Manitoba-Minnesota Transmission Project

Post-Construction Environmental Monitoring Report

Environment Act Licence #3288

Prepared for:

Environmental Approvals Branch

Prepared by:

Manitoba Hydro

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ACRONYMS

AC	Alternating Current
CER	Canadian Energy Regulator
CHRPP	Cultural and Heritage Resources Protection Plan
EIS	Environmental Impact Statement
EMP	Environmental Monitoring Plan
EPIMS	Environmental Protection Information Management System
EPP	Environmental Protection Program
ESS	Environmentally Sensitive Site
FNMEP	First Nation and Metis Engagement Process
GPS	Global Positioning System Unit
km	Kilometre
kV	Kilovolt
MBCA	Migratory Birds Convention Act
MBCDC	Manitoba Conservation Data Centre
MESEA	Manitoba Endangered Species and Ecosystems Act
MMF	Manitoba Metis Federation
MMTP	Manitoba-Minnesota Transmission Project
NEB	National Energy Board
PEP	Public Engagement Process
ROW	Right-of-way
SARA	Species at Risk Act

1.0 Introduction

This document is the first monitoring report of the Manitoba Minnesota Transmission Project (MMTP) Environmental Monitoring Plan (NEB Ex. A6V3U2).

1.1 Project Overview

Manitoba Hydro has constructed and is operating a 500 kilovolt (kV) alternating current (AC) international transmission line in southeastern Manitoba that includes additions and upgrades to three associated transmission stations at Dorsey, Riel and Glenboro South. (Map 1-1) The project is called the Manitoba-Minnesota Transmission Project (the Project) and consists of approximately 213 km of single circuit, 500 kV AC transmission line (D604I) that starts at the existing Dorsey Converter Station northwest of Winnipeg, in the RM of Rosser, and connects at the Manitoba-Minnesota border to a new transmission line operated by Minnesota Power, called the Great Northern Transmission Line. Map 1-1 shows the project components. Map 1-2 shows the projects environmental monitoring locations.

Construction of the Project began in September 2019. Construction of the Project was completed on April 15, 2020. The project partially came into service on June 1, 2020. The MMTP project was fully in-service as of November 1, 2020.

1.1.1 Regulatory Requirement

The project was reviewed by Manitoba Sustainable Development (SD) and received Environment Act Licence #3288. This report is being prepared in fulfillment of Condition 56, which states;

> *The Licencee shall submit annual reports to the Director of the Environmental Approvals Branch, on the results of monitoring programs approved pursuant to Clause 53 of this Licence for the duration of the monitoring programs. The reports shall:*
>
> *a) report on the accuracy of predictions made in the EIS and supporting information,*
>
> *b) report on the success of the mitigation measures employed during construction and operation,*
>
> *c) provide a description of the adaptive management measures undertaken to address issues, and commitments for future mitigation;*
>
> *d) identify any unexpected environmental effects of the Development;*
>
> *e) identify additional mitigation measures to address unanticipated environmental effects, if required;*
>
> *f) report on how input from the monitoring advisory group, formed pursuant to Clause 55 of this licence, was incorporated into the monitoring program; and*
>
> *g) propose changes to the monitoring programs based on the results of the annual assessments.*

Authorization for the construction and operation of the transmission line was acquired under the *National Energy Board Act* under the Certificate of Public Convenience and Necessity EC-059. This report is being submitted in partial fulfillment of Condition 23, which states;

> *Manitoba Hydro must file with the Board, on or before 31 January following the first year of Project operations and for a period of at least ten (10) years after commencing operations, annual post-construction monitoring reports. These reports must include:*
>
> *a) a description of monitoring methods used;*
>
> *b) identification, including on a map or diagram, of any reclamation or other environmental issues which arose during construction or in the course of the previous year;*
>
> *c) a description of the valued components or issues that were assessed or monitored, as outlined in Manitoba Hydro's Environmental Monitoring Plan (see Condition 10);*
>
> *d) the monitoring results, including a comparison to measurable goals;*
>
> *e) an assessment of the effectiveness of the mitigation measures implemented and the accuracy the environmental assessment predictions;*
>
> *f) a description of any corrective actions taken, their observed success and current status; and,*
>
> *g) a schedule outlining when further corrective actions will be implemented or monitoring conducted to address any unresolved issues.*
>
> *Notwithstanding the requirement for filing on or before 31 January above, if the Provincial Minister responsible for issuing a Provincial Licence to Manitoba Hydro does grant such a Licence, and such a Licence requires annual submission of post-construction monitoring reports, Manitoba Hydro may submit post-construction monitoring reports to the Board in accordance with any timing requirements set out in that Provincial Licence, provided that the submission of the reports to the Board commences within the first year of operations and occurs annually for ten (10) years.*

1.1.2 Project Status

1.1.2.1 500 kV Transmission Line

Vegetation clearing of the ROW (right of way) was conducted in the fall and winter of 2019/2020. Tower assembly and construction was also conducted in the fall and winter of 2019/2020. Foundation construction and tower erection were completed in spring 2020. Transmission line stringing was completed in April 2020. Project commissioning occurred between April and June 2020. The MMTP project was fully in-service as of November 1, 2020.

1.1.2.2 Dorsey Converter Station

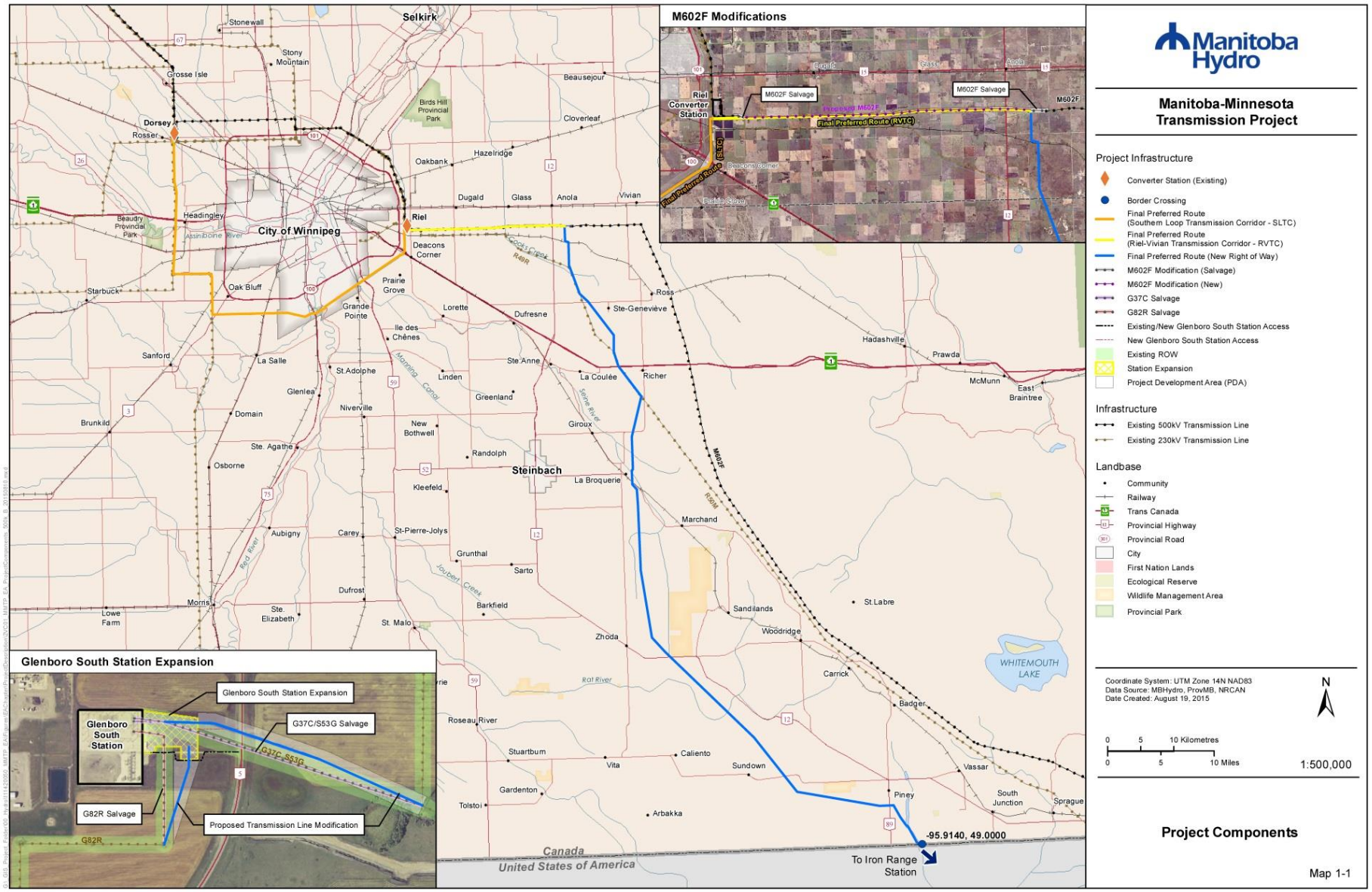
Improvements to the Dorsey Converter Station were required to accommodate the new 500 kV AC transmission line. The station modifications included the addition of circuit breakers, reactors, and station site modifications. This work was completed in fall 2019.

