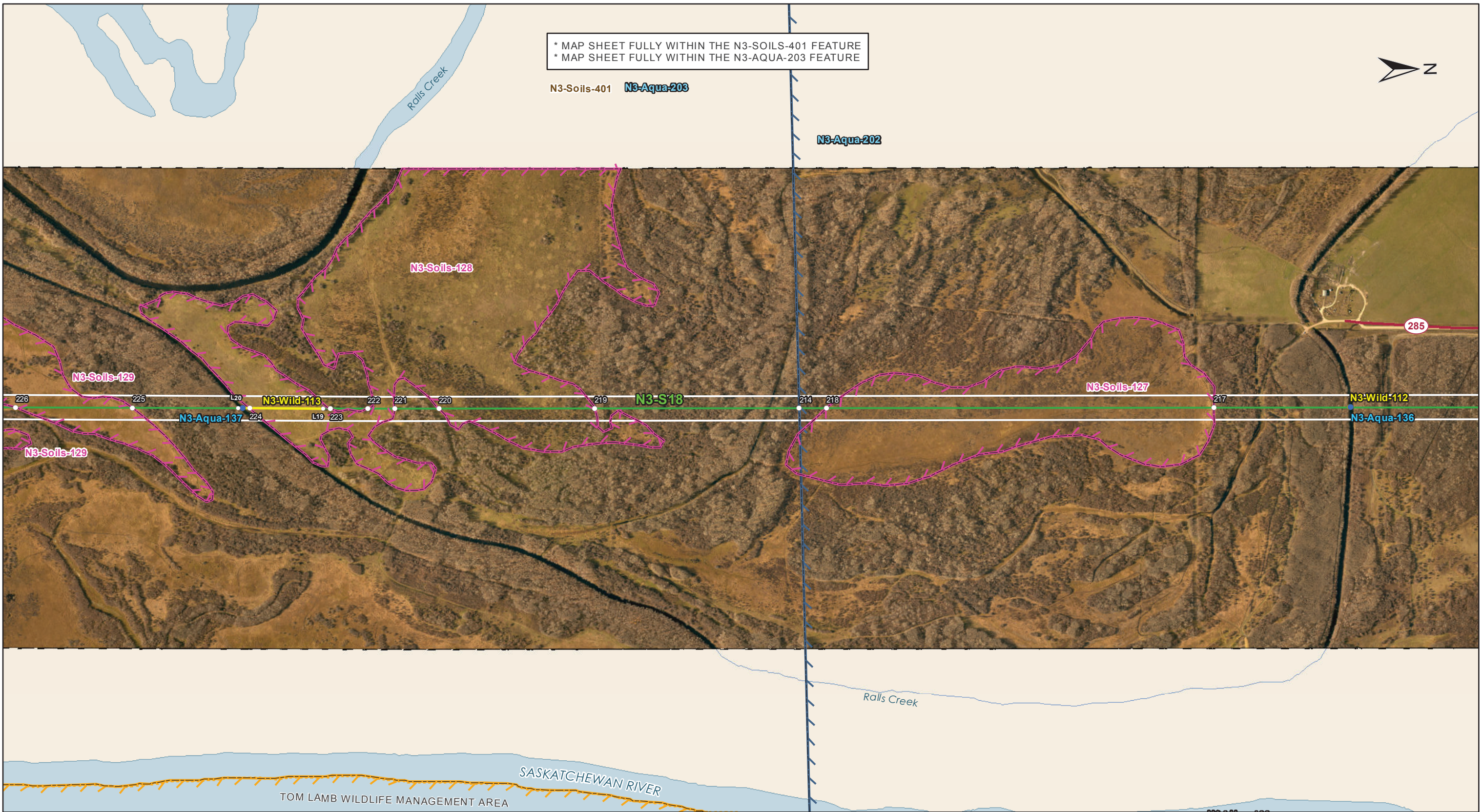


DOCUMENT PATH: G:_GIS_PROJECT_FOLDER\00_HYDRO\11440054_BPIII_EPPARCMAPIESS_N3\BPIII_CENVPP_NIN2\N3\4\SECTIONBASEMAP_MAPBOOK_BT_B_STANTEC_20131128A.MXD



