MAP SHEET FULLY WITHIN THE N4-WILD-200 FEATURE

N4-Wild-200

N4-S04

N4-Wild-102

N4-Aqua-107

L6

L5

Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: April 10, 2014
Version: Draft

0 125 250 500
Metres

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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
- 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

Access
- Intersection

Wildlife
- Birds and Habitat

Wildlife
- Mammals and Habitat
- Reptiles/Amphibians

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

Draft: For Discussion Purposes Only

Map 173

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N4-S04	N4-Aqua-107	Unnamed Lake	363120	5901515	14N	N/A	N/A	None	None

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain

Specific Mitigation:

- 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
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction
- No instream works or fording from April 15 - July 15

ESS Group: Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S04	N4-Wild-102	Waterfowl sensitivity area, nearby Bonapartes gull colony	Site: L5 to L6	E-363376 N-5901876	E-362590 N-5900770	14N	1357m

Potential Effects:

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

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: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S04	N4-Wild-200	MCWS Caribou Sensitive Area	Site: 32 to 34	E-364031 N-5902798	E-354352 N-5889174	14N	16712m

Potential Effects:

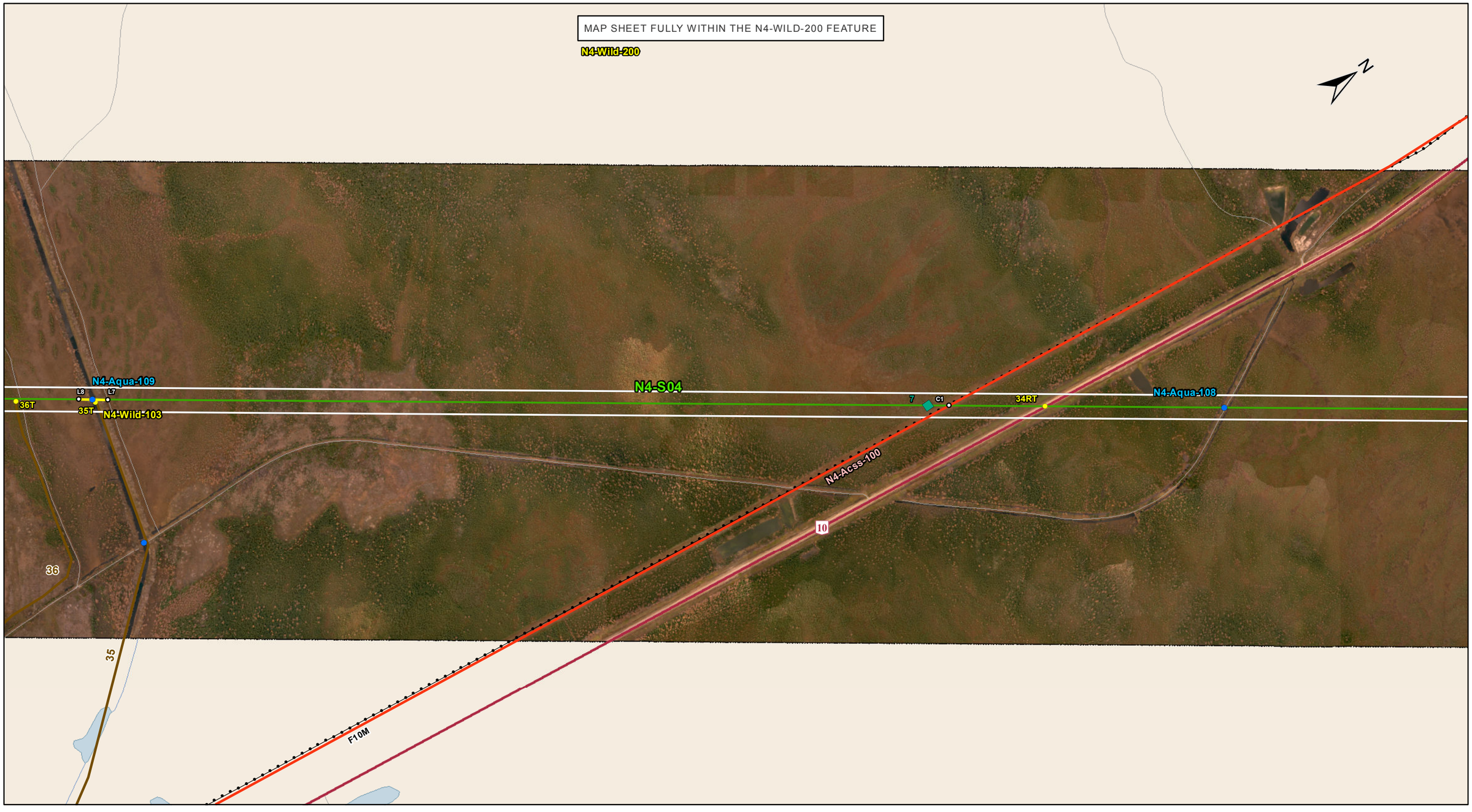
The Bog Woodland Caribou Range Sensitive Area

