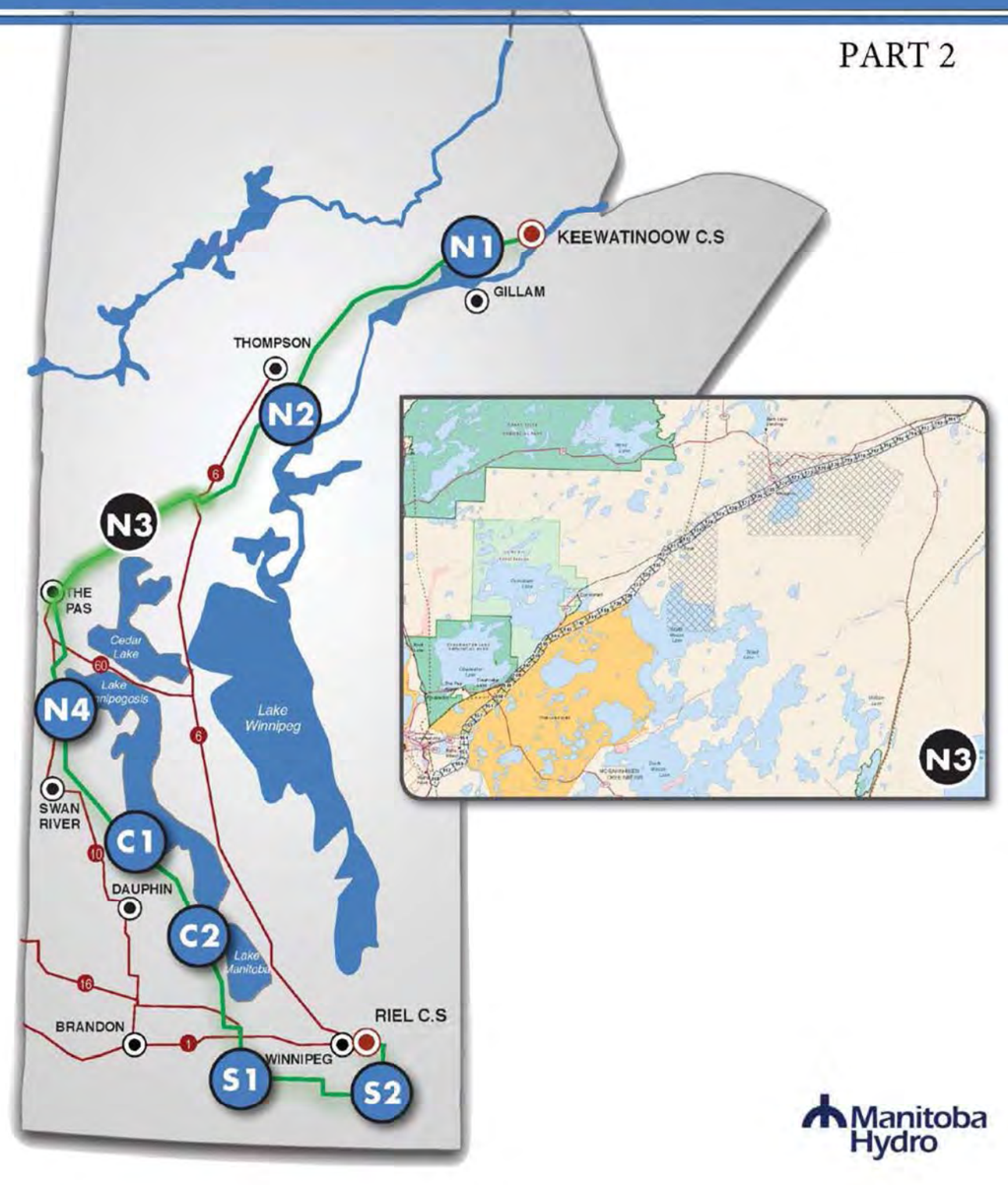
BIPOLE III TRANSMISSION PROJECT
CONSTRUCTION ENVIRONMENTAL PROTECTION PLAN - SECTION N3 MAPBOOK

PART 2



Manitoba Hydro

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.