1.1.2.3 Riel Converter Station

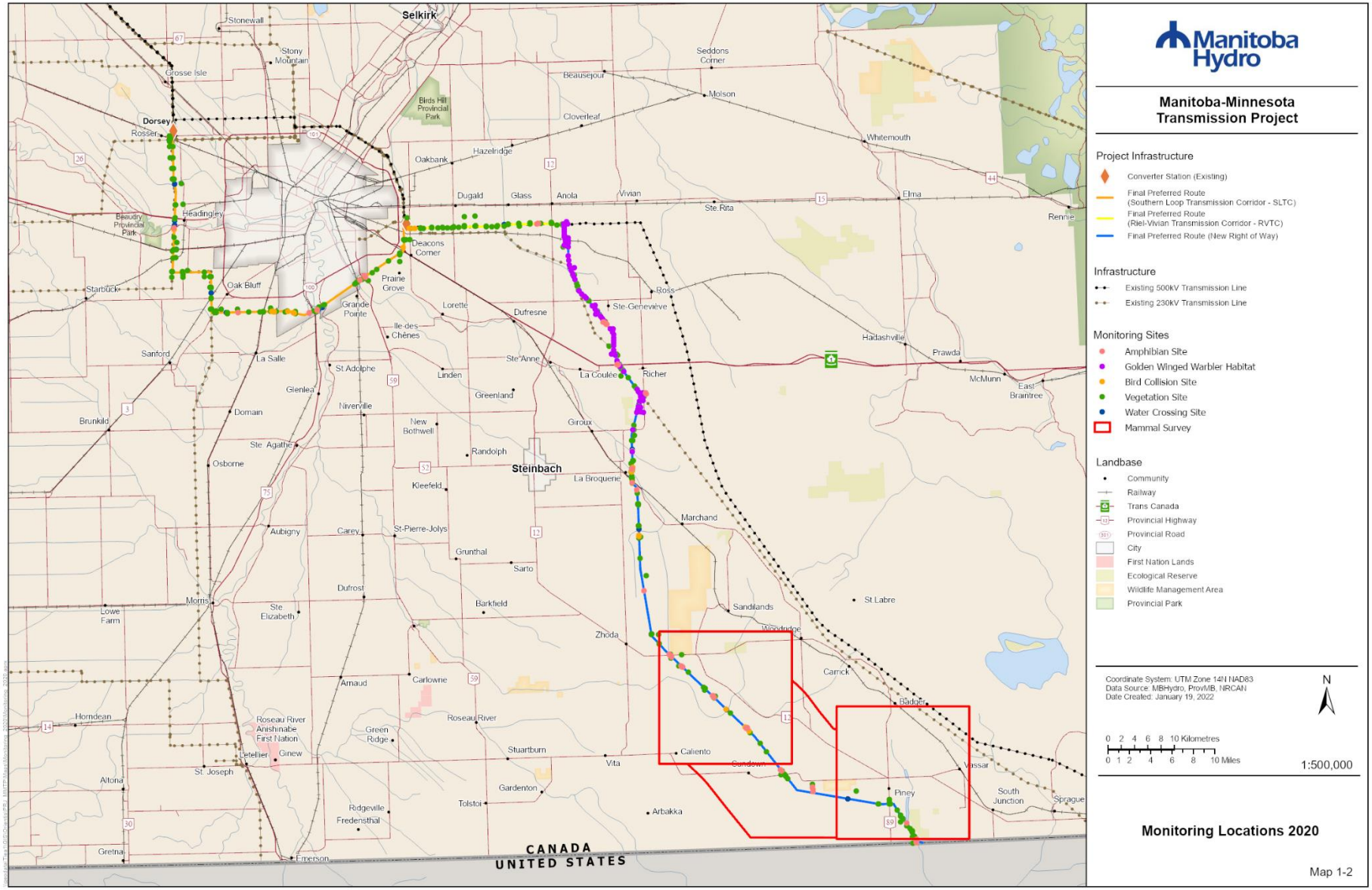
Improvements to the Riel Converter Station were required to accommodate the new 500 kV AC transmission line. The station modifications included the addition of three single-phase 400 MVA autotransformers and associated equipment, withing the existing station site. This work was completed in fall 2019.

1.1.2.4 Glenboro South Station

Improvements to the Glenboro South Station were required to accommodate the new 500 kV AC transmission line. The station modifications included the addition of two shifting phase transformers connected in series with the existing Glenboro to Rugby transmission line. This work was completed in fall 2019.



Map 1-1 Project Components Map



Map 1-2 Project Environmental Monitoring Site Locations Map

1.2 Environmental Protection Program

Part of Manitoba Hydro's commitment to environmental protection includes the development of a comprehensive Environmental Protection Program (EPP), this is further described in chapter 22 of the EIS, found here at NEB Ex. A81182-38. The purpose of the EPP is to provide the framework for implementing, managing, monitoring and evaluating environmental protection measures that are consistent with regulatory requirements and environmental guidelines. This EMP is a component of the EPP as illustrated in Figure 1.

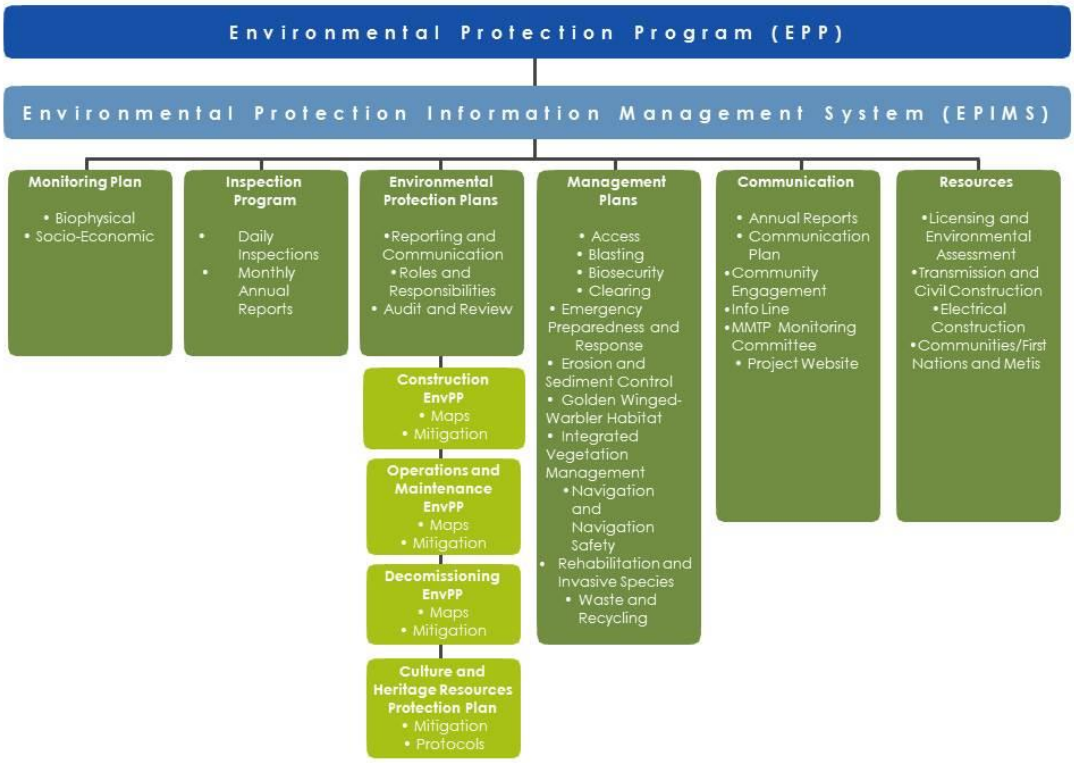


Figure 1: Environmental Protection Program Chart

2.0 Environmental Monitoring

This document reports on the outcomes of the MMTP Environmental Monitoring Plan (NEB Ex A6V3U2) which, outlines the various monitoring activities that are occurring to address follow-up requirements identified for the valued components included in the environmental assessment. This is the Project's first annual monitoring report and describes monitoring results from the start of construction in September 2019 through March 31, 2021. Monitoring activities were considered during all phases of Project development (i.e. pre-construction, construction and post construction). Follow-up requirements include actions implemented to assess the effectiveness of the environmental assessment and to confirm compliance with regulatory requirements.

