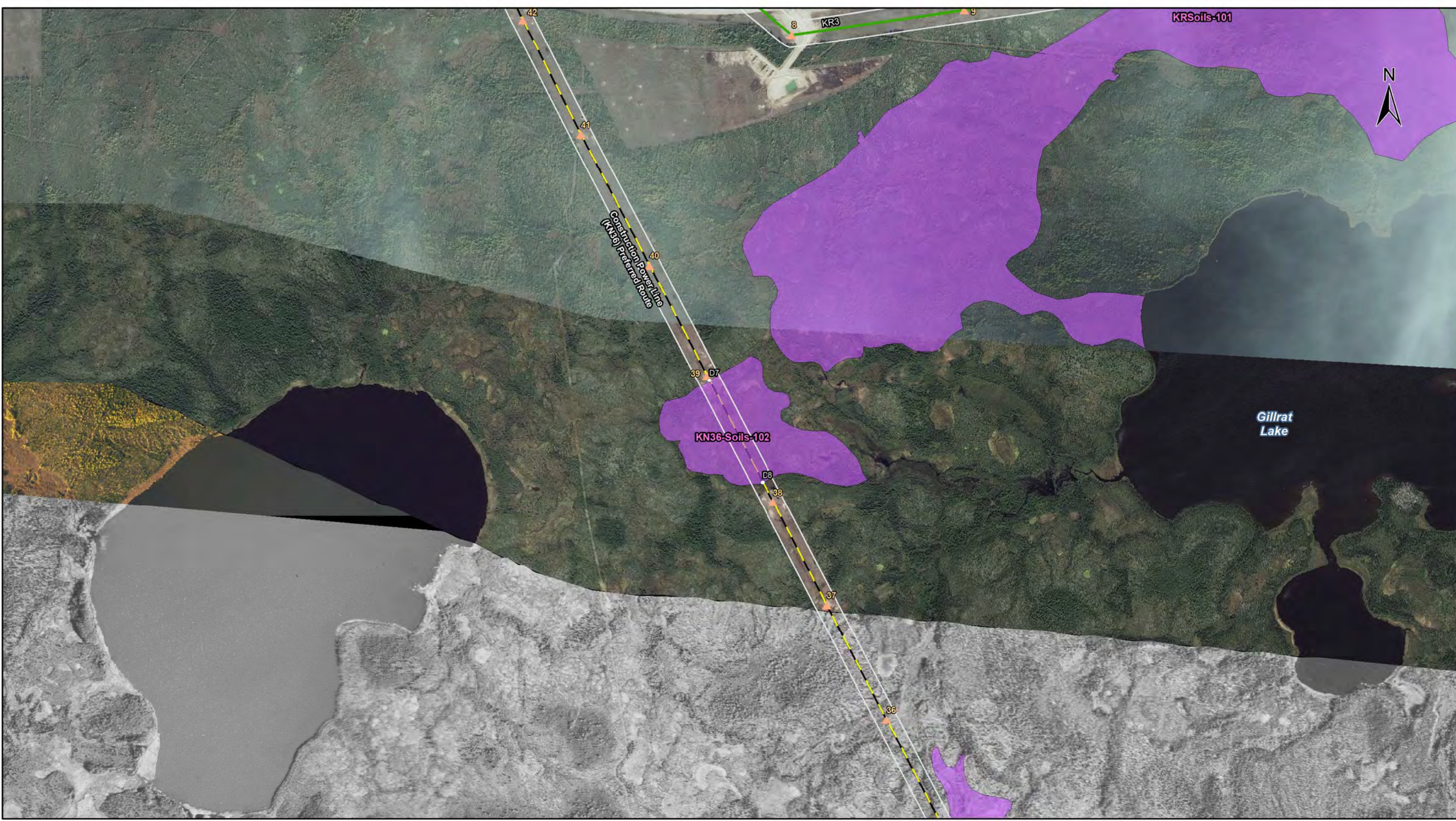


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Coordinate System: UTM Zone 15N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: December 13, 2016
Version: Final 4.0

0 120 240 480
Metres
1:10,000

Land Base

- Bipole I and II
- Transmission Line
- Proposed Roads
- Active Railway
- Abandoned Railway

Project Infrastructure

- Towers (Preliminary)*
- Generation Outlet Transmission Line
- Construction Power Line (Kn36)
- Project Footprint (ROW)

*Towers are subject to change, and are only use as a rough guide

ESS Features

- Archaeological Site
- Historical
- Water Crossing
- Birds and Habitat
- Mammals and Habitat
- Marsh Habitat
- Water and Wetland Habitat
- Permafrost

