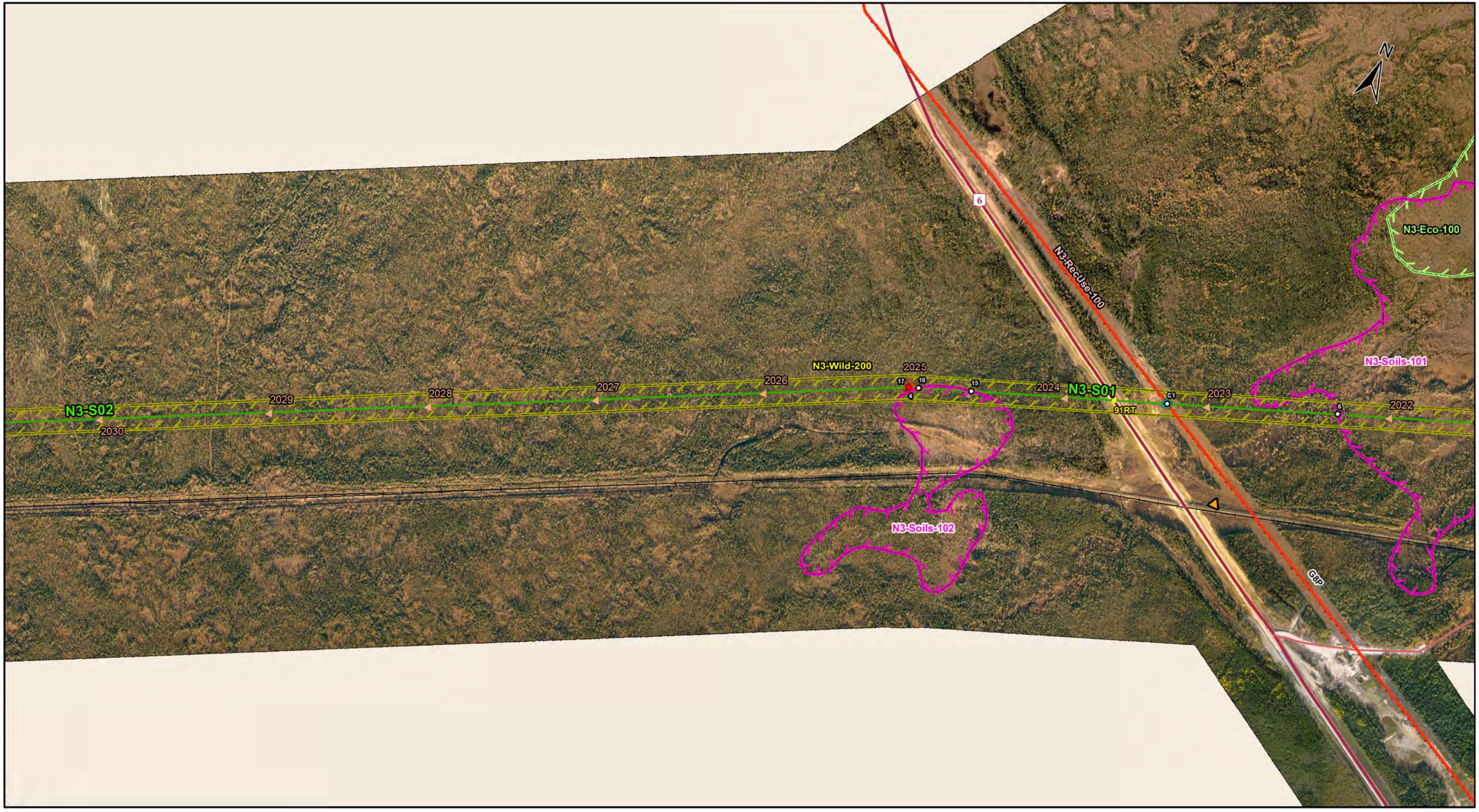

Manitoba Hydro

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

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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
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 114

