

DOCUMENT PATH: G:\\_GIS\_PROJECT\_FOLDER00\_HYDRO\11440054\_BPIII\_EPPARCMAPIESS\_N3\BPIII\_CENVPP\_NIN2N3N4C1SECTIONBASEMAP\_MAPBOOK\_BTIB\_STANTEC\_20131128A.MXD

\* MAP SHEET FULLY WITHIN THE N3-LUSE-100 FEATURE

N3-LUSE-100



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
- 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
  - Mammals and Habitat
- Land Use**
  - Conservation
- Soils and Terrain**
  - Erosion
- Terrain**
  - Groundwater

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

MAP NUMBER : 153

ESS Group : Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S17	N3-Aqua-202	Freshwater artesian areas	Site: 191 to 192	E-364204 N-5972083	E-363617 N-5971038	14N	1198m

**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 : Water Crossing

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
N3-S17	N3-Aqua-133	Unnamed pond	364203	5972083	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-S17	N3-Wild-110	Waterfowl and colonial bird sensitivity area	Site: L13 to L14	E-372764 N-5979938	E-365184 N-5973830	14N	9734m

**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 : Terrain

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S17	N3-Soils-300	Erosion	Site: 195 to 196	E-363935 N-5971604	E-363617 N-5971038	14N	649m

**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
- Identify and flag prior to start of work
- 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

MAP NUMBER : 153 cont'd

**ESS Group : Terrain**

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S17	N3-Soils-400	Steep/Unstable Slopes	Site: 197 to 198	E-363935 N-5971604	E-363617 N-5971038	14N	649m

**Potential Effects:**

*Loss of topsoil due to water erosion (e.g. sheet, rill, gully) on disturbed surfaces; mass-movement due to slope destabilization*

**Specific Mitigation:**

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Avoid construction on steep slopes or the creation of steep slopes to the extent possible
- Maintain shrub and herbaceous vegetation to the extent possible
- Adhere to DFO Operational Statements for Ice Bridges and Snow Fills in areas with steep slopes
- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan
- Stabilize sites immediately after construction and re-vegetate disturbed areas in accordance with the site Rehabilitation Plan

**ESS Group : Terrain**

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S17	N3-Soils-401	Enduring Features (Unique Terrain/Soil Features)	Site: 193 to 194	E-364116 N-5971927	E-363617 N-5971038	14N	1020 m

**Potential Effects:**

*Impairment or loss of a portion of a 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

**ESS Group : Conservation**

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-LUse-100	Tom Lamb WMA	Site: 177 to 178	E-372982 N-5980114	E-365184 N-5973831	14N	10015m
N3-S17	N3-LUse-100	Tom Lamb WMA	Site: 187 to 190	E-365184 N-5973831	E-363617 N-5971038	14N	3202m

**Potential Effects:**

*Potential disruption to resource use activities*

**Specific Mitigation:**

- Subject to permit conditions

**ESS Group : Mammals and Habitat**

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S16	N3-Wild-201	Sensitive Moose Range	Site: 182 to 183	E-372678 N-5979869	E-365184 N-593830	14N	9630mm