Keyask Transmission Project
Construction Environmental Protection Plan
Environmentally Sensitive Site Locations
KN36 and KN36T Lines

Map F

ESS Group: Permafrost

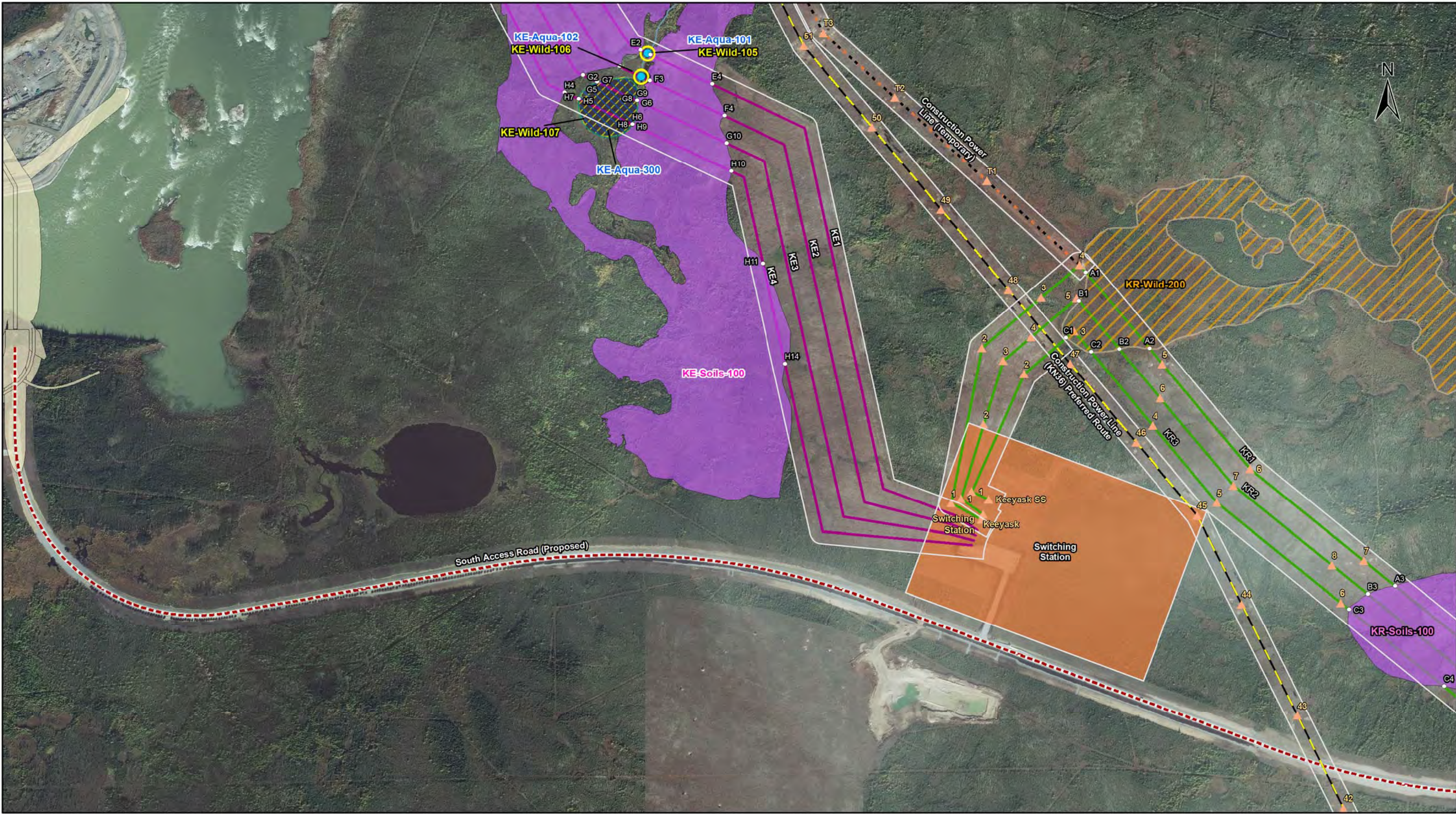
Sec-ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
KN36	KN36-Soils-102	Permafrost-Extensive Discontinuous	Site: D7 to D8	E-367366 N-6242864	E-367513 N-6242583	15N	317m


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 disturbance to the organic layer
- 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





Coordinate System: UTM Zone 15N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: December 13, 2016
Version: Final 4.0

0 120 240 480
Metres
1:10,000

Land Base

- Bipole I and II
- Transmission Line
- Proposed Roads
- Active Railway
- Abandoned Railway

Project Infrastructure

- Towers (Preliminary)*
- Generation Outlet Transmission Line
- Construction Power Line (Kn36)
- Construction Power Line (Temporary)

