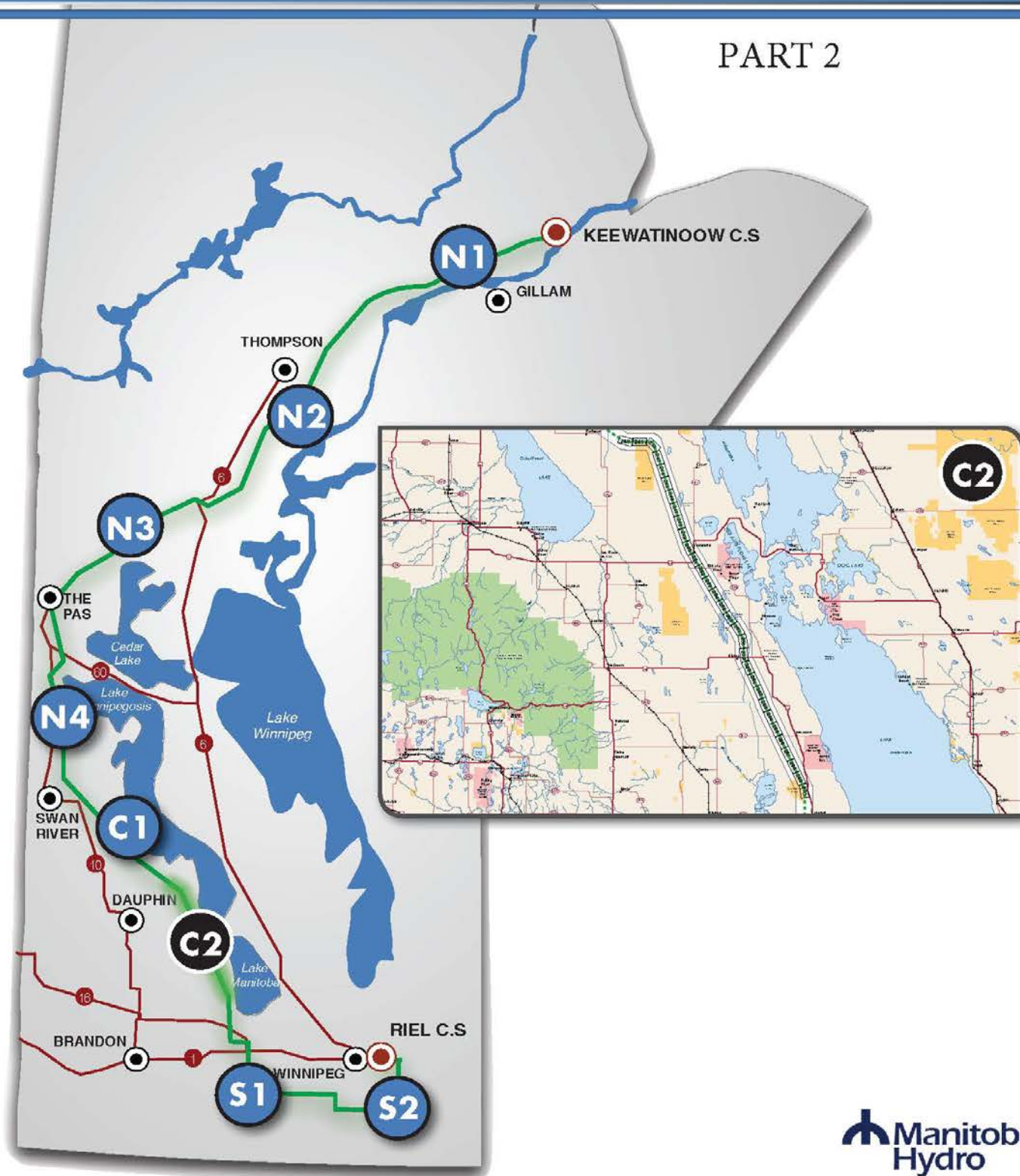


BIPOLE III TRANSMISSION PROJECT CONSTRUCTION ENVIRONMENTAL PROTECTION PLAN - SECTION C2

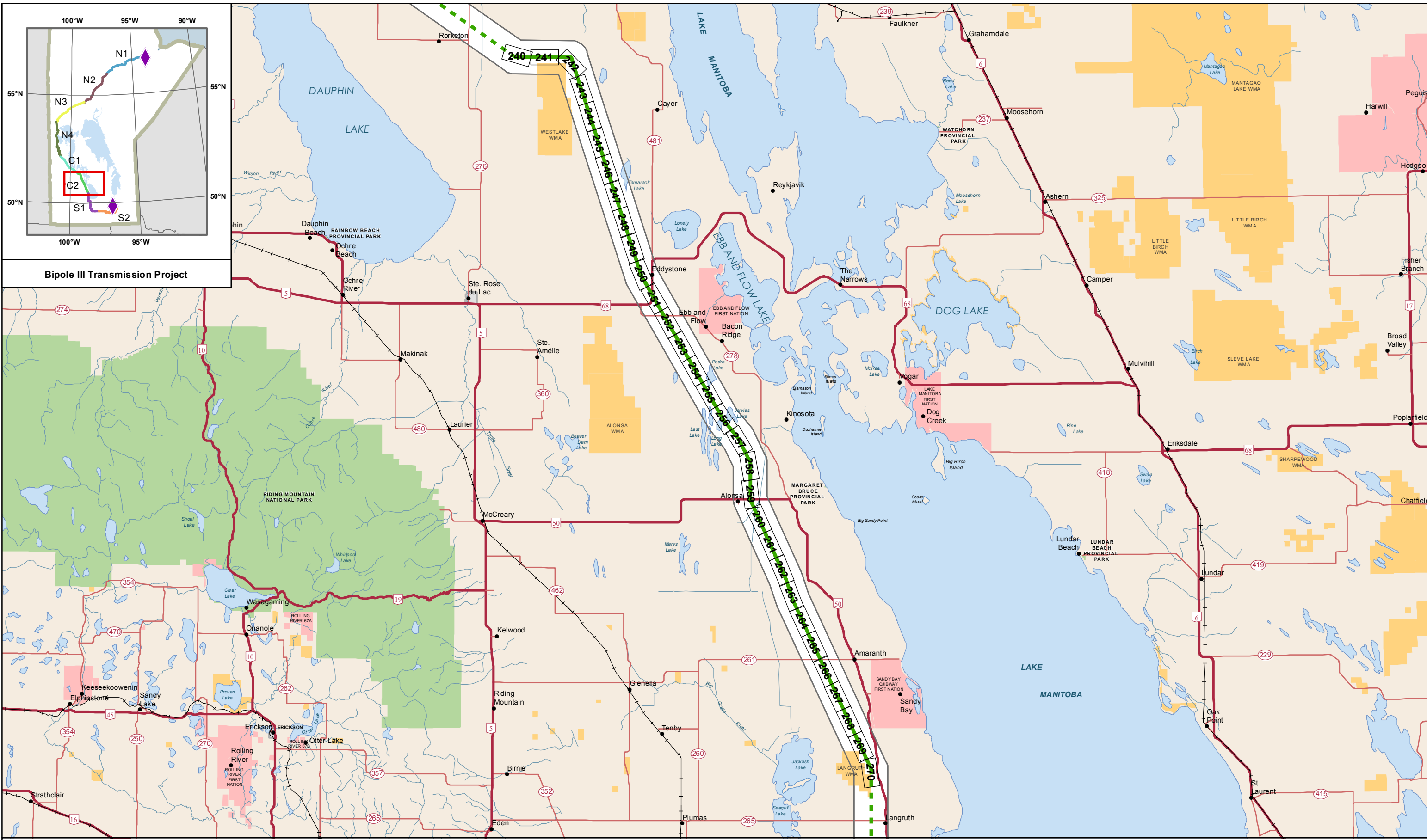
MAPBOOK

PART 2



Aboriginal Traditional Knowledge

Manitoba Hydro recognizes the unique relationship Aboriginal communities have with their areas of use and is appreciative to all the communities who took time to share information about their history and culture as well as their valued knowledge and perspectives with regards to the Bipole III study area and Project. The ATK that has been shared assisted Manitoba Hydro in: developing a greater understanding of the study area; identifying potential Project effects; planning and designing the Project; developing potential mitigation measures, some of which can be found throughout this document.