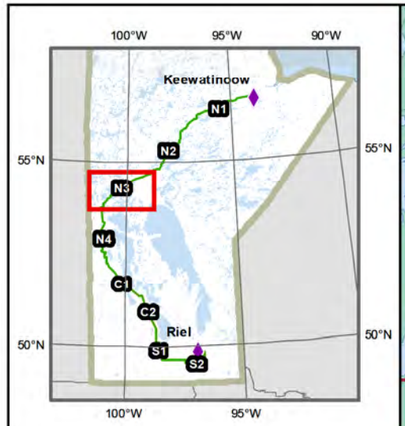
Document Owner:
Licensing and Environmental Assessment Department
Transmission Planning and Design Division
Transmission Business Unit
Manitoba Hydro

Final 4.0

List of Revisions- BPIII Environmental Protection Plan N3 Section

Number	Nature of Revision	Page/Map #	Revised By	Date
2.01	Update of mitigation measures after site visit from Project Archaeologist for "N3-Hert-103" Cormorant Lake Petroform Site	Page #144	Kris Watts	2014-02-07
2.02	Update of mitigation measures after site visit from Project Archaeologist for "N3-Hert-100" (Mitishto River), "N3-Hert-101" (Sky Sailor) and "N3-Hert-102" (Mistishto River)	Page #117	Kris Watts	2014-02-07
2.03	Stream Crossing Habitat Classification information missing in previous version due to computer scripting error are now populated in this update	Any page that has a stream crossing and that info was available	Kris Watts	2015-03-05
3.00	Sensitive sites will now be symbolized in grey with white Halos for better visibility	All maps with SS	Stantec	2015-03-27
3.01	Removed Mitigation measure that referred to DFO operational statement as Fisheries and Oceans Canada no longer uses operational statements but rather "Measures to Avoid Causing Harm to Fish and Fish Habitat" These measures are reflected in the text of the CEnvPP	Any mitigation text for stream crossings or water bodies	Kris Watts	2015-03-27
3.02	To help prevent confusion with access trails, recreational trails will be renamed, for example ALL Accss features will now be called RecUse eg "N4-Accss-100" will now be "N4-RecUse-100"	Maps 158,113,114	Stantec	2015-03-27
3.03	Removed the Bird Sensitive timing window mitigation measure statement that indicates a timing window as this is observed throughout the project not just at that specific ESS and indicated in the appendix of the text CEnvPP document	Any map with ESS Group: Birds and Habitat on it	Manitoba Hydro	2015-10-14
3.04	Updates to Access trails as well as the addition of Bypass utilized during construction	Any associated map	Manitoba Hydro	2015-10-17
3.05	The addition of Species of Concern Identified by field activities (N3-Eco-300)	Map 135	Manitoba Hydro	2015-10-29

3.06	Removed Bird Sensitivity Area Line features that were used to indicate locations of intended bird diverter installations. This will be indicated to the contractor through engineer drawings	Removed from any associated map	Manitoba Hydro	2015-10-29
3.07	Removed labels from major stream crossings, rail crossing and transmission line crossings, and access route points. Labels for access routes remain.	Any associated Map	Manitoba Hydro	2015-11-03
3.08	Incorporation of additional access routes from the 2014 construction season	Any associated Map	Stantec	20151112
3.09	Mitigation for Caribou: ESS ID N3-Wild-200 and mitigation for Moose: ESS ID N3-Wild-201) have been updated to refer to a more comprehensive document. The "Moose and Caribou Sensitive Range Delineation and Mitigation Plans" document. The mitigation text pages will be Final 3.09 while the map pages will remain Final 3.08 until the next major update	(N3-Wild-200) Page 111-123, (N3-Wild-201), 150-154	Manitoba Hydro	20160114
3.10	Removal of text box and label "N3-Wild-200" indicating presence of this feature on two maps sheets; feature no longer extends into this area so labels were removed.	Maps 124 & 125	Stantec	20160120
3.11	Mitigation measures for Aqua points have included a timing window statement that considered fall spawning fish "No instream works or fording from September to..." These fish are unlikely to occur in streams and therefore aren't a concern in stream crossings. This statement will be updated in subsequent versions to read "No instream works or fording from April 1 - July 15"	Maps/Page 115, 117-122, 127, 129, 131, 140, 141, 150-152, 154-156	Manitoba Hydro	20160122
4.0	Tom Lamb WMA followed the Churchill WMA mitigation which had polar bears referenced in it. That reference was removed but all mitigation still applies for black bears.	Maps 141-154	Manitoba Hydro	20161118
4.0	Addition of Access Route 23B hydro access	Map 125	Manitoba Hydro	20161118



