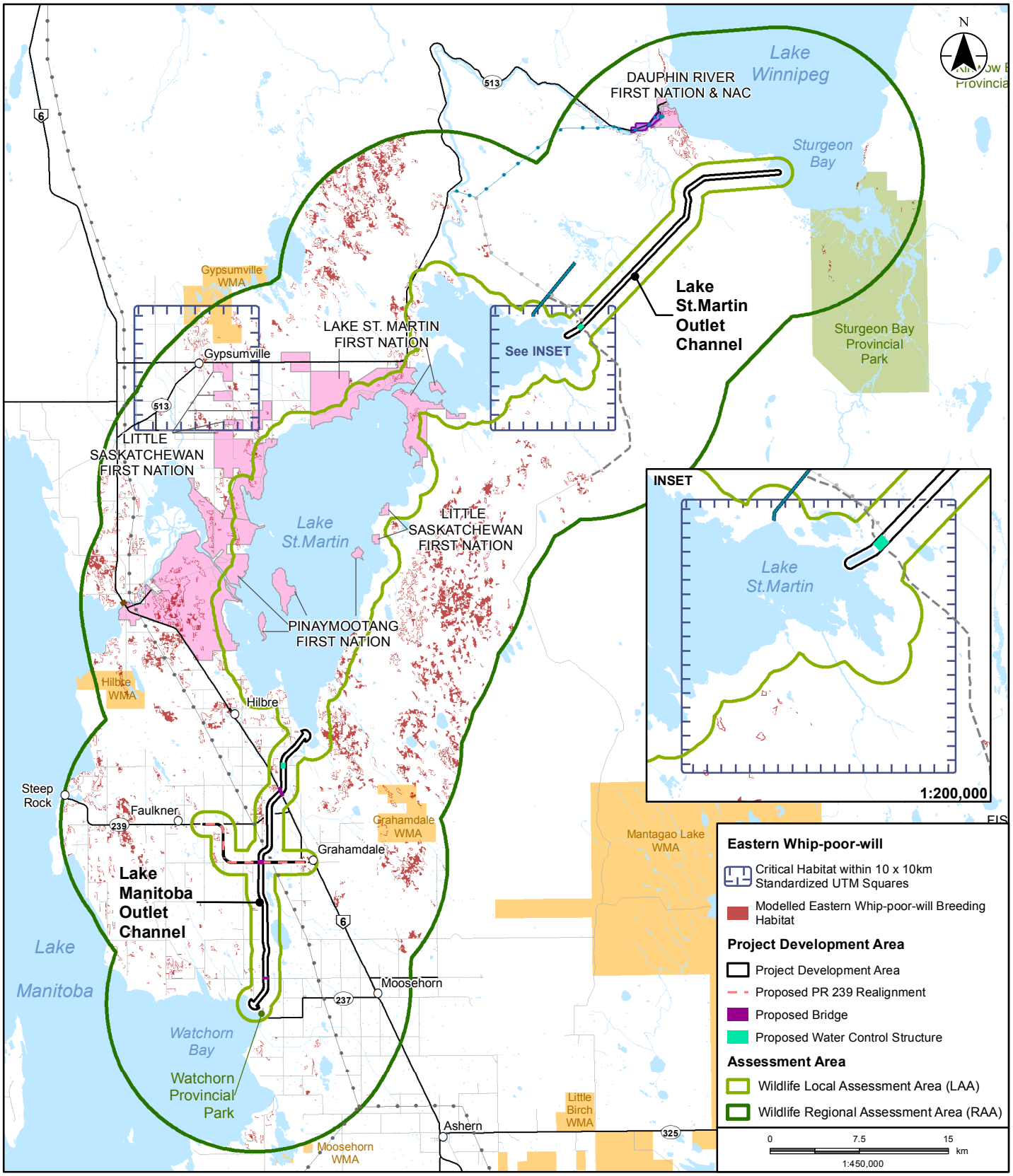
APPENDIX 1

Figures



Legend

- Fairford Water Control Structure
- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St.Martin Access Road
- Existing Transmission Line
- Existing Distribution Line
- Planned Distribution Line
- Provincial Highway (PTH/PR)
- Municipal Road
- Northern Affairs Community (NAC)
- First Nation
- Wildlife Management Area
- Provincial Park

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure, Stantec Consulting
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Lake Manitoba & Lake St.Martin Outlet Channels Project