Project Footprint (ROW)

- Unit Lines
- Switching Station Site

*Towers are subject to change, and are only use as a rough guide

ESS Features


- Archaeological Site
- Historical
- Water Crossing
- Birds and Habitat
- Mammals and Habitat
- Marsh Habitat
- Water and Wetland Habitat
- Permafrost

Keyask Transmission Project
Construction Environmental Protection Plan
Environmentally Sensitive Site Locations
KN36 and KN36T Lines

Map G

No specific mitigation measures for this map, page intentionally left blank





Coordinate System: UTM Zone 15N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: December 13, 2016
Version: Final 4.0

0 120 240 480
Metres
1:10,000

Land Base

- Bipole I and II
- Transmission Line
- Proposed Roads
- Active Railway
- Abandoned Railway

Project Infrastructure

- Towers (Preliminary)*
- Construction Power Line (Kn36)
- Construction Power Line (Temporary)
- Project Footprint (ROW)

Unit Lines

- Construction
- Power Station Site

*Towers are subject to change, and are only use as a rough guide

ESS Features

- Archaeological Site
- Historical
- Water Crossing
- Birds and Habitat
- Mammals and Habitat
- Marsh Habitat
- Water and Wetland Habitat
- Permafrost

Keeyask Transmission Project
Construction Environmental Protection Plan
Environmentally Sensitive Site Locations
KN36 and KN36T Lines

Map H

ESS Group: Birds and Habitat

Sec-ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
KN36	KN36-Wild-100	Nelson River	364829	364829	15N
KR1T	KR1T-Wild-100	Nelson River	364884	364884	15N
KR1T	KR1T-Wild-101	Unnamed Tributary	365272	6246274	15N
KN36	KN36-Wild-101	Unnamed Tributary	365226	6246222	15N

Potential Effects:

Higher risk of wire collision within the ROW

Specific Mitigation:

- Adhere to reduced risk timing windows for protection of birds by conducting clearing activities between August 1st and April 30th
- Maintain applicable setback during nesting and breeding timing window (May 1st to July 31st)
- Conduct priority assessment for bird diverters and other measures prior to transmission line stringing
- Install bird diverters or other measures at high priority sites
- Where possible maintain a 100m buffer of shrub and herbaceous vegetation around lakes and off-system marsh locations.
- Where possible, maintain 15 metres of riparian area from the high water mark of 1st and 2nd order creeks, and 30 metres from the high water mark of 3rd order and higher streams and rivers

ESS Group: Water Crossing

Sec-ID	ESS ID	ESS Name	Easting	Northing	UTM Zone	Channel Width	Wet Width	Fish Habitat Class	Habitat Sensitivity
KN36	KN36-Aqua-100	Nelson River	364829	624995	15N	N/A	N/A	N/A	N/A
KR1T	KR1T-Aqua-100	Nelson River	364883	6247024	15N	N/A	N/A	N/A	N/A
KN36	KN36-Aqua-101	Unnamed Tributary	365226	6246223	15N	N/A	N/A	N/A	N/A
KR1T	KR1T-Aqua-101	Unnamed Tributary	365273	6246274	15N	N/A	N/A	N/A	N/A

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.

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

- 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: Habitat

Sec-ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
KN36	KN36-Eco-100	Off-system marsh and marsh environment	Site: D3 to D4	E-365187 N-6246300	E-365219 N-6246238	15N	71 m

Potential Effects:

Remove or alter particularly important wetland type

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Remove trees by low-disturbance methods within buffer
- The application of herbicides is prohibited within buffer
- Where possible maintain a 100m buffer of shrub and herbaceous vegetation around lakes and off-system marsh locations.
- Temporary access trails are to be located 100 m from off-system marsh
- Towers are to be located 100 m from off-system marsh where feasible

ESS Group: Permafrost

Sec-ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
KN36	KN36-Soils-100	Permafrost-Extensive Discontinuous	Site: D1 to D2	E-365122 N-6246422	E-365190 N-6246291	15N	147 m
KR1T	KR1T-Soils-100	Permafrost-Extensive Discontinuous	Site: T1 to T2	E-365185 N-6246442	E-365198 N-6246418	15N	26 m
KN36	KN36-Soils-101	Permafrost-Extensive Discontinuous	Site: D5 to D6	E-365221 N-6246232	E-365253 N-6246172	15N	68 m
KR1T	KR1T-Soils-101	Permafrost-Extensive Discontinuous	Site: T3 to T4	E-365279 N-6246263	E-365287 N-6246247	15N	17 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
- Avoid disturbance to the organic layer
- 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