Bipole III Transmission Project

GRASS RIVER PROVINCIAL PARK
Reed Lake
Herb Lake Landing
Wekusko
Dyce
Cormorant Forest Reserve
Cormorant Lake
Cormorant
ROCKY LAKE PROVINCIAL PARK
Rocky Lake
Root Lake
CLEARWATER LAKE PROVINCIAL PARK
Clearwater Lake
The Pas Airport
Clearwater Lake
Prospector
SASKERAM WMA
OPASKWAYAK CREE NATION
THE PAS
Umpherville
Ralls Island
Young Point
TOM LAMB WMA
North Moose Lake
Talbot Lake
William Lake
South Moose Lake
MOSAKAHIKEN CREE NATION
Limestone Bay
392
39
596
6
10
287
628
285
289
283
282
384

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, Stantec, ProvMB, NRCAN
Date Created: November 04, 2015
Version: 3.07

0 12.5 25 Kilometres
0 5 10 Miles

1:475,000

N

Legend

- Final Preferred Route
- N3
- Map Index Grid (1:10,000)
- Transmission Line
- Mineral Rights
- First Nation
- Provincial Forest
- Provincial Park
- Wildlife Management Area

Bipole III Transmission Line Project
Construction Environmental Protection Plan
Construction Section N3
Key Map Index

File Location: G:_GIS_Project_Folder\00_Hydro\111440054_BPIII_EPPPA\rcMAPIESS_N3\BPIII_CEnvPP_N3ConstructionSection_MitigationESSMapIndex_475K_BTB_20151104.mxd

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* MAP SHEET FULLY WITHIN THE N3-AQUA-201 FEATURE
* MAP SHEET FULLY WITHIN THE N3-RUSE-301 FEATURE

N3-Aqua-201 N3-Ruse-301

287

H75P

N3-Soils-124

TOM LAMB WILDLIFE MANAGEMENT AREA

N3-S13

N3-LUse-100

N3-Wild-107

N3-Aqua-124

L8 138 137 L7

139 140

145 128 143 141 130 134

Tower 72
E-383776, N-5992189

N3-Wild-300

Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: November 29, 2013

0 125 250 500
Metres

1:10,000

Land Base
- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining
- Provincial Park

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

Water
- Water Crossing

Wildlife
- Birds and Habitat

Wildlife
- Wildlife, Reptiles/Amphibians

Land Use
- Conservation

Resource Use
- Forestry

Soils and Terrain
- Permafrost

Water
- Groundwater

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 146

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER\00_HYDRO\111440054_BPIII_EPP\ARCMAP\ESS_N3\BPIII_CENVPP_N1N2N3N4C1SECTIONBASEMAP_MAPBOOK_BTB_STANTEC_20131128A.MXD

SAMPLE MITIGATION TABLE (see adjacent KEY for additional information)

MAP NUMBER : 146[1]

ESS Group : Permafrost[2]

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S13	N3-Soils-124	Permafrost	Site: 137 to 138	E-384894 N-5994010	E-384719 N-5993726	14N	333m

[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 route

ESS Group : Birds and Habitat[2]

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S13	N3-Wild-107	Waterfowl sensitivity area	Site: L7 to L8	E-384697 N-5993592	E-384919 N-5994051	14N	539m

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 applicable setback during nesting and breeding timing window

