

# LAKE MANITOBA LAKE ST. MARTIN

---

## OUTLET CHANNELS PROJECT

MANITOBA INFRASTRUCTURE

### Access Management Plan

November 9, 2020

# TABLE OF CONTENTS

List of Figures .....	iv
<b>DISCLAIMER .....</b>	<b>I</b>
<b>PREFACE.....</b>	<b>II</b>
<b>GLOSSARY OF TERMS AND ACRONYMS .....</b>	<b>IV</b>
Acronyms.....	iv
Glossary of Terms .....	v
<b>Part 1: Introduction</b>	<b>1</b>
<b>1.0 PURPOSE AND SCOPE .....</b>	<b>1</b>
<b>2.0 OBJECTIVES .....</b>	<b>2</b>
<b>3.0 OCCUPATIONAL SAFETY, HEALTH AND RISK MANAGEMENT .</b>	<b>3</b>
<b>Part 2: Lake Manitoba Outlet Channel</b>	<b>4</b>
<b>4.0 PROJECT INFORMATION .....</b>	<b>4</b>
4.1 Project Description .....	4
4.2 Site Characterization.....	6
4.3 Initial Project Engagement.....	6
<b>5.0 CONSTRUCTION.....</b>	<b>8</b>
5.1 Construction Access.....	8
5.2 General Access Restrictions.....	8
5.2.1 Firearms .....	9
5.2.2 Recreational Vehicles.....	9
5.3 Site Security .....	9
5.4 Access Control.....	9
5.5 Access to Waterbodies .....	10
5.6 Hunting and Fishing Restrictions .....	10

5.7 Land-Based Trails .....	11
5.8 Decommissioning Temporary Access .....	11
<b>6.0 OPERATION .....</b>	<b>12</b>
6.1 Operation Access .....	12
6.2 General Access Restrictions .....	12
6.3 Access Control.....	13
6.4 Access to Waterbodies .....	13
6.5 Winter Travel Restrictions .....	13
6.6 Hunting and Fishing Restrictions .....	13
6.7 Road Network Continuity .....	13
<b>7.0 MONITORING AND ADAPTIVE MANAGEMENT.....</b>	<b>15</b>
<b>Part 3: Lake St. Martin Outlet Channel</b>	<b>16</b>
<b>8.0 PROJECT INFORMATION .....</b>	<b>16</b>
8.1 Project Description .....	16
8.2 Site Characterization.....	18
8.3 Initial Project Engagement.....	18
<b>9.0 CONSTRUCTION.....</b>	<b>20</b>
9.1 Construction Access.....	20
9.2 General Access Restrictions.....	20
9.2.1 Firearms .....	21
9.2.2 Recreational Vehicles.....	21
9.3 Site Security .....	21
9.4 Access Control.....	22
9.5 Access to Waterbodies .....	22
9.6 Hunting and Fishing Restrictions .....	22
9.7 Land-Based Trails .....	23
9.8 Traditional Land Use and Resource Use .....	23

9.9 Decommissioning Temporary Access .....	23
<b>10.0 OPERATION .....</b>	<b>25</b>
10.1 Operation Access .....	25
10.2 General Access Restrictions .....	25
10.3 Access Control.....	25
10.4 Access to Waterbodies .....	26
10.5 Winter Travel Restrictions .....	26
10.6 Hunting and Fishing Restrictions .....	26
<b>11.0 MONITORING AND ADAPTIVE MANAGEMENT .....</b>	<b>27</b>
<b>APPENDIX 2A .....</b>	<b>28</b>
LMOC Maps.....	28
<b>APPENDIX 3A .....</b>	<b>29</b>
LSMOC Maps.....	29

DRAFT



## List of Figures

Figure 1: LMOC Project Area

Figure 2: Typical Cross-Section of the LMOC

Figure 3: LSMOC Project Area

Figure 4: Typical Cross-Section of the LSMOC

DRAFT

## DISCLAIMER

This document was developed to support the Lake Manitoba and Lake St. Martin Outlet Channel Environmental Management and Monitoring Program. This document has been prepared by Manitoba Infrastructure as a way to share information and have discussion with Indigenous Communities and Groups and the public. This document has been prepared using existing environmental and preliminary 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 and will not be considered complete until further engagement and consultation is complete. The plans may be further revised based on information and direction received from provincial and federal environmental regulators. This draft report be read as a whole, and sections or parts should not be read out of context.

DRAFT

## 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 PR 239, and other ancillary infrastructure.

Manitoba Infrastructure (MI) is the proponent for the proposed Project. After receipt of the required regulatory approvals, MI will develop, manage and operate the Project. This Access Management Plan 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 goal of the EMP is to ensure that the environmental protection measures committed to in the Environmental Impact Statement (EIS) and the conditions of The Environment Act Licence and Federal Decision Statement Conditions are undertaken in a timely and effective manner. This includes the verification that environmental commitments are executed, monitored, and evaluated for effectiveness, and that information is reported back in a timely manner to the Project management team for adjustment, if required.

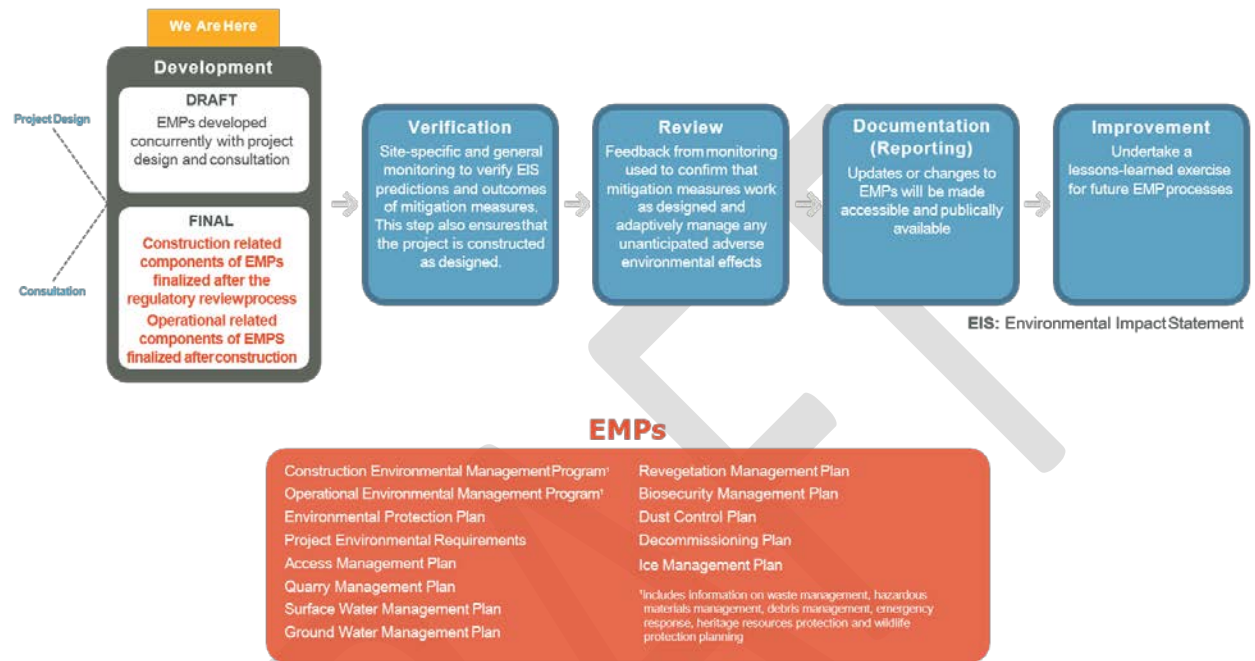
Manitoba Infrastructure remains committed to ongoing engagement and consultation with Indigenous groups and other stakeholders that are potentially impacted by the Project. Detailed EMP review discussions have been incorporated into community-specific consultation work plans and additional engagement opportunities will be provided prior to EMP finalization. Engagement opportunities include virtual open house events and EMP-specific questionnaires. EMP-specific questionnaires will be provided to Indigenous groups and stakeholders to obtain feedback and views on the draft plans, in addition to exploring opportunities for Indigenous participation in follow-up monitoring. Feedback and recommendations will be used to inform the completion of the plans.

The EMP provides the overarching framework for the Construction Environmental Management Program (CEMP) and the Operation Environmental Management Program (OEMP), which will be finalized as separate documents prior to Project construction and ideally operation, respectively. Their finalization will consider applicable conditions of *The Environment Act* Licence and associated approvals, any other pertinent findings through the design and regulatory review processes, and key relevant outcomes of the ongoing Indigenous and public engagement and Consultation processes.

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 (e.g., surface water, groundwater, sediment, etc.), as shown in the Figure below, that will guide MI’s development of the Project’s contract documents and subsequently, the Contractor(s) activities, in constructing the Project in an environmentally responsible manner. The OEMP will likely include 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.

# Environmental Management Program Process and Associated Environmental Management Plans

## Environmental Management Program (EMP) Process



**LAKE MANITOBA  
LAKE ST. MARTIN**  
OUTLET CHANNELS PROJECT

## GLOSSARY OF TERMS AND ACRONYMS

### Acronyms

AMP	Access Management Plan
CEMP	Construction Environmental Management Program
EIS	Environmental Impact Statement
EMP	Environmental Management Program
km	Kilometre
LAA	Local Assessment Area
LMOC	Lake Manitoba Outlet Channel
LSMOC	Lake St. Martin Outlet Channel
m	Metre
MI	Manitoba Infrastructure
OEMP	Operation Environmental Management Program
PDA	Project Development Area
Project	The Lake Manitoba and Lake St. Martin Permanent Outlet Channels Project
WCS	Water Control Structure

## Glossary of Terms

**Cofferdam:** An enclosure, usually only partially obstructing a river, from which water is pumped to expose the bottom to permit construction.

**Fish productivity:** Rate of formation of organic matter over a defined period; this can include fish growth and the production of offspring.

**Quarry:** An open excavation or pit from which stone, gravel or sand is obtained by digging, cutting or blasting.

**Shoofly:** Short detour at Project site that allows traffic to be maintained during construction.

DRAFT

# Part 1: Introduction

## 1.0 PURPOSE AND SCOPE

The Access Management Plan (AMP) is a component of the overall Environmental Management Program (EMP) for the Lake Manitoba and Lake St. Martin Permanent Outlet Channel Project (the Project). The AMP provides a framework for access management related to the Lake Manitoba Outlet Channel (LMOC) and the Lake St. Martin Outlet Channel (LSMOC) and related infrastructure.

The purpose of the AMP is to outline access control measures that will be present during construction and operation phases as they relate to protection of natural resources, public and worker safety and site security. The AMP addresses access-related issues of concern expressed by stakeholders, the public, and Indigenous groups during the Indigenous and Public engagement process. The plan also includes maps that show the locations of potential safety hazards that will be present as a result of the Project and mitigation measures that have been designed to reduce the risk posed by the hazards.