**Potential Effects:**

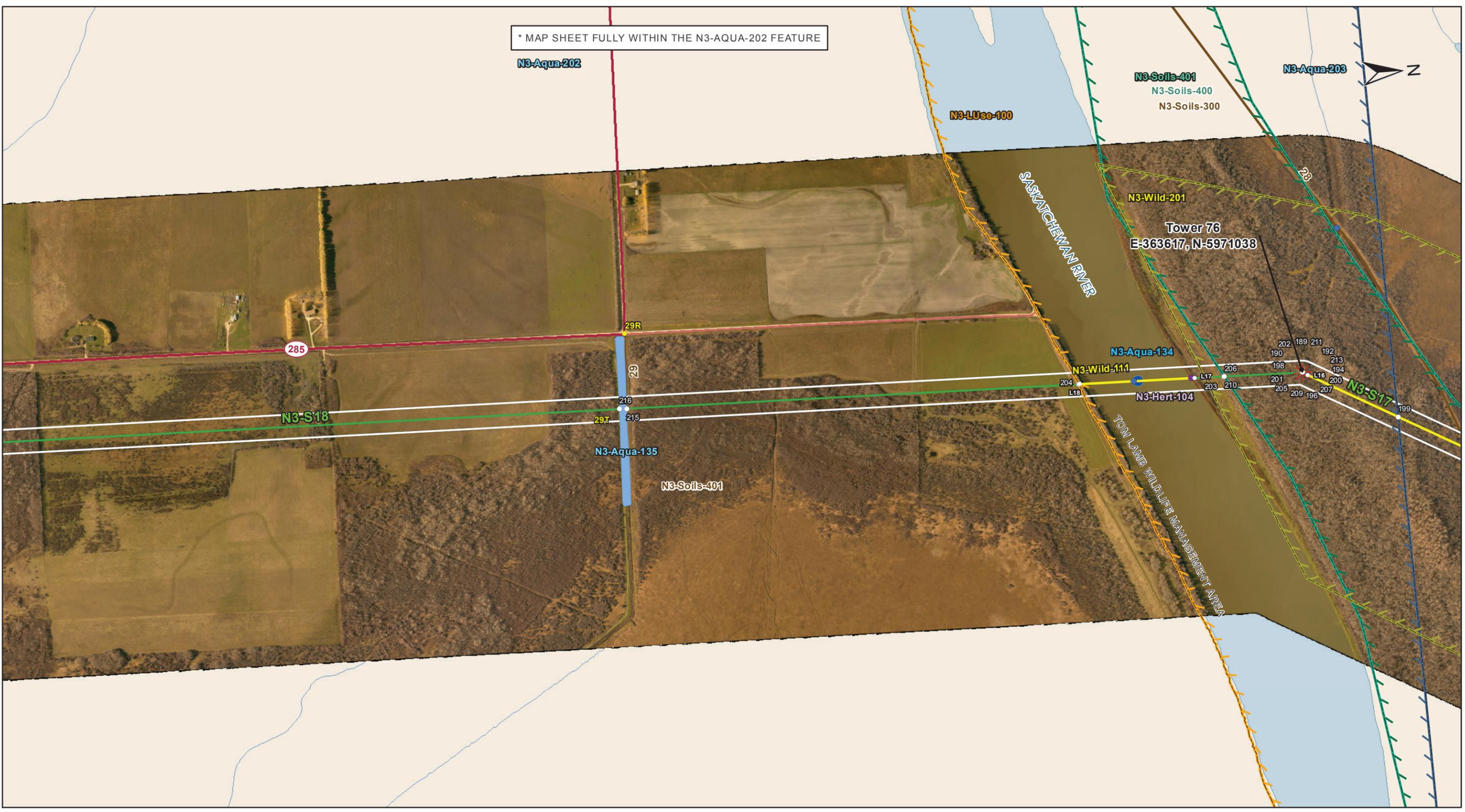
*Potential disturbance to and loss of sensitive moose habitat*

**Specific Mitigation:**

- Manitoba Hydro will not support development of designated motorized recreational trail use within areas described above if requested
- No shear blading to clear the ROW in the sensitive range. Majority of t-line in this area will not require clearing due to the absence of tree cover. Selective cutting methods to be used for any treed areas leaving low shrub and plant communities on the ROW. Access approaches from Moose lake road will be decommissioned
- 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

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\* MAP SHEET FULLY WITHIN THE N3-AQUA-202 FEATURE



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

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 Metres  
 1:10,000

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

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

- Points of Access\***
- Proposed Access Point
  - Major Stream Crossing
  - Abandoned Rail Crossing
  - Rail Crossing
  - Transmission Line Crossing
  - Proposed Access Route
- \*Labels correspond to BPIII Access Management Database

- ESS Features**
- Heritage**
    - Archaeological
  - Water**
    - Water Crossing
  - Wildlife**
    - Birds and Habitat
    - Mammals and Habitat
  - Land Use**
    - Conservation

- Soils and Terrain**
- Erosion
  - Terrain
  - Water**
    - Groundwater
    - Water Crossing