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ESS Group: Intersection

Sec-Seg ID	ESS ID	Location	ESS Name	Crossing Coordinates	UTM Zone
N3-S01	N3-RecUse-100	C1	Snowmobile Trail	E-491837 N-6056338	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
N3-S01	N3-Wild-200	MCWS Caribou Sensitive Area	Site: 2 to 4	E-501860 N-6060005	E-491176 N-6056097	14N	11376 m
N3-S02	N3-Wild-200	MCWS Caribou Sensitive Area	Site: 17 to 18	E-491176 N-6056097	E-479645 N-6050506	14N	12813 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: Permafrost

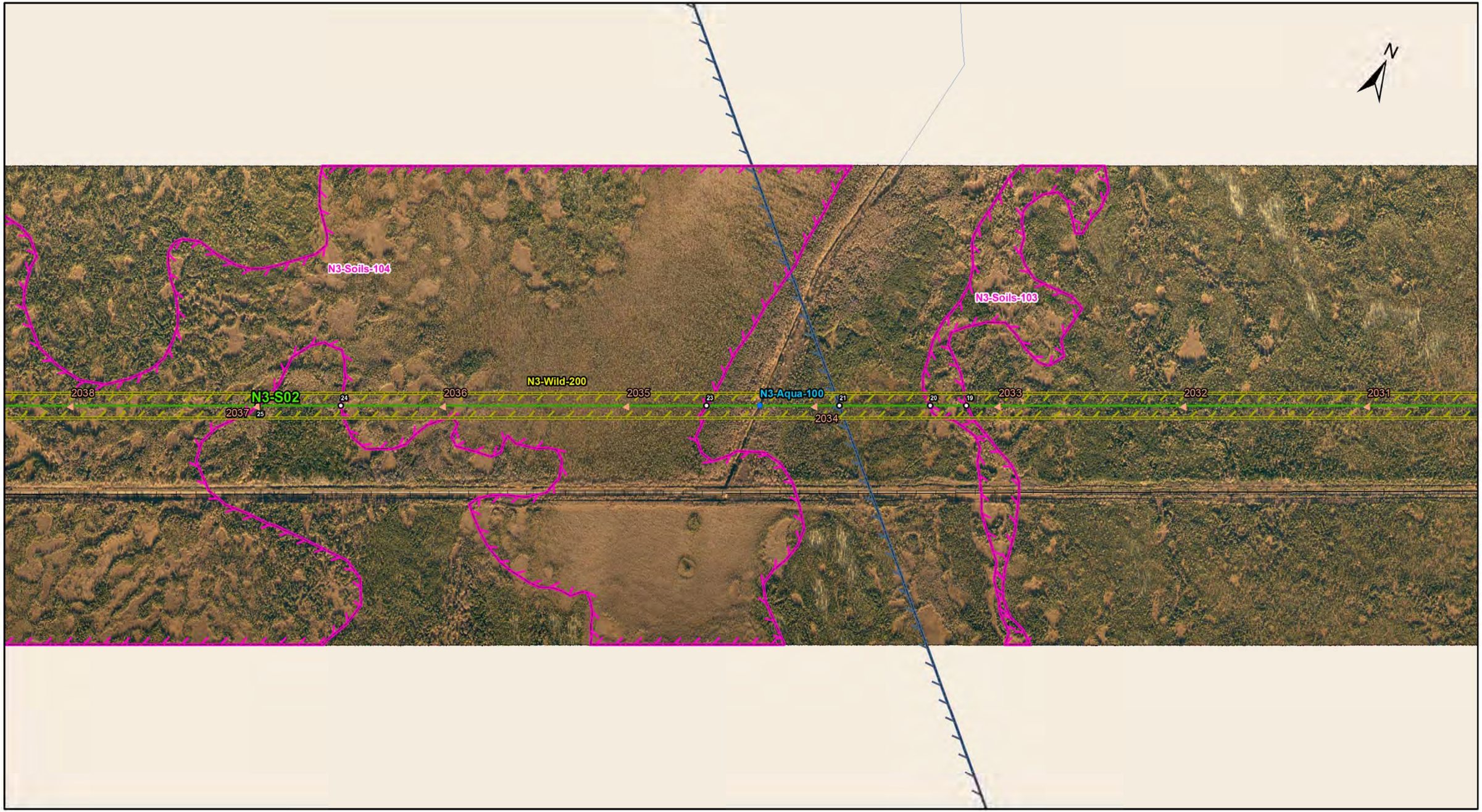
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S01	N3-Soils-101	Permafrost	Site: 5 to 6	E-500443 N-6059486	E-492274 N-6056498	14N	8698 m
N3-S01	N3-Soils-102	Permafrost	Site: 15 to 16	E-491335 N-6056155	E-491200 N-6056105	14N	144 m