ESS Group : Water Crossing[2]

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N3-S13	N3-Aqua-124	Unnamed Tributary of Unnamed Lake	384758	5993791	14N	N/A	N/A	No Fish Habitat	Low

Potential Effects: [4]

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

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

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

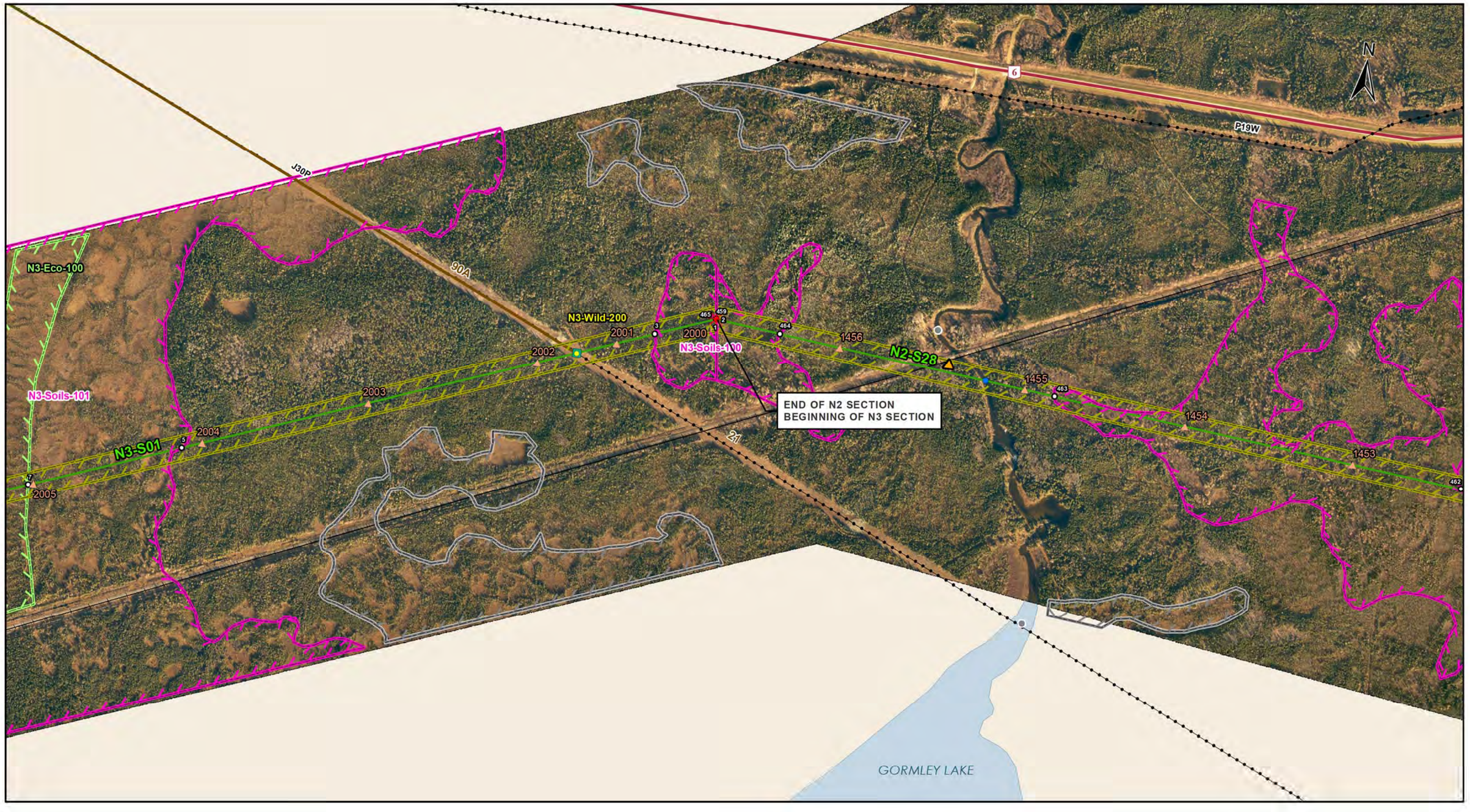
3 ESS location summary; includes the following fields:
- Sec-Seg - ID of the construction section (i.e. C2) and segment (i.e. S03) for ESS location
- ESS ID - Site specific ID assigned to each ESS according to **naming convention** listed below
- ESS Name - Brief name/description of ESS
- Easting/Northing - 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)	N3-Acss-100
Ecosystem	Habitat (100)	N3-Eco-100
	Research (200)	N3-Eco-200
	Species of Concern (300)	N3-Eco-300
Heritage	Archaeological (100)	N3-Hert-100
	Cultural (200)	N3-Hert-200
	Historic (300)	N3-Hert-300
Land Use	Conservation (100)	N3-LUse-100
	Crown Land Encumbrance (200)	N3-LUse-200
	Recreation (300)	N3-LUse-300
	Residential (400)	N3-LUse-400
Resource Use	Agriculture (100)	N3-RUse-100
	Food/Medicinal (200)	N3-RUse-200
	Forestry (300)	N3-RUse-300
	Hunting/Fishing (400)	N3-RUse-400
	Trapping (500)	N3-RUse-500
Soils and Terrain	Permafrost (100-200)	N3-Soils-100
	Erosion (300)	N3-Soils-300
	Terrain (400)	N3-Soils-400
Water	Water Crossing (100)	N3-Aqua-100
	Groundwater (200)	N3-Aqua-200
	Wetlands (300)	N3-Aqua-300
Wildlife	Birds and Habitat (100)	N3-Wild-100
	Mammal and Habitat (200)	N3-Wild-200
	Reptiles/Amphibians and Habitat (300)	N3-Wild-300