Specific Mitigation:

- Manitoba Hydro will not support development of designated motorized recreational trail use within areas described above if requested.
- Extension of wildlife crossing and vegetation management measures to the 230 kV line running adjacent to the Bipole III transmission line in this range. Location of specific measures on the 230kV line to be determined in conjunction with Wildlife Branch.
- No shear blading to clear the right of way (ROW) in the sensitive range. Selective cutting methods will only be used leaving low shrub and herb plant communities on the ROW.
- Maintenance trails to be maintained to reduce line of sight for hunters and predators.
- Annual ground inspection of towers to occur late in winter season to avoid creating packed snow trails that facilitate predator use of the ROW.
- At PTH 10 and 60 crossings a vegetated buffer zone x m wide will be left at the edge of the ROW to reduce visibility and access on to the ROW from the highways. A maintenance trail will still be needed on to the ROW from the highway.
- Any access trails used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction.
- Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash < 1 m in height will also be evenly distributed over the access trail to reduce the possibility of use be ATV traffic.

MAP SHEET FULLY WITHIN THE N4-WILD-200 FEATURE

N4-Wild-200



Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: April 10, 2014
Version: Draft

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Metres

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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
- 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

Access
- Intersection

Wildlife
- Birds and Habitat

Wildlife
- Mammals and Habitat

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

Draft: For Discussion Purposes Only

Map 174

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N4-S04	N4-Aqua-108	Unnamed drain	360798	5898247	14N	13m	13m	Low	Important
N4-S04	N4-Aqua-109	Unnamed drain	358993	5895707	14N	13m	13m	Low	Important

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain

Specific Mitigation:

- 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
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction
- No instream work or fording from April 1 to June 30

ESS Group: Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S04	N4-Wild-103	Waterfowl sensitivity area, nearby Bonapartes gull colony	Site: L7 to L8	E-359030 N-5895759	E-358984 N-5895695	14N	78m

Potential Effects:

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

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: Intersection

Sec-Seg ID	ESS ID	Location	ESS Name	Crossing Coordinates	UTM Zone
N4-S04	N4-Acss-100	C1	Snowmobile Trail	E-360362 N-5897633	14N

Potential Effects:

Potential interference with snowmobilers; safety issues

Specific Mitigation:

- Identify and flag prior to start of work
- Avoid surface damage to and obstruction of access route
- Post warning markers and signs at snowmobile trail location
- Notify snowmobile club/users and local authorities regarding construction activities and schedule, and address concerns prior to construction

ESS Group: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S04	N4-Wild-200	MCWS Caribou Sensitive Area	Site: 32 to 34	E-364031 N-5902798	E-354352 N-5889174	14N	16712 m

Potential Effects:

The Bog Woodland Caribou Range Sensitive Area

Specific Mitigation:

- Manitoba Hydro will not support development of designated motorized recreational trail use within areas described above if requested.
- Extension of wildlife crossing and vegetation management measures to the 230 kV line running adjacent to the Bipole III transmission line in this range. Location of specific measures on the 230kV line to be determined in conjunction with Wildlife Branch.
- No shear blading to clear the right of way (ROW) in the sensitive range. Selective cutting methods will only be used leaving low shrub and herb plant communities on the ROW.
- Maintenance trails to be maintained to reduce line of sight for hunters and predators.
- Annual ground inspection of towers to occur late in winter season to avoid creating packed snow trails that facilitate predator use of the ROW.
- At PTH 10 and 60 crossings a vegetated buffer zone x m wide will be left at the edge of the ROW to reduce visibility and access on to the ROW from the highways. A maintenance trail will still be needed on to the ROW from the highway.
- Any access trails used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction.
- Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash < 1 m in height will also be evenly distributed over the access trail to reduce the possibility of use be ATV traffic.

MAP SHEET FULLY WITHIN THE N4-WILD-200 FEATURE

N4-Wild-200

OVERFLOWING RIVER

Overflowing River crossing

N4-Hert-100

C2

N4-Aqua-111

N4-Aqua-110

N4-S04

N4-Ruse-201

36

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: April 10, 2014
Version: Draft

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Metres
1:10,000

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
Heritage
- Archaeological

Water
- Water Crossing

Resource Use
- Food/Medicinal

Wildlife
- Mammals and Habitat

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

Draft: For Discussion Purposes Only

Map 175

ESS Group: Archaeological

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N4-S04	N4-Hert-100	Overflowing River 3-10	356864	5892715	14N

Potential Effects:

potential disturbance to heritage Resources

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
- Conduct site investigation with Archaeologist post clearing and prior to construction
- Minimize surface disturbance around the site to the extent possible
- Inspect excavated materials or surface disturbance for heritage resources and report any finds to Environmental Inspector
- Implement additional mitigation from site investigation

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N4-S04	N4-Aqua-110	Overflowing River	356837	5892672	14N	30m	32m	Low	Important
N4-S04	N4-Aqua-111	Unnamed tributary of Overflowing River	356775	5892584	14N	N/A	N/A	N/A	N/A

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain

Specific Mitigation:

- 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
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction
- No instream work or fording from April 1 to June 30

ESS Group: Food/Medicinal

Sec-Seg ID	ESS ID	Location	ESS Name	Crossing Coordinates	UTM Zone
N4-S04	N4-RUse-201	C2	Plant Gathering	E-356879 N-5892730	14N

Potential Effects:

Loss of vegetation as a result of clearing, construction, maintenance and decommissioning activities.

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Minimize surface disturbance around the site to the extent possible
- Remove trees by low-disturbance methods
- No Herbicide to be applied during construction
- Confine vehicle traffic to established trails to the extent possible

ESS Group: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S04	N4-Wild-200	MCWS Caribou Sensitive Area	Site: 32 to 34	E-364031 N-5902798	E-354352 N-5889174	14N	16712 m

Potential Effects:

The Bog Woodland Caribou Range Sensitive Area

Specific Mitigation:

- Manitoba Hydro will not support development of designated motorized recreational trail use within areas described above if requested.
- Extension of wildlife crossing and vegetation management measures to the 230 kV line running adjacent to the Bipole III transmission line in this range. Location of specific measures on the 230kV line to be determined in conjunction with Wildlife Branch.
- No shear blading to clear the right of way (ROW) in the sensitive range. Selective cutting methods will only be used leaving low shrub and herb plant communities on the ROW.
- Maintenance trails to be maintained to reduce line of sight for hunters and predators.
- Annual ground inspection of towers to occur late in winter season to avoid creating packed snow trails that facilitate predator use of the ROW.
- At PTH 10 and 60 crossings a vegetated buffer zone x m wide will be left at the edge of the ROW to reduce visibility and access on to the ROW from the highways. A maintenance trail will still be needed on to the ROW from the highway.
- Any access trails used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction.
- Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash < 1 m in height will also be evenly distributed over the access trail to reduce the possibility of use be ATV traffic.