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



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- Towers (Preliminary)*
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Sensitive Sites*
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Points of Access
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- Rail Crossing
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- Approved Access Route

ESS Features
Water
- Water Crossing

Soils and Terrain
- Permafrost

Water
- Groundwater

Wildlife
- Mammals and Habitat

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

Map 115

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N3-S02	N3-Aqua-100	Unnamed Tributary into Mitishto River	487260	6054201	14N	8.21m	8.21m	Moderate	Marginal

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.
- No instream works or fording from April 1 - July 15

ESS Group: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S02	N3-Wild-200	MCWS Caribou Sensitive Area	Site: 17 to 18	E-491176 N-6056097	E-479645 N-6050506	14N	12813 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: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S02	N3-Aqua-200	Aquifers Vulnerable to contamination	Site: 21 to 22	E-487454 N-6054294	E-479645 N-6050506	14N	8679 m

Potential Effects:

Potential groundwater contamination from a contingency event (e.g., spill)

Specific Mitigation:

- Marshalling yards will be located on upland sites where possible.
- An Emergency Preparedness and Spill Response Plan will be developed and an emergency response spill kit will be kept on-site at all times in case of fluid leaks or spills from machinery.
- 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.

ESS Group: Permafrost

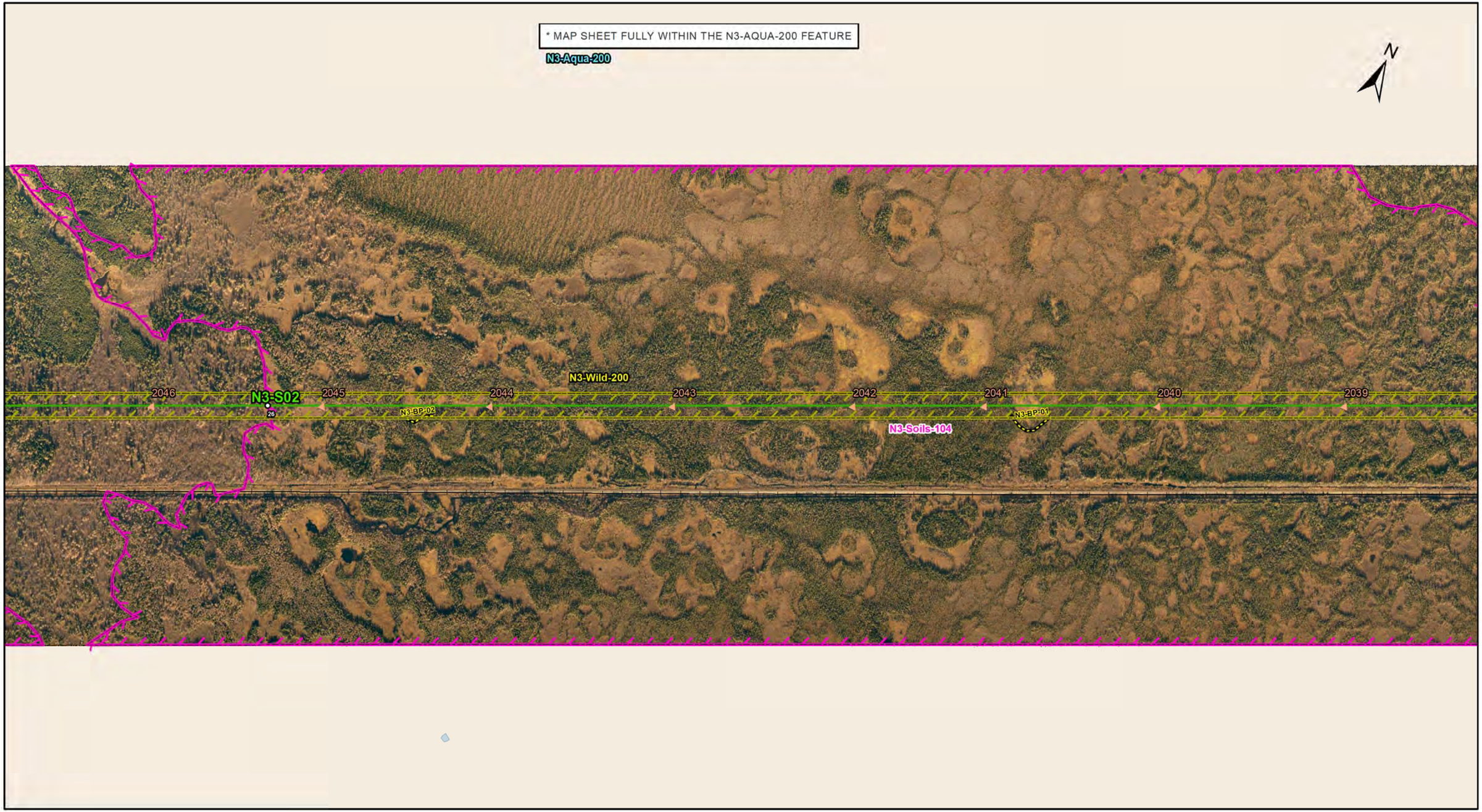
Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S02	N3-Soils-103	Permafrost	Site: 19 to 20	E-487765 N-6054445	E-487677 N-6054402	14N	97 m
N3-S02	N3-Soils-104	Permafrost	Site: 23 to 24	E-487129 N-6054137	E-486236 N-6053705	14N	992 m
N3-S02	N3-Soils-104	Permafrost	Site: 25 to 26	E-486031 N-6053605	E-482493 N-6051892	14N	3931 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



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Project Infrastructure
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- 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
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- Approved Access Route

ESS Features
Soils and Terrain
- Permafrost

Water
- Groundwater

Wildlife
- Mammals and Habitat

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

Map 116

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ESS Group: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S02	N3-Wild-200	MCWS Caribou Sensitive Area	Site: 17 to 18	E-491176 N-6056097	E-479645 N-6050506	14N	12813 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: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S02	N3-Soils-104	Permafrost	Site: 25 to 26	E-486031 N-6053605	E-482493 N-6051892	14N	3931m

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: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S02	N3-Aqua-200	Aquifers Vulnerable to contamination	Site: 21 to 22	E-487454 N-6054294	E-479645 N-6050506	14N	8679 m

Potential Effects:

Potential groundwater contamination from a contingency event (e.g., spill)

Specific Mitigation:

- Marshalling yards will be located on upland sites where possible.
- An Emergency Preparedness and Spill Response Plan will be developed and an emergency response spill kit will be kept on-site at all times in case of fluid leaks or spills from machinery.
- 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.