The EMP is intended to describe how and provide assurance to regulators the MMTP Monitoring Committee, First Nations, the Manitoba Metis Federation and Indigenous organizations, landowners, interested parties, environmental organizations, and the general public that potential environmental effects caused by the Project will be monitored, evaluated and reported on in a responsible and accountable manner.

An internal Environmental Protection Information Management System (EPIMS) was developed that will manage, store and facilitate the transfer of Environmental Protection Program data and information amongst the Project team. EPIMS will facilitate the transferring of knowledge and experiences encountered on a daily basis during construction activities from Environmental Inspectors to the Specialists that are responsible for monitoring project effects. EPIMS is an essential tool that manages vast amounts of data and information that will be generated through the implementation of the plan, allowing for Manitoba Hydro to employ an adaptive management approach during this project and apply that experience and knowledge to future developments.

2.1 Purpose

The purpose of the environmental monitoring report is to meet regulatory requirements and to outline results of the key activities that were conducted as part of the monitoring and follow-up component of the Project.

2.2 Objectives

The objectives of this report are to describe the monitoring methods used, the valued components, the monitoring results with measurable goals, the effectiveness of mitigation, and

future actions and monitoring. Much of this information is detailed within the following subheadings in Section 3:

- Confirm the nature and magnitude of predicted environmental effects as stated in the EIS;
- Assess effectiveness of mitigation measures implemented;
- Identify unexpected environmental effects of the project, if they occur;
- Identify additional mitigation measures to address unanticipated environmental effects, if required;
- Confirm compliance with regulatory requirements including approval terms and conditions; and
- Provide additional baseline information to evaluate long-term changes or trends.

2.3 Scope of Work

The scope of this environmental monitoring report includes the biological and socio economic components outlined in the environmental monitoring plan. A Cultural and Heritage Resources Protection Plan (CHRPP) was also developed that outlines Manitoba Hydro's commitment to safeguard cultural and heritage resources and provide information on how to appropriately handle human remains or cultural and heritage resources discovered or disturbed during construction of the Project.

2.4 Management and Coordination

As part of the EPP, Manitoba Hydro had staff comprised of senior Manitoba Hydro management, as well as implementation teams committed to the implementation of the EMP for the Project. The Environmental Protection Management Team was responsible for the management of the environmental protection plans including compliance with regulatory and other requirements and quality assurance and control. Manitoba Hydro coordinated discussions with regulators and integrated monitoring outcomes related to the MMTP Monitoring Committee, First Nation and Metis Engagement Process (FNMEP) and Public Engagement Process (PEP) into the EMP. The Environmental Protection and Implementation Team, which was comprised of Manitoba Hydro operational and office staff, was responsible for the day to day implementation of environmental protection plans developed for the project which included monitoring, inspecting and reporting.

Manitoba Hydro ensured that resources were allocated to the environmental aspects of project planning, development, implementation and operation for the successful implementation of environmental protection measures and follow-up including monitoring. Manitoba Hydro

committed resources early in the planning cycle to ensure effective environmental assessment, mitigation and monitoring.

2.5 Public Communications and Engagement

In addition to extensive public engagement efforts that have occurred to date throughout the development of the Project, Manitoba Hydro welcomes all members of the public to contact the corporation with questions or comments throughout the environmental monitoring process. Manitoba Hydro's Manitoba-Minnesota Transmission Project website site, www.hydro.mb.ca/mmtp, is maintained and updated regularly throughout the project with the summary of results. As noted on the Project website, additional information is available to the public upon request via a toll-free phone number, dedicated project e-mail address or by mail.

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2.6 First Nation and Metis Engagement Process

Manitoba Hydro's approach to the ongoing First Nation and Metis Engagement Process (FNMEP) was the development of a MMTP Monitoring Committee. Information generated by this committee was used in an adaptive way to modify and improve the environmental monitoring plan, including adding surveys on traditional use plants.

The MMTP Monitoring Committee is made up of participants from Indigenous communities and groups across southern Manitoba and Ontario, Manitoba Hydro and Manitoba Conservation and Climate. Their comprehensive website can be found at:
https://www.mmtpmonitoring.com/

The purpose of the MMTP Monitoring Committee is to:

- support Indigenous participants effective and meaningful participation in the monitoring of the project
- create a platform for understanding issues of concern to Indigenous participants and Manitoba Hydro in order to collaboratively provide informed advice on how to address issues of concern
- share information in a cooperative and transparent manner relating to the environmental issues of the Project

The goals of the MMTP Monitoring Committee are to monitor that:

- Manitoba Hydro does what they say they would do and is compliant with licence and certificate conditions.
- The land and water is respected as we use our knowledge to monitor its health
- Leadership, members and staff from communities and organizations feel informed about the status of MMTP and information is accessible to those who just want to check in if interested.
- There is a place to discuss topics of interest to us that are beyond MMTP.

Invited Members include:

Animakee Wa Zhing #37
Anishnaabeg of Naongashiing
Birdtail Sioux First Nation
Black River First Nation
Brokenhead Ojibway Nation
Buffalo Point First Nation
Canupawakpa Dakota Nation
Dakota Plains Wahpeton First Nation
Dakota Tipi First Nation
Iskatewizaagegan #39 Independent FN
Long Plain First Nation
Northwest Angle #33 First Nation
Peguis First Nation
Roseau River Anishinabe First Nation
Sagkeeng First Nation
Sandy Bay Ojibway First Nation
Swan Lake First Nation
Shoal Lake 40 First Nation
Sioux Valley Dakota Nation
Waywayseecappo First Nation
Manitoba Metis Federation
Aboriginal Chamber of Commerce
Assembly of Manitoba Chiefs
Dakota Ojibway Tribal Council
Southern Chiefs Organization
Manitoba Hydro
Manitoba Sustainable Development

In August 2019, the Monitoring Committee hired four Indigenous monitors responsible for monitoring the construction of MMTP and supporting the Committee in achieving their goals.

Travis Bird, Swan Lake First Nation	Compliance and Environment Monitor
Keith Kowall, Manitoba Metis Federation	Compliance and Environment Monitor
Darryl Taylor, Dakota Tipi First Nation	Communications Monitor
Floyd Flett, Peguis First Nation	Traditional Knowledge Monitor

The monitors visited project construction sites four days per week and reported on their daily observations of construction activities, raising matters of environmental concern and non-compliance to Manitoba Hydro. Examples of issues observed included spills, substandard machinery, and ground disturbance beyond prescribed areas.

Other responsibilities fulfilled by the monitors included providing presentations to interested communities and organizing traditional ceremonies and tobacco offerings. Firewood and cedar

harvested from the project ROW were also bundled by the monitors and delivered to interested communities.

In 2020, the MMTP Indigenous monitors published a report on the observations, challenges, and recommendations developed through their experience monitoring construction of the project. Recommendations included, but were not limited to:

- A process for inspecting machinery to clear it for use on the ROW;
- Increased diligence in contractor hiring to ensure contractors understand the importance of environmental protection; and
- Indigenous involvement in early project activities such as geotechnical drilling and heritage work.

The monitors reported that Manitoba Hydro was timely in responding to concerns they identified. This was accomplished through biweekly meetings with construction managers. The opportunity to perform traditional ceremonies and make offerings of tobacco and prayers to show respect for the people, environment, and spirits affected by the project was very important to the monitors and recommended as an essential component on future projects.

Following completion of the construction phase, the monitors have continued to perform post-construction monitoring. To date, three post-construction monitoring tours have taken place:

- September 24, 2020
- January 29, 2021
- October 29, 2021

During post-construction monitoring tours, the monitors complete a report of their observations related to wildlife and habitat, presence of traditional plant species and invasive plants, water level observations, accessibility, and level of visual disturbance. Ongoing monitoring has focused primarily on four sites along the MMTP ROW located near Towers, 124, 405, 406, and 441. Vegetation monitoring quadrants have been set up to allow the monitors to observe the growth of traditional plant species over time. Post-construction monitoring reports and photos are made available on the https://www.mmtpmonitoring.com/ webpage.

At times, action items for Manitoba Hydro are captured in the monitoring reports or through discussions that take place during monitoring tours. In accordance with recommendations of the Indigenous monitors, Manitoba Hydro is currently working to design, acquire, and place signs at environmentally sensitive sights along MMTP. The signs are to be written in English, Ojibway, Dakota and Michif.