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

MAP NUMBER : 154

ESS Group : Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S17	N3-Aqua-202	Freshwater artesian areas	Site: 191 to 192	E-364204 N-5972083	E-363617 N-5971038	14N	1198m
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-S17	N3-Aqua-203	Aquifers vulnerable to contamination	Site: 199 to 200	E-363759 N-5971290	E-363617 N-5971038	14N	289m
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-134	Saskatchewan River	363605	5970575	14N	250m	250m	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 September 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
N3-S18	N3-Aqua-135	Unnamed agricultural drain	363571	5969173	14N	N/A	N/A	N/A	Low

**Potential Effects:**

Increased erosion and sedimentation, rutting of floodplains, loss of riparian vegetation

**Specific Mitigation:**

- 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

MAP NUMBER : 154 cont'd

**ESS Group : Terrain**

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S17	N3-Soils-300	Erosion	Site: 195 to 196	E-363935 N-5971604	E-363617 N-5971038	14N	649m
N3-S18	N3-Soils-300	Erosion	Site: 205 to 206	E-363617 N-5971038	E-363612 N-5970823	14N	215m

**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
- Identify and flag prior to start of work
- 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

**ESS Group : Terrain**

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S17	N3-Soils-400	Steep/Unstable Slopes	Site: 197 to 198	E-363935 N-5971604	E-363617 N-5971038	14N	649m
N3-S18	N3-Soils-400	Steep/Unstable Slopes	Site: 209 to 210	E-363617 N-5971038	E-363612 N-5970823	14N	215m

**Potential Effects:**

*Loss of topsoil due to water erosion (e.g. sheet, rill, gully) on disturbed surfaces; mass-movement due to slope destabilization*

**Specific Mitigation:**

- Carry out construction activities on frozen or dry ground to minimize surface damage, rutting and erosion
- Avoid construction on steep slopes or the creation of steep slopes to the extent possible
- Maintain shrub and herbaceous vegetation to the extent possible
- Adhere to DFO Operational Statements for Ice Bridges and Snow Fills in areas with steep slopes
- Confine vehicle traffic to established trails to the extent possible
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan
- Stabilize sites immediately after construction and re-vegetate disturbed areas in accordance with the site Rehabilitation Plan

**ESS Group : Birds and Habitat**

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S17	N3-Wild-110	Waterfowl and colonial bird sensitivity area	Site: L13 to L14	E-372764 N-5979938	E-365184 N-5973830	14N	9734m
N3-S18	N3-Wild-110	Waterfowl and colonial bird sensitivity area	Site: L15 to L16	E-365184 N-5973830	E-363626 N-5971053	14N	9734m

**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 affect 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 : Birds and Habitat**

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S18	N3-Wild-111	Saskatchewan River Crossing	Site: L17 to L18	E-363602 N-5970427	E-363610 N-5970743	14N	316m

**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 : 154 cont'd

**ESS Group : Terrain**

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S17	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

**ESS Group : Archaeological**

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N3-S18	N3-Hert-104	Saskatchewan River	363609	5970733	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 : Conservation**

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S17	N3-LUse-100	Tom Lamb WMA	Site: 187 to 190	E-365184 N-5973831	E-363617 N-5971038	14N	3202m
N3-S18	N3-LUse-100	Tom Lamb WMA	Site: 201 to 204	E-363617 N-5971038	E-363603 N-5970425	14N	614m

**Potential Effects:**

*Potential disruption to resource use activities*

**Specific Mitigation:**

- Subject to permit conditions

**ESS Group : Mammals and Habitat**

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S17	N3-Wild-201	Sensitive Caribou Range	Site: 188 to 189	E-365184 N-8973830	E-363617 N-5971038	14N	3202m
N3-S18	N3-Wild-201	Sensitive Caribou Range	Site: 202 to 203	E-365184 N-8973830	E-363617 N-5971038	14N	268m

**Potential Effects:**

*Potential disturbance to and loss of sensitive caribou habitat*

**Specific Mitigation:**

- Manitoba Hydro will not support development of designated motorized recreational trail use within areas described above if requested
- No shear blading to clear the ROW in the sensitive range. Majority of t-line in this area will not require clearing due to the absence of tree cover. Selective cutting methods to be used for any treed areas leaving low shrub and plant communities on the ROW. Access approaches from Moose lake road will be decommissioned
- 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