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- Area Features

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Points of Access
- Proposed Access Point
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- Abandoned Rail Crossing
- Rail Crossing
- Transmission Line Crossing
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- Approved Access Route

ESS Features

Heritage
- Archaeological

Wildlife
- Mammals and Habitat

Water
- Water Crossing

Soils and Terrain
- Permafrost

Water
- Groundwater

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

Map 117

ESS Group: Archaeological

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N3-S03	N3-Hert-100	Mitishto River	479227	6050357	14N
N3-S03	N3-Hert-101	The Les Phillips (Sky Sailor) Site	479112	6050321	14N
N3-S03	N3-Hert-102	Mitishto River	479087	6050309	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
- Minimize surface disturbance around the site to the extent possible

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N3-S02	N3-Aqua-101	Unnamed Tributary into Mitishto River	481627	6051473	14N	9.1m	9.1m	Moderate	Marginal
N3-S03	N3-Aqua-102	Mitishto River	479219	6050354	14N	15m	17m	High	Important
N3-S03	N3-Aqua-103	Mitishto River	479131	6050324	14N	20m	22m	Moderate	Marginal
N3-S03	N3-Aqua-104	Unnamed Tributary into Mitishto River	478723	6050185	14N	22.5m	N/A	Moderate	Marginal

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.
- No instream works or fording from April 1 - July 15

ESS Group: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S02	N3-Wild-200	MCWS Caribou Sensitive Area	Site: 17 to 18	E-491176 N-6056097	E-479645 N-6050506	14N	12813 m
N3-S03	N3-Wild-200	MCWS Caribou Sensitive Area	Site: 32 to 34	E-479645 N-6050506	E-458248 N-6043655	14N	22469 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: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S02	N3-Aqua-200	Aquifers Vulnerable to contamination	Site: 21 to 22	E-487454 N-6054294	E-479645 N-6050506	14N	8679 m
N3-S03	N3-Aqua-200	Aquifers Vulnerable to contamination	Site: 31 to 33	E-479645 N-6050506	E-460122 N-6044246	14N	20504 m

Potential Effects:

Potential groundwater contamination from a contingency event (e.g., spill)

Specific Mitigation:

- Marshalling yards will be located on upland sites where possible.
- An Emergency Preparedness and Spill Response Plan will be developed and an emergency response spill kit will be kept on-site at all times in case of fluid leaks or spills from machinery.
- 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.

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S02	N3-Soils-105	Permafrost	Site: 27 to 28	E-481728 N-6051521	E-481604 N-6051462	14N	137 m
N3-S02	N3-Soils-106	Permafrost	Site: 29 to 30	E-481146 N-6051239	E-479747 N-6050557	14N	1556 m
N3-S03	N3-Soils-107	Permafrost	Site: 35 to 36	E-478525 N-6050117	E-477211 N-6049668	14N	1388 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