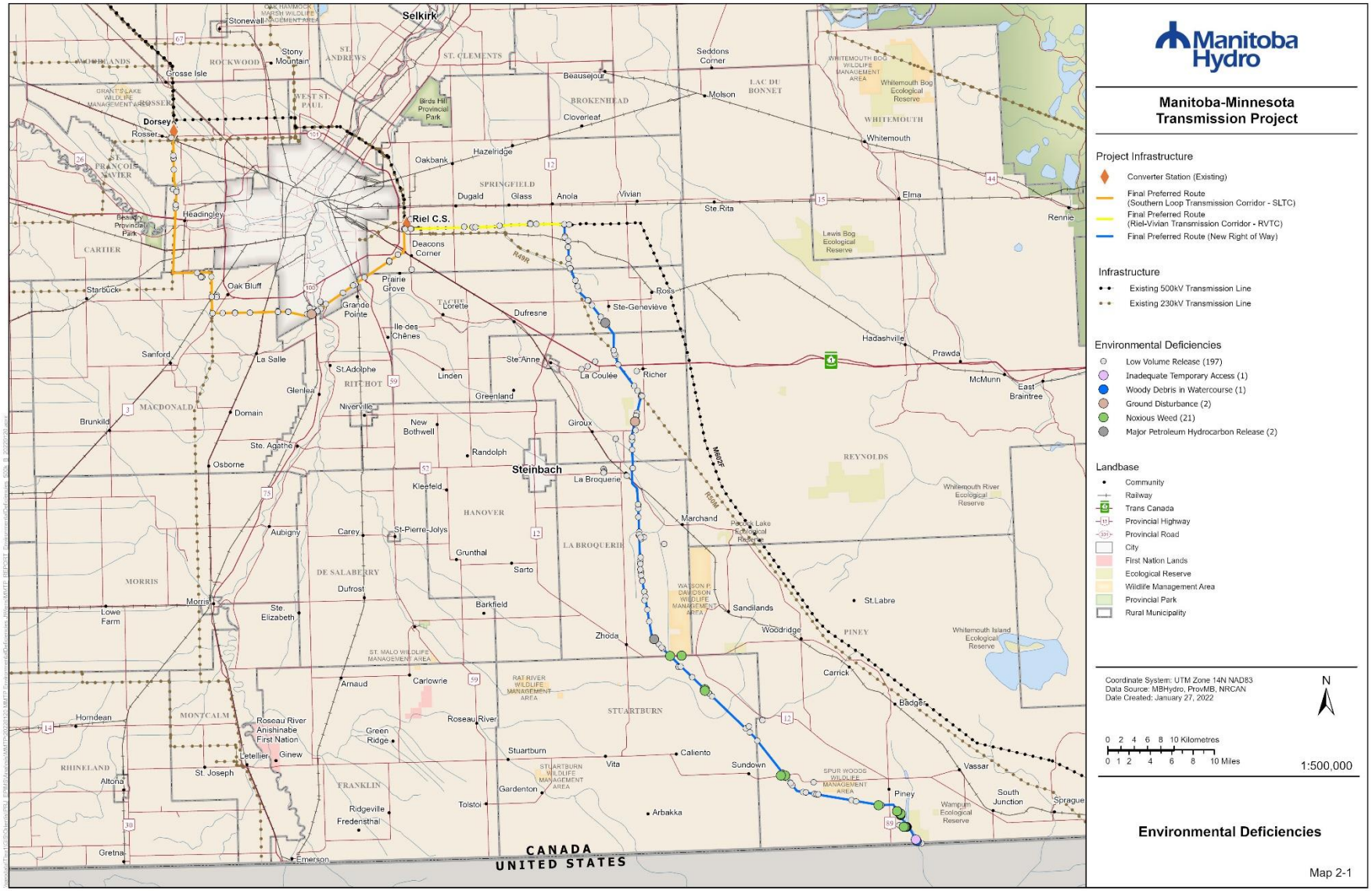
The monitors have also suggested developing an information sheet to discuss common questions and topics that may arise when Indigenous people consider visiting areas near transmission lines such as clarifications about accessing the ROW.

The MMTP Indigenous monitors have shared with Manitoba Hydro that their experience monitoring MMTP has been positive and that they believe it is essential for Indigenous monitors to be present on all projects that affect the land and water.

2.7 Environmental Issues that arose during Construction or in the Previous Year

Throughout the Project construction phase routine environmental mitigation measures were applied as per the environmental protection plan. However, some environmental issues did arise that required additional effort and rehabilitation to protect the environment. Examples of these issues included; releases, invasive weeds, excessive or debris in a watercourse. Additional environmental issues may be identified in future years of the post-construction monitoring phase. Table 2-1 outlines environmental deficiencies including location, corrective action, current status, and schedule for any unresolved issues. Map 2-1 shows locations of environmental issues that arose during construction or during the previous year.

Table 2-1 List of Environmental Deficiencies					
Sites	Date	Item Description	Project Area/Timeframe	Corrective Action and schedule for unresolved issues	Current Status Year 1 (2020)
Low volume release sites (197) identified at various locations along ROW. Map 2-1.	June 17, 2021	Release site identified, contaminated material removed contaminated material, and soil tested, as required. Includes NEB Inspection Report# CV1920-477 NNC#1 – Visual sign of hydrocarbon release	MMTP - S1 and S2/ identified during construction phase	All release sites cleaned up and remediated prior to November 1, 2020. No further action. Includes response to NNC#1 submitted on March 3, 2020.	Resolved
Inadequate temporary access. The eastern arm of Pine Creek. SW-4-1-12-E. Map 2-1.	October 23, 2019	NEB Inspection Report# CV1920-108 NNC#1 – Inadequate temporary access	MMTP – S2 identified during construction	New temporary bridge installed as outlined in response to NNC #1 on November 4th, 2019.	Resolved
Major petroleum hydrocarbon release near tower 265. NE-2-9-7-E in the Rural Municipality of Tache. Map 2-1.	January 30, 2020	~200L diesel fuel release, remove contaminated material, test samples, rehabilitate.	MMTP - S2/ identified during construction phase, completed post construction phase	Release site cleaned up, remediated. Clean up work completed by February 18, 2020. Monitoring conducted until November 2020. No further action.	Resolved
Major petroleum hydrocarbon release at MMTP laydown yard. NE-9-4-8-E in the Rural Municipality of La Broquerie. Map 2-1.	March 21, 2020	60L hydraulic oil release, remove contaminated material, test samples, rehabilitate.	MMTP - S2/ identified during construction phase, completed post construction phase	Release site cleaned up, remediated. Clean up work completed by July 6, 2020. No further action.	Resolved
Six noxious weed sites identified at various locations along the ROW in Rural Municipality of Piney and Stuartburn. Map 2-1.	July 24, 2020	Tier 1 and 2 weed species sites	MMTP - S2/ identified post construction phase	Contract licensed herbicide applicator to treat weed sites. Treatment conducted on September 23, 2020. Regional weed inspector satisfied. Vegetation surveys in Year 2 may identify additional weed sites.	Resolved. Further weed sites may be identified in 2021.
Woody debris in watercourse near tower 493. SW-4-1-12-E, Rural Municipality of Piney, ESS Aqua 130. Map 2-1.	June 29, 2020	Woody debris in watercourse. A small number of woody branches and stumps.	MMTP - S2/ identified during post construction phase	Debris removed from watercourse on August 5th, 2020. No further action.	Resolved
Ground disturbance along ROW at tower 303. NW-20-7-8E, RM of Ste. Anne. Map 2-1.	September 9, 2020	Ground disturbance	MMTP - S2/ identified during construction	Back blade and level ground on November 3, 2020, and June 21, 2021. No further action.	Resolved
Ground disturbance along ROW at towers 119A, 119B at RL-73-NO, City of Winnipeg. Map 2-1.	Spring 2020	Ground disturbance	MMTP - S1/ identified during construction	Tilled and leveled ground and repaired access between June 4-15, 2020. No further action.	Resolved



Map 2-1 Locations of environmental deficiencies that arose during construction

3.0 Monitoring Program Methods and Results

Table 4-1 below provides the list of valued components and their environmental indicators that were outlined in the environmental monitoring plan. It also describes the parameters measured, rationale for their selection, and status in this report. Outcomes from 2020 field studies are included in this report. Data from environmental surveys conducted in 2021 are currently being analysed and will reported in January 2023. Map 1-2 shows an overview of monitoring site locations.

