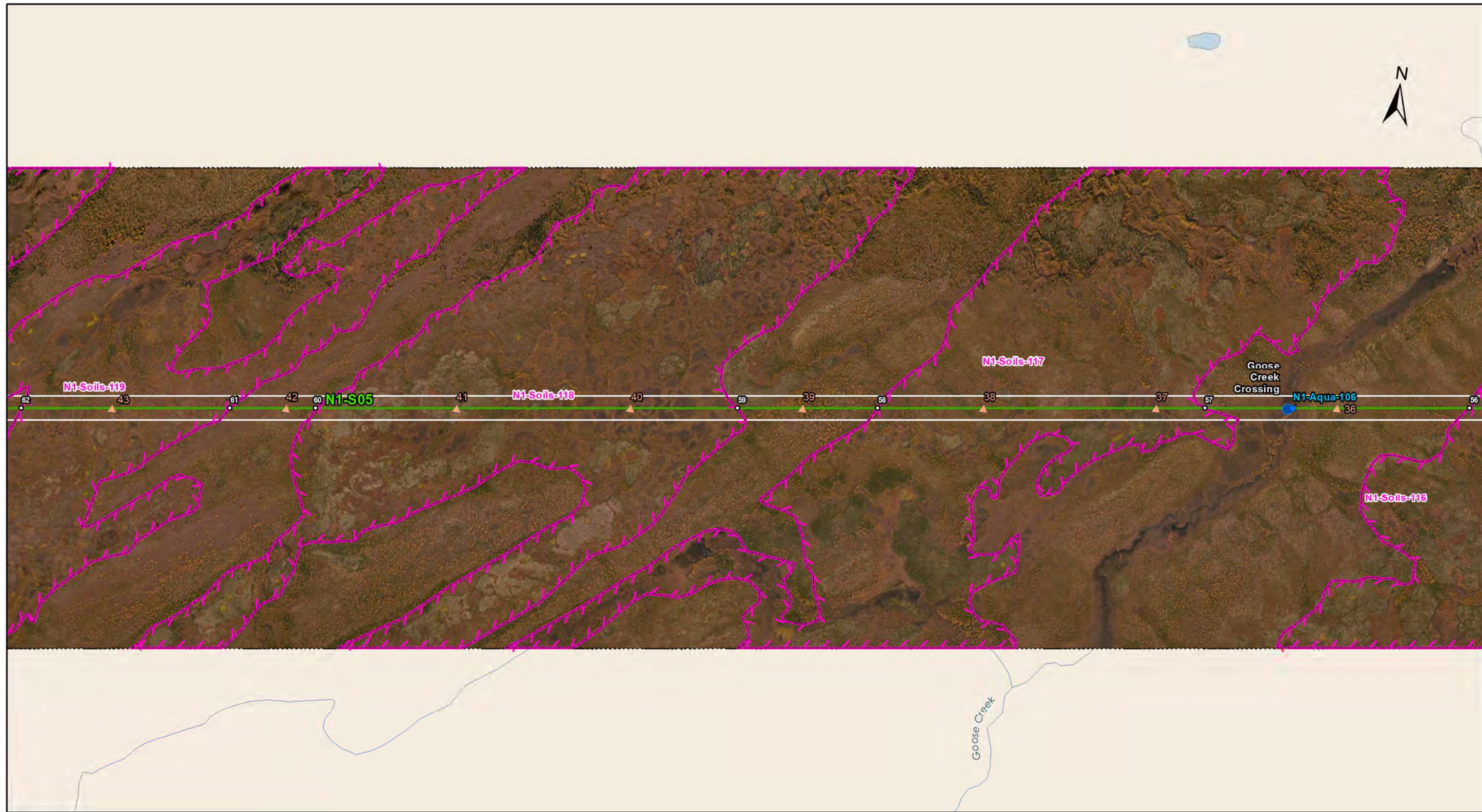


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Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: November 12, 2015
Version: Final 4.0

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Metres
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Land Base