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Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: October 31, 2016
Version: Final 4.0

0 125 250 500
Metres
1:10,000

Land Base
- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining
- Provincial Park

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

*Towers are subject to change, and are only used as a rough guide

Sensitive Sites*
- Point Features
- Linear Features
- Area Features

*Currently outside the Project footprint

Points of Access
- Proposed Access Point
- Major Stream Crossing
- Abandoned Rail Crossing
- Rail Crossing
- Transmission Line Crossing
- Bypass Trails
- Approved Access Route

ESS Features
Water
- Water Crossing

Ecosystem
- Habitat

Soils and Terrain
- Permafrost

Wildlife
- Mammals and Habitat

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 111

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S01	N3-Soils-100	Permafrost	Site: 1 to 3	E-501860 N-6060005	E-501697 N-6059945	14N	172 m
N3-S01	N3-Soils-101	Permafrost	Site: 5 to 6	E-500443 N-6059486	E-492274 N-6056498	14N	8698 m

Potential Effects:

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

Specific Mitigation:

- 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
- Maintain shrub and herbaceous vegetation to the extent possible
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan

ESS Group: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S01	N3-Wild-200	MCWS Caribou Sensitive Area	Site: 2 to 4	E-501860 N-6060005	E-491176 N-6056097	14N	11376 m

Potential Effects:

Wabowden Woodland Caribou Range Sensitive Area

Specific Mitigation:

- For mitigation in this area refer to the "Moose and Woodland Caribou Sensitive Range Delineation and Mitigation Plans" document

ESS Group: Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S01	N3-Eco-100	Patterned Fen	Site: 7 to 8	E-500037 N-6059338	E-497319 N-6058344	14N	2894m

Potential Effects:

Potential loss of plants of conservation concern and habitat disturbance from clearing, construction, maintenance and decommissioning activities if route is moved to include this site.

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Use existing access roads and trails to the extent possible
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Install erosion protection and sediment control measures in accordance with Erosion/Sediment Control Plan

Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: October 31, 2016
Version: Final 4.0

0 125 250 500
Metres
1:10,000

Land Base
- Transmission Line
- Highway
- Major Road
- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining
- Provincial Park

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

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Sensitive Sites*
- Point Features
- Linear Features
- Area Features

*Currently outside the Project footprint

Points of Access
- Proposed Access Point
- Major Stream Crossing
- Abandoned Rail Crossing
- Rail Crossing
- Transmission Line Crossing
- Bypass Trails
- Approved Access Route

ESS Features
Ecosystem
- Habitat

Soils and Terrain
- Permafrost

Wildlife
- Mammals and Habitat

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 112

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ESS Group: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S01	N3-Wild-200	MCWS Caribou Sensitive Area	Site: 2 to 4	E-501860 N-6060005	E-491176 N-6056097	14N	11376 m

Potential Effects:

Wabowden Woodland Caribou Range Sensitive Area

Specific Mitigation:

- For mitigation in this area refer to the "Moose and Woodland Caribou Sensitive Range Delineation and Mitigation Plans" document

ESS Group: Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S01	N3-Eco-100	Patterned Fen	Site: 7 to 8	E-500037 N-6059338	E-497319 N-6058344	14N	2894m
N3-S01	N3-Eco-100	Patterned Fen	Site: 9 to 10	E-496744 N-6058134	E-495150 N-6057550	14N	1697m

Potential Effects:

Potential loss of plants of conservation concern and habitat disturbance from clearing, construction, maintenance and decommissioning activities if route is moved to include this site.

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Use existing access roads and trails to the extent possible
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Install erosion protection and sediment control measures in accordance with Erosion/Sediment Control Plan

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S01	N3-Soils-101	Permafrost	Site: 5 to 6	E-500443 N-6059486	E-492274 N-6056498	14N	8698 m

Potential Effects:

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

Specific Mitigation:

- 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
- Maintain shrub and herbaceous vegetation to the extent possible
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan

Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: October 31, 2016
Version: Final 4.0

0 125 250 500
Metres
1:10,000

Land Base
- Transmission Line
- Highway
- Major Road
- Local Road
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- Railway (Discontinued)
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- Towers (Preliminary)*
- BPIII Final Preferred Route
- 66 m Right of Way

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Sensitive Sites*
- Point Features
- Linear Features
- Area Features

*Currently outside the Project footprint

Points of Access
- Proposed Access Point
- Major Stream Crossing
- Abandoned Rail Crossing
- Rail Crossing
- Transmission Line Crossing
- Bypass Trails
- Approved Access Route

ESS Features
RecUse
- Intersection

Ecosystem
- Habitat

Soils and Terrain
- Permafrost

Wildlife
- Mammals and Habitat

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N3
Environmentally Sensitive Site Locations

Map 113

DOCUMENT PATH: G:_GIS_PROJECT_FOLDER\00_HYDRO\111440054_BPIII_EPP\ARCMAP\ESS_N3\BPIII_CENVPP_N3SECTION_MAPBOOK_20161031.MXD

ESS Group: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S01	N3-Wild-200	MCWS Caribou Sensitive Area	Site: 2 to 4	E-501860 N-6060005	E-491176 N-6056097	14N	11376 m

Potential Effects:

Wabowden Woodland Caribou Range Sensitive Area

Specific Mitigation:

- For mitigation in this area refer to the "Moose and Woodland Caribou Sensitive Range Delineation and Mitigation Plans" document

ESS Group: Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S01	N3-Eco-100	Patterned Fen	Site: 9 to 10	E-496744 N-6058134	E-495150 N-6057550	14N	1697m
N3-S01	N3-Eco-100	Patterned Fen	Site: 11 to 12	E-495048 N-6057513	E-494738 N-6057399	14N	330m
N3-S01	N3-Eco-100	Patterned Fen	Site: 13 to 14	E-494382 N-6057269	E-492629 N-6056628	14N	1866m

Potential Effects:

Potential loss of plants of conservation concern and habitat disturbance from clearing, construction, maintenance and decommissioning activities if route is moved to include this site.

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Use existing access roads and trails to the extent possible
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible
- Install erosion protection and sediment control measures in accordance with Erosion/Sediment Control Plan

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S01	N3-Soils-101	Permafrost	Site: 5 to 6	E-500443 N-6059486	E-492274 N-6056498	14N	8698 m

Potential Effects:

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

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