Table 3-1 Monitoring Activities by Environmental Component

Valued Component	Environmental Indicator	Parameter	Rationale[1]	Reporting Status
Fish and Fish Habitat	Stream Crossings	Riparian buffers, ground cover, erosion;	Environmental importance; protection of aquatic life; Regulatory importance	2020 results presented.
Vegetation and Wetlands	Wetlands	Vegetation cover and area of wetland affected by the project	Environmental importance; protection of aquatic life, no net loss	2020 results presented.
	Plant Species of Conservation Concern	Species occurrence	Regulatory importance – MESEA and SARA	2020 results presented.
	Invasive Plant Species	Species occurrence	Environmental importance	2020 results presented.
	Traditional Use Plant Species	Species occurrence	Cultural and environmental importance	2020 results presented
Wildlife and Wildlife Habitat	Amphibians	Presence of northern leopard frogs, eastern tiger salamanders and habitat	Regulatory importance – SARA *The Wildlife Act*	2020 results presented.
	Common Garter Snakes	Presence of garter snake hibernacula	Regulatory importance – *The Wildlife Act*	None identified.
	Bird-Wire Collision	Abundance and mortality	Environmental and cultural importance; Regulatory importance	2020 results presented.
	Sharp-tailed Grouse Lekking Sites	Lek abundance, number of males, mortality changes	Vulnerable and sensitive to change; Regulatory importance	2020 results presented.

Table 3-1 Monitoring Activities by Environmental Component

Valued Component	Environmental Indicator	Parameter	Rationale[1]	Reporting Status
	Bird Species of Conservation Concern	Presence/Absence habitat suitability	Regulatory importance - MESEA; SARA; MBCA;MB CDC, designated Golden-winged Warbler critical habitat	2020 results presented.
	Golden-winged Warbler Habitat	Vegetation cover	Regulatory importance – MESEA and SARA	2020 results presented.
	Birds of Prey	Nest site locations	Environmental and cultural importance; Regulatory importance	2020 results presented.
	Ungulates and Predators	Occurrence and/or seasonal distribution, vehicle collision related mortality	Environmental and cultural importance; Regulatory importance	2020 results presented.
	Black Bear	Occurrence, annual prevalence	Environmental and cultural importance; Regulatory importance	2020 results presented.
Employment and Economy	Project Employment	Total person years of employment, total number of hires, total number of employees. Type (job classifications) of work available.	Socio-economic and cultural importance	2020 results to be presented in next report.
	Direct/Indirect Business Effects	Direct project expenditures Indirect business opportunities	Socio-economic and cultural importance	2020 results delayed to be presented in next report.
	Direct Labour Income and Taxes	Direct labour income. Project taxes generated (non-labour).	Socio-economic and cultural importance	2020 results delayed to be presented in next report.
Infrastructure and Services	Transportation	Traffic volumes and accidents on key roadways.	Socio-economic and cultural importance	2020 results delayed to be presented in next report.

Table 3-1 Monitoring Activities by Environmental Component

Valued Component	Environmental Indicator	Parameter	Rationale[1]	Reporting Status
Outfitters and Falconry	Outfitter Resource Use	Change in occurrence of black bears frequenting bear bait sites	Socio-economic importance	Delayed due pandemic.
	Peregrine Falcon Conservation Centre	Location of peregrine perch sites, distance moved and mortality	Socio-economic and environmental importance	2020 results presented.
Agricultural Land	Soil Productivity	Crop performance	Socio-economic and environmental importance	2020 results presented.
	Rutting and Compaction	Return to pre-construction condition	Socio-economic and environmental importance	2020 results presented.
	Tile Drainage Reclamation	Tile drain performance	Socio-economic and environmental importance	Not required.
Access	Access Controls	Effectiveness of access controls	Socio-economic and environmental importance	2020 results presented.

[1] Manitoba Endangered Species and Ecosystems Act (MESEA); Species at Risk Act (SARA); Manitoba Conservation Data Centre (MB CDC); Migratory Bird Convention Act (MBCA)

3.1 Fish and Fish Habitat

Fish and fish habitat change can be an important indicator of environmental effects of the Project. Post-construction monitoring conducted in 2020 concluded that all watercourse crossing sites were found in compliance with no additional mitigation required. A stream crossing technical report with more detailed description of methods, maps, and results is included in the Appendix A of this report.

3.1.1 Stream Crossing Assessment

A stream crossing assessment was conducted by qualified contractors who evaluated Manitoba Hydro's Daily Inspection Reports, aerial photography and conducted visual site inspections from the air on ground on June 29th, 2020 (Photo 1, 2, 3). A summary of the results is outlined below. Detailed results of the stream crossing assessment can be found in the technical report included in Appendix A.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

As predicted in the EIS, project effects on watercourse crossings were minor. All 33 environmentally sensitive sites (ESS) sites observed were constructed and cleaned up in accordance with the mitigation measures outlined in the environmental protection program

(EPP). One site on the Pine creek required removal of additional woody debris, which was conducted in August 2020.

Assess the effectiveness of mitigation measures implemented:

The implementation of mitigation recommendations outlined in the construction environmental protection plan was effective. The one site identified at Pine creek as being non-compliant with the prescribed mitigation due woody debris in the watercourse was rehabilitated, with no further remediation warranted.

Identify mitigation measures to address unanticipated environmental effects, if required:

No further mitigation is required. No further action or monitoring is required.

Confirm compliance with regulatory requirements including approval terms and conditions:

To the best of our knowledge, compliance with regulatory requirements has been met.

Provide baseline information to evaluate long-term changes or trends:

Survey information showed minimal change in baseline information or long-term trends.

3.2 Vegetation

Vegetative change can be an important indicator of environmental effects of the Project. Post-construction vegetation monitoring was conducted over the course of the 2020 vegetation growing season. A vegetation technical report with more detailed description of methods, maps, and results is included in Appendix B of this report.

3.2.1 Wetland Survey

Wetland surveys were conducted by qualified contractors who evaluated aerial photography and conducted site inspections on pre-selected long-term monitoring sites on July 21-23rd, 2020 (Photo 4). A summary of the results can be found below. Detailed description of methods, maps, and results can be found in the vegetation technical report included in Appendix B.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

As predicted in the EIS, although some wetlands assessed showed a physical change in appearance from clearing and construction activities (i.e., sparse tree and shrub removal), wetland distribution and function remained unchanged. Sixteen wetland sites were assessed in 2020.

Assess the effectiveness of mitigation measures implemented:

Mitigation measures during vegetation clearing and construction appear to have minimized surface disturbance and have been effective. No major disturbances were noted at any wetland sites, and surface soils appeared relatively undisturbed, without major rutting observed. Few wetland sites had areas with minor amounts of exposed soil.

Identify mitigation measures to address unanticipated environmental effects, if required:

No further mitigation is required. No further action is required. One more year of monitoring will be conducted.

Confirm compliance with regulatory requirements including approval terms and conditions:

To the best of our knowledge, compliance with regulatory requirements has been met.

Provide baseline information to evaluate long-term changes or trends:

Survey information showed minimal change in baseline information or long-term trends for wetlands.

3.2.2 Rare Plant Survey

Rare plant surveys were conducted by qualified contractors who conducted meander and transect surveys in environmentally sensitive sites throughout July 2020 (Photo 5). No species at risk listed under either the Manitoba's *The Endangered Species and Ecosystems Act* or the federal *Species at Risk Act* were observed during surveys during pre or post project monitoring. A summary of the results can be found below. Detailed description of methods, maps, and results of the rare plant survey can be found in the vegetation technical report included in Appendix B.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

As predicted in the EIS, there was a minor reduction in abundance of rare plants from pre to post construction surveys in 2020.

Assess the effectiveness of mitigation measures implemented:

Environmental monitoring determined that the recommended mitigation was generally implemented for species of conservation concern. Mitigation measures appear to have minimized ground surface disturbance from construction activities at these sites. However, two sites did show higher levels of site disturbance, with exposed soil and rutting.

Identify mitigation measures to address unanticipated environmental effects, if required:

No further mitigation is required. No further action or monitoring is required.

Confirm compliance with regulatory requirements including approval terms and conditions:

To the best of our knowledge, compliance with regulatory requirements has been met.

Provide baseline information to evaluate long-term changes or trends:

Survey information showed minimal change in baseline information or long-term trends, however the data provided in the technical report will provide long term information on the prevalence of species of conservation concern along MMTP and in southeast Manitoba.