Bipole III Transmission Project



Coordinate System: UTM Zone 14N NAD83
 Data Source: MB Hydro, Stantec, ProvMB, NRCAN
 Date Created: August 12, 2013

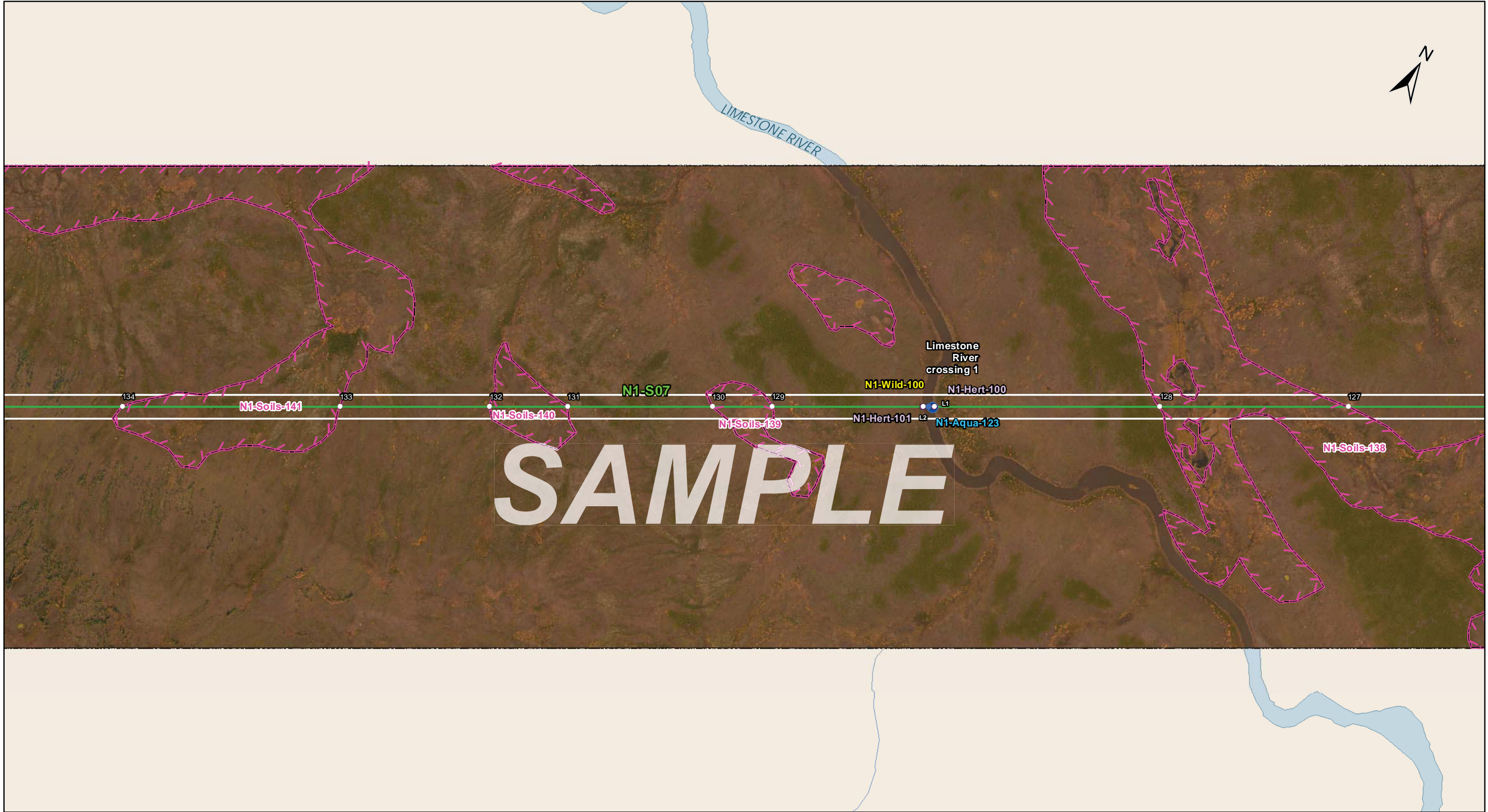
0 10 20 Kilometres
 0 5 10 Miles

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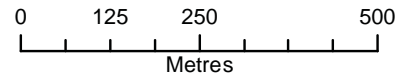
- Legend**
- BPIII C2 Section
 - - - Final Preferred Route
 - Local Study Area
 - Map Index Grid (1:10,000)
 - ◆ Proposed Converter Station

Bipole III Transmission Project
Construction Environmental Protection Plan
C2 Planning Section
Key Map Index

Draft: For Discussion Purposes Only



Coordinate System: UTM Zone 14N NAD83
 Data Source: MB Hydro, ProvMB, NRCAN
 Date Created: December 09, 2013