* MAP SHEET FULLY WITHIN THE N3-SOILS-401 FEATURE
 * MAP SHEET FULLY WITHIN THE N3-AQUA-203 FEATURE



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

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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
 - 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
 - Land Use**
 - Conservation Terrain
 - Soils and Terrain**
 - Permafrost

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

MAP NUMBER : 155

ESS Group : Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S18	N3-Aqua-202	Freshwater artesian areas	Site: 213 to 214	E-363617 N-5971038	E-363488 N-5965689	14N	5350m

Potential Effects:

Wetting the surficial environment near potential discharge from tower foundation drill hole (ground saturation); potential level drop in the aquifer

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 : Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S18	N3-Aqua-203	Aquifers vulnerable to contamination	Site: 211 to 212	E-363617 N-5971038	E-363396 N-5962364	14N	8676m

Potential Effects:

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

Specific Mitigation:

- Marshaling 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

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-S18	N3-Aqua-136	Ralls Creek	363523	5967184	14N	N/A	9m	Important	Moderate
N3-S18	N3-Aqua-137	Ralls Creek	363448	5964181	14N	N/A	N/A	Important	Moderate

Potential Effects:

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

Specific Mitigation:

- 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	Easting	Northing	UTM Zone
N3-S18	N3-Wild-112	Ralls Creek crossing	363523	5967181	14N

Potential Effects:

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

Specific Mitigation:

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

MAP NUMBER : 155 cont'd

ESS Group : Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S18	N3-Wild-113	Adjacent to Ralls Creek	Site: L19 to L20	E-363448 N-59641707	E-363455 N-5964401	14N	230m

Potential Effects:

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

Specific Mitigation:

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

ESS Group : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S18	N3-Soils-127	Permafrost	Site: 217 to 218	E-363515 N-5966812	E-363490 N-5965763	14N	1050 m
N3-S18	N3-Soils-128	Permafrost	Site: 219 to 220	E-363474 N-5965135	E-363464 N-5964713	14N	422m
N3-S18	N3-Soils-128	Permafrost	Site: 221 to 222	E-363461 N-5964593	E-363459 N-5964520	14N	73m
N3-S18	N3-Soils-128	Permafrost	Site: 223 to 224	E-363456 N-5964418	E-363450 N-5964200	14N	218m
N3-S18	N3-Soils-129	Permafrost	Site: 225 to 226	E-363441 N-5963883	E-363431 N-5963567	14N	316m

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
- Avoid organic soils containing permafrost 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 Erosion/Sediment Control Plan

ESS Group : Terrain

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S18	N3-Soils-401	Enduring Features (Unique Terrain/Soil Features)	Site: 193 to 194	E-364116 N-5971927	E-363617 N-5971038	14N	1020m
N3-S18	N3-Soils-401	Enduring Features (Unique Terrain/Soil Features)	Site: 207 to 208	E-363617 N-5971038	E-363396 N-5962364	14N	1020m

Potential Effects:

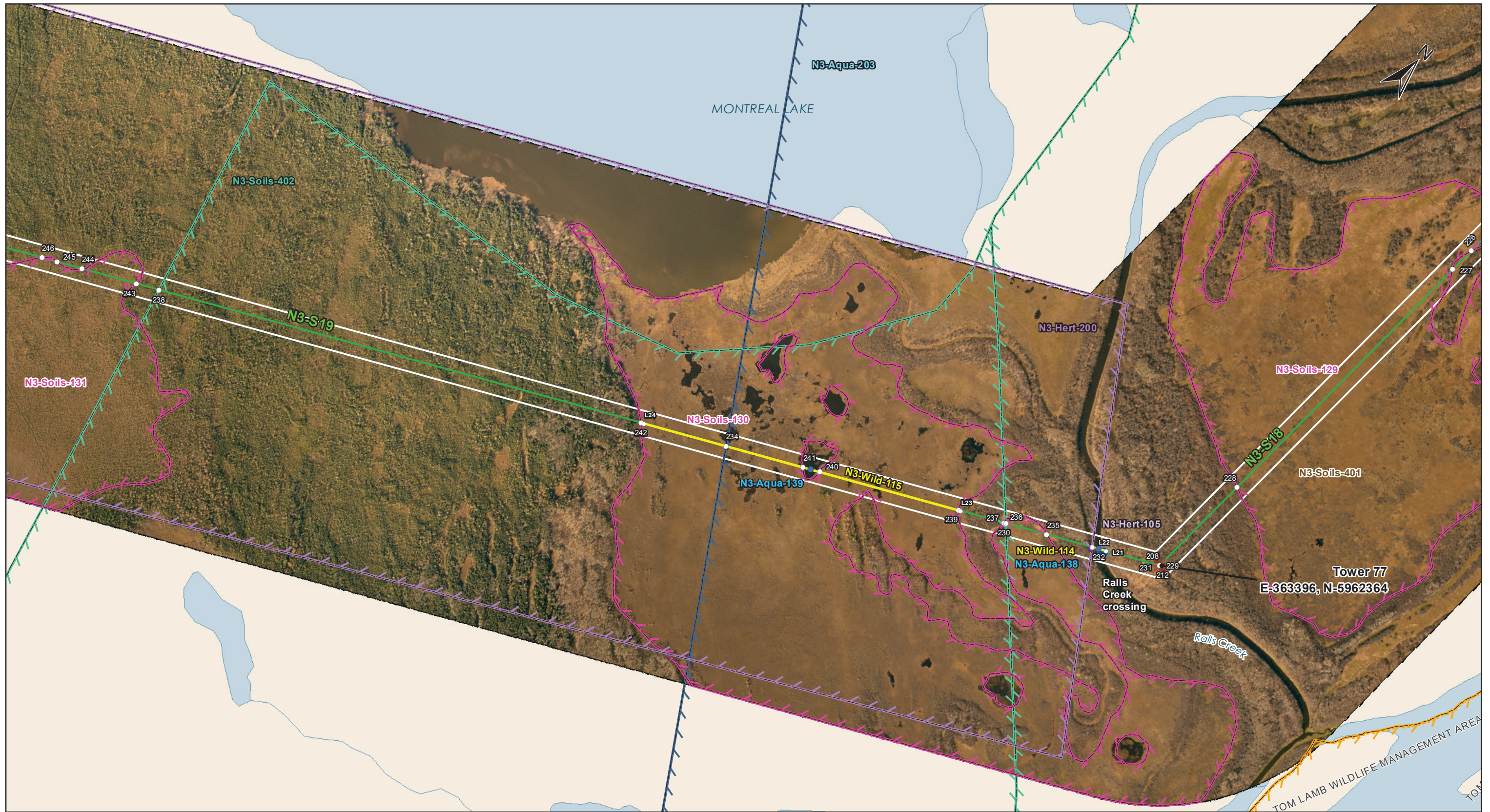
Impairment or loss of a portion of single occurrence PAI enduring feature from right-of-way establishment.

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Avoid development of new borrow areas, access routes and other activities within enduring features
- Maintain 100m setback around feature outside of ROW
- Minimize movement of vehicles, machinery and equipment during construction
- Prevent off-ROW activities and equipment use within terrain feature, during construction

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

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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
 - Provincial Park

- Project Infrastructure**
- Angle Tower Locations
 - BP/III 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 BP/III Access Management Database

- ESS Features**
- | | |
|--------------------|--------------------------|
| Heritage | Soils and Terrain |
| Archaeological | Permafrost |
| Water | Terrain |
| Water Crossing | Water |
| Wildlife | Groundwater |
| Birds and Habitat | |
| Heritage | |
| Heritage, Cultural | |
| Land Use | |
| Conservation | |