3.2.3 Non-native and Invasive Species Plant Survey

Non-native and invasive species plant surveys were conducted by qualified contractors at pre-selected sites throughout July 2020 (Photo 6). 300 roadside surveys were conducted project

wide to monitor species composition, density, and distribution. A summary of the results can be found below. Detailed description of methods, maps, and results of the non-native and invasive plant survey can be found in the vegetation technical report included in Appendix B.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

As predicted in the EIS, invasive plant species abundance and distribution increased from pre-construction values. In 2017, 56 noxious, invasive or non-invasive SNA species were recorded and 59 species in 2018, compared to 70 species observed post-construction. The number of noxious Tier 1 and 2 species observed has also increased from four to six species. The distribution (number of sites) of noxious Tier 1 and 2 species has increased on the ROW from pre-construction values, from 15 to 33.

Assess the effectiveness of mitigation measures implemented:

Recommended mitigation was effective where implemented for invasive plant species, which minimized the ground disturbance and infestation of species from construction activities. Mitigation measures appear to have minimized site disturbance and opportunities for invasive plant species.

Identify mitigation measures to address unanticipated environmental effects, if required:

Follow up monitoring and invasive species control including herbicide application to control Tier 1 and 2 invasive plants along the right of way has been conducted. Additional monitoring will be considered for 2022.

Confirm compliance with regulatory requirements including approval terms and conditions:

To the best of our knowledge, compliance with regulatory requirements has been met.

Provide baseline information to evaluate long-term changes or trends:

Survey information showed a change in baseline information and the value of implementing low disturbance mitigation measures. The data provided in the technical report will provide long term information on the prevalence of invasive species along MMTP and in southeast Manitoba.

3.2.4 Traditional Use Plant Survey

As part of the First Nation and Metis engagement process, traditional use plant surveys were identified as an important element for environmental monitoring. The MMTP monitoring committee is conducting ongoing traditional use plant surveys as part of the post-construction monitoring program (section 2.6 of this report). In concert with this process, traditional use plant surveys were also conducted by a contractor specializing in plant identification at eleven pre-selected sites between August 5-8th, 2020 (Photo 7). These sites are valued for their provision of resources used by Indigenous peoples including gathering of food and medicines and harvesting plants and trees. A summary of the results can be found below. Detailed description of methods, maps, and results of the traditional use plant survey can be found in the vegetation technical report included in Appendix B.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

The predicted change in vegetation cover and structure was accurate for traditional use plant species sites. Vegetation total mean cover decreased from pre-construction values and structure has been modified to accommodate the transmission line. Clearing on the right of way has temporarily reduced vegetation cover due to the removal of multiple vegetation stratums, including the tree layer, tall shrub, and low shrub and ground vegetation.

Assess the effectiveness of mitigation measures implemented:

Monitoring determined that the recommended mitigation measures were implemented for traditional use plant species, which minimized the ground disturbance from construction activities.

Identify mitigation measures to address unanticipated environmental effects, if required:

None identified at this time. No further mitigation is required. One more year of monitoring will be conducted.

Confirm compliance with regulatory requirements including approval terms and conditions:

To the best of our knowledge, compliance with regulatory requirements has been met.

Provide baseline information to evaluate long-term changes or trends:

Survey information showed minimal change in baseline information or long-term trends, however the data provided in the technical report will provide long term information on the prevalence of traditional use plant species along MMTP and in southeast Manitoba.

3.3 Wildlife and Wildlife Habitat

Wildlife and wildlife habitat change can be an important indicator of environmental effects of the Project. Post-construction monitoring was conducted throughout 2020. Technical reports on wildlife monitoring are included as appendices in this report.

3.3.1 Wetland Amphibian Survey

Wetland amphibian surveys were conducted by qualified contractors at preselected sites on July 6-11th and September 8-10th, 2020 (Photo 8 and 9). Twenty-six sites were surveyed and assessed for species presence and water quality parameters. A summary of the results can be found below. Detailed description of methods, maps, and results of the wetland amphibian survey can be found in Appendix C.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

As predicted in the EIS, there did not appear to be any unanticipated project effects on northern leopard frogs, eastern tiger salamanders, or water quality within or adjacent to the Project in 2020. Amphibian species continue to be present and water quality at sites was similar during pre-construction and post-construction surveys.

Assess the effectiveness of mitigation measures implemented:

Construction was compliant with prescribed mitigation and considered to be effective. Three sites had either large woody debris in the watercourse or an insufficient riparian buffer. The site with woody debris was rehabilitated, and the other two sites will continue to be monitored for vegetation recovery. Water quality or amphibian abundance did not appear affected.

Identify mitigation measures to address unanticipated environmental effects, if required:

No further mitigation is required. One more year of monitoring will be conducted.

Confirm compliance with regulatory requirements including approval terms and conditions:

With the exception of the three sites noted above, to the best of our knowledge, compliance with regulatory requirements has been met.

Provide baseline information to evaluate long-term changes or trends:

A new breeding site of eastern tiger salamander was identified, and spatial information provided to Provincial wildlife managers. This discovery will enhance species knowledge, management and recovery efforts.

3.3.2 Snake Hibernacula Survey

No snake hibernacula were found in the pre-construction surveys or construction phase of the project. Therefore, no post construction monitoring was required.

3.3.3 Bird-Wire Collision Survey

Bird-wire collision surveys using standardized methods were conducted by qualified contractors at eighteen pre-selected sites from September 10-21, 2020 (Photo 10). A summary of the results can be found below. Detailed description of methods, maps, and results of the bird-collision survey can be found in Appendix D.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

As predicted in the EIS, some bird collisions were observed in post-construction phase of the Project. Estimated collision mortality rates appear to be higher in comparison to other studies but may be a result of vegetation conditions and relatively low searcher efficiency metrics in 2020. No species of conservation concern, including peregrine falcons were observed. Further surveys will be conducted in 2021.

Assess the effectiveness of mitigation measures implemented:

Bird-wire diverters along the MMTP appear to be effective at reducing the number of bird-wire collision mortalities. No threatened or endangered species were observed during the fall 2020 survey.

Identify mitigation measures to address unanticipated environmental effects, if required:

No further mitigation is required. One more year of monitoring will be conducted.

Confirm compliance with regulatory requirements including approval terms and conditions:

To the best of our knowledge, compliance with regulatory requirements has been met.

Provide baseline information to evaluate long-term changes or trends:

The information provided in this and future technical reports will provide long term information on the prevalence of bird wire collisions in Manitoba.

3.3.4 Sharp-tailed Grouse Lek Survey

Sharp-tailed grouse lek surveys using standardized avian and camera trap methods were conducted by qualified contractors at 76 identified sites from April 9-May 7th, 2020 (Photo 11). A summary of the results can be found below. Detailed description of methods, maps, and results of the sharp-tailed grouse lek survey can be found in the technical report included in Appendix E.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

The EIS predicted that the there could be a decline in sharp-tailed grouse at lek sites. However, during this survey this was not identified. Over 84 sites were surveyed in 2020.

Assess the effectiveness of mitigation measures implemented:

Mitigation measures including timing of construction, appeared to have been effective.

Identify mitigation measures to address unanticipated environmental effects, if required:

No further mitigation is identified, to date. One more year of monitoring will be conducted.

Confirm compliance with regulatory requirements including approval terms and conditions:

Compliance with regulatory requirements has been met.

Provide baseline information to evaluate long-term changes or trends:

The information provided in this and future technical reports will provide long term information on the long term changes and trends in sharp-tailed grouse ecology in south east Manitoba that will enhance management.

3.3.5 Bird Species of Conservation Concern Survey

Bird species of conservation concern surveys were conducted using standard avian point count and call-back surveys at pre-selected sites between June 16-19th, 2020 (Photo 12). A summary of the results can be found below. Detailed description of methods, maps, and results of the bird species of conservation concern survey can be found in the technical report included in Appendix F.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

The EIS predicted small, low magnitude environmental effects on golden-winged warblers, which is what was found in this study. Golden-winged warblers continue to utilize the project area in the post-construction phase. No least bittern or short-eared owls were observed.

Assess effectiveness of mitigation measures implemented:

Mitigation appeared to be effective, although in some locations perch site trees were difficult

to identify as they were very near the edge of the right of way.

Identify mitigation measures to address unanticipated environmental effects, if required:

No further mitigation is required. One more year of monitoring will be conducted.

Confirm compliance with regulatory requirements including approval terms and conditions:

Compliance with regulatory requirements has been met.

Provide baseline information to evaluate long-term changes or trends:

Information on use by golden-winged warblers will enhance knowledge and management and species recovery.