1:10,000

Land Base

- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- +— Railway (Operational)
- +— Railway (Discontinued)
- ⊠ Mining

Project Infrastructure

- * Angle Tower Locations
- BPIII Final Preferred Route
- 66 m Right of Way

Points of Access*

- Proposed Access Point
 - Major Stream Crossing
 - ▲ Abandoned Rail Crossing
 - ▲ Rail Crossing
 - Transmission Line Crossing
 - Proposed Access Route
- *Labels correspond to BPIII Access Management Database

ESS Features

- Heritage
- Archaeological
- Water
- Water Crossing
- Wildlife
- Birds and Habitat
- Soils and Terrain
- Permafrost

**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N1
 Environmentally Sensitive Site Locations**

SAMPLE MITIGATION TABLE (see adjacent KEY for additional information)

MAP NUMBER : 17¹

ESS Group : Water Crossing²

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S07	N1-Aqua-123	Limestone River	754280	6280471	14N	12m	12m	Low	Important

3

Potential Effects:⁴

Habitat loss & contamination from structure foundations & installations; increased erosion & sedimentation of streams; damage to stream banks; loss of riparian vegetation; fish habitat disturbance & impeded fish movement

Specific Mitigation:⁵

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes

ESS Group : Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S07	N1-Wild-100	Limestone River crossing; movement route for raptors and waterfowl	Site: L1 to L2	E- 754292 N- 6280478	E- 754267 N- 6280463	14N	29 m

3

Potential Effects:⁴

Higher risk of wire collision, risk of wire collision is localized to the right-of-way

Specific Mitigation:⁵

- Adhere to reduced risk timing windows for protection of birds (August 1- April 30)
- Maintain setback during timing window

ESS Group : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S07	N1-Soils-138	Permafrost	Site: 127 to 128	E-755259 N-6281038	E-754819 N-6280783	14N	509 m

3

Potential Effects:⁴

Melting or loss of permafrost due to disturbance of the active layer

Specific Mitigation:⁵

- Carry out construction activities on frozen ground to minimize surface damage and rutting
- Use existing trails, roads or cut lines whenever possible as access routes
- Avoid organic soils containing permafrost to the extent possible
- Remove trees by low-disturbance methods

***ESS and mitigation shown includes only a sample of actual mitigation for the ESS features listed; refer to the Construction Environmental Protection plan for all specific mitigation measures recommended**

KEY to SAMPLE MITIGATION TABLE

1 Map on which ESS listed in the ESS Location Summary tables are illustrated

2 ESS Group classification of ESS shown on the map

3 ESS location summary; includes the following fields:

- Sec-Seg - ID of the construction section (i.e. N1) and segment (i.e. S03) for ESS location
- ESS ID - Site specific ID assigned to each ESS according to **naming convention** listed below
- ESS Name - Brief name/description of ESS
- Easting/Northing - UTM coordinates of ESS location (for points only)
- Location - site identification numbers for the start and stop site points of ESS intersection with the ROW (lines and polygons only)
- Start/Stop - UTM coordinates of the start/stop identification numbers listed in the "Location" field (lines and polygons only)
- Characteristics of stream crossings identified in the ESS Location Summary tables (where applicable and as information is available)

4 Potential effects identified for ESS listed in the ESS Location Summary table

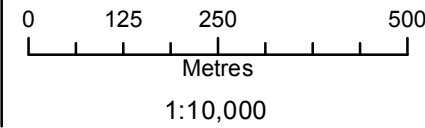
5 Mitigation measures identified for ESS listed in the ESS Location Summary table