MAP SHEET FULLY WITHIN THE N4-WILD-200 FEATURE

N4-Wild-200

N4-Aqua-201

N4-S04

36
38
34
37
35

Tower 82
E-354352, N-5889174

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: April 10, 2014
Version: Draft

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Metres

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Land Base
- Transmission Line
- Highway
- Major Road
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- Winter Road
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- 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
Wildlife
- Mammals and Habitat

Water
- Groundwater

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

Draft: For Discussion Purposes Only

Map 176

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S04	N4-Aqua-201	Saline artesian areas	Site: 35 to 36	E-355743 N-5891132	E-354352 N-5889174	14N	2402m
N4-S05	N4-Aqua-201	Saline artesian areas	Site: 37 to 39	E-354352 N-5889174	E-357885 N-5877929	14N	11786m

Potential Effects:

Increase in salinity of soils and surface water in case of potential groundwater discharge to the surface. Also, wetting the surficial environment (ground saturation); effect on local vegetation

Specific Mitigation:

- Qualified driller with appropriate experience will be contracted to work in areas affected by artesian conditions.
- Emergency response plans for sealing/grouting and pumping will be implemented as required.
- Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.

ESS Group: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S04	N4-Wild-200	MCWS Caribou Sensitive Area	Site: 32 to 34	E-364031 N-5902798	E-354352 N-5889174	14N	16712 m
N4-S05	N4-Wild-200	MCWS Caribou Sensitive Area	Site: 38 to 40	E-354352 N-5889174	E-362119 N-5864457	14N	25908 m

Potential Effects:

The Bog Woodland Caribou Range Sensitive Area

Specific Mitigation:

- Manitoba Hydro will not support development of designated motorized recreational trail use within areas described above if requested.
- Extension of wildlife crossing and vegetation management measures to the 230 kV line running adjacent to the Bipole III transmission line in this range. Location of specific measures on the 230kV line to be determined in conjunction with Wildlife Branch.
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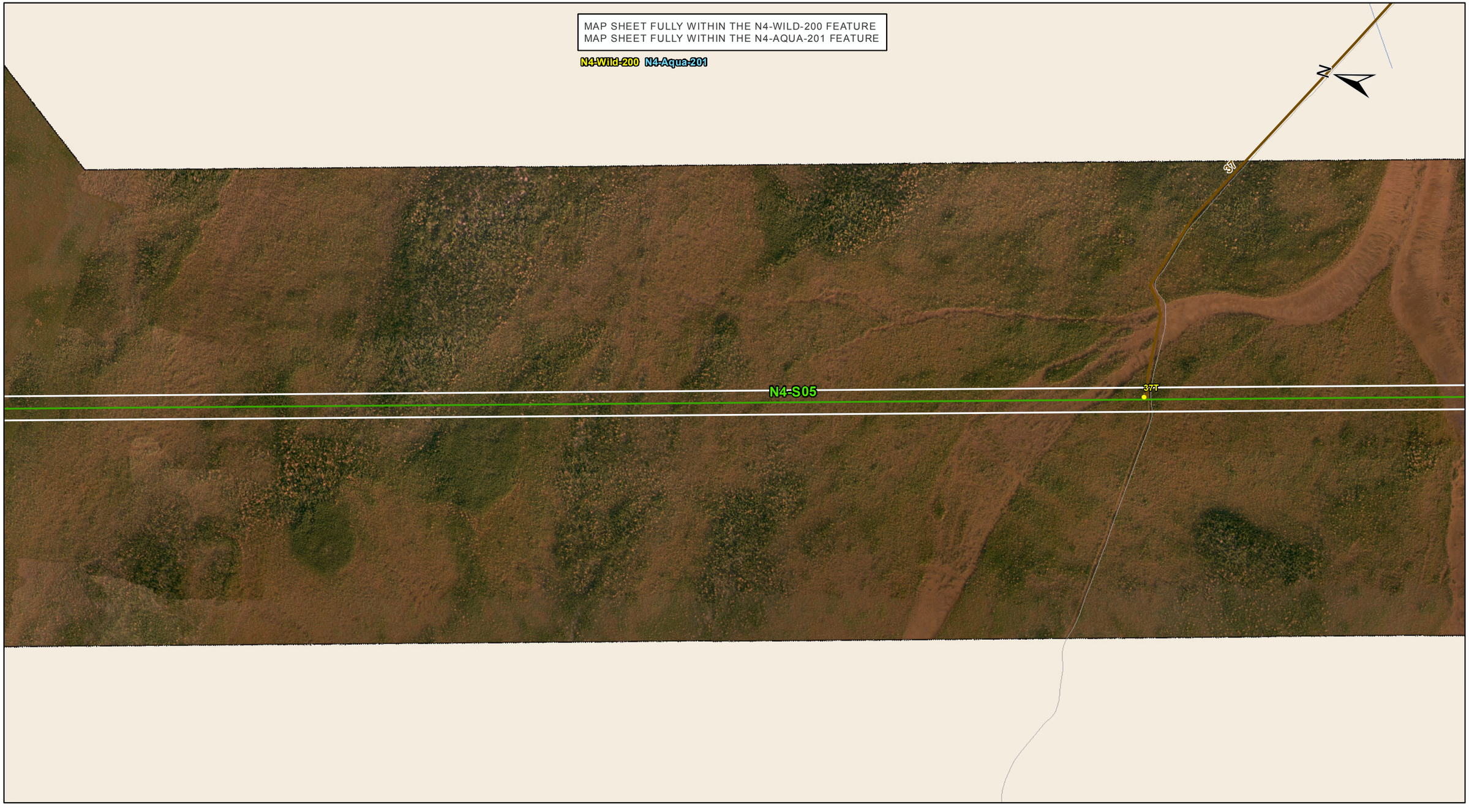
- Any access trails used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction.
- Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash < 1 m in height will also be evenly distributed over the access trail to reduce the possibility of use be ATV traffic.