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

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

Soils and Terrain

- Permafrost

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

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S05	N1-Aqua-106	Goose Creek	799358	6294068	14N	9.48m	9.48m	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: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S04	N1-Soils-116	Permafrost	Site: 53 to 54	E-800753 N-6294245	E-800666 N-6294244	14N	86 m
N1-S05	N1-Soils-116	Permafrost	Site: 55 to 56	E-800666 N-6294244	E-799832 N-6294132	14N	841 m
N1-S05	N1-Soils-117	Permafrost	Site: 57 to 58	E-799121 N-6294036	E-798243 N-6293917	14N	886 m
N1-S05	N1-Soils-118	Permafrost	Site: 59 to 60	E-797867 N-6293867	E-796732 N-6293714	14N	1145 m
N1-S05	N1-Soils-119	Permafrost	Site: 61 to 62	E-796502 N-6293683	E-795944 N-6293608	14N	563 m

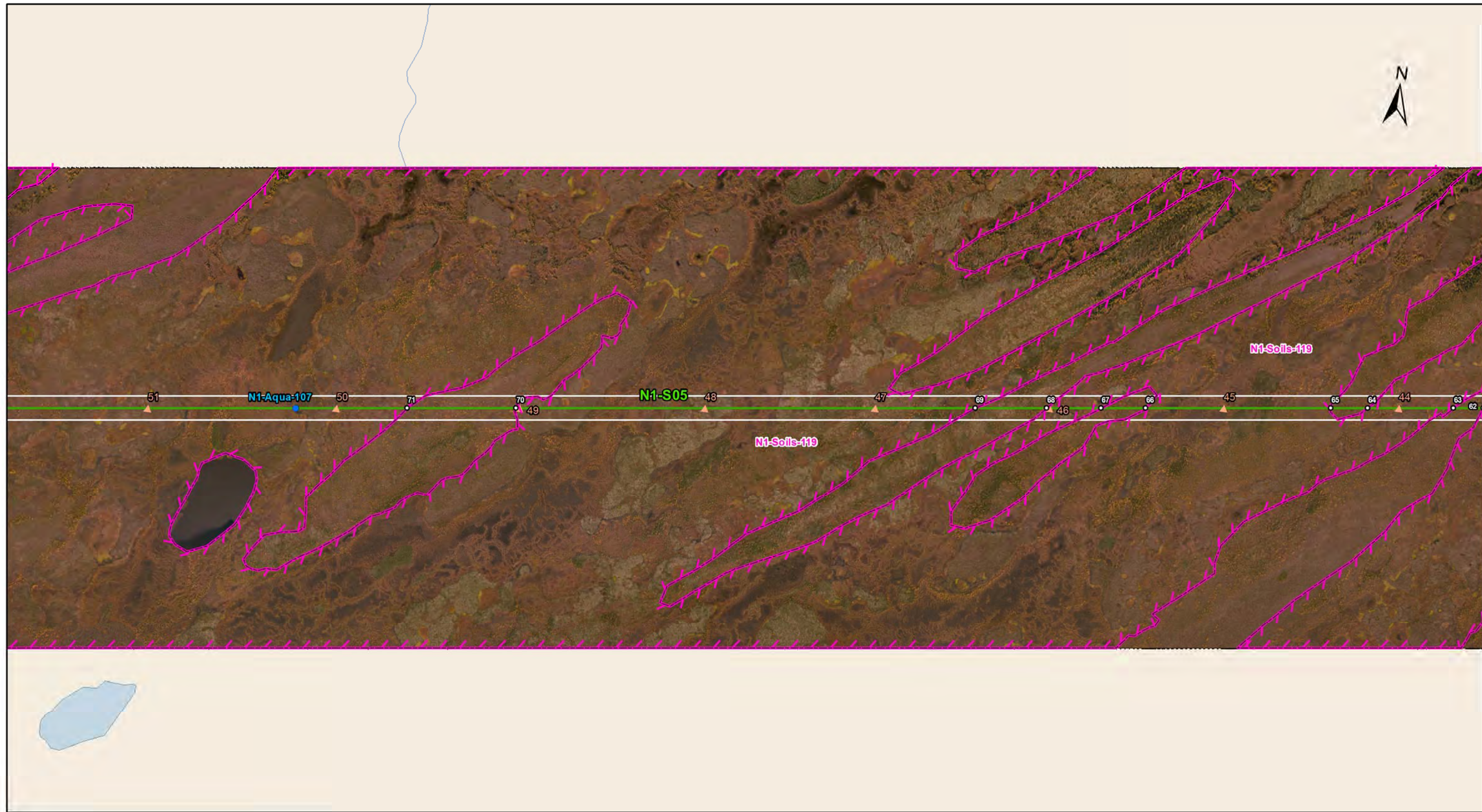
Potential Effects:

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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Metres
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Land Base

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

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

Soils and Terrain

- Permafrost

Bipole III Transmission Project Construction Environmental Protection Plan

Construction Section N1 Environmentally Sensitive Site Locations

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S05	N1-Aqua-107	Unnamed Tributary of Weir River	792755	6293179	14N	N/A	N/A	Low	No Fish Habitat

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

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S05	N1-Soils-119	Permafrost	Site: 63 to 64	E-795864 N-6293597	E-795633 N-6293566	14N	232m
N1-S05	N1-Soils-119	Permafrost	Site: 65 to 66	E-795535 N-6293553	E-795039 N-6293486	14N	500m
N1-S05	N1-Soils-119	Permafrost	Site: 67 to 68	E-794917 N-6293470	E-794771 N-6293450	14N	147m
N1-S05	N1-Soils-119	Permafrost	Site: 69 to 70	E-794581 N-6293424	E-793346 N-6293258	14N	1245m
N1-S05	N1-Soils-119	Permafrost	Site: 71 to 72	E-793054 N-6293219	E-790260 N-6292843	14N	2819m

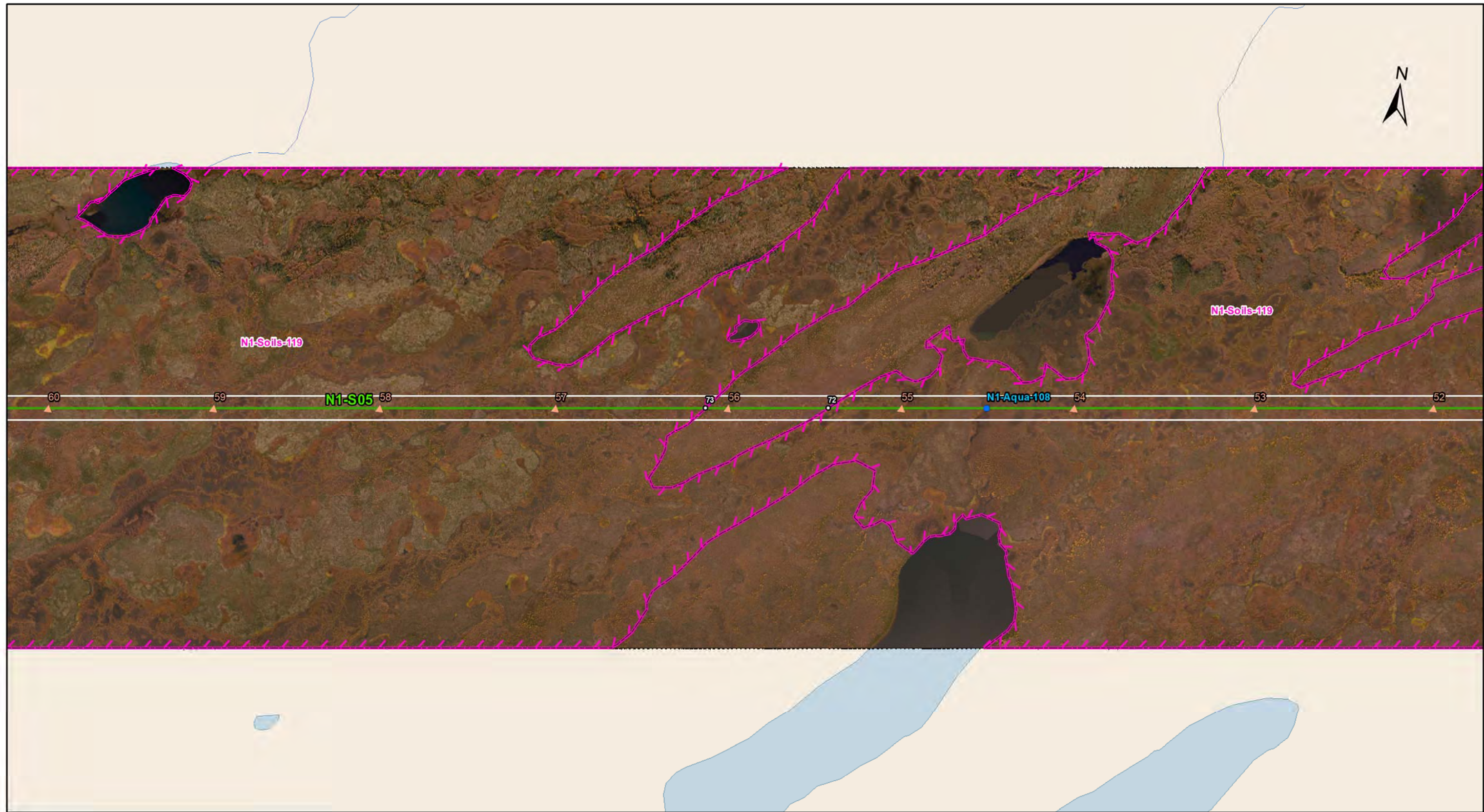
Potential Effects:

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

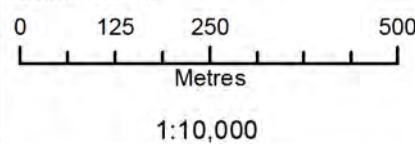
Specific Mitigation:

- 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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Land Base

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

Project Infrastructure

- Angle Tower Locations*
- Towers (Preliminary)*
- BP111 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
- Soils and Terrain**
- Permafrost

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

Map 7

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S05	N1-Aqua-108	Unnamed Tributary of Weir River	790687	6292900	14N	N/A	N/A	Low	No Fish Habitat

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

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S05	N1-Soils-119	Permafrost	Site: 71 to 72	E-793054 N-6293219	E-790260 N-6292843	14N	2819m
N1-S05	N1-Soils-119	Permafrost	Site: 73 to 74	E-789931 N-6292798	E-787199 N-6292430	14N	2756m

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: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S05	N1-Aqua-109	Unnamed Tributary of 9-Mile Creek	787105	6292418	14N	N/A	N/A	Low	Marginal
N1-S05	N1-Aqua-110	Unnamed Tributary of 9-Mile Creek	787009	6292405	14N	N/A	N/A	Low	Marginal
N1-S05	N1-Aqua-111	Unnamed Tributary of 9-Mile Creek	786839	6292382	14N	N/A	N/A	Low	Marginal
N1-S05	N1-Aqua-113	9-Mile Creek	785823	6292245	14N	7.5m	7.5m	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: Erosion

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S05	N1-Soils-300	Eolian (i.e. wind-modified) Deposits	Site: 79 to 80	E-786466 N-6292332	E-785378 N-6292185	14N	1097 m

Potential Effects:

Loss of topsoil due to wind erosion (e.g. creep, saltation, suspension) on disturbed surfaces.

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
- Avoid dry soil conditions with high and severe wind erosion risk to the extent possible

- 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: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S05	N1-Soils-119	Permafrost	Site: 73 to 74	E-789931 N-6292798	E-787199 N-6292430	14N	2756 m
N1-S05	N1-Soils-119	Permafrost	Site: 75 to 76	E-786993 N-6292403	E-786887 N-6292388	14N	106 m
N1-S05	N1-Soils-119	Permafrost	Site: 77 to 78	E-786787 N-6292375	E-786413 N-6292325	14N	377 m
N1-S05	N1-Soils-120	Permafrost	Site: 81 to 82	E-785490 N-6292200	E-785358 N-6292182	14N	134 m
N1-S05	N1-Soils-120	Permafrost	Site: 83 to 84	E-785268 N-6292170	E-785170 N-6292157	14N	99 m
N1-S05	N1-Soils-120	Permafrost	Site: 85 to 86	E-784974 N-6292131	E-784869 N-6292116	14N	106 m
N1-S05	N1-Soils-120	Permafrost	Site: 87 to 88	E-784405 N-6292054	E-783822 N-6291976	14N	588 m