The AMP is intended to be a living document that will be revised on an ongoing basis to address any changes that may be required in the plan. In particular, during the detailed design stage of the Project additional information to be added to the AMP will include a description of the construction methods to be implemented, additional general arrangement layout drawings for the Project footprint, and typical details for items such as security gates, fencing, warning signs, and buoys.

As the overall Project has two very distinct sections (LMOC and LSMOC), different AMP strategies are required for each. The LMOC is primarily located near and through developed private farmland with a number of provincial and municipal roads with many road access points. The LSMOC is primarily located in isolated, undeveloped Crown land used predominantly for hunting and fishing, with few access points. As a result, the LMOC AMP has a focus on road and land access around and through the project site, while the LSMOC AMP focuses on the natural environmental and hunting and fishing access issues. Both areas require AMPs that deal with all possible issues but also are focused separately on the unique issues for the type of surrounding terrain. Given the unique site characteristics of each of the channels, the AMP is organized into three parts:

- Part 1 includes information that is common to both the Lake Manitoba and Lake St. Martin Outlet Channels.
- Part 2 includes information that is specific to the Lake Manitoba Outlet Channel.
- Part 3 includes information that is specific to the Lake St. Martin Outlet Channel.

## 2.0 OBJECTIVES

The primary objectives of the AMP are to:

- Provide safe, coordinated access to the Project Development Area (PDA) during construction and operation.
- Provide safe passage for the general public through the PDA at identified crossing locations.
- Support sustainable use through the protection of the area's natural resources.
- Allow Project staff and contractors to construct, operate and maintain the Project year-round.
- Provide security for Project personnel and property.

In addition to the objectives of the AMP, other considerations include:

- Preserve and respect the socio-economic, cultural and heritage values of the lands around the Project.
- Prescribe measures to minimize potential negative direct and indirect effects on Project access.
- Protect land users from hazards resulting from construction and operation of the Project.
- Minimize land user conflicts.
- Provide public education and communication about the Project to promote safety for all and to maintain an understanding among specific relevant groups and the public-at-large regarding the access management measures being implemented and maintained, and the rationale for doing so.



### 3.0 OCCUPATIONAL SAFETY, HEALTH AND RISK MANAGEMENT

Manitoba Infrastructure (MI) Occupational Safety, Health and Risk Management applies to all MI facilities and operations, employees, contractors, and visitors. Its purpose is to manage risks to the safety, health and well-being of employees, visitors and the public arising out of the work activities performed by or on behalf of the Department. The AMP will help ensure that the safety of MI employees, contractors, visitors and the public is not adversely affected by Project construction or operations and is in adherence to *The Workplace Safety and Health Act* and its associated regulations.

Strategies employed to help ensure the Project does not adversely affect worker and public safety will include education and training, communication, fencing and signage. This AMP is organized into sections which address: how information about the project and access restrictions will be communicated from MI to residents of local Indigenous communities and non-Indigenous communities; access management measures that will be implemented during construction; and, access management measures that will be implemented during project operations.

During the construction and operations phases, best practices relating to public safety around dams and water control structures as outlined in industry guidelines shall be followed.

## Part 2: Lake Manitoba Outlet Channel

### 4.0 PROJECT INFORMATION

#### 4.1 Project Description

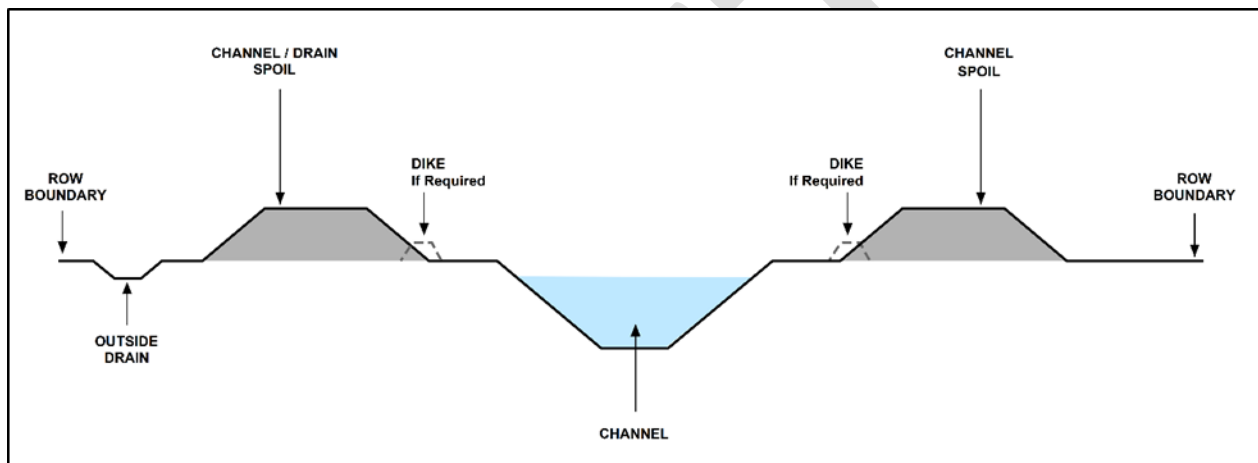
The LMOC Project consists of an approximately 24 km long outlet channel, with the inlet positioned at Watchorn Bay on Lake Manitoba and the outlet on the west side of Birch Bay on Lake St. Martin, as shown in Figure 1. The LMOC is designed to convey a flow of 212 m<sup>3</sup>/s (7,500 cfs) at a Lake Manitoba water level of 248.11 m (812.5 ft) and a Lake St. Martin water level of 244.14 m (801 ft).

Figure 1: LMOC Project Area



The proposed channel will have an invert elevation of about 242.1 m at Watchorn Bay and about 239.3 m at Birch Bay. The channel will have a trapezoidal shape with a flat base varying in width from 12 m to 22 m and side slopes varying between 4H:1V to 5H:1V. Embankment dikes will be constructed on both sides of the channel in areas where existing ground levels are low. Spoil berms will be located behind the dikes on either side of the channel, which will also be used to gain access to the channel for maintenance. An outside drain will be constructed and located on the west side of the channel to collect surface water runoff originating from the west and convey it into Lake Manitoba and Lake St. Martin. Drainage overflow structures may also be incorporated to allow flows in the outside drain during high local runoff periods to discharge into the LMOC. A typical cross section of the channel is provided in Figure 2.

Figure 2: Typical Cross-Section of the LMOC



Inlet and outlet works will be required to allow for a smooth transition of flow from Watchorn Bay into the channel and from the channel into Birch Bay. The hydraulic profile of the channel will require the lake bottom to be excavated at the channel inlet and outlet to match the proposed channel invert elevations. The excavations will be tapered over a short distance out from the shoreline to meet natural lakebed elevations.

A water control structure (WCS) will be constructed at Iverson Road (approximately 21 km downstream of the inlet) to control flows through the LMOC while ensuring that Lake Manitoba water levels remain within their normal operating range when use of the channel is not required. A bridge will be integrated into the WCS to provide access across the channel. The preliminary design of the WCS consists of three 5.4 m wide sluice bays with vertical lift gates, upstream and downstream stoplogs, and a stilling basin with chute blocks, baffle blocks and an end sill.

The LMOC will intersect provincial highways and municipal roads. Realignment of PR 239 is required in order to accommodate the LMOC while still allowing for safe, economically feasible, and hydraulically efficient structures across the channel. Various sections of municipal road will also be realigned or extended for the purposes of maintaining residential access and agricultural activities.

A total of four new bridges are planned to span the LMOC, of which one will be combined with the WCS as described above. The other three will be dedicated multi-span bridges, constructed to maintain connectivity along the Township Line Road, realigned PR 239 (currently Carne Ridge Road) and Provincial Trunk Highway 6 (PTH 6).

## 4.2 Site Characterization

The LMOC is primarily located near and through developed private farmland with a number of provincial and municipal roads with many road access points. The location of the LMOC generally follows Birch Creek, which includes a number of small lakes and wetlands, from Lake Manitoba to Lake St. Martin in a north-easterly direction. The LMOC is situated to the west of Birch Creek.

Birch Creek and its associated wetlands forms a natural boundary between the east and west sides of the Rural Municipality (RM) of Grahamdale. There are currently six road crossings across the Birch Creek wetland area that allows traffic movements. The first and main crossing over the Birch Creek wetland area is PTH 6, which is the major north south corridor in this area of the province and is the primary link to Northern Manitoba. This is a paved, limited access highway. The next three crossings (Township Line Road, Carne Ridge Road, and PR 239 [Steep Rock Road]) allow east-west traffic movement from PTH 6 to the community of Steep Rock and the surrounding area on the east side of Lake Manitoba, which is composed of cottage developments and farmland. Township Line Road and Carne Ridge Road are low volume gravel roads in reasonable condition that are used by local traffic to access farmland and cottages to the south of Steep Rock. PR 239 is a paved provincial roadway that is the main access to Steep Rock and the surrounding area, as well as the primary route used to transport materials from the Graymont Lime production plant to PTH 6. This road is in relatively poor condition and requires regular patching due to the age of the pavement, the heavy truck traffic from Graymont Lime and increased recreational traffic. The remaining two crossings (Iverson Road and Birch Bay Road) are to the east of PTH 6 and are very low volume narrow gravel roads that service the local farmland in the immediate area.

All of these roads will be affected by the construction of the LMOC as it will sever a number of the roads and change the traffic flow patterns, especially for the farmers with land throughout the general PDA.

## 4.3 Initial Project Engagement

Since 2013, MI has held several open houses in the RM of Grahamdale as well as other impacted communities in Winnipeg, Portage la Prairie, Lundar and Ashern and continues to meet with the local municipal council, Indigenous communities, stakeholders and other interest groups to keep them apprised of project progress.

Engagement of Project stakeholders whose access may be impacted during the Project was preceded by developing a tiered list of stakeholders with the top tier comprised predominantly of the R.M. of Grahamdale, directly impacted property owners and Graymont's Faulkner lime production (Graymont) facility at Steep Rock. These stakeholders were engaged directly to gain their input and discuss access

management options. Remaining stakeholders were informed via mail outs and other suitable communication media.

As the AMP is developed further, continued engagement will be ongoing by means of focused meetings with individual landowners, the RM of Grahamdale and other interest groups. Additionally, consultation efforts with Indigenous groups also continues and those consultations will assist in further development of the AMP.

As stakeholder engagement progresses, the AMP will be updated and provided for consideration by stakeholders, review by MI's Outlet Channels Project Team and approval by the traffic authority, the RM of Grahamdale, in collaboration with MI's Highway Planning and Design section. The AMP will be subject to periodic review and updates when construction sequencing and tendering strategies are finalized or new information from ongoing engagement and consultation efforts dictates adjustments.