MAP SHEET FULLY WITHIN THE N4-WILD-200 FEATURE
MAP SHEET FULLY WITHIN THE N4-AQUA-201 FEATURE

N4-Wild-200 N4-Aqua-201



Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: April 10, 2014
Version: Draft

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Land Base
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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
- Abandoned Rail Crossing
- Rail Crossing
- Transmission Line Crossing
- Proposed Access Route

*Labels correspond to BPIII Access Management Database

ESS Features
Wildlife
- Mammals and Habitat

Water
- Groundwater

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

Draft: For Discussion Purposes Only

Map 177

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S05	N4-Aqua-201	Saline artesian areas	Site: 37 to 39	E-354352 N-5889174	E-357885 N-5877929	14N	11786m

Potential Effects:

Increase in salinity of soils and surface water in case of potential groundwater discharge to the surface. Also, wetting the surficial environment (ground saturation); effect on local vegetation

Specific Mitigation:

- Qualified driller with appropriate experience will be contracted to work in areas affected by artesian conditions.
- Emergency response plans for sealing/grouting and pumping will be implemented as required.
- Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.

ESS Group: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S05	N4-Wild-200	MCWS Caribou Sensitive Area	Site: 38 to 40	E-354352 N-5889174	E-362119 N-5864457	14N	25908 m

Potential Effects:

The Bog Woodland Caribou Range Sensitive Area

Specific Mitigation:

- Manitoba Hydro will not support development of designated motorized recreational trail use within areas described above if requested.
- Extension of wildlife crossing and vegetation management measures to the 230 kV line running adjacent to the Bipole III transmission line in this range. Location of specific measures on the 230kV line to be determined in conjunction with Wildlife Branch.
- No shear blading to clear the right of way (ROW) in the sensitive range. Selective cutting methods will only be used leaving low shrub and herb plant communities on the ROW.
- Maintenance trails to be maintained to reduce line of sight for hunters and predators.
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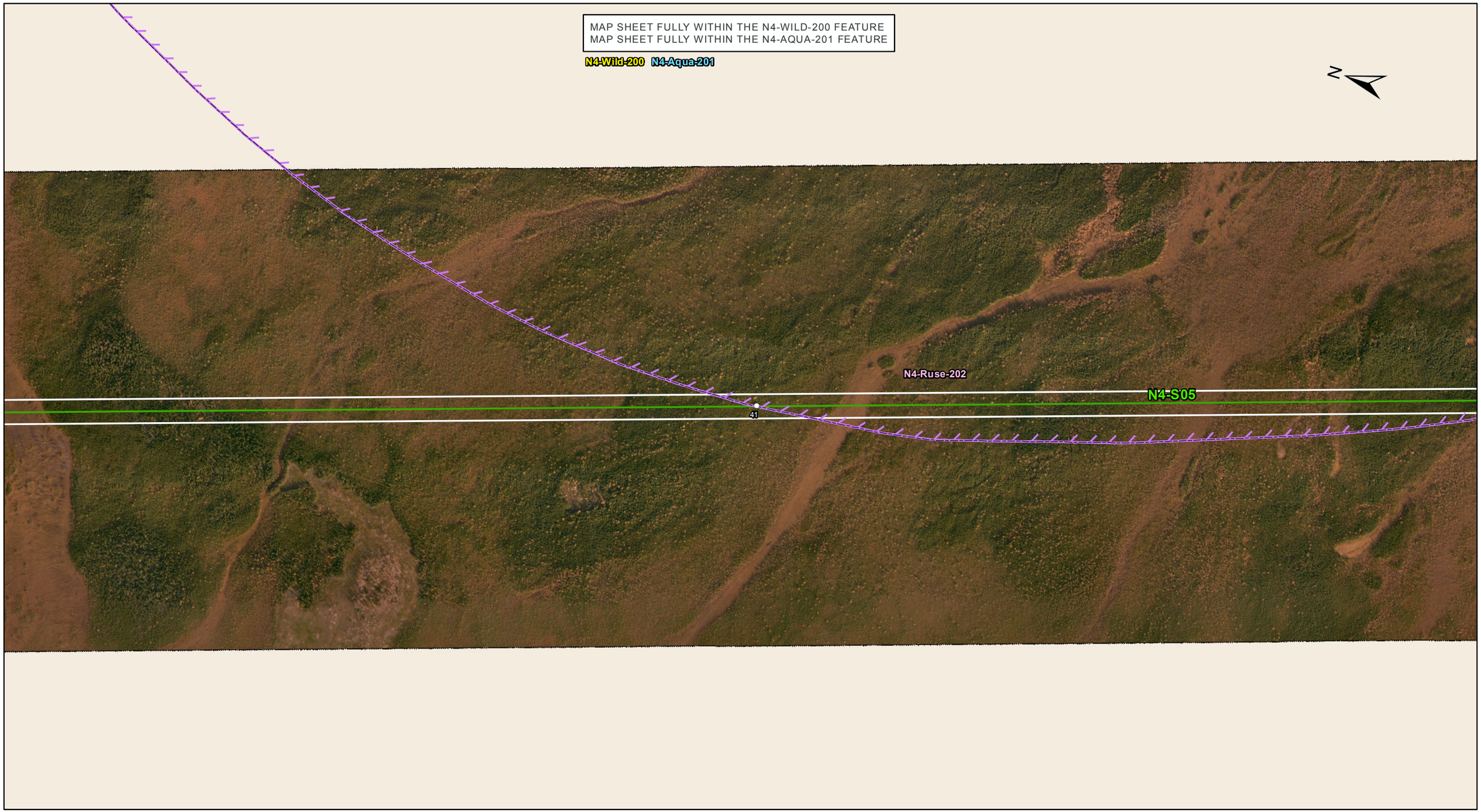
- At PTH 10 and 60 crossings a vegetated buffer zone x m wide will be left at the edge of the ROW to reduce visibility and access on to the ROW from the highways. A maintenance trail will still be needed on to the ROW from the highway.
- Any access trails used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction.
- Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash < 1 m in height will also be evenly distributed over the access trail to reduce the possibility of use be ATV traffic.