ESS NAMING CONVENTION

CATEGORY	GROUP (Number Series Representing Group)	ESS ID (Section ID-Category-Group Number)	
Access	Intersection (100)	N1-Acss-100	
	Ecosystem	Habitat (100)	N1-Eco-100
		Research (200)	N1-Eco-200
Heritage	Species of Concern (300)	N1-Eco-300	
	Heritage	Archaeological (100)	N1-Hert-100
		Cultural (200)	N1-Hert-200
Land Use	Historic (300)	N1-Hert-300	
	Land Use	Conservation (100)	N1-LUse-100
		Crown Land Encumbrance (200)	N1-LUse-200
		Recreation (300)	N1-LUse-300
Residential (400)		N1-LUse-400	
Resource Use	Agriculture (100)	N1-RUse-100	
	Food/Medicinal (200)	N1-RUse-200	
	Forestry (300)	N1-RUse-300	
	Hunting/Fishing (400)	N1-RUse-400	
	Trapping (500)	N1-RUse-500	
	Soils and Terrain	Permafrost (100-200)	N1-Soils-100
Erosion (300)		N1-Soils-300	
Terrain (400)		N1-Soils-400	
Water	Water Crossing (100)	N1-Aqua-100	
	Groundwater (200)	N1-Aqua-200	
	Wetlands (300)	N1-Aqua-300	
Wildlife	Birds and Habitat (100)	N1-Wild-100	
	Mammal and Habitat (200)	N1-Wild-200	
	Reptiles/Amphibians and Habitat (300)	N1-Wild-300	



Coordinate System: UTM Zone 14N NAD83
 Data Source: MB Hydro, ProvMB, NRCAN
 Date Created: April 12, 2014
 Version: Draft



- Land Base**
- Transmission Line
 - Highway
 - Major Road
 - Local Road
 - Winter Road
 - Railway (Operational)
 - Railway (Discontinued)
 - First Nation
 - Mining
 - Provincial Forest

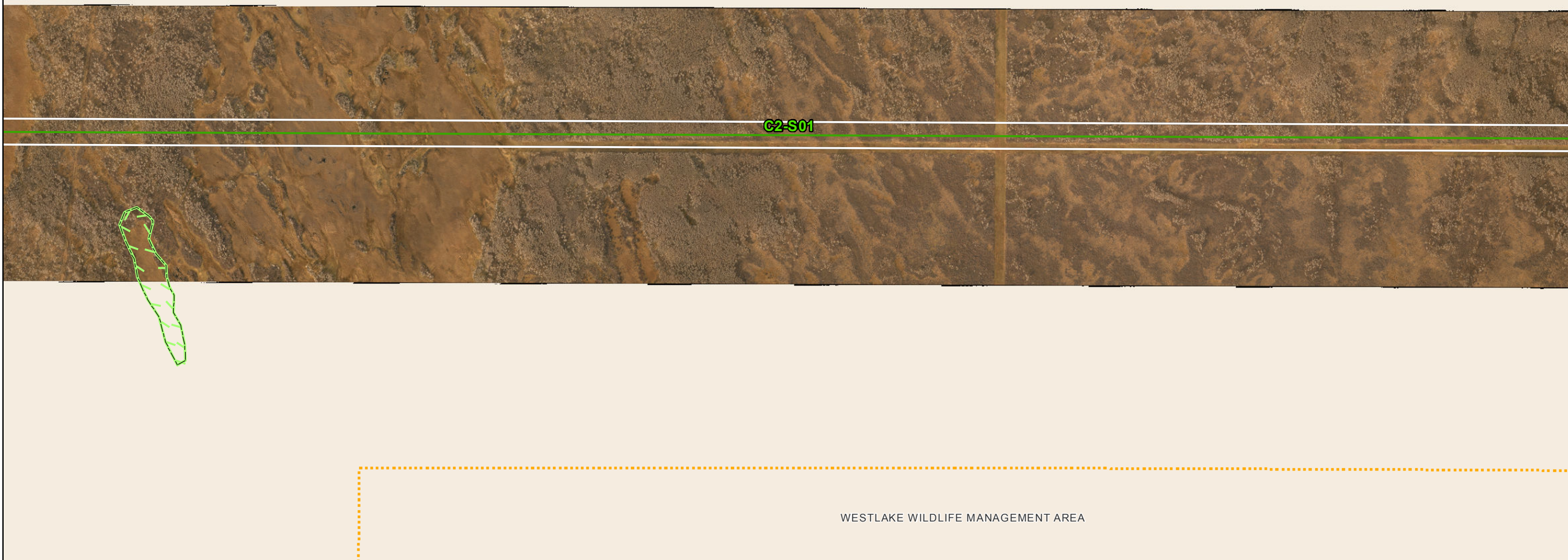
- Project Infrastructure**
- * Angle Tower Locations
 - BPIII Final Preferred Route
 - 66 m Right of Way

- Points of Access***
- Proposed Access Point
 - Major Stream Crossing
 - Abandoned Rail Crossing
 - Rail Crossing
 - Transmission Line Crossing
 - Proposed Access Route
- *Labels correspond to BPIII Access Management Database