DRAFT

## 5.0 CONSTRUCTION

### 5.1 Construction Access

In consideration of public safety, access to the LMOC site will be restricted and controlled through a limited number of controlled access points on the west side of Project site. As far as practically possible, construction access to the Project site will be segregated from public travel routes by means of designated construction only access routes and locations. This is also in keeping with the RM of Grahamdale's continued efforts to mitigate the anticipated impact of construction activities on the community and road users.

PTH 6 will be the primary access route to the LMOC construction sites for the movement of equipment, materials and personnel. Secondary access to the southern and central outlet channel and bridge construction sites of the LMOC will utilize sections of PR 237 (a.k.a. Township Line Road), Carne Ridge Road (future Provincial Road 239) and the existing PR 239 (a.k.a. Steep Rock Road). Secondary access to the northern construction sites, which includes the outlet control structure and the PTH 6 bridge across the LMOC, will utilize Iverson Road as a dedicated construction access with detours for east-west public access across the LMOC, along Bankert and Birch Bay Roads.

To further mitigate the impact on the municipal road network and consequent interference with local agricultural, residential, recreational and commercial traffic, a number of potentially suitable locations for construction contractor's camps and lay down areas have been identified and the conceptual locations are illustrated in Figure 2A-1 of Appendix 2A (see annotations C1 to C6). These conceptual locations will be evaluated during detailed design to assess whether they may be suitable to create permanent outlet channel infrastructure access points after construction for use by authorized personnel performing inspection, maintenance and operations activities.

Note that in general suitable locations for contractor camps and laydown areas are determined by Contractors and MI's strategies for sequencing, tendering and procuring the construction.

### 5.2 General Access Restrictions

During construction there will be access restrictions to the Project components. The PDA will not be accessible to members of the public during construction. Access will be controlled by temporary perimeter fencing and signage in the vicinity of public roads. Access to the camp areas will be controlled and there will be no unauthorized public visits allowed to the contractor's construction camp, work areas, and laydown yards.

Use of the PDA by individuals not directly associated with the Project may be authorized for certain user groups under certain conditions. Prior to the start of construction, MI will establish a process to obtain permission to access the site. This process will likely include the following:

- Contacting the MI Project Manager (or designate) to request permission. Information to be provided from prospective users will include timelines of requested access, location within the PDA of requested access, and activities that the user plans to conduct.
- Upon site access during construction, users would be required to check in with the contractor's security personnel.
- Upon departure from the site during construction, users would be required to check out with the contractor's security personnel.

### 5.2.1 Firearms

Restrictions will be placed on firearms (e.g. rifles, handguns, shotguns, bows) to ensure the safety of personnel at the site. Project workers will not be permitted to possess, transport, use, or store firearms on the Project site. In the event that a worker is found to have a firearm within the PDA, the worker will be disciplined accordingly.

A "no shooting" zone will be established for the LMOC right-of-way. Firearms must remain locked and cased within this buffer area.

### 5.2.2 Recreational Vehicles

Project workers will not be permitted to use, transport or store personal recreational vehicles (all-terrain vehicles, snowmobiles) on the Project site. This will help to reduce the potential impacts on habitats (ruts or damage to vegetation) and to manage access.

Use of the surrounding Crown land outside of the PDA will not be restricted.

## 5.3 Site Security

Most of the LMOC ROW is adjacent to private farm land with many potential access points. As noted previously, a number of proposed construction laydown areas have been strategically identified for various stages of construction. Access to active construction sites will be controlled by individual contractors with the use of dedicated security personnel, limiting and controlling access points to active construction zones, and installation of temporary perimeter fencing and signage around construction sites, camps, laydown areas and areas with potential public access concerns.

Access points and construction site perimeters will be monitored during construction and security staff will record and notify the MI Construction Inspector of any attempts to access the site by any unauthorized personnel.

## 5.4 Access Control

Access restriction measures for the Project will include road controls (gates), signage and fencing (both temporary and permanent). Certain areas will have gates and fences installed to protect the public from potential hazards created by the new construction (e.g. water control structure).

Signs will be posted at various locations indicating areas where public access is restricted, where hunting and firearms are not allowed, and in areas where members of the public need to be informed about potential safety issues, such as at the inlet, outlet and water control structure areas. Signage will be in line with relevant Canadian standards and with MI corporate policies.

During construction of the new bridges and control structure across the LMOC, the East-West municipal roadway connectivity will be maintained by means of shoofly detours on Township Line and Carne Ridge/new PR 239 roads and the provision of a municipal road detour at Iverson Road. A shoofly detour will also be available where PTH 6 crosses the outlet channel ROW (between Carne Ridge and Iverson Roads) during construction of the new bridge at that location. Old PR 239 will remain open until the construction of the realigned sections of new PR 239 and PTH 6, through Grahamdale, are complete. It is also anticipated that old PR 239 will remain open, until the new PR 239 bridge crossing has been completed, at which point traffic will be switched over to the new PR 239 access, with old PR 239 closed across the LMOC right-of-way. Specific traffic flow management plans for individual construction sites will be developed as a part of detailed design and implemented by contractors to accommodate local user needs.

## 5.5 Access to Waterbodies

Construction activities at the inlet of the LMOC in Watchorn Bay on Lake Manitoba and the outlet of the LMOC near Birch Bay on Lake St. Martin will include excavation of the lakebed. Although the current boat traffic in this areas is minimal, to address the potential impacts of this work on navigation, safety measures, such as warning signage and marker buoys will be installed.

Signage will also be required to warn recreational vehicle operators and ice fishers of thin ice near these areas during winter months. Safety measures implemented will be in accordance with the applicable requirements from Transport Canada, the *Canadian Navigable Waters Act* and other applicable regulations and policies.

## 5.6 Hunting and Fishing Restrictions

To facilitate the safety of the public and of Project employees during construction, the general public will be restricted from hunting in the Project footprint. A “no hunting” zone will be designated around the Project infrastructure and access roads. This is intended to protect Project employees from hunting accidents, and to protect the public from risks due to construction activities. Signs will be posted in strategic locations to keep the area safe for construction workers and ensure the public is aware of construction activities in the area.

A “no hunting” policy will be implemented and all Project workers, including contractors, subcontractors, consultants and any others who work on the Project in any capacity will be required to follow the policy. Workers will also be restricted from fishing within the local assessment area (LAA) during work shifts as well as trapping and harvesting at any time. There will be a “no fishing” policy for workers and the public from any infrastructure within the LMOC right-of-way.



## 5.7 Land-Based Trails

Due to safety concerns, snowmobile trails within the Project site will not be accessible to members of the public during construction. The contractor and all of its associated employees will not use these trails for recreational purposes.

## 5.8 Decommissioning Temporary Access

Temporary facilities and work areas, including laydown areas and construction camps that will not be needed for future maintenance activities, will be decommissioned and reclaimed following construction. Designated areas and temporary access roads will be leveled to natural or pre-existing grade and slope. Access routes will be contoured, de-compacted and trimmed to encourage natural revegetation. Closure of temporary construction work areas will typically consist of redistributing organic materials to encourage natural vegetation regeneration. Reseeding will occur, as required, following the Revegetation Program for the project.

Decommissioning measures associated with temporary components are described in greater detail in the Construction Decommissioning Plan.

## 6.0 OPERATION

To meet the objectives of the AMP, implementation of the required changes to the provincial and municipal road networks illustrated in Figure 2A-1 (Appendix 2A), will need to be completed and fully functional, prior to the final completion of the LMOC.

With the road network changes completed, the impact to local road users during periods when the LMOC gates are open should be minimal and limited to the additional traffic generated by the increased presence of operational staff involved with operating and maintaining the outlet channel infrastructure. During extreme flooding events, numbers of staff associated with operating, maintaining and safeguarding the outlet channel infrastructure may increase, but generally will be using the existing road network and predefined locations to gain access to different sections of the outlet channel infrastructure.

During periods when the LMOC gates are closed (i.e., the majority of time), impacts to the road network and road users as a result of increased vehicular traffic, will be negligible and limited to activities associated with periodic maintenance inspections. The establishment and maintenance of revegetation of the outlet channel embankments may require some additional activity initially, but will diminish as permanent vegetation cover is established.

As a result of the design approach for the new PR 239 / Carne Ridge Road bridge crossing structure, the use of PR 239 for local, commercial and recreational traffic during operational periods, should not be impacted.

### 6.1 Operation Access

The outlet channel will have a total of four bridge structure crossings located at Township Line Road, Carne ridge Road / PR 239, PTH 6 and Iverson Road. It is anticipated that all of the bridge crossing structures and appurtenant roadways including the realigned sections of PR 239, will remain traversable when the gates of the LMOC are open.

MI maintenance and operations staff will use sections of the outlet channel embankments (spoil berms), located within the LMOC right-of-way, to maintain, inspect and/or operate the outlet channel infrastructure. Access to these areas will be off limits to the public.

### 6.2 General Access Restrictions

Access to Project infrastructure including the outlet channel as well as the inlet, outlet and control structure, will be restricted post-construction. Infrastructure that poses a hazard or present a security risk, will be fenced and will include the water control structure (excluding the Iverson Road bridge crossing). The LMOC will be a critical component of provincial flood mitigation infrastructure and will also be registered as a provincial waterway. Consequently, recreational use, including fishing, hunting, snowmobiling and boating of any component of the outlet channel infrastructure will be prohibited through the life of the Project. Warning signs indicating no authorized personnel will be installed at periodic locations along the LMOC.

Irregular ice formation in proximity of the bridges over the LMOC and at the control structure may present significant safety hazards to recreational vehicle operators. These hazardous conditions may be amplified by winter operation of the channel. Despite access not being permitted to LMOC infrastructure, warning signs and markers will be installed near these structures to indicate the unsafe areas to promote safety.

### 6.3 Access Control

Access restriction measures for the LMOC will include road controls (gates), signage and fencing. Certain areas will have gates and fences installed to protect the public from potential hazards created by the new construction, such as at the water control structure.

Signs will be posted at various locations indicating areas where public access is restricted, where hunting and firearms are not allowed, and in areas where members of the public need to be informed about potential safety issues, such as at the inlet, outlet and water control structure areas. Signage will be in line with relevant Canadian standards and with MI corporate policies.

### 6.4 Access to Waterbodies

MI will provide, install and maintain safety measures that may include warning signage, marker buoys and possibly safety booms, at the inlet of the LMOC in Watchorn Bay on Lake Manitoba and the outlet of the LMOC near Birch Bay on Lake St. Martin to deter the entry of watercraft into the LMOC and prohibit unauthorized use. The safety measures implemented will be in accordance with the applicable requirements from Transport Canada, the *Canadian Navigable Waters Act* and other applicable regulations and policies.