MAP SHEET FULLY WITHIN THE N4-WILD-200 FEATURE
MAP SHEET FULLY WITHIN THE N4-AQUA-201 FEATURE

N4-Wild-200 N4-Aqua-201



Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: April 10, 2014
Version: Draft

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Metres
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Land Base
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- 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
Wildlife
- Mammals and Habitat

Resource Use
- Food/Medicinal

Water
- Groundwater

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

Draft: For Discussion Purposes Only

Map 178

ESS Group: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S05	N4-Wild-200	MCWS Caribou Sensitive Area	Site: 38 to 40	E-354352 N-5889174	E-362119 N-5864457	14N	25908 m

Potential Effects:

The Bog Woodland Caribou Range Sensitive Area

Specific Mitigation:

- Manitoba Hydro will not support development of designated motorized recreational trail use within areas described above if requested.
- Extension of wildlife crossing and vegetation management measures to the 230 kV line running adjacent to the Bipole III transmission line in this range. Location of specific measures on the 230kV line to be determined in conjunction with Wildlife Branch.
- No shear blading to clear the right of way (ROW) in the sensitive range. Selective cutting methods will only be used leaving low shrub and herb plant communities on the ROW.
- Maintenance trails to be maintained to reduce line of sight for hunters and predators.
- Annual ground inspection of towers to occur late in winter season to avoid creating packed snow trails that facilitate predator use of the ROW.
- At PTH 10 and 60 crossings a vegetated buffer zone x m wide will be left at the edge of the ROW to reduce visibility and access on to the ROW from the highways. A maintenance trail will still be needed on to the ROW from the highway.
- Any access trails used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction.
- Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash < 1 m in height will also be evenly distributed over the access trail to reduce the possibility of use be ATV traffic.

ESS Group: Food/Medicinal

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S05	N4-Ruse-202	Plant Harvest	Site: 41 to 42	E-356181 N-5883353	E-356896 N-5881077	14N	2385m

Potential Effects:

Loss of vegetation as a result of clearing, construction, maintenance and decommissioning activities.

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Minimize surface disturbance around the site to the extent possible
- Remove trees by low-disturbance methods
- No Herbicide to be applied during construction
- Confine vehicle traffic to established trails to the extent possible

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S05	N4-Aqua-201	Saline artesian areas	Site: 37 to 39	E-354352 N-5889174	E-357885 N-5877929	14N	11786 m

Potential Effects:

Increase in salinity of soils and surface water in case of potential groundwater discharge to the surface. Also, wetting the surficial environment (ground saturation); effect on local vegetation

Specific Mitigation:

- Qualified driller with appropriate experience will be contracted to work in areas affected by artesian conditions.
- Emergency response plans for sealing/grouting and pumping will be implemented as required.
- Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.

MAP SHEET FULLY WITHIN THE N4-WILD-200 FEATURE

N4-Wild-200

38

N

N4-Ruse-202

N4-Hert-101

N4-Wild-104

L9

L10

38T

N4-S05

39

42

N4-Aqua-112

N4-Aqua-201

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: April 10, 2014
Version: Draft

0 125 250 500
Metres

1:10,000

Land Base
- Transmission Line
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- 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

Heritage
- Archaeological

Water
- Water Crossing

Wildlife
- Birds and Habitat

Wildlife
- Mammals and Habitat

Resource Use
- Food/Medicinal

Water
- Groundwater

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

Draft: For Discussion Purposes Only

Map 179

ESS Group: Archaeological

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N4-S05	N4-Hert-101	Creek	357096	5880436	14N

Potential Effects:

potential disturbance to heritage Resources

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
- Conduct site investigation with Archaeologist post clearing and prior to construction
- Minimize surface disturbance around the site to the extent possible
- Inspect excavated materials or surface disturbance for heritage resources and report any finds to Environmental Inspector
- Implement additional mitigation from site investigation

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N4-S05	N4-Aqua-112	Unnamed tributary of Lake Winnipegosis	357088	5880463	14N	N/A	5m	Moderate	Important

Potential Effects:

Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain

Specific Mitigation:

- 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
- Identify and flag buffer areas prior to start of work
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within these buffers shrub and herbaceous understory veg will be maintained along with trees that do not violate MH Veg Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing.
- Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction
- No instream work or fording from April 1 to June 30

ESS Group: Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N2-S05	N4-Wild-104	Waterfowl sensitivity area	Site: L9 to L10	E-357083 N-5880483	E-357109 N-5880400	14N	86m

Potential Effects:

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

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: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S05	N4-Wild-200	MCWS Caribou Sensitive Area	Site: 38 to 40	E-354352 N-5889174	E-362119 N-5864457	14N	25908 m

Potential Effects:

The Bog Woodland Caribou Range Sensitive Area

Specific Mitigation:

- Manitoba Hydro will not support development of designated motorized recreational trail use within areas described above if requested.
- Extension of wildlife crossing and vegetation management measures to the 230 kV line running adjacent to the Bipole III transmission line in this range. Location of specific measures on the 230kV line to be determined in conjunction with Wildlife Branch.
- No shear blading to clear the right of way (ROW) in the sensitive range. Selective cutting methods will only be used leaving low shrub and herb plant communities on the ROW.
- Maintenance trails to be maintained to reduce line of sight for hunters and predators.
- Annual ground inspection of towers to occur late in winter season to avoid creating packed snow trails that facilitate predator use of the ROW.
- At PTH 10 and 60 crossings a vegetated buffer zone x m wide will be left at the edge of the ROW to reduce visibility and access on to the ROW from the highways. A maintenance trail will still be needed on to the ROW from the highway.
- Any access trails used to access the ROW for construction that will not be needed for future maintenance will be decommissioned on completion of construction.
- Any culverts or road improvements will be removed and the first 100 m from of the trail dug up to the extent possible. Available slash < 1 m in height will also be evenly distributed over the access trail to reduce the possibility of use be ATV traffic.

ESS Group: Food/Medicinal

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S05	N4-Ruse-202	Plant Harvest	Site: 41 to 42	E-356181 N-5883353	E-356896 N-5881077	14N	2385m

Potential Effects:

Loss of vegetation as a result of clearing, construction, maintenance and decommissioning activities.

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Minimize surface disturbance around the site to the extent possible
- Remove trees by low-disturbance methods
- No Herbicide to be applied during construction
- Confine vehicle traffic to established trails to the extent possible

ESS Group: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S05	N4-Aqua-201	Saline artesian areas	Site: 37 to 39	E-354352 N-5889174	E-357885 N-5877929	14N	11786 m

Potential Effects:

Increase in salinity of soils and surface water in case of potential groundwater discharge to the surface. Also, wetting the surficial environment (ground saturation); effect on local vegetation

Specific Mitigation:

- Qualified driller with appropriate experience will be contracted to work in areas affected by artesian conditions.
- Emergency response plans for sealing/grouting and pumping will be implemented as required.
- Follow up inspections of installed foundations will be undertaken to monitor for excess moisture.

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MAP SHEET FULLY WITHIN THE N4-WILD-200 FEATURE

N4-Wild-200

N

N4-S05

43

N4-Ruse-300

Manitoba Hydro

Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: April 10, 2014
Version: Draft

0 125 250 500
Metres
1:10,000

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
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Resource Use
- Forestry

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Map 180

ESS Group: Forestry

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S05	N4-Ruse-300	Fuel Wood	Site: 43 to 44	E-359111 N-5874028	E-362556 N-5863065	14N	11491m

Potential Effects:

Potential to disrupt access to fuel wood area

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Avoid surface damage to and obstruction of access route
- Make fuel wood from ROW clearing available to local community where demand exists

ESS Group: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N4-S05	N4-Wild-200	MCWS Caribou Sensitive Area	Site: 38 to 40	E-354352 N-5889174	E-362119 N-5864457	14N	25908 m

Potential Effects:

The Bog Woodland Caribou Range Sensitive Area

Specific Mitigation:

- Manitoba Hydro will not support development of designated motorized recreational trail use within areas described above if requested.
- Extension of wildlife crossing and vegetation management measures to the 230 kV line running adjacent to the Bipole III transmission line in this range. Location of specific measures on the 230kV line to be determined in conjunction with Wildlife Branch.
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