Project Overview Map

Figure 1-1

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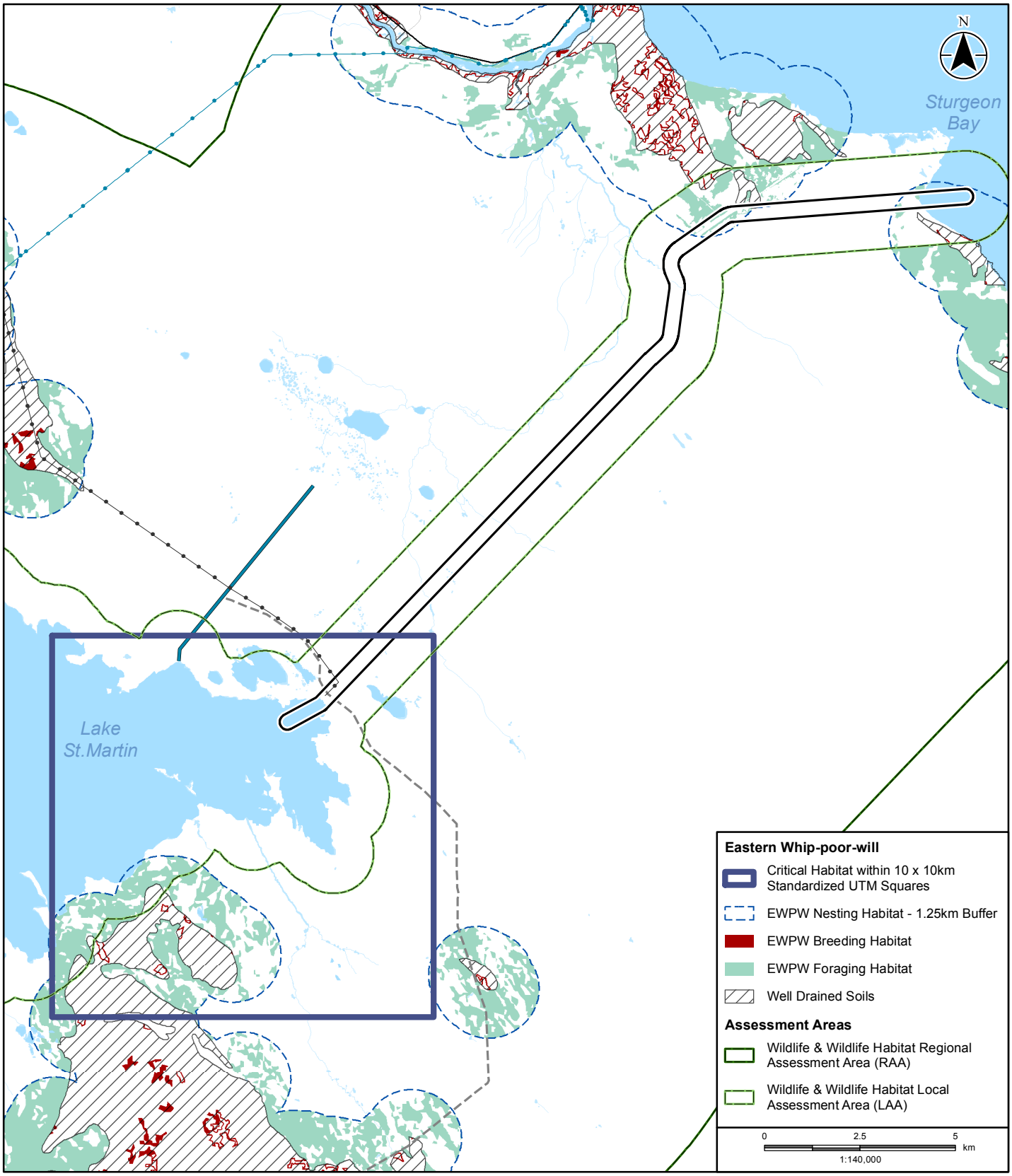

Legend

- Project Development Area
- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St.Martin Access Road
- Planned Distribution Line
- Existing Distribution Line
- Provincial Highway (PTH/PR)
- Municipal Road

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
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Lake Manitoba & Lake St.Martin Outlet Channels Project