### 6.5 Winter Travel Restrictions

During the winter, there may be changes to how ice forms near the inlet of the LMOC in Watchorn Bay on Lake Manitoba and near the outlet of the LMOC near Birch Bay on Lake St. Martin. This may affect the ability of people to travel safely on ice with recreational vehicles in these local areas. Warning signage will be installed in front of the inlet and outlet to identify areas where unsafe ice conditions may be present.

### 6.6 Hunting and Fishing Restrictions

The “no hunting” zone around the Project footprint will be maintained during operations to protect employees. Signs will be posted in strategic locations to ensure effective communication and to keep the area safe for operations workers, and to ensure that the public is aware and safe.

There will be a “no fishing” policy for the public from the bridges and within the channels at all times.

### 6.7 Road Network Continuity

The construction of the LMOC will impact, and in some cases sever the at-grade municipal roads and old PR 239 access near PTH 6. Alterations to the municipal roads, PR 239 and PTH 6 to achieve continued access for

all stakeholders have been identified in Figure 2A-1 (Appendix 2A). These changes, once approved will be scheduled, communicated and constructed as construction of the LMOC advances.

As illustrated in Figure 2A-1 (Appendix 2A), the existing alignment of Birch Creek south of PTH 6, which includes a succession of small lakes and wetlands, is located on the east side of the proposed LMOC alignment. These features create a natural divide in the rural municipality, with East-West crossings south of PTH 6 limited to Township Line Road, Carne Ridge Road and PR 239 (Steep Rock Road). By realigning PR 239 to follow the existing Carne Ridge Road alignment west of Burnett Road, the number of crossings west over the Lake Manitoba Outlet will be reduced to two. These are at Township Line Road and Carne Ridge Road, which will become the realigned portion of PR 239 (new PR 239). The realignment of PR 239 will improve recreational access to Steep Rock and the surrounding area, as well as improve public safety, by reconstructing the PTH 6/Carne Ridge Road (new PR 239) intersection. This new intersection will meet MI's current standards and remove the existing intersection that is on a tight curve with poor sightlines.

With the proposed road changes, and the use of shoofly and municipal detour routes, the effect on road continuity is expected to be minimal during construction and a positive change post construction.

## 7.0 MONITORING AND ADAPTIVE MANAGEMENT

Adaptive management is a process to improve practices by learning about their effects and then making changes in those practices as new information is available. Adaptive management uses the Project designs while learning from field performance to manage risk and allow the incorporation of new knowledge into subsequent steps. The AMP is a living document that may be modified to improve its effectiveness.

Therefore, monitoring of the AMP will be done to:

- Determine whether the measures set out in the AMP are effective.
- Reduce uncertainty in implementing the AMP.
- Adapt and improve measures in the AMP in response to actual experience (adaptive management).

Sources of monitoring information may include the following:

- Security reports from the security guard
- Resource user access request and MI's response
- Monitoring reports developed and provided to the Project Manager to be acted upon, as necessary

Based on reviews of this monitoring information, adjustments will be made to the AMP, if required, to optimize its effectiveness in addressing safety in an appropriate manner.

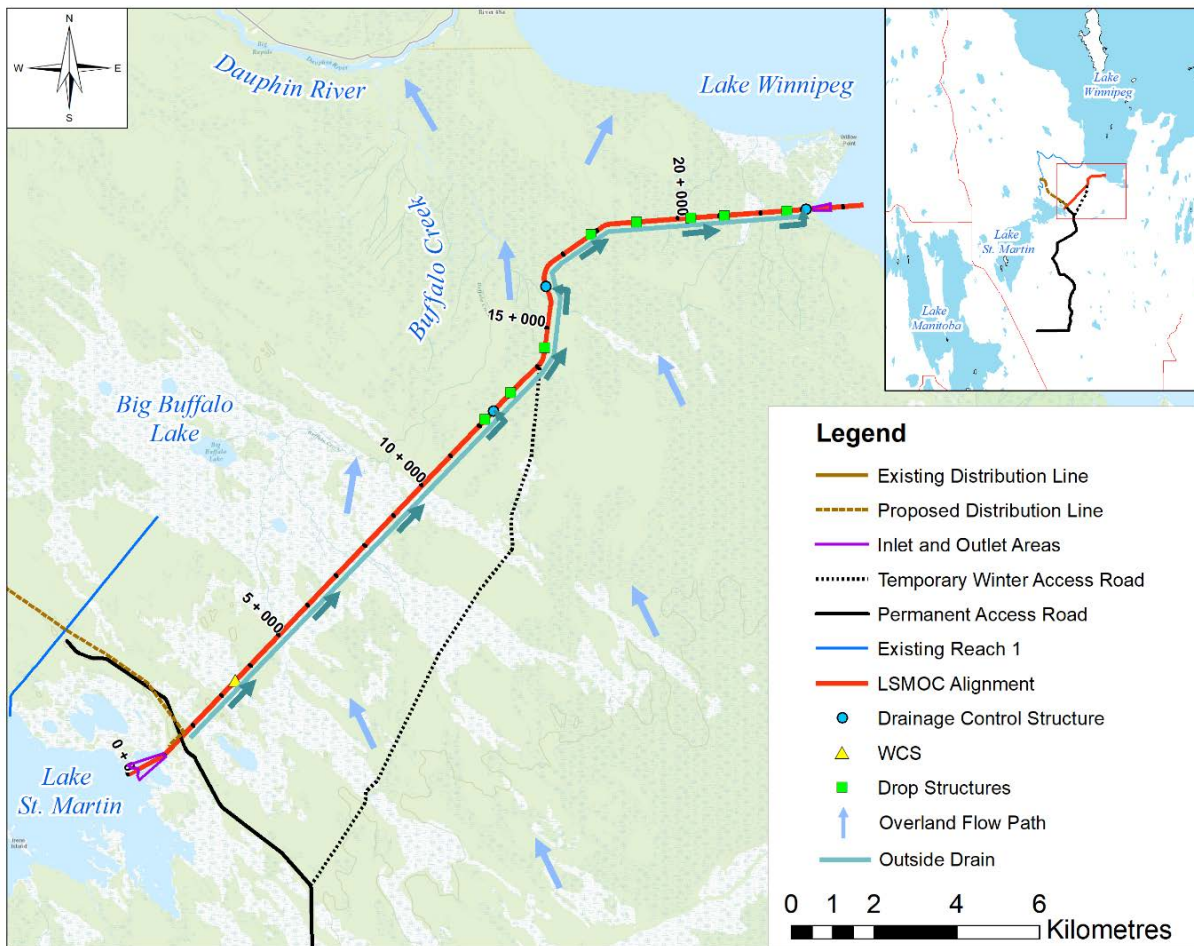
## Part 3: Lake St. Martin Outlet Channel

### 8.0 PROJECT INFORMATION

#### 8.1 Project Description

The LSMOC Project consists of an approximately 23 km long outlet channel, with the inlet positioned at the east end of Lake St. Martin and the outlet south of Willow Point on Sturgeon Bay of Lake Winnipeg. A plan showing the LSMOC and key project infrastructure is provided in Figure 3.

FIGURE 3: LSMOC Project Area



The LSMOC will have a capacity of 326 m<sup>3</sup>/s at a Lake St. Martin south basin water level of 244.14 m and is designed to convey flows up to the Inflow Design Flood (IDF), considering the intent of the Canadian Dam Association Dam Safety Guidelines. A 1:1,000-year flood event has been assumed for the IDF and will be updated at detailed design based on the results of a detailed dam safety classification and dam breach assessment.

The proposed channel will have an invert elevation of about 241 m at Lake St. Martin and about 213 m at Lake Winnipeg and designed to limit erosion. The design is based on a trapezoid shaped channel with a flat base approximately 42 m wide, 6 to 8 m depth and 4H:1V to 4.5H:1V side slopes. The hydraulic profile of the channel will require the lake bottoms to be excavated at the channel inlet and outlets to match proposed channel invert elevations. The excavations will be tapered over a short distance out from shoreline to meet natural lake bed elevations.

At the outlet, rock jetties will be situated over the first 100 m distance to reduce the potential for debris accumulation and sediment deposition within the excavation limits from littoral drift during non-operation of the channel. The length of the jetties was selected to limit sedimentation within the deepest portion of the outlet when the water control structure is closed, while also limiting the length of the structures to minimize its footprint and cost. Sand from the lake that may be moving in the area is expected to freely deposit beyond the extent of the jetties when the channel is not in operation, which would then likely be transported further into the lake when the channel is operated again. The process of sand deposition and transport is not expected to be significant but would repeat itself each time the LSMOC is operated. Since the movement of sand along the shoreline is a naturally occurring process, a long-term plan for maintenance (e.g., dredging) was not included at the Preliminary Design phase. This will be reviewed with MI at Detailed Design with input from the environmental approval and engagement process. The exact length and configuration of the jetties will also be refined at Detailed Design based on updated results from the shoreline morphology assessment.

At the inlet, results from a baseline shoreline morphology assessment indicated a low wave energy environment in the area. It was therefore concluded that rock fill jetties are not likely required and were therefore omitted from the Preliminary Design of the inlet works. Since there is a minimal potential for sand to migrate into the area, a long-term plan for maintenance is not anticipated.

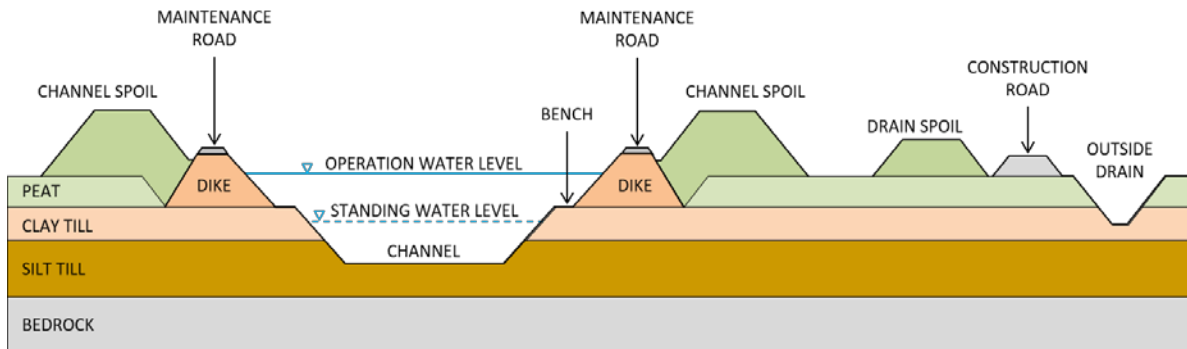
Permanent water retaining dikes will be located on both sides of the excavated channel to contain design flows within the LSMOC and also to isolate the surface water and the upper saturated peat system from the excavated channel. Spoil piles for the excavated material will be located outside of the channel dikes.