3.3.6 Golden-winged Warbler Habitat Survey

Golden-winged warbler habitat surveys were conducted by qualified contractors using standardized vegetation surveys at pre-selected sites from August 5-9th, 2020 (Photo 13). A summary of the results can be found below. Detailed description of methods, maps, and results of the golden-winged warbler habitat survey can be found in the vegetation technical report included in Appendix B.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

As predicted in the EIS, vegetation has been selectively cleared in areas to enhance suitability for GWW. Thirteen sites in critical habitat were surveyed in 2020.

Assess the effectiveness of mitigation measures implemented:

Mitigation was effective at meeting vegetation clearing objectives, although in some locations perch site trees were difficult to identify as they were very near the edge of the right of way.

Identify mitigation measures to address unanticipated environmental effects, if required:

No further mitigation is required. One more year of monitoring will be conducted.

Confirm compliance with regulatory requirements including approval terms and conditions:

To the best of our knowledge, compliance with regulatory requirements has been met.

Provide baseline information to evaluate long-term changes or trends:

Information on vegetation recovery and use by golden winged warblers will enhance knowledge and management. Surveys in following years will support this.

3.3.7 Raptor Nest Survey

Raptor nest surveys were conducted in pre-construction phase (NEB Ex. A87858-1 and A87858-2). No raptors nests were destroyed during construction. Construction activity was completed in winter and early spring limiting effects on raptor nests. One raptor nest (possible bald eagle) was temporarily disturbed during the 2020 nesting season. No nesting or egg laying had been initiated at this site prior to disturbance. Post-construction, incidental surveys for raptor nests will be conducted by Manitoba Hydro maintenance staff during asset inspection surveys.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

The EIS predicted small, low magnitude environmental effects on raptor nests, which is what occurred. Raptors will continue to use the project area in the post construction phase.

Assess effectiveness of mitigation measures implemented:

Construction timing was effective in preventing effects to raptor nests.

Identify additional mitigation measures to address unanticipated environmental effects, if required:

No further mitigation is required.

Confirm compliance with regulatory requirements including approval terms and conditions:

To the best of our knowledge, compliance with regulatory requirements has been met.

Provide additional baseline information to evaluate long-term changes or trends:

Raptors including bald eagles, appear very abundant in the project area.

3.3.8 Ungulates and Predators

Information on the distribution of ungulates, including elk, were collected from monitoring surveys, contractors, and information from the Vita Cross-Border Elk Monitoring Partnership.

3.3.8.1 Distribution / Occurrence Mapping Survey

Distribution and occurrence mapping surveys for mammals were conducted by a qualified contractor using a a standardized aerial survey between March 4-6th, 2020. This survey was conducted as by trained observers from a helicopter under appropriate snow conditions to identify and record the abundance and location of mammals. Detailed description of methods, maps, and results of distribution and occurrence mapping survey can be found in Appendix G.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

As predicted in the EIS, abundance of white-tailed deer was not significantly different between preconstruction an construction periods. The pattern in deer densities observed in 2020 for both the control and potentially affected survey units matches the pre-construction surveys in terms of relative abundance, but in general, there were consistently higher deer densities in all survey units in 2017 and 2018 compared with 2020. The variation is likely a result of annual variation in natural deer populations and their distribution. Observations of wolf and coyote have not illustrated any detectable changes in densities or occurrence from the pre- and during-construction period.

Assess effectiveness of mitigation measures implemented:

Mitigation such as timing of construction, location of access routes, and environmental training appeared to be effective.

Identify additional mitigation measures to address unanticipated environmental effects, if required:

No further mitigation is required. One more year of monitoring will be conducted.

Confirm compliance with regulatory requirements including approval terms and conditions:

To the best of our knowledge, compliance with regulatory requirements has been met.

Provide additional baseline information to evaluate long-term changes or trends:

White-tailed deer continue to be very abundant, with no evidence of moose or elk in the study area during this survey.

3.3.8.2 Camera Trap Survey

Camera trap surveys were conducted throughout 2020 with the deployment of equipment at pre-selected sites with a focus on identifiying white-tailed deer, black bear, gray wolf, and coyote (Photo14). Detailed description of methods, maps, and results of distribution and occurrence mapping survey can be found in Appendix G.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

As predicted in the EIS, there was no significant difference in white-tailed deer or black bear observations between areas affected by the Project and control sites. Despite construction activities, the densities and distribution of white-tailed deer and predators across all survey blocks during the construction period was consistent with pre-construction data described in the EIS. Coyotes and wolves were detected but in limited numbers that did no allow for formal analysis. No moose or elk were observed.

Assess effectiveness of mitigation measures implemented:

Mitigation such as timing of construction, location of access routes, and environmental training appeared to be effective.

Identify additional mitigation measures to address unanticipated environmental effects, if required:

No further mitigation is required. One more year of monitoring will be conducted.

Confirm compliance with regulatory requirements including approval terms and conditions:

To the best of our knowledge, compliance with regulatory requirements has been met.

Provide additional baseline information to evaluate long-term changes or trends:

White-tailed deer continue to be very abundant, with no evidence of moose or elk in the study area during this survey.

3.3.8.3 Vehicle Collision Statistic Gathering

Vehicle collision statistic gathering was conducted throughout the construction phase by Manitoba Hydro and contractors. No collisions occurred with moose or elk. One vehicle deer collision, which occurred in the spring of 2020 with a Manitoba Hydro vehicle, resulted in a white-tailed deer mortality. These results demonstrate a very low rate of collisions with ungulates.

3.3.8.4 Mineral Lick Survey

Completed and reported in preconstruction phase NEB at Ex A93043-1 and A93043-4. The Project did not affect mineral licks.

3.3.8.5 Support the "Vita Cross-Border Elk Monitoring Partnership" (RM of Stuartburn, Nature Conservancy Canada, Manitoba Sustainable Development)

Completed in pre-construction and construction phase. Most recent partnership meeting held on March 24th, 2021. No evidence of elk population shifting range, movements, or interacting with MMTP. One cow elk with a GPS collar was shown to have crossed the MMTP ROW on two occasions. The remainder of the elk population continued to use traditional range outside of the Project area. Due to sensitive content regarding elk locations, meeting minutes are held by Provincial regional wildlife manager.

3.3.8.6 Support a Memorial University PhD project titled "Testing the Effects of Hydropower Transmission Line Right-of-Ways on Wildlife Movements and Predator-Prey Dynamics"

Completed in preconstruction phase and continued through 2020. Project information available from Memorial University at https://weel.gitlab.io/team/daniel/ and https://weel.gitlab.io/team/katrien/.

3.4 Employment and the Economy

3.4.1 Project Employment Reporting

The results of the project employment data collection were not available in time for publication in this report. Results will be provided in the next monitoring report.

3.4.2 Direct/Indirect Business Opportunities Reporting

The results of the project employment data collection were not available in time for publication in this report. Results will be provided in the next monitoring report.

3.4.3 Direct Labor and Income Taxes Reporting

The results of the project employment data collection were not available in time for publication in this report. Results will be provided in the next monitoring report.

3.5 Infrastructure and Services

3.5.1 Traffic Monitoring Survey

The results of the traffic monitoring survey were not available in time for publication in this report. Results will be provided in the next monitoring report. A summary of traffic incidents can be found in Appendix H.

3.6 Outfitting and Falconry

3.6.1 Black Bear Bait Site Camera Trap Survey

The covid-19 pandemic and the closure of international borders had a significant effect on black bear outfitting in Manitoba. Manitoba Hydro will continue to attempt to work with the local black bear hunting outfitter to conduct monitoring in 2022, however no monitoring was conducted in 2020 or 2021.

3.6.2 Peregrine Falcon Conservation Centre Survey

Manitoba Hydro attempted to work with the Peregrine Falcon Conservation Centre to conduct monitoring but did not receive a response to our offers of support. Letters of correspondence attached in Appendix I. As supplementary information, Manitoba Hydro did not observe any interactions between peregrine falcons and the MMTP project as part of environmental inspections during the construction period.

3.7 Agriculture

3.7.1 Agricultural Land

To assess Project effects on soil productivity, differences in Normalized Difference Vegetation Index values (computer generated spatial data) were compared between areas within the ROW and adjacent, comparable off ROW areas within a defined agricultural evaluation area. The agricultural evaluation area is comprised of areas of annual crop, forage (hay) and pasture (grassland, grazing) production traversed by the Project. Detailed description of methods, maps, and results of can be found in Appendix J.

3.7.1.1 Soil Productivity

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

Results from the monitoring program are consistent with the predictions made in the EIS. Project activities have resulted in disturbance to soil and crop productivity within the ROW. Negative effects were found to persist following construction, which occurred between the 2019 and 2020 growing seasons. Effects were found to be limited to the ROW and associated with areas of construction activity (e.g., tower work areas, construction access and trails) within

the ROW. As documented in the EIS, effects to soil productivity due to compaction from construction activities within the RoW were anticipated, and where effects from compaction occur, they could persist for a few years following construction.