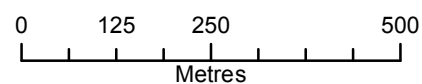
ESS Features

**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N4
 Environmentally Sensitive Site Locations**

Draft: For Discussion Purposes Only



Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: April 12, 2014
Version: Draft



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Land Base

- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- First Nation
- Mining
- Provincial Forest

Project Infrastructure

- Angle Tower Locations
- BPIII Final Preferred Route
- 66 m Right of Way

Points of Access*

- Proposed Access Point
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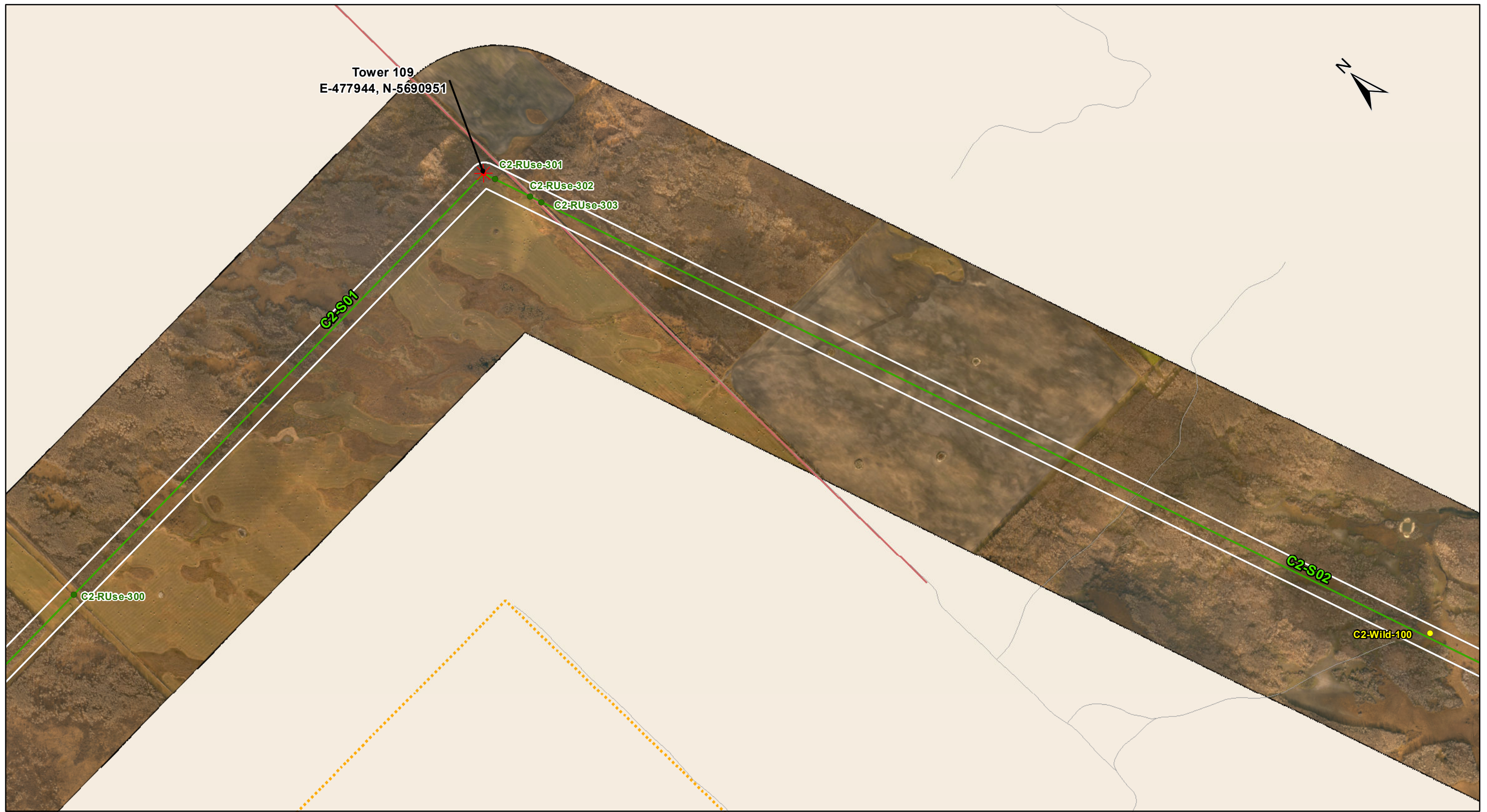
ESS Features