An outside drain will be constructed on the east side of the project to intercept the surface water runoff flowing towards the LSMOC.

Access for long term maintenance and inspection will be available on top of the dikes on both sides of the LSMOC for the entire 23 km with a maintenance road. A typical cross section for the LSMOC is provided in Figure 4.



FIGURE 4: Typical Cross-Section of the LSMOC



A water control structure is required to control flows through the LSMOC while ensuring that Lake St. Martin water levels remain within their planned range. The structure will be constructed near the inlet, although the exact location of the structure will be confirmed at Detailed Design. It will also act as a bridge to provide access to both sides of the channel. The water control structure will be a concrete structure with two 9 m wide sluice bays, guides and sill beams for upstream stoplogs, vertical lift gates and downstream stoplogs.

The LSMOC will require approximately 8 drop structures to minimize channel flow velocity and erosion in areas of steep sloping terrain. The drop structures will be constructed of rockfill, with a sheet pile cutoff at the upstream crest. When the water control structure gates are closed, a minimum one-meter depth of water will be maintained in the channel to minimize the growth of aquatic vegetation. Near the drop structures, the minimum water depth during non-operation will be at least 2.0 m to maintain a pool of water below the surface ice cover during the winter, to minimize potential impacts to aquatic habitat (fish).

## 8.2 Site Characterization

Current access to the LSMOC site is via an existing winter road, which provides access to Reach 1 and Reach 3 of the Emergency Outlet Channel (Figure 3A-1, Appendix 3A). The winter road begins at the north terminus of Idylwild Road (forestry road). The winter road to Reach 1 will be replaced by a permanent access road. The access to Reach 3 will be replaced by the maintenance access road described in Section 10.1.

## 8.3 Initial Project Engagement

Since 2013, MI has held several open houses in the RM of Grahamdale as well as other impacted communities in Winnipeg, Portage la Prairie, Lundar and Ashern and continues to meet with the local municipal council, Indigenous communities, stakeholders and other interest groups to keep them apprised of project progress.

Engagement of Project stakeholders whose access may be impacted during the Project, was preceded by developing a tiered list of stakeholders. These stakeholders were engaged directly to gain their input and



discuss access management options. Remaining stakeholders were informed via mail outs and other suitable communication media.

As the AMP is developed further, engagement with stakeholders and engagement and consultation with Indigenous communities is currently underway and may provide feedback that assists in further development of the AMP.

As stakeholder engagement and Indigenous engagement progresses, the AMP will be updated and provided for consideration by stakeholders and Indigenous groups, review by MI's Outlet Channels Project Team and approval by the traffic authority (i.e. the RM of Grahamdale) in collaboration with MI's Highway Planning and Design section. The AMP will be subject to periodic review and updates when construction sequencing and tendering strategies are finalized or new information from ongoing engagement and consultation efforts dictates adjustments.

DRAFT

## 9.0 CONSTRUCTION

### 9.1 Construction Access

PTH 6 will be the main access road for the transportation of equipment, materials, and personnel from Winnipeg, and other commercial centres into the LAA. Construction-related access to the LSMOC will be via the Lake St. Martin access road (formerly a 19.5 km winter road) that extends northward from the existing forestry road (Idylwild Road) to the LSMOC channel inlet and the Emergency Outlet Channel (Reach 1), as shown in the maps provided in Appendix 3A. A temporary construction access road will also be developed within the LSMOC right-of-way (Figure 4). Where access routes are accessible to the public, signage will be erected restricting access to authorized personnel. The only channel crossing planned for the LSMOC access road is the combined bridge and water control structure (WCS).

### 9.2 General Access Restrictions

During construction there will be access restrictions to Project components, as shown on Figure 3A-2 (Appendix 3A). The PDA will not be accessible to members of the public during construction, with some exceptions for Indigenous peoples who intend to carry out traditional practices to the extent that such access is safe, as discussed below. Access will be controlled by a gate on the access road. Access to the camp area will be controlled and there will be no unauthorized public visits allowed to the access roads, borrow areas, and the contractor's construction camp, work areas, and laydown yards.

Use of the PDA by individuals not directly associated with the Project may be authorized for certain user groups under certain conditions. Prior to the start of construction, MI will establish a process to obtain permission to access the site. This process will likely include the following:

- Contacting the MI Project Manager (or designate) to request permission. Information to be provided from prospective users will include timelines of requested access, location within the PDA of requested access, and activities that the user plans to conduct.
- Upon site access during construction, users would be required to check in with the security guardhouse.
- Upon departure from the site during construction, users would be required to check out with the security guardhouse.

It is recognized that some members of local Indigenous communities may carry out traditional practices within areas contained within the PDA. For the purposes of carrying out traditional practices, access through the PDA to the surrounding region during all phases of the Project may be authorized by the MI Project Manager or designate, depending largely on whether such access is safe. Additional details on access and use of lands are being considered.

Construction-related traffic will be restricted to the temporary construction access within the ROW, as well as the existing access road to the LSMOC from PTH 6, to the extent practical and required during construction

and maintenance. Existing trails and other travel routes will not be altered adjacent to the Project footprint area other than as required for construction and maintenance purposes. Existing roads, road allowances, trails, portages and other travelways will not be blocked or altered as a result of clearing and grubbing activities so as not to interfere with other users. The Contractor will repair roads if they are damaged during construction. Transportation of workers between construction camp/accommodations and worksites will be done in groups (e.g., vans) and using the PDA itself for access, to reduce the potential number of vehicles on the road network. All work will be conducted in a manner that minimizes the raising of dust, and only water or approved dust suppressants will be used for dust control.

### 9.2.1 Firearms

Restrictions will be placed on firearms (e.g. rifles, handguns, shotguns, bows) to ensure the safety of personnel at the site. Project workers will not be permitted to possess, transport, use, or store firearms on the Project site. In the event that a worker is found to have a firearm within the PDA, the worker will be disciplined accordingly. Where access permission has been granted for resource users to carry out harvesting activities, firearms will be permitted under the following conditions:

- Firearms must be unloaded, locked and in a case while on site, including the access road and the PDA.
- A “no shooting” zone will be established for the access road and Project work sites. Firearms must remain locked and cased within this buffer area.

### 9.2.2 Recreational Vehicles

Project workers will not be permitted to use, transport or store personal recreational vehicles (all-terrain vehicles, snowmobiles) on the Project site. This will help to reduce the potential impacts on habitats (ruts or damage to vegetation) and to manage access. Where access permission has been granted for resource users to carry out harvesting activities, recreational vehicles may be permitted under the following conditions:

- Travel on the access road will not be permitted for safety reasons.
- Crossing of the access road should be limited to designated crossings.

Use of the surrounding Crown land outside of the access road and PDA will not be restricted.

## 9.3 Site Security

During construction, access to the PDA will be monitored and restricted through the use of a security gatehouse. It will be staffed by a security guard 24 hours a day.

Any visitors to the LSMOC will be required to check in at the security guardhouse. The security guard will coordinate an escort for any person authorized to enter the PDA. Members of the public will not be admitted to the PDA unless prior arrangements have been made through MI.

The security guard will be responsible to notify the MI Construction Inspector of any attempts to access the PDA by any unauthorized personnel.

Security staff will be responsible for the following:

- Ensure that only authorized users access the site.
- Distribute appropriate information to personnel entering the site.
- Confirm that approved resource harvesters are transporting any firearms in a safe manner (as described above).
- Conduct patrols of the site, including in the camp and the work areas, to inspect for un-authorized personnel and/or activities, and ensure adherence to camp rules.

Notify the MI Project Manager (or designate) of security issues and any instances of trespassing, who will then liaise with the RCMP as required.

## 9.4 Access Control

Access restriction measures for the Project will include road controls (gates), signage and fencing (both temporary and permanent). Certain areas will have gates and fences installed to protect the public from potential hazards created by the new construction (e.g. water control structure). Warning signs will be installed along the right-of-way to indicate that unauthorized personnel are not permitted. Signage indicating hunting and access restrictions due to safety concerns will be prominently displayed and a security gate will be installed on the access road

Signs will be posted at various locations indicating areas where public access is restricted, where hunting and firearms are not allowed, and in areas where members of the public including local Indigenous communities and non-Indigenous communities need to be informed about potential safety issues, such as at the inlet, outlet and water control structure areas. Signage will be in line with relevant Canadian standards and with MI corporate policies.

## 9.5 Access to Waterbodies

Construction activities on Lake St. Martin and Lake Winnipeg will be focused at the water inlet and outlet locations, where construction will include excavation of the lake sediment with the use of a cofferdam. To address the potential impacts of the Project to navigation, the inlet and outlet designs will include safety measures that will comply with Transport Canada approval requirements, such as warning signage, buoys, and a safety boom to delineate the regions of increased water velocities and to notify water users (Figures 3A-3 and 3A-4, Appendix 3A). Signage may also be required to warn of thin ice near the inlet and outlet due to winter operation. Conditions at the inlet prior to operation may present challenges for buoy or boom installation (e.g. ice conditions). Project activities at the inlet and outlet will adhere to requirements from Transport Canada under the *Canadian Navigable Waters Act*.

## 9.6 Hunting and Fishing Restrictions

To facilitate the safety of the public and of Project employees during construction, the general public will be restricted from hunting in the Project footprint. A “no hunting” zone will be designated around the Project

infrastructure and access roads. This is intended to protect Project employees from hunting accidents, and to protect the public from risks due to construction activities. Signs will be posted in strategic locations to keep the area safe for construction workers and facilitate public awareness of construction activities in the area.

A “no hunting” policy will be implemented and all Project workers, including contractors, subcontractors, consultants and any others who work on the Project in any capacity will be required to follow the policy. Workers will also be restricted from fishing within the LAA during work shifts as well as trapping and harvesting at any time. There will be a “no fishing” policy for workers and the public from any infrastructure within the LSMOC right-of-way.

While the Project site will not be accessible to members of the public during construction, some exceptions will be made for Indigenous peoples who intend to carry out traditional practices to the extent that such access is safe. Additional details on access and use of lands are being considered through the on-going Indigenous engagement and consultation process.

There will be no firearms allowed within the PDA except by resource users who have obtained authorization by MI and under conditions identified in Section 11.2.

## 9.7 Land-Based Trails

Due to safety concerns, trails, including trapping routes, within the Project site will not be accessible to members of the public during construction, with some exceptions for Indigenous peoples who intend to carry out traditional practices to the extent that such access is safe. Additional details on access and use of lands are being considered. The contractor and all of its associated employees will not use the trails for recreational purposes.