Eastern Whip-poor-will Nesting and Foraging Habitat

Figure 1-2

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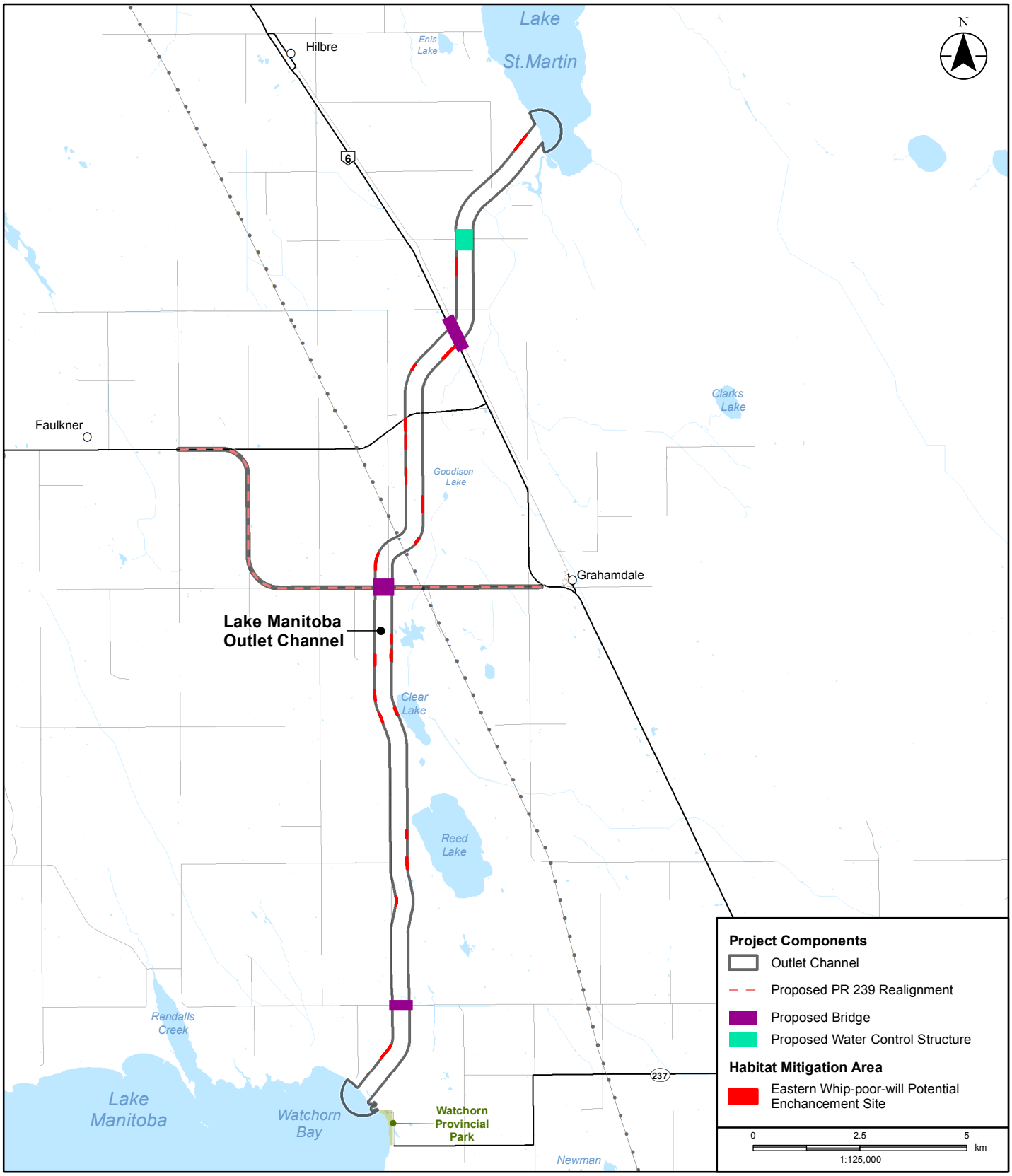

Legend

- Existing Transmission Line
- Provincial Highway (PTH/PR)
- Municipal Road
- Provincial Park

Notes

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Lake Manitoba & Lake St.Martin Outlet Channels Project