- Ecosystem
- Habitat

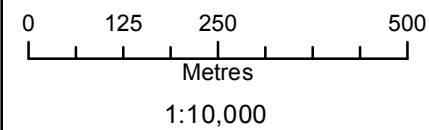
**Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N4
Environmentally Sensitive Site Locations**

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Map 241



Coordinate System: UTM Zone 14N NAD83
 Data Source: MB Hydro, ProvMB, NRCAN
 Date Created: April 12, 2014
 Version: Draft



- Land Base**
- Transmission Line
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- Project Infrastructure**
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- Points of Access***
- Proposed Access Point
 - Major Stream Crossing
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 - Proposed Access Route
- *Labels correspond to BPIII Access Management Database

- ESS Features**
- Resource Use**
- Forestry
- Wildlife**
- Birds and Habitat

**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N4
 Environmentally Sensitive Site Locations**

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ESS Group: Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
C2-S02	C2-Wild-100	Nearby great blue heron colony	478830	5688237	14N

Potential Effects:

Higher risk of wire collision, Disturbance during breeding and nesting, risk of wire collision is localized to the right-of-way while construction disturbance can affect colonies up to 1000 meters away

Specific Mitigation:

- Adhere to reduced risk timing windows for protection of birds (August 1- April 30)
- Maintain applicable setback during nesting and breeding timing window
- Conduct priority assessment for bird diverters and other measures prior to transmission line stringing
- Install bird diverters or other measures at high priority sites

ESS Group: Forestry

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
C2-S02	C2-RUse-300	Shelterbelt	478830	5688237	14N
C2-S02	C2-RUse-301	Shelterbelt	478830	5688237	14N
C2-S02	C2-RUse-302	Shelterbelt	478830	5688237	14N
C2-S02	C2-RUse-303	Shelterbelt	478830	5688237	14N

Potential Effects:

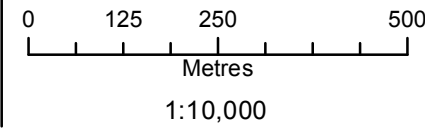
Removal in area of ROW intersect

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Identify and flag prior to start of work
- Burn clearing debris during winter months only and ensure that all fires are extinguished prior to spring break-up
- Notify landowner regarding construction activities and schedule, and address concerns prior to start of work
- Where applicable, ensure compensation agreement is in place prior to start of work
- Use existing access trails, roads or cut lines whenever possible as access routes
- Limit all equipment to project footprint only, where possible