## 9.8 Traditional Land Use and Resource Use

As Project construction may impact access to traditional resources and areas of current use, a schedule of construction and Project activities will be made available to Indigenous groups and Northern Affairs Communities engaged on the Project, so that areas and time periods of activity can be avoided. MI will engage with Dauphin River First Nation, Peguis First Nation, Pinaymootang First Nation and other Indigenous groups in order to better understand the use and importance of the snowmobile trails that are intersected by the LSMOC and to develop suitable means of crossing the channel following construction. MI will engage with commercial fish harvesters and anglers to address potential conflict, disturbance, or access restrictions to fishing/harvesting areas in the PDA, and availability of fish productivity and resources.

## 9.9 Decommissioning Temporary Access

Temporary facilities and work areas, including laydown areas and construction camps, that will not be needed for future maintenance activities will be decommissioned and reclaimed following construction. Designated areas and temporary access roads will be leveled to natural or pre-existing grade and slope. Access routes will be contoured, de-compacted and trimmed to encourage natural revegetation. Closure of

temporary construction work areas will typically consist of redistributing organic materials to encourage natural vegetation regeneration. Reseeding will occur, as required, following the Native Revegetation Program for boreal areas (e.g. on disturbed lands such as areas vulnerable to erosion). Reclamation of aggregate/quarry sites will occur following the completion of construction once the sites are no longer needed for operation and maintenance and will follow those measures in place at the time of remediation/decommissioning and in full compliance with legislation and regulatory standards.

Decommissioning measures associated with temporary components are described in greater detail in the Construction Decommissioning Plan.

DRAFT

## 10.0 OPERATION

Access limitations in the PDA during the operations phase relate to fenced areas around Project infrastructure and public safety considerations near the water inlet on Lake St. Martin and near the outlet on Lake Winnipeg. When construction of the Project is completed, portions of the temporary construction infrastructure not required during operations will be decommissioned and removed including temporary access roads, borrow areas, and the contractor's construction camp, work areas, and laydown yards. Figure 3A-5 shows the permanent Project infrastructure that will be in place during operations (Appendix 3A).

### 10.1 Operation Access

Access to the LSMOC during operation will be via the Lake St. Martin Access Road, which also extends to the Emergency Outlet Channel (Reach 1), as previously described and shown in the maps provided in Appendix 3A. Permanent all-season maintenance roads will be constructed within the PDA along each side of LSMOC to provide maintenance access along the length of the channel (Figure 4). The cofferdam access road will also be retained for the life of the Project as it will be used for ongoing maintenance purposes (Figure 3A-4, Appendix 3A). The only channel crossing planned for the LSMOC access road is the combined bridge and water control structure.

### 10.2 General Access Restrictions

Unauthorized access to Project infrastructure including the outlet channel, water control structure, channel inlet and outlet will be restricted during the operations phase of the Project. Fencing will be erected around the permanent operations infrastructure that could pose a hazard and/or security risk including the water control structure. Recreation will not be allowed along the outlet channels through the life of the Project. Despite access not being permitted to LSMOC infrastructure, MI will install warning signs indicating no authorized personnel to promote safety. A gate will be installed at the south end of the access road to restrict public access.

### 10.3 Access Control

Access restriction measures for the Project will include road controls (gates), signage and fencing. Certain areas will have gates and fences installed to protect the public from potential hazards (e.g. water control structure). Warning signs will be installed along the ROW to indicate that unauthorized personnel are not permitted. Signage indicating hunting and access restrictions due to safety concerns will be prominently displayed.

Signs will be posted at various locations indicating areas where public access is restricted, where hunting and firearms are not allowed, and in areas where members of the public including local Indigenous communities and non-Indigenous communities need to be informed about potential safety issues, such as at the inlet,

outlet and water control structure areas. Signage will be in line with relevant Canadian standards and with MI corporate policies.

## 10.4 Access to Waterbodies

Safety measures implemented during Project construction at the inlet on Lake St. Martin and the outlet on Lake Winnipeg will be retained for the life of the Project. These include warning signage, buoys, and safety booms (Figures 3A-3 and 3A-4, Appendix 3A). Safety measures will adhere to requirements from Transport Canada under the *Canadian Navigable Waters Act* and other applicable regulations and policies.

## 10.5 Winter Travel Restrictions

During the winter, there may be changes to how ice forms near the water inlet on Lake St. Martin and near the outlet in Lake Winnipeg. This may affect the ability of people to travel safely on ice with recreational vehicles. Warning signage will be installed in front of the water inlet and outlet to identify areas where unsafe ice conditions may be present. Buoys at the intake will remain in place year round due to risk of thin ice to recreational vehicle operators travelling on the lake in the winter.

## 10.6 Hunting and Fishing Restrictions

During operation, the access road will remain gated in order to protect the public. Access to the road will require approval by MI. The “no hunting” zone around the Project footprint and access road right-of-way will be maintained during operations to protect employees. Signs will be posted in strategic locations to facilitate effective communication and to keep the area safe for operations workers, and to facilitate public awareness and safety. There will be a “no fishing” policy for the public from the bridge and in the channels at all times. Some exceptions will be made for Indigenous peoples who intend to carry out traditional practices to the extent that such access is safe. Additional details on access and use of lands are being considered.



## 11.0 MONITORING AND ADAPTIVE MANAGEMENT

Adaptive management is a process to improve practices by learning about their effects and then making changes in those practices as new information is available. Adaptive management uses the Project designs while learning from field performance to manage risk and allow the incorporation of new knowledge into subsequent steps. The AMP is a living document that may be modified to improve its effectiveness.

Therefore, monitoring of the AMP will be done to:

- Determine whether the measures set out in the AMP are effective.
- Reduce uncertainty in implementing the AMP.
- Adapt and improve measures in the AMP in response to actual experience (adaptive management).

Sources of monitoring information may include the following:

- Gate records
- Security cameras
- Security reports from the security guard
- Resource user access request and MI's response
- Monitoring reports developed and provided to the Project Manager to be acted upon, as necessary

Based on reviews of this monitoring information, adjustments will be made to the AMP, if required, to optimize its effectiveness in addressing safety in a respectful manner.

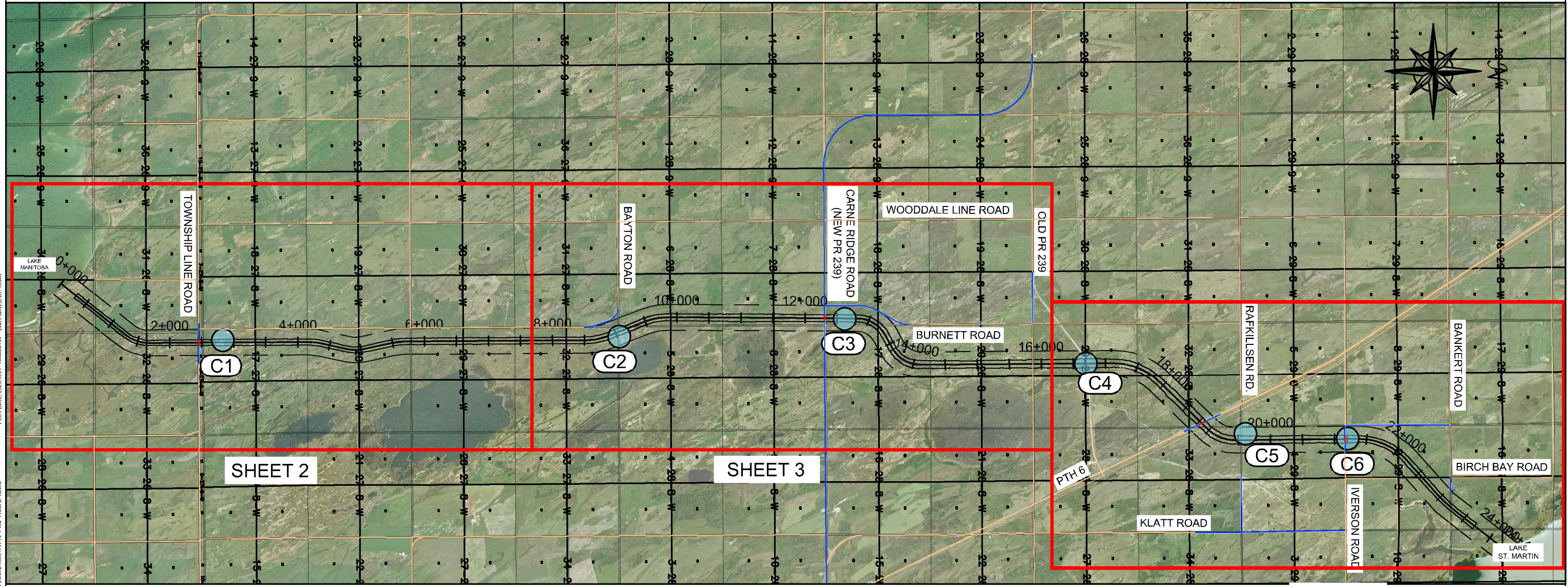
# APPENDIX 2A

LMOC Maps

DRAFT



C:\USERS\JAT\DOCUMENTS\PROJECTS\18804\LAKE ST MARTIN\OUTLET CHANNEL\DWG\18804-1-TRPT-TM-Figure\_1DWG PLOT DATE: 2020/10/21 10:38:23 AM LAST SAVED BY: JAT