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

MAP NUMBER : 156

ESS Group : Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S18	N3-Aqua-203	Aquifers vulnerable to contamination	Site: 211 to 212	E-363617 N-5971038	E-363396 N-5962364	14N	8676m
N3-S19	N3-Aqua-203	Aquifers vulnerable to contamination	Site: 231 to 234	E-363396 N-5962364	E-362317 N-59661799	14N	1218m

Potential Effects:

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

Specific Mitigation:

- Marshaling 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

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-S19	N3-Aqua-138	Ralls Creek	363244	5962285	14N	15m	15m	Important	Low

Potential Effects:

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

Specific Mitigation:

- 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 : Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N3-S19	N3-Aqua-139	Unnamed Pond	362527	5961909	14N	N/A	N/A	No Fish Habitat	Low

Potential Effects:

Habitat loss & 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.
- Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice Bridges and Snow Fills, and Overhead Line Construction

ESS Group : Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S19	N3-Wild-114	Ralls Creek crossing	Site: L21 to L22	E-363455 N-5964401	E-363448 N-5964170	14N	37m

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

MAP NUMBER : 156 cont'd

ESS Group : Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S19	N3-Wild-115	Waterfowl sensitivity area	Site: L23 to L24	E-362901 N-5962105	E-362112 N-5961691	14N	890m

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 : Archaeological

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N3-S19	N3-Hert-105	Ralls Creek	363228	5962271	14N

Potential Effects:

Potential disturbance to Heritage Resource

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 : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S18	N3-Soils-129	Permafrost	Site: 225 to 226	E-363441 N-5963883	E-363431 N-5963567	14N	316m
N3-S18	N3-Soils-129	Permafrost	Site: 227 to 228	E-363429 N-5963494	E-363405 N-5962663	14N	831m
N3-S19	N3-Soils-130	Permafrost	Site: 235 to 236	E-362896 N-5962102	E-362550 N-5961921	14N	390 m
N3-S19	N3-Soils-130	Permafrost	Site: 239 to 240	E-362509 N-5962102	E-362106 N-5961921	14N	455m
N3-S19	N3-Soils-130	Permafrost	Site: 241 to 242	E-362509 N-5961899	E-362106 N-5961688	14N	455m
N3-S19	N3-Soils-131	Permafrost	Site: 243 to 244	E-360848 N-5961029	E-360713 N-5960958	14N	153m
N3-S19	N3-Soils-131	Permafrost	Site: 245 to 246	E-360650 N-5960926	E-360613 N-5960906	14N	42m

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
- Avoid organic soils containing permafrost 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 : Terrain

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S18	N3-Soils-401	Enduring Features (Unique Terrain/Soil Features)	Site: 207 to 208	E-363617 N-5971038	E-363396 N-5962364	14N	1020m
N3-S19	N3-Soils-401	Enduring Features (Unique Terrain/Soil Features)	Site: 229 to 230	E-363396 N-5962364	E-363014 N-5962164	14N	431m
N3-S19	N3-Soils-402	Enduring Features (Unique Terrain/Soil Features)	Site: 237 to 238	E-363014 N-5962164	E-360904 N-5961059	14N	2382m

Potential Effects:

Impairment or loss of a portion of single occurrence PAI enduring features from right-of-way establishment

MAP NUMBER : 156 cont'd

MAP NUMBER : 156 cont'd

Specific Mitigation:

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Use existing trails, roads or cut lines whenever possible as access routes
- Avoid development of new borrow areas, access routes and other activities within enduring features
- Maintain 100m setback around feature outside of ROW
- Minimize movement of vehicles, machinery and equipment during construction
- Prevent off-ROW activities and equipment use within terrain feature, during construction

ESS Group : Cultural

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S19	N3-Hert-200	Plant Gathering Area	Site: 232 to 233	E-363229 N-5962276	E-354917 N-5957921	14N	1218m

Potential Effects:

Potential disturbance and/or loss to traditional plant gathering area

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