Assess the effectiveness of mitigation measures implemented:

Results suggest the mitigation program has been effective as over 70% of farmed management units and over 75% of the tower work areas were considered to not have negative effects to soil productivity following post-construction year 1 (2020).

Identify additional mitigation measures to address unanticipated environmental effects, if required:

No further mitigation is required, at this time. Additional mitigation and monitoring will be addressed following the completion of the year 2 (2021) monitoring program.

Confirm compliance with regulatory requirements including approval terms and conditions:

To the best of our knowledge, compliance with regulatory requirements has been met.

Provide baseline information to evaluate long-term changes or trends:

Information on vegetation recovery will enhance knowledge and mitigation. Surveys in following years will provide further information on recovery timelines.

3.7.1.2 Rutting and Compaction

As part of daily construction and post-construction inspections environmental inspectors reviewed the condition of agricultural fields. Landowner complaints about rutting and compaction issues submitted to Manitoba Hydro were recorded in MMTP landowner registry for follow up. Complaints were resolved and final project commitment letters were submitted to all landowners.

3.7.1.3 Tile Drainage Reclamation

Tile drainage was not encountered during Project construction.

3.8 Access

3.8.1 Access Management

Access management was carried out throughout the project construction and post-construction phase as outlined in the MMTP access management plan (Photo 15). Landowners were offered the installation of fencing and gates to serve as access controls. Landowner complaints about access issues were recorded in a landowner registry. All complaints have been addressed. An MMTP operations access management plan was approved by the Province of Manitoba on April 14th, 2021. An inspection of access controls was conducted on October 26th and November 26th, 2021. A summary of the results can be found below. Detailed results of the access management survey can be found in the technical report included in Appendix K.

Confirm the nature and magnitude of predicted environmental effects as stated in the EIS:

The EIS predicted small, low to moderate magnitude environmental effects on land and resource use, including access, which is what was found in this survey. All access controls were found to be in place and functioning with no concerns identified.

Assess effectiveness of mitigation measures implemented:

Mitigation appeared to be effective, access controls are properly installed and functioning.

Identify mitigation measures to address unanticipated environmental effects, if required:

No further mitigation is required. One more year of monitoring will be conducted.

Confirm compliance with regulatory requirements including approval terms and conditions:

To the best of our knowledge, compliance with regulatory requirements has been met.

Provide baseline information to evaluate long-term changes or trends:

Information on access controls will help support resolution of concerns in the future.

4.0 Future Monitoring

Future monitoring activities for year 2 post construction will be carried out as outlined in the MMTP Environmental Monitoring Plan (NEB Ex A6V3U2). Monitoring of black bear bait sites will be extended due to delays caused by the pandemic. The schedule includes:

Table 4-1 Monitoring Activities Schedule			
Valued Component	Key Monitoring Activity	Post Construction	
		Year 1 (2020)	Year 2 (2021)
Fish and Fish Habitat	Stream Crossing Assessment		
Vegetation and Wetlands	Wetland Surveys		
	Rare Plant Surveys		
	Invasive Species Survey		
	Traditional Use Plant Species Survey		
Wildlife and Wildlife Habitat	Wetland Amphibian Survey		
	Snake Hibernacula Survey		
	Bird-Wire Collision Survey		
	Sharp-tailed Grouse Lek Survey		
	Bird Species of Conservation Concern Survey		
	Golden-winged Warbler Habitat Survey		
	Raptor Nest Survey		
	Distribution / Occurrence Mapping Survey		
	Camera Trap Survey		
	Vehicle Collision Statistic Gathering		
	Mineral Lick Survey		
Employment and Economy	Project Employment Reporting		
	Direct/Indirect Business Opportunities Reporting		
	Direct Labor Income and Taxes Reporting		
Infrastructure and Services	Traffic Monitoring Survey		
Outfitting and Falconry	Black Bear Bait Site Camera Trap Survey		Extended
	Peregrine Falcon Conservation Centre Survey		
Agriculture	Soil Productivity		
	Rutting and Compaction		
	Tile Drainage Reclamation		
Access	Access Controls		

Photo 1 MMTP crossing of the Red River.

Photo 2 MMTP crossing of the Assiniboine River.

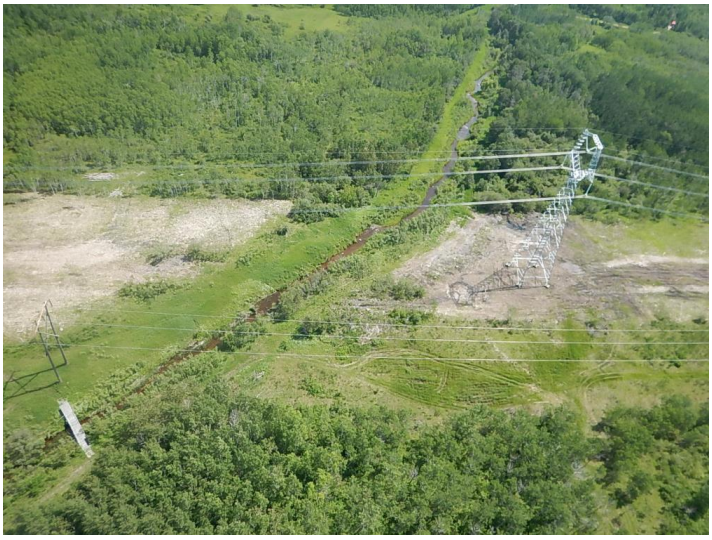


Photo 3 Aerial photo of Cooks Creek showing full compliance with prescribed mitigation.

Photo 4 Tower located in a wetland.

Photo 5 Hairy sweet cicely *(Osmorhiza claytonia)* observed in the right of way.

Photo 6 Invasive species detected in roadside survey.

Photo 7 A well-developed herb and low shrub stratum, and regenerating and remaining tall shrubs.

Photo 8 Northern leopard frog (*Lithobates pipiens*) adult observed on the right of way.

Photo 9 Eastern tiger salamander larvae (*Ambystoma tigrinum*) caught in funnel trap on the right of way.

Photo 10 Bird wire collision surveys were conducted along MMTP.

Photo 11 A sharp-tailed grouse (*Tympanuchus phasianellus*) lek near MMTP.

Photo 12 Callback surveys using a speaker and digital MP3 player were used to sample for golden-winged warbler.

Photo 13 A golden-winged warbler (*Vermivora chrysoptera*) monitoring site on MMTP.

Photo 14 A white-tailed deer (*Odocoileus virginianus*) captured on a trail camera at a MMTP monitoring site.

Photo 15 A completed MMTP access management point.

APPENDICIES

Appendix A: MANITOBA-MINNESOTA TRANSMISSION PROJECT POST CONSTRUCTION WATER COURSE CROSSINGS MONITORING REPORT – 2020

Appendix B: MANITOBA-MINNESOTA TRANSMISSION PROJECT BOTANICAL AND VEGETATION ENVIRONMENTAL MONITORING ANNUAL TECHNICAL REPORT – 2020

Appendix C: MANITOBA-MINNESOTA TRANSMISSION PROJECT AMPHIBIAN MONITORING PROGRAM TECHNICAL REPORT - 2020

Appendix D: MANITOBA-MINNESOTA TRANSMISSION PROJECT BIRD-WIRE COLLISION MONITORING REPORT- 2020

Appendix E: MANITOBA-MINNESOTA TRANSMISSION PROJECT SHARP-TAILED GROUSE MONITORING REPORT - 2020

Appendix F: MANITOBA–MINNESOTA TRANSMISSION PROJECT GOLDEN-WINGED WARBLER MONITORING REPORT 2017-2020

Appendix G: MANITOBA-MINNESOTA TRANSMISSION PROJECT MAMMAL MONITORING PROGRAM TECHNICAL REPORT - 2020

Appendix H: MANITOBA-MINNESOTA TRANSMISSION PROJECT TRAFFIC INCIDENT TABLE - 2020

Appendix I: LETTERS TO PEREGRINE FALCON CONSERVATION CENTRE – PARKLAND MEWS - 2020

Appendix J: MANITOBA-MINNESOTA TRANSMISSION PROJECT AGRICULTURAL SOIL PRODUCTIVITY MONITORING: PRE-CONSTRUCTION (2019) AND POST-CONSTRUCTION YEAR 1 (2020)

Appendix K: MANITOBA–MINNESOTA TRANSMISSION PROJECT ACCESS MANAGEMENT - FIELD SURVEY SUMMARY – 2020