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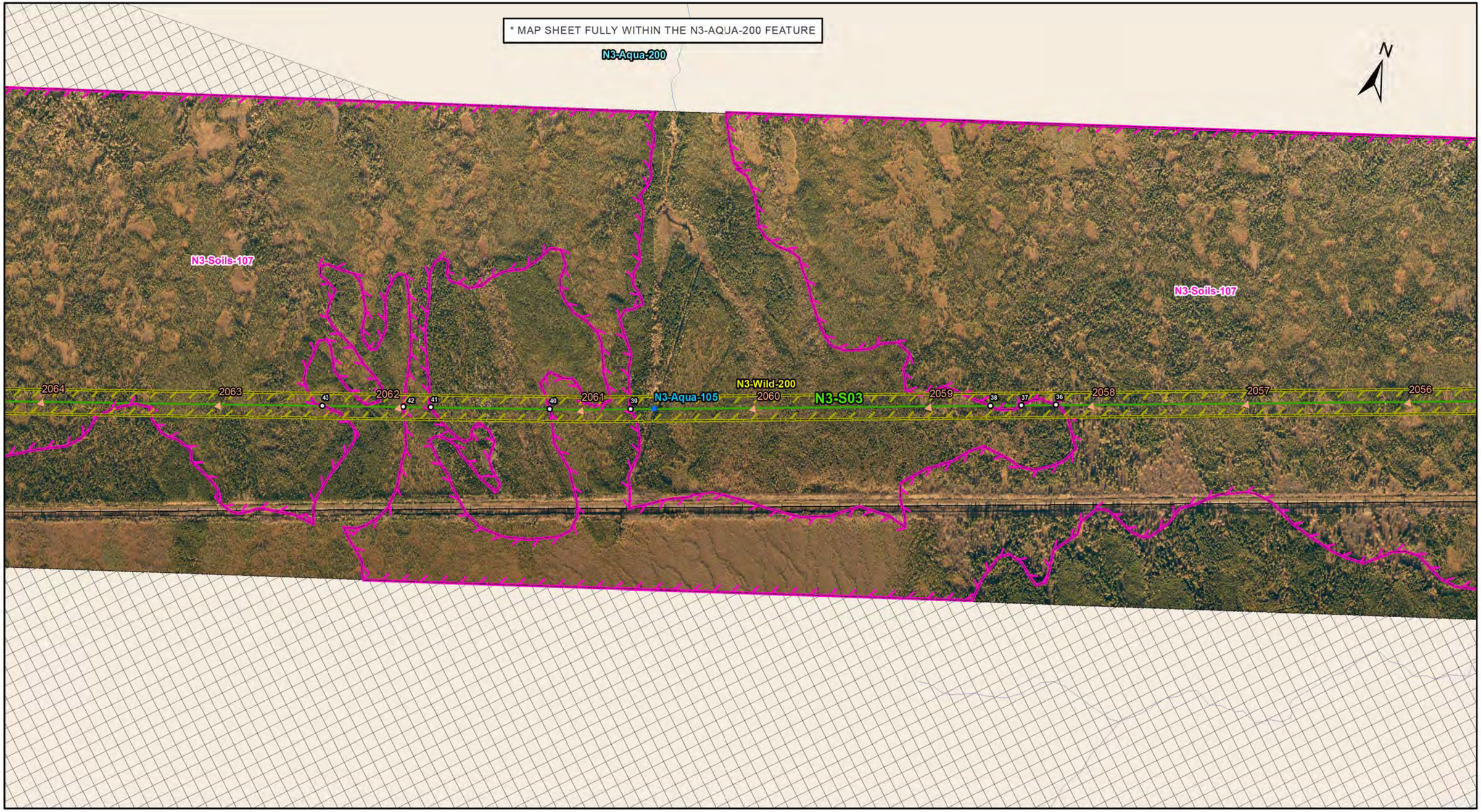

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ESS Features
Water
- Water Crossing

Soils and Terrain
- Permafrost

Water
- Groundwater

Wildlife
- Mammals and Habitat

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

Map 118

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N3-S03	N3-Aqua-105	Unnamed Tributary into Mitishto River	476179	6049316	14N	6m	6m	Low	Marginal

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.
- No instream works or fording from April 1 - July 15

ESS Group: Mammals and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S03	N3-Wild-200	MCWS Caribou Sensitive Area	Site: 32 to 34	E-479645 N-6050506	E-458248 N-6043655	14N	22469 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: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S03	N3-Soils-107	Permafrost	Site: 35 to 36	E-478525 N-6050117	E-477211 N-6049668	14N	1388m
N3-S03	N3-Soils-107	Permafrost	Site: 37 to 38	E-477122 N-6049638	E-477043 N-6049611	14N	84m
N3-S03	N3-Soils-107	Permafrost	Site: 39 to 40	E-476118 N-6049295	E-475909 N-6049225	14N	220m
N3-S03	N3-Soils-107	Permafrost	Site: 41 to 42	E-475601 N-6049128	E-475530 N-6049106	14N	74m
N3-S03	N3-Soils-107	Permafrost	Site: 43 to 44	E-475319 N-6049039	E-474214 N-6048691	14N	1159m

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: Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S03	N3-Aqua-200	Aquifers Vulnerable to contamination	Site: 31 to 33	E-479645 N-6050506	E-460122 N-6044246	14N	20504 m

Potential Effects:

Potential groundwater contamination from a contingency event (e.g., spill)

Specific Mitigation:

- Marshalling yards will be located on upland sites where possible.
- An Emergency Preparedness and Spill Response Plan will be developed and an emergency response spill kit will be kept on-site at all times in case of fluid leaks or spills from machinery.
- 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.