SHEET 2

SHEET 3

SHEET 4

**DRAFT**  
FOR DISCUSSION  
PURPOSES ONLY



REVISIONS	
DATE	DESCRIPTION

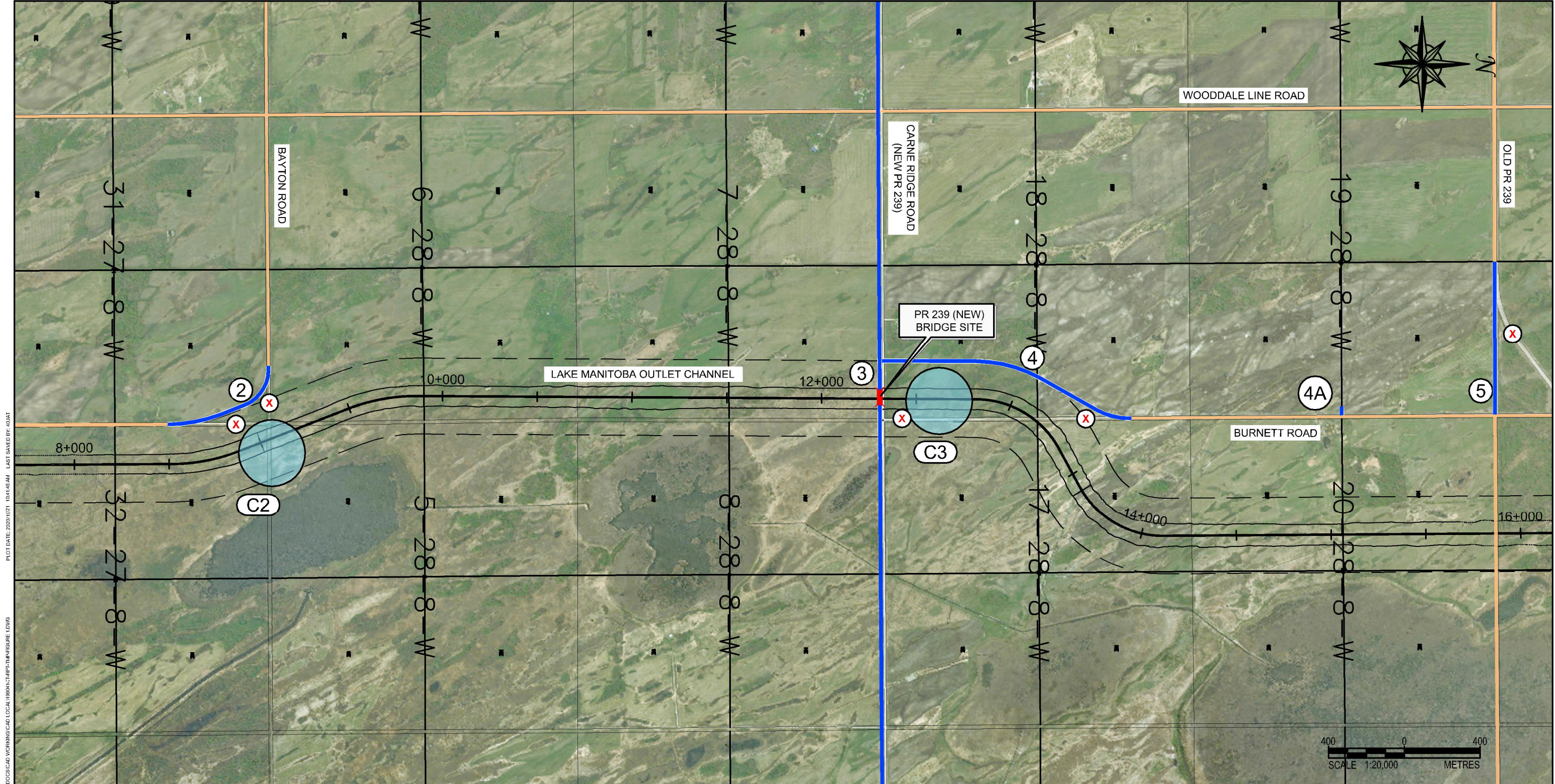
**FIGURE 2A-1**  
**CONCEPTUAL ROAD NETWORK CHANGES**  
**KEY PLAN**  
(SHEET 1 OF 4)  
LAKE MANITOBA OUTLET CHANNEL  
R.M. OF GRAHAMDALE

	RELEASED FOR CONSTRUCTION BY: _____ EXECUTIVE DIRECTOR OF STRUCTURES	
	DESIGN BY: JAT CHECKED: CF	DATE: _____ SCALE: _____
DETAILS BY: _____ CHECKED: _____	SHEET No. <u>1</u> OF <u>4</u> SITE No. <u>0000-00</u>	









C:\USERS\JAT\DOCUMENTS\PROJECTS\1804\LAKE ST MANTOBA OUTLET CHANNEL\DWG\CAD\LOCAL\1804\1-PRPT-TM-Figure\_1.DWG  
 PLOT DATE: 2020/10/21 10:41:49 AM LAST SAVED BY: JAT

**LEGEND:**

	CONCEPTUAL ROAD CHANGES
	EXISTING ROAD
	NEW BRIDGE SITE
	ROADWAY CLOSURE
	LOCATION NO.
	POSSIBLE CAMP LOCATION
	CAMP NO.

**DRAFT**  
 FOR DISCUSSION  
 PURPOSES ONLY

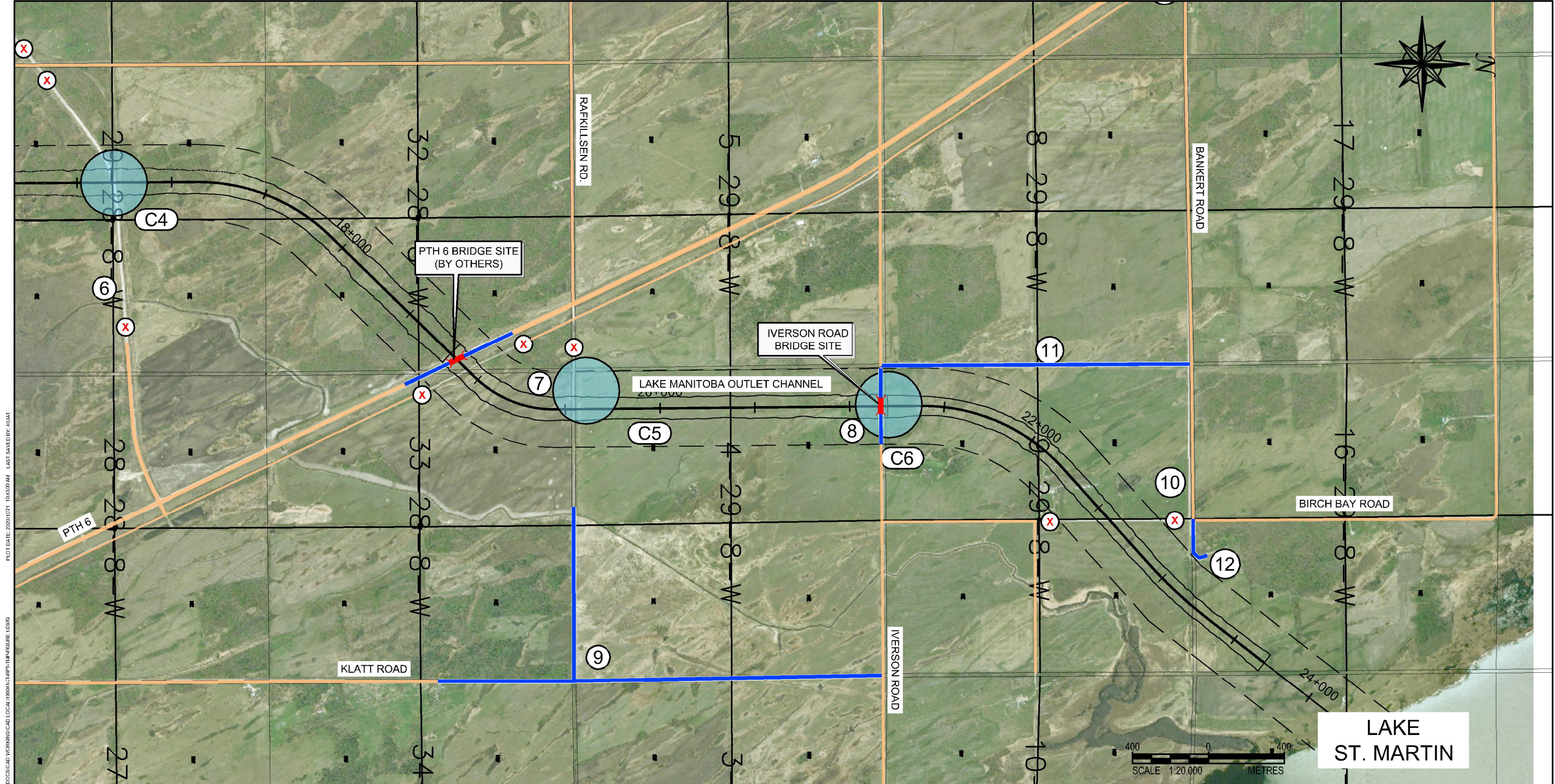


REVISIONS	
DATE	DESCRIPTION

**FIGURE 2A-1**  
**CONCEPTUAL ROAD NETWORK CHANGES**  
 (SHEET 3 OF 4)  
**LAKE MANITOBA OUTLET CHANNEL**  
**R.M. OF GRAHAMDALE**

 Infrastructure Water Management and Structures	RELEASED FOR CONSTRUCTION BY: _____ EXECUTIVE DIRECTOR OF STRUCTURES
	DATE: _____ SCALE: _____ SHEET No. <u>3</u> OF <u>4</u> SITE No. <u>0000-00</u>
DESIGN BY: <u>JAT</u> CHECKED: <u>CF</u>	DETAILS BY: _____ CHECKED: _____





C:\USERS\JAT\DOCUMENTS\PROJECTS\1804\LAKE ST MARTIN\OUTLET CHANNEL\DWG\CAD\LOCAL\1804-1-TRPT-TM-Figure\_1DWG  
 PLOT DATE: 2020/10/21 10:43:00 AM LAST SAVED BY: JAT

**LEGEND:**

	CONCEPTUAL ROAD CHANGES
	EXISTING ROAD
	NEW BRIDGE SITE
	ROADWAY CLOSURE
	LOCATION NO.
	POSSIBLE CAMP LOCATION
	CAMP NO.

**DRAFT**  
 FOR DISCUSSION  
 PURPOSES ONLY



REVISIONS	
DATE	DESCRIPTION

**FIGURE 2A-1**  
**CONCEPTUAL ROAD NETWORK CHANGES**  
 (SHEET 4 OF 4)  
**LAKE MANITOBA OUTLET CHANNEL**  
**R.M. OF GRAHAMDALE**