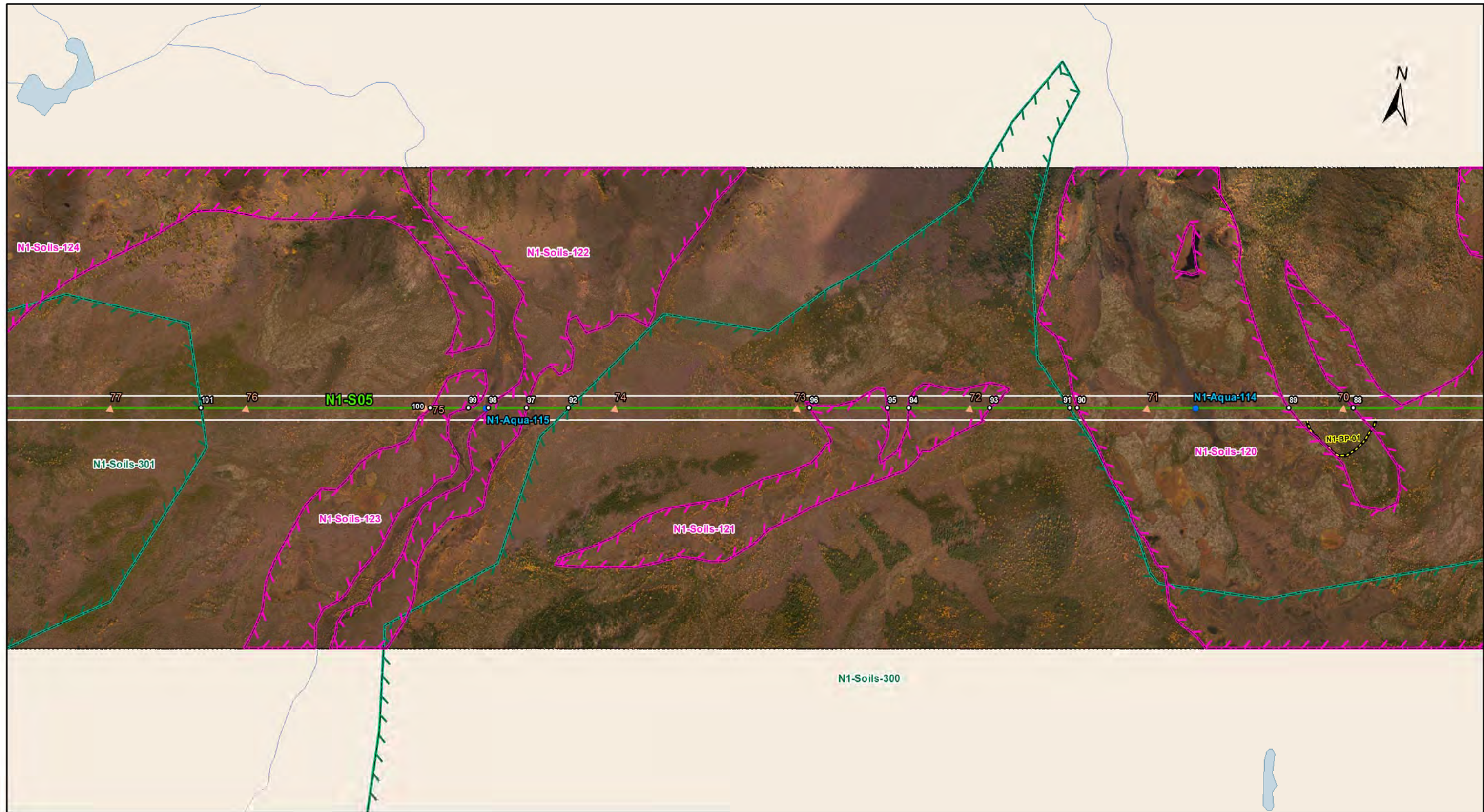
Potential Effects:

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

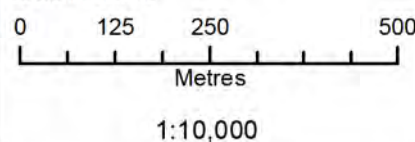
Specific Mitigation:

- 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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Land Base

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

Project Infrastructure

- Angle Tower Locations*
- Towers (Preliminary)*
- BP/II 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
- Soils and Terrain**
- Erosion
- Permafrost

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

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S05	N1-Aqua-114	Unnamed Tributary of McMillan Creek	783393	6291918	14N	N/A	N/A	Low	No Fish Habitat
N1-S05	N1-Aqua-115	Unnamed Tributary of McMillan Creek	781493	6291662	14N	N/A	N/A	Low	No Fish Habitat

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

ESS Group: Erosion

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S05	N1-Soils-300	Eolian (i.e. wind-modified) Deposits	Site: 91 to 92	E-783060 N-6291873	E-781714 N-6291692	14N	1357 m
N1-S05	N1-Soils-301	Eolian (i.e. wind-modified) Deposits	Site: 101 to 102	E-780727 N-6291559	E-779699 N-6291420	14N	1037 m

Potential Effects:

Loss of topsoil due to wind erosion (e.g. creep, saltation, suspension) on disturbed surfaces.