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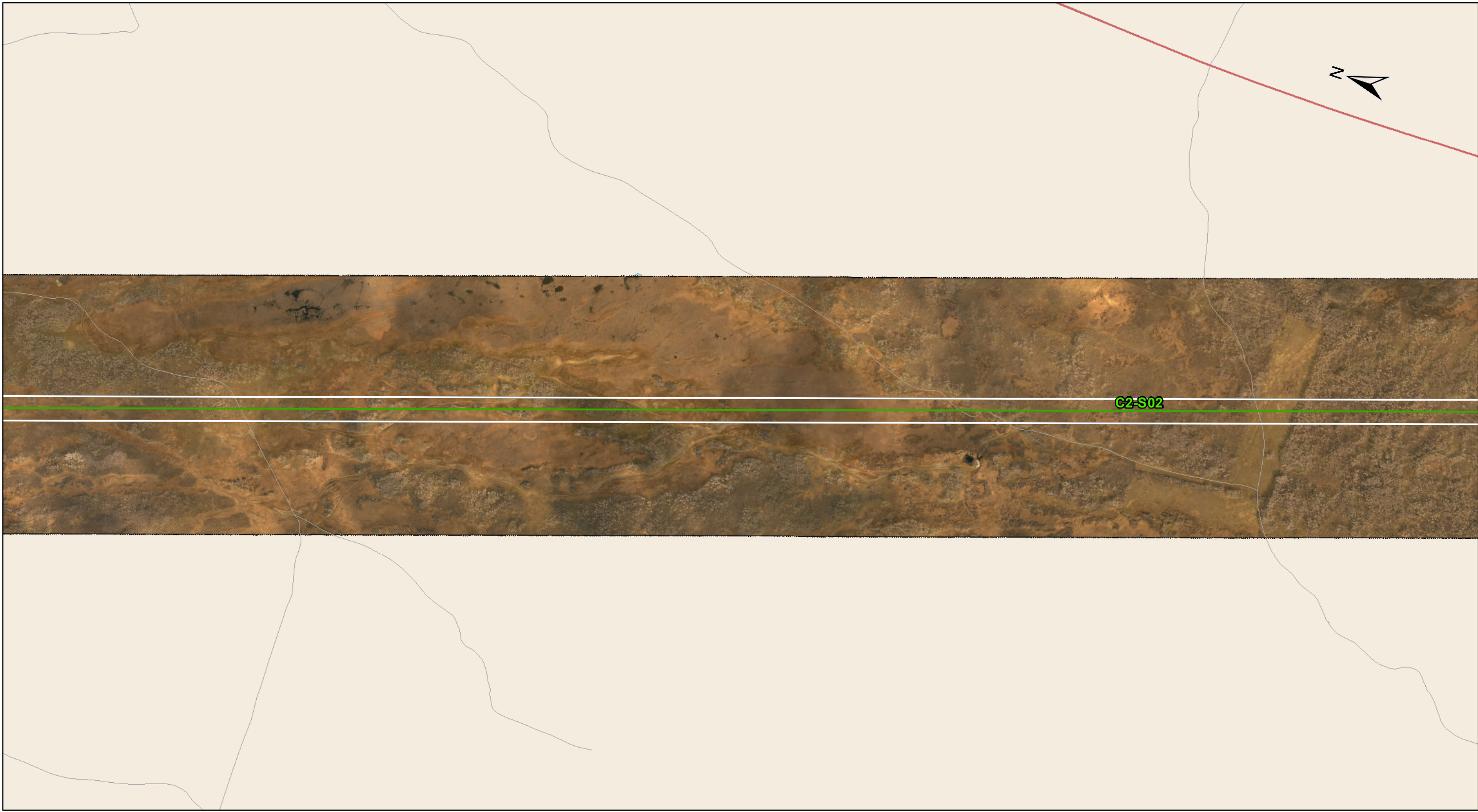
- Project Infrastructure**
- * Angle Tower Locations
 - BPIII Final Preferred Route
 - 66 m Right of Way

- Points of Access***
- Proposed Access Point
 - Major Stream Crossing
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 - ▲ Rail Crossing
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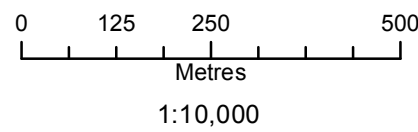
ESS Features

**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N4
 Environmentally Sensitive Site Locations**

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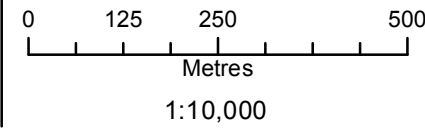


**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N4
 Environmentally Sensitive Site Locations**

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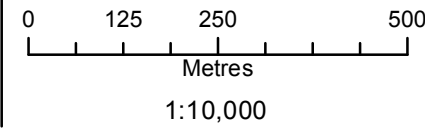
- ESS Features**
- Land Use**
- Crown Land Encumbrance

**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N4
 Environmentally Sensitive Site Locations**

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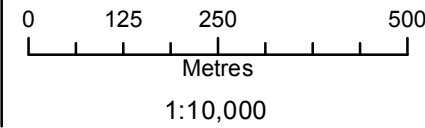
ESS Features

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 Construction Environmental Protection Plan
 Construction Section N4
 Environmentally Sensitive Site Locations**

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- ESS Features**
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 - Archaeological
 - Resource Use
 - Forestry

**Bipole III Transmission Project
 Construction Environmental Protection Plan
 Construction Section N4
 Environmentally Sensitive Site Locations**

Draft: For Discussion Purposes Only

ESS Group: Forestry

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
C2-S02	C2-RUse-304	Shelterbelt	Site: 1 to 2	E-484045 N-5672007	E-484056 N-5671973	14N	35m

Potential Effects:

Removal in area of ROW intersect

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Identify and flag prior to start of work
- Burn clearing debris during winter months only and ensure that all fires are extinguished prior to spring break-up
- Notify landowner regarding construction activities and schedule, and address concerns prior to start of work
- Where applicable, ensure compensation agreement is in place prior to start of work
- Use existing access trails, roads or cut lines whenever possible as access routes
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