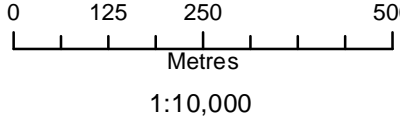


Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: October 24, 2013



Land Base

- Provincial Highways
- Provincial Roads
- Watercourse
- Waterbodies

Project Infrastructure

- BPIII Final Preferred Route
- Keewatinooow Converter Station
- Ground Electrode Line
- Construction Power Line
- Ground Electrode
- Work Area Zone

- Manitoba Hydro & Contractor Work Area
- Borrow Deposits
- Excavated Material Placement Area
- Access Road Security Gatehouse

ESS Legend

- Ecosystem**
 - Species of Concern
- Water**
 - Water Crossing
- Land Use**
 - Churchill WMA

Bipole III Transmission Project
Construction Environmental Protection Plan
Keewatinooow C.S. and Infrastructure
and Ground Electrode Site
Environmentally Sensitive Site Locations
Map 1

MAP NUMBER : 1

ESS Group : Conservation

Sec ID	ESS ID	ESS Name	Location	Easting	Northing	UTM Zone
CP	CP-LUse-100	Churchill Wildlife Management Area	Entire Extent of Map 1	-	-	14N

Potential Effects:

Within the Churchill Wildlife Management Area

Specific Mitigation:

- Must not place food for the purpose of attracting, feeding or holding polar bears
- All project staff must record all polar bears encountered/observed on a daily basis, any observations of polar bears or polar bear tracks must be reported to the MH Site Environmental Officer or MH Environmental Inspector
- All garbage must be stored in bear proof containers or within electric fencing and removed from Wildlife Management Area
- Clearing within the ROW will be kept to a minimum and with non -non-hazard trees removed. Any trees that are cleared must be cut, piled and burned under safe conditions
- Carry out construction activities on well frozen ground in wetlands

ESS Group : Species of Concern

Sec ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
KW	KW-Eco-300	Species of Concern (plant)	817260	6295132	14N
KW	KW-Eco-301	Species of Concern (plant)	817314	6295085	14N

Potential Effects:

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

Specific Mitigation:

- Non-mitigable due to complete removal of all vegetation cover for site.

ESS Group : Water Crossing

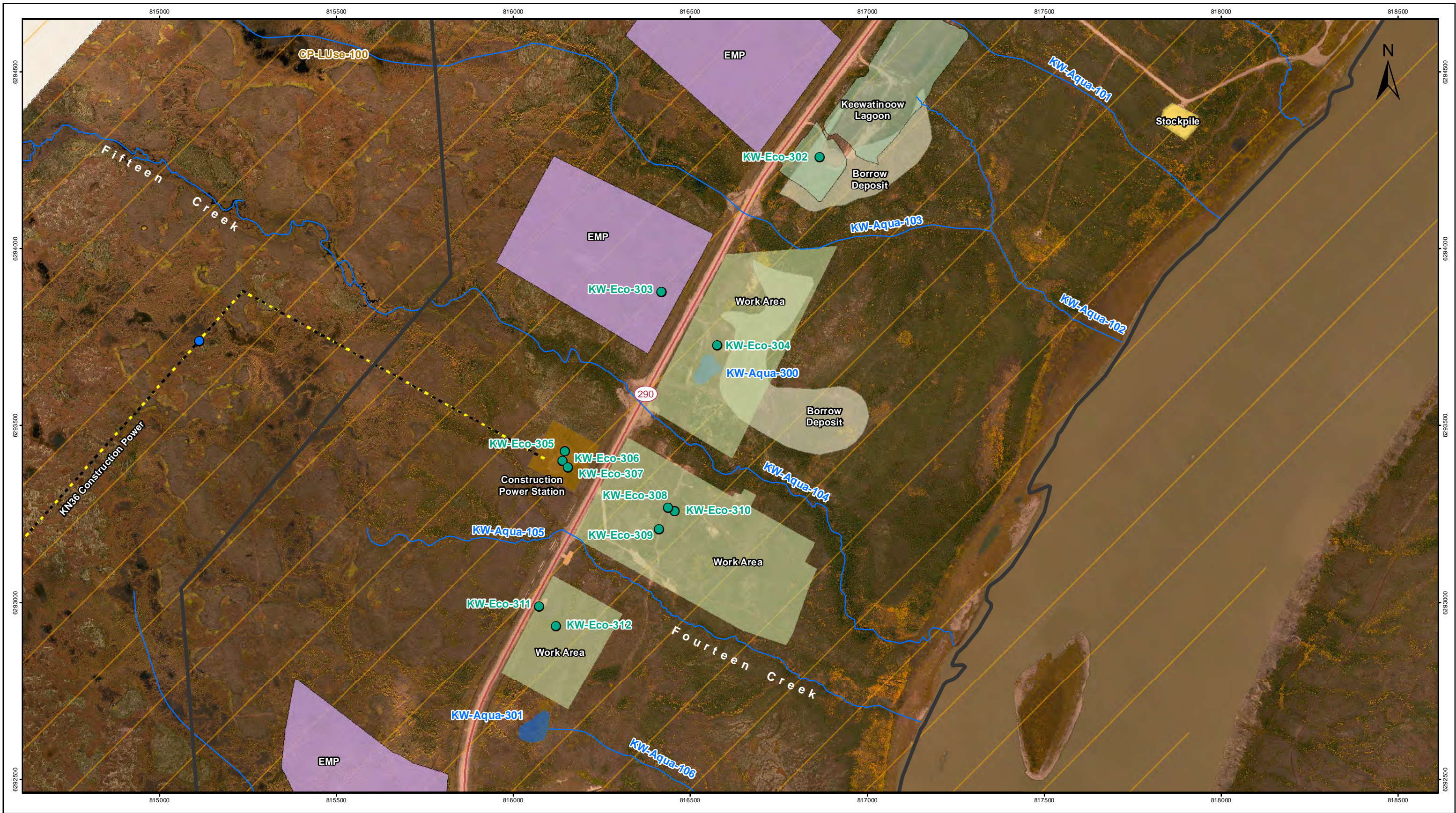
Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-100	Unnamed Tributary of Nelson River	-	-	N/A	N/A	N/A	N/A
KW	KW-Aqua-101	Unnamed Tributary of Nelson River	-	-	N/A	N/A	N/A	N/A

Potential Effects:

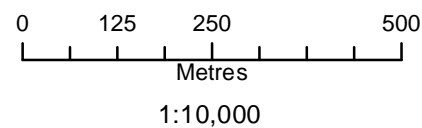
Increased erosion & sedimentation of streams; damage to stream banks; loss of riparian vegetation; fish habitat disturbances and impeded fish movement; rutting of floodplain.

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 vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation 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



Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: October 24, 2013



Land Base

- Provincial Highways
- Provincial Roads
- Watercourse
- Waterbodies

Project Infrastructure

- BPIII Final Preferred Route
- Keewatinoo Converter Station
- Ground Electrode Line
- Construction Power Line
- Ground Electrode
- Work Area Zone

- Manitoba Hydro & Contractor Work Area
- Borrow Deposits
- Excavated Material Placement Area
- Access Road Security Gatehouse

ESS Legend

- Ecosystem**
 - Species of Concern
- Water**
 - Water Crossing
- Water**
 - Water Crossing
- Water**
 - Water Crossing
- Land Use**
 - Churchill WMA

Bipole III Transmission Project Construction Environmental Protection Plan Keewatinooow C.S. and Infrastructure and Ground Electrode Site Environmentally Sensitive Site Locations Map 2

MAP NUMBER : 2

ESS Group : Conservation

Sec ID