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
- Avoid dry soil conditions with high and severe wind erosion risk to the extent possible
- 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: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S05	N1-Soils-120	Permafrost	Site: 87 to 88	E-784405 N-6292054	E-783822 N-6291976	14N	588 m
N1-S05	N1-Soils-120	Permafrost	Site: 89 to 90	E-783649 N-6291952	E-783081 N-6291876	14N	573 m
N1-S05	N1-Soils-121	Permafrost	Site: 93 to 94	E-782845 N-6291844	E-782628 N-6291815	14N	218 m
N1-S05	N1-Soils-121	Permafrost	Site: 95 to 96	E-782571 N-6291807	E-782362 N-6291779	14N	210 m
N1-S05	N1-Soils-122	Permafrost	Site: 97 to 98	E-781601 N-6291676	E-781499 N-6291663	14N	103 m
N1-S05	N1-Soils-123	Permafrost	Site: 99 to 100	E-781445 N-6291656	E-781343 N-6291642	14N	103 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: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S05	N1-Aqua-116	McMillan Creek	779225	6291357	14N	22.6m	22.6m	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: Erosion

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S05	N1-Soils-301	Eolian (i.e. wind-modified) Deposits	Site: 101 to 102	E-780727 N-6291559	E-779699 N-6291420	14N	1037 m

Potential Effects:

Loss of topsoil due to wind erosion (e.g. creep, saltation, suspension) on disturbed surfaces.

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
- Avoid dry soil conditions with high and severe wind erosion risk to the extent possible
- 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: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S05	N1-Soils-124	Permafrost	Site: 103 to 104	E-779923 N-6291450	E-779282 N-6291364	14N	646 m
N1-S05	N1-Soils-125	Permafrost	Site: 105 to 106	E-779128 N-6291344	E-778873 N-6291309	14N	258 m
N1-S05	N1-Soils-126	Permafrost	Site: 107 to 108	E-778771 N-6291295	E-778700 N-6291286	14N	71 m
N1-S05	N1-Soils-127	Permafrost	Site: 109 to 110	E-777062 N-6291065	E-776807 N-6291031	14N	257 m

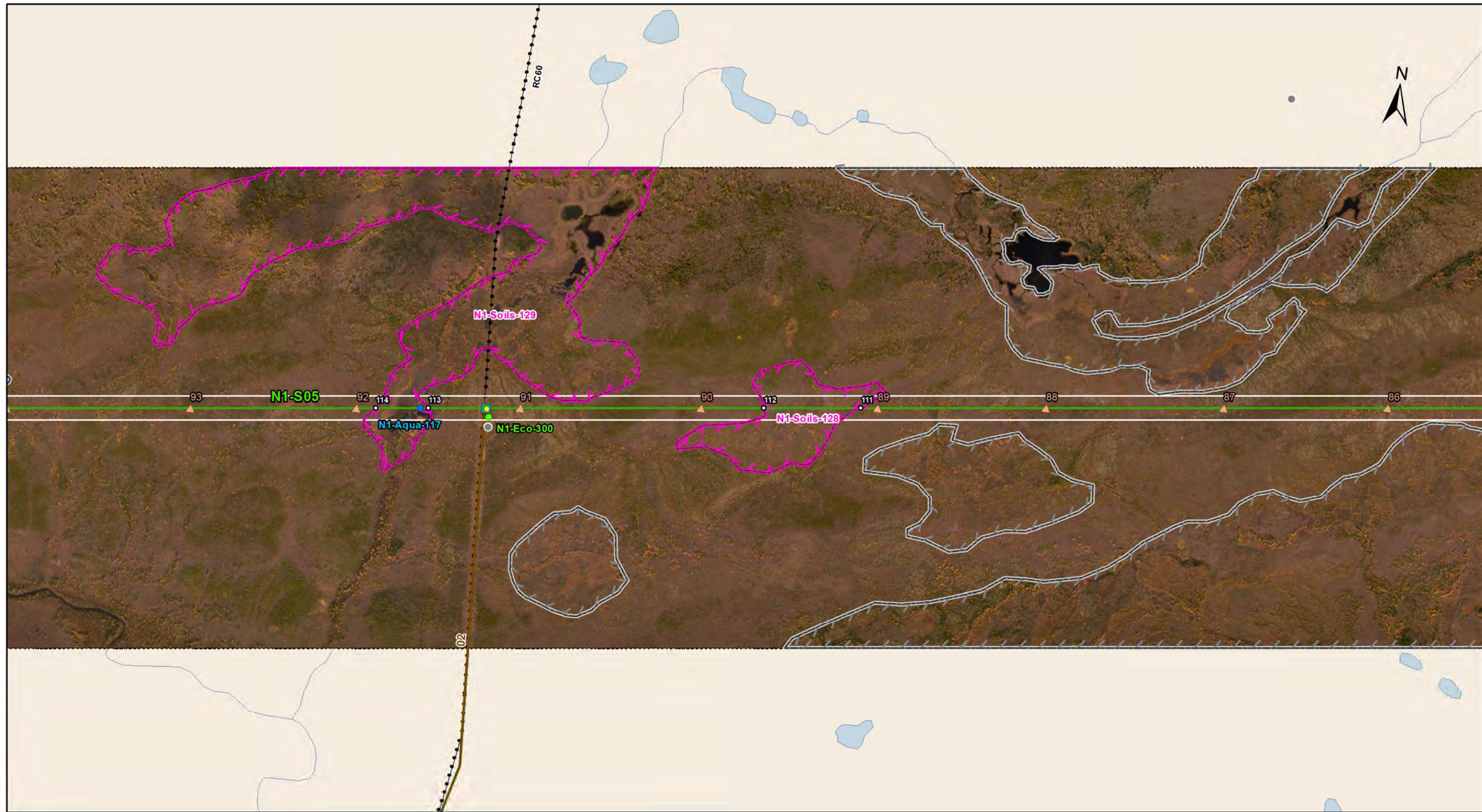
Potential Effects:

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

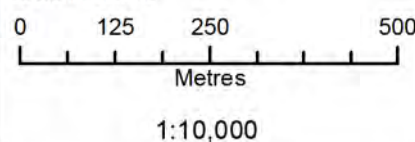
Specific Mitigation:

- 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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Land Base

- Transmission Line
- Highway
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- Local Road
- Winter Road
- Railway (Operational)
- Railway (Discontinued)
- Mining

Project Infrastructure

- Angle Tower Locations*
- Towers (Preliminary)*
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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
- Bypass Trails
- Approved Access Route

ESS Features

- Ecosystems**
- Species of Concern
- Water**
- Water Crossing
- Soils and Terrain**
- Permafrost

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

Map 11

ESS Group: Species of Concern

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N1-S05	N1-Eco-300	Species of Concern (plant)	773653	6290582	14N

Potential Effects:

Loss of plants of conservation concern from clearing and construction activities.

Specific Mitigation:

- Identify and flag prior to start of work
- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Provide 5m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods
- Confine vehicle traffic to established trails 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
N1-S05	N1-Aqua-117	Unnamed Tributary of McMillan Creek	773467	6290582	14N	3.2m	3.2m	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: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S05	N1-Soils-128	Permafrost	Site: 111 to 112	E-774650 N-6290740	E-774389 N-6290705	14N	262 m
N1-S05	N1-Soils-129	Permafrost	Site: 113 to 114	E-773489 N-6290584	E-773347 N-6290565	14N	143 m