LMOC Eastern Whip-poor-will Habitat Mitigation Areas Overview

Figure 1-3

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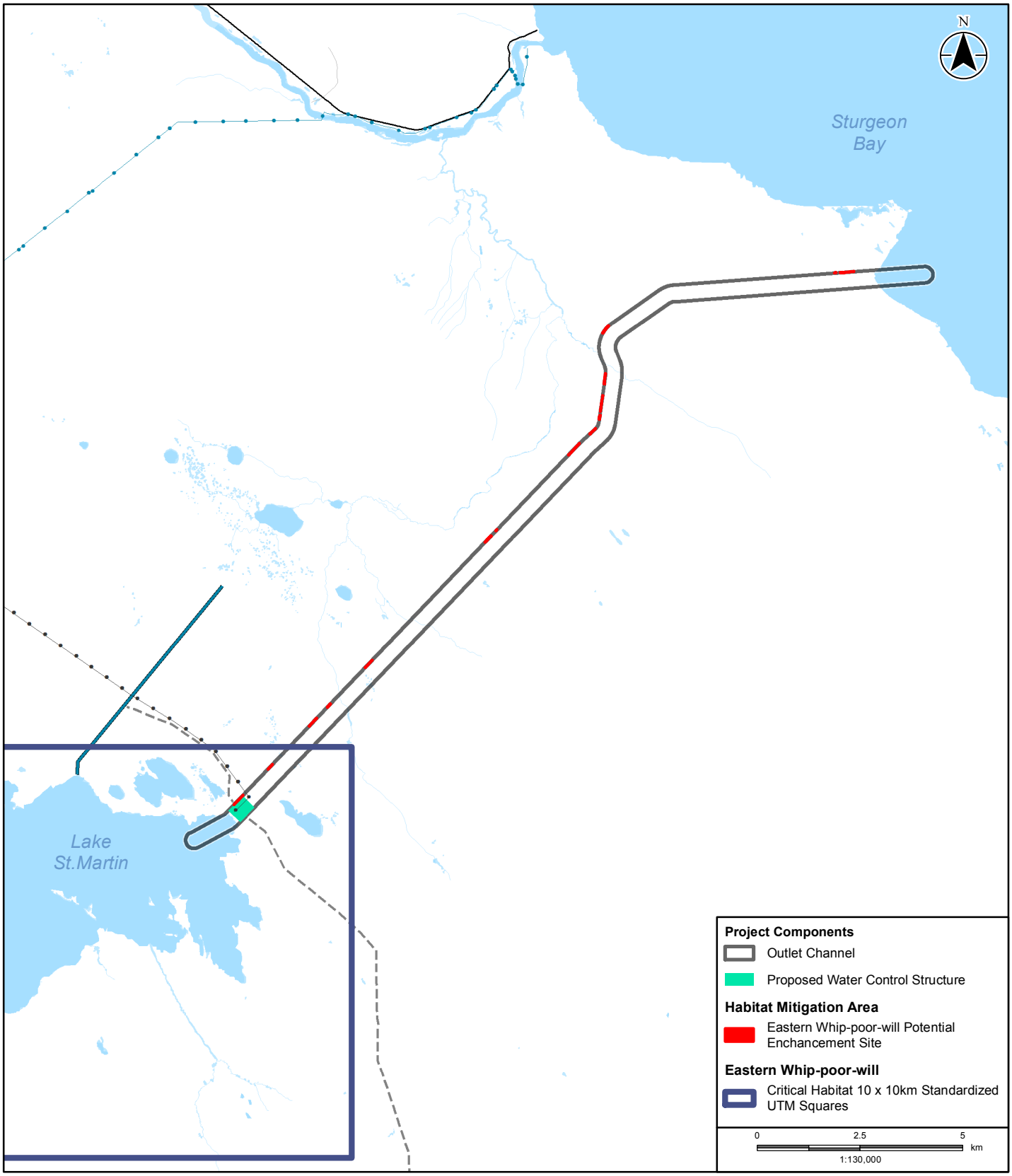

Legend

- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St.Martin Access Road
- Planned Distribution Line
- Existing Distribution Line
- Provincial Highway (PTH/PR)
- Municipal Road

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
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Lake Manitoba & Lake St.Martin Outlet Channels Project

LSMOC Eastern Whip-poor-will Habitat Mitigation Areas Overview

Figure 1-4

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APPENDIX 2

Biophysical Attributes of Critical Habitat for Eastern Whip-poor-will

Table 2-1: Biophysical Attributes of Critical Habitat for Eastern Whip-poor-will[1]

Components of Habitat Suitability	Biophysical Attributes
Regional context	Forests (e.g., deciduous, mixedwood, coniferous, treed wetlands) and open habitats (e.g., shrublands, fallow fields, regeneration following fires or clear-cuts, rock and sand outcrops; shrubby wetlands) form a mosaic
Habitats suitable for both nesting and foraging	A.1 Forests with sparse to moderate tree cover or open habitats **AND** A.2 Sparse to moderate shrub and herbaceous cover **AND** A.3 Well-drained soils (e.g., sand, sandy-loam) ▯ *Within an atlas square, includes all corresponding areas of 3 ha or more*
Habitats suitable for nesting only **[*must be adjacent* ***to foraging habitats*]**	A.4 Forests with a dense tree cover **AND** A.5 Sparse to moderate shrub and herbaceous cover **AND** A.6 Well-drained soils (e.g., sand, sandy-loam) ▯ *Within an atlas square, includes all corresponding areas up to 30 m on the interior side of the forest edge*

Components of Habitat Suitability	Biophysical Attributes
Habitats suitable for foraging only ***[must be adjacent to nesting habitats]***	A.7 Forests with sparse tree cover or open habitats **AND** A.8 Dense shrub cover **AND** A.9 Soil drainage is deficient *Within an atlas square, includes all corresponding areas up to 1,250 m from the edge with suitable nesting habitat* **OR** A.10 Agricultural land with scattered shrubs or trees (e.g., hedgerows) that can be used as perches *Within an atlas square, includes all corresponding areas*

Note:

[1] from the federal recovery strategy for the eastern whip-poor-will (ECCC 2018a).