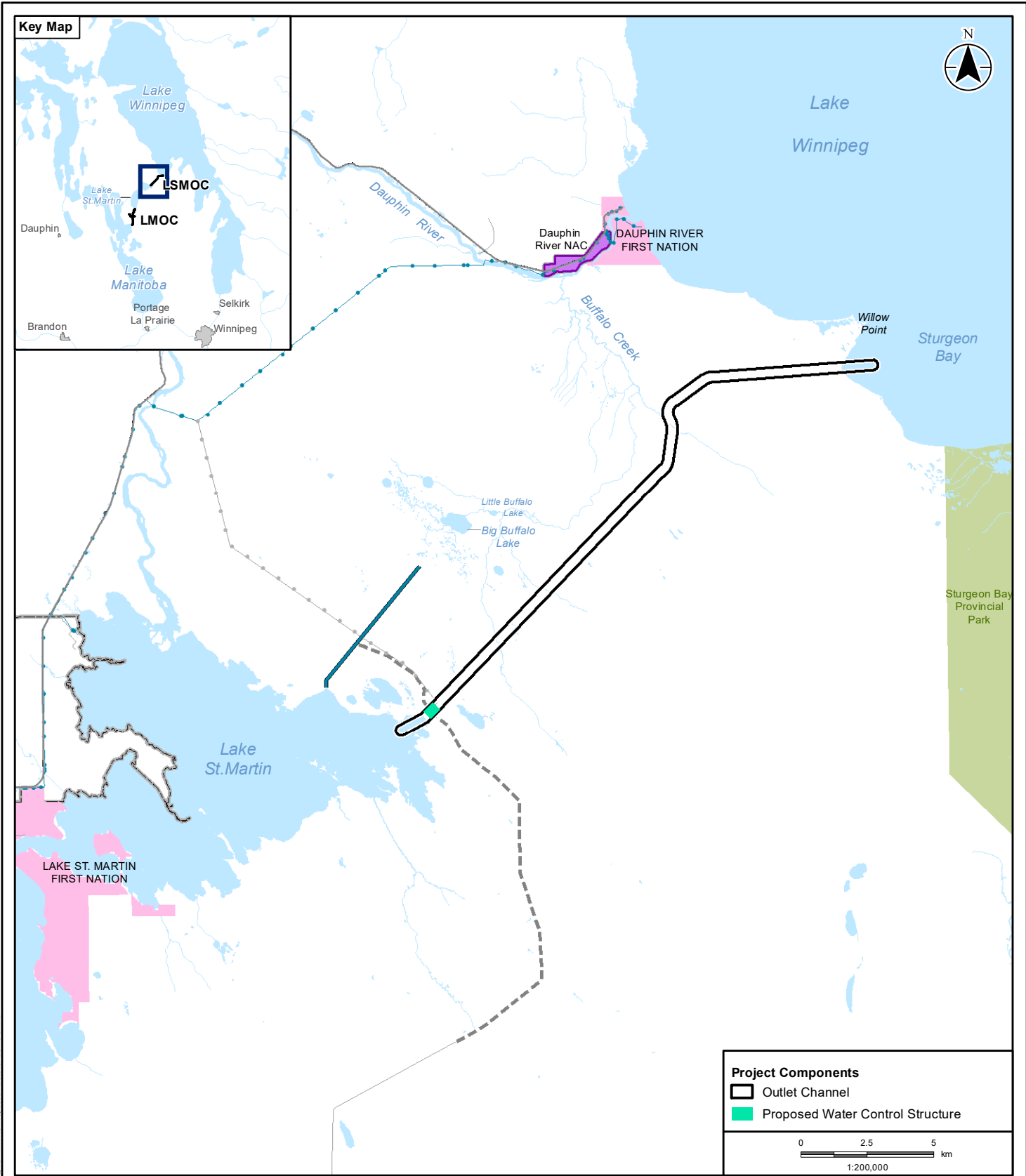
 Infrastructure Water Management and Structures	RELEASED FOR CONSTRUCTION BY: _____ EXECUTIVE DIRECTOR OF STRUCTURES	
	DESIGN BY: JAT CHECKED: CF	DATE: _____ SCALE: _____
DETAILS BY: _____ CHECKED: _____	SHEET No. <u>4</u> OF <u>4</u> SITE No. <u>0000-00</u>	





# APPENDIX 3A

LSMOC Maps











DRAFT



**Project Components**

-  Outlet Channel
-  Proposed Water Control Structure

0 2.5 5 km  
1:200,000

- Legend**
-  Lake St. Martin Emergency Outlet Channel (Reach 1)
  -  Lake St. Martin Access Road
  -  Existing Distribution Line
  -  Planned Distribution Line
  -  Provincial Highway (PTH/PR)
  -  Municipal Road
  -  Rural Municipality
  -  Northern Affairs Community (NAC)
  -  First Nation
  -  Provincial Park

**Notes**

1. Coordinate System: WGS 1984 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/21/2019 1:43:44 PM

**Manitoba** 

MANITOBA INFRASTRUCTURE  
Lake Manitoba & Lake St. Martin Outlet Channels Project  
Environmental Impact Statement

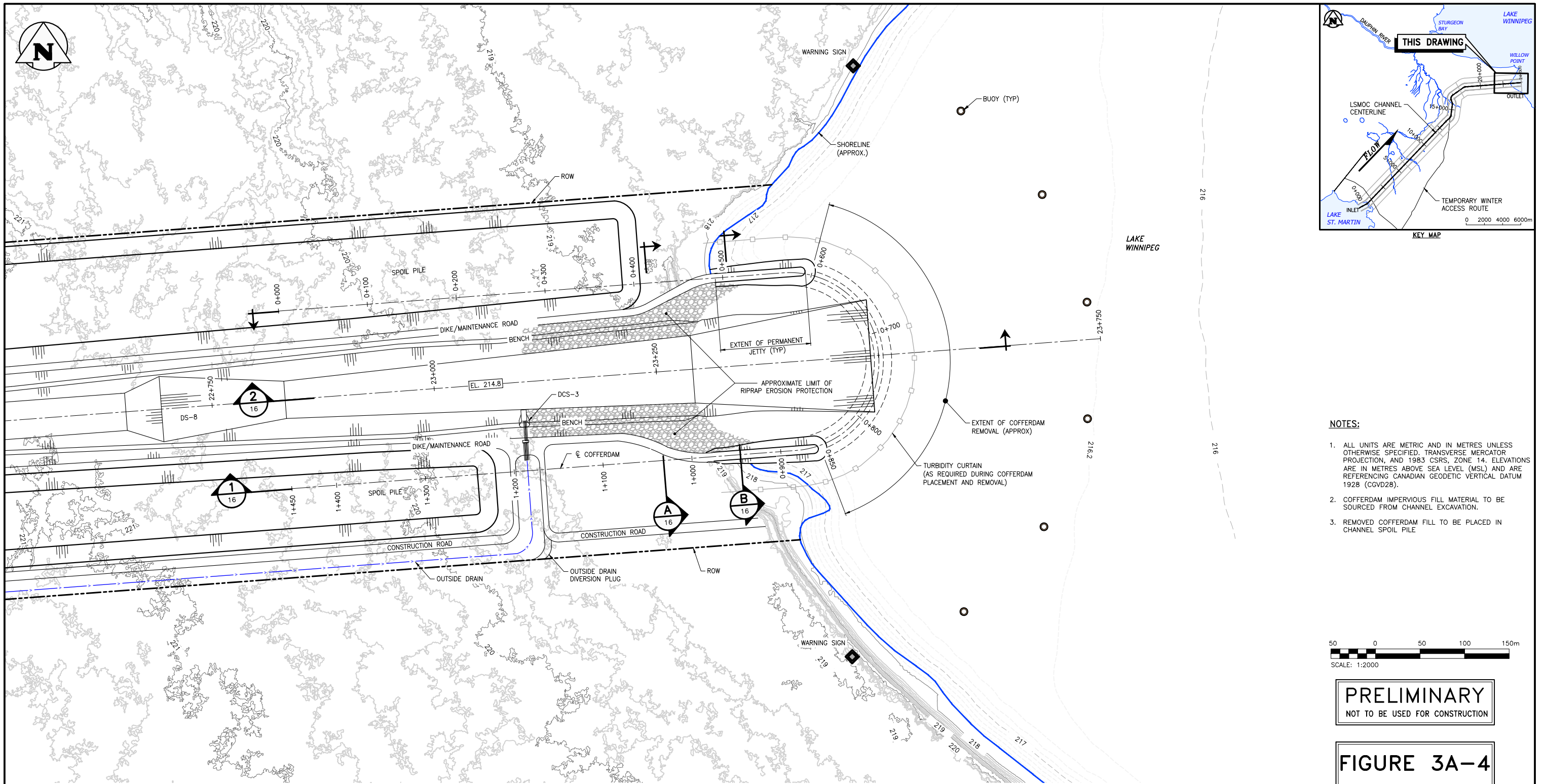
**Proposed Route for the LSMOC**

**Figure 3A-1**

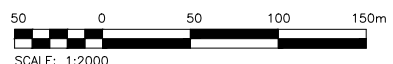
G:\GIS\Project\_Folder\11475120\figures\Ch1 - Info\Final\Fig\_1B-4-INTRO\_Proposed\_Route\_for\_LSMOC.mxd







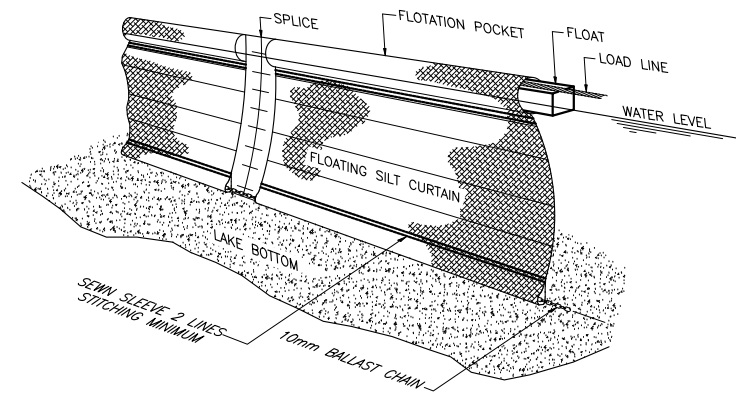
- NOTES:**
1. ALL UNITS ARE METRIC AND IN METRES UNLESS OTHERWISE SPECIFIED. TRANSVERSE MERCATOR PROJECTION, AND 1983 CSRS, ZONE 14. ELEVATIONS ARE IN METRES ABOVE SEA LEVEL (MSL) AND ARE REFERENCING CANADIAN GEODETIC VERTICAL DATUM 1928 (CGVD28).
  2. COFFERDAM IMPERVIOUS FILL MATERIAL TO BE SOURCED FROM CHANNEL EXCAVATION.
  3. REMOVED COFFERDAM FILL TO BE PLACED IN CHANNEL SPOIL PILE



**PRELIMINARY**  
NOT TO BE USED FOR CONSTRUCTION

**FIGURE 3A-4**

**PLAN**  
SCALE: 1:2000



**TYPICAL CONSTRUCTION OF A TURBIDITY CURTAIN**  
SCALE: N.T.S.

REVISIONS		
DATE	BY	DESCRIPTION
20-07-31	JS	ISSUED WITH FINAL REPORT
19-12-19	JS	ISSUED WITH DRAFT REPORT

**OUTLET AREA  
GENERAL ARRANGEMENT  
LAKE ST. MARTIN OUTLET CHANNEL PROJECT  
PRELIMINARY DESIGN**

**NORTHERN DISTRICT**



DESIGN BY: P. LECLERCO  
CHECKED: D. MACMILLAN  
DETAILS BY: J. SHYKOLUK  
CHECKED: P. LECLERCO

RELEASED FOR CONSTRUCTION BY:  
EXECUTIVE DIRECTOR OF STRUCTURES DATE:  
SCALE: AS NOTED  
SHEET No. 15  
FILE No. 18-0300-005

DESIGN SEAL	RECORD SEAL

Figure 3A-2. Map of Construction Access (to be included in Future Revision).





Figure 3A-5. Map of Operations Access (to be included in Future Revision).