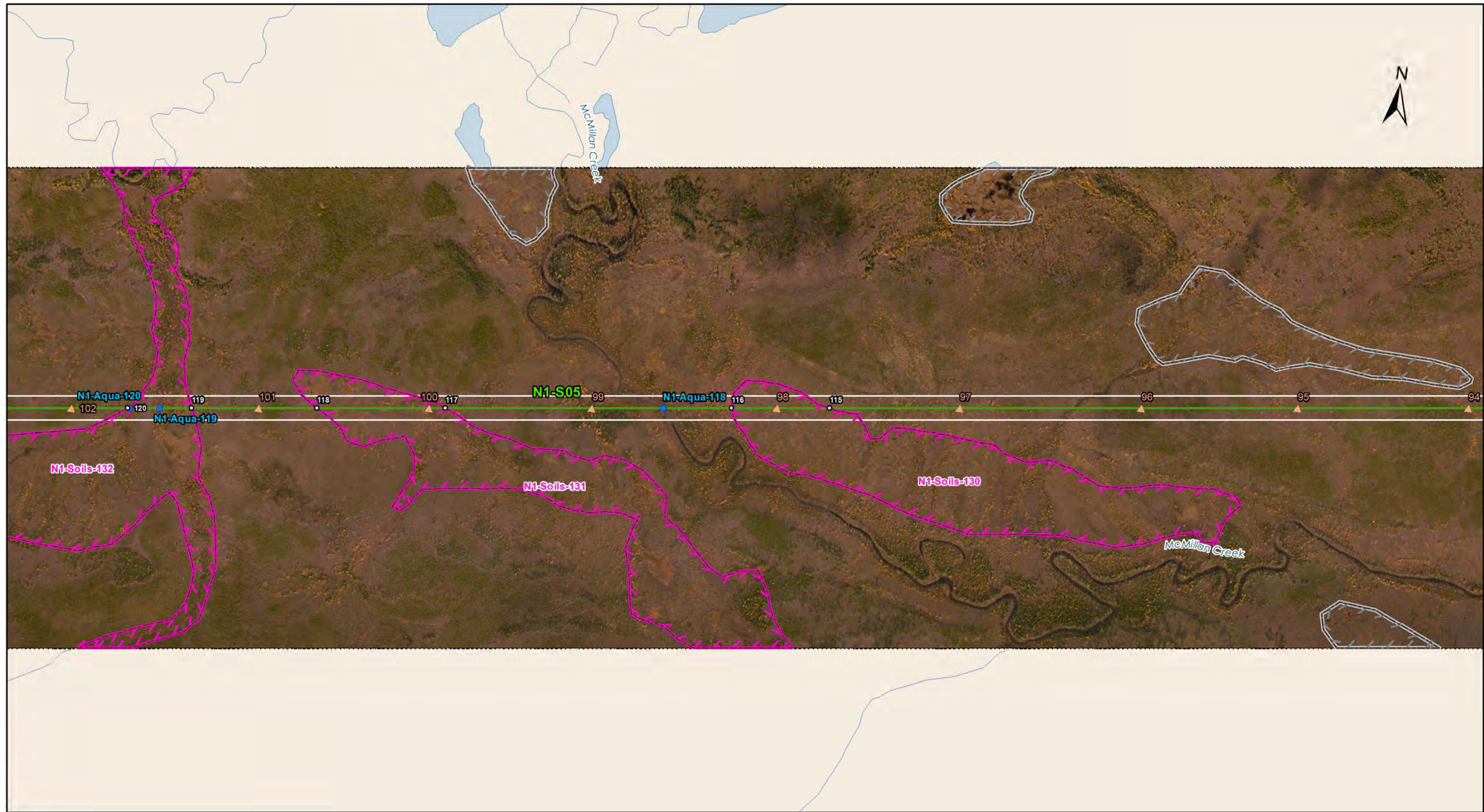
Potential Effects:

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

DOCUMENT PATH: G:\GIS\PROJECT_FOLDER\00_HYDRO\111440054_BPIII_EPPARCMAPIESS_N11BP111_CENVPP_NISECTION_MAPBOOK_FORHYDRO_20151112.MXD



Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: November 12, 2015
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

- Project Infrastructure**
- Angle Tower Locations*
 - Towers (Preliminary)*
 - BP111 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
- Soils and Terrain**
- Permafrost

Bipole III Transmission Project
Construction Environmental Protection Plan
Construction Section N1
Environmentally Sensitive Site Locations
Map 12

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S05	N1-Aqua-118	McMillan Creek	770193	6290141	14N	5m	5m	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
- No instream works or fording from April 1 - July 15

ESS Group: Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N1-S05	N1-Aqua-119	Unnamed Tributary of McMillan Creek	768843	6289959	14N	N/A	N/A	Low	No Fish Habitat
N1-S05	N1-Aqua-120	Unnamed Tributary of McMillan Creek	768762	6289948	14N	N/A	N/A	Low	No Fish Habitat

Potential Effects:

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

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

ESS Group: Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N1-S05	N1-Soils-130	Permafrost	Site: 115 to 116	E-770642 N-6290201	E-770379 N-6290165	14N	265 m
N1-S05	N1-Soils-131	Permafrost	Site: 117 to 118	E-769609 N-6290062	E-769263 N-6290015	14N	349 m
N1-S05	N1-Soils-132	Permafrost	Site: 119 to 120	E-768929 N-6289970	E-768758 N-6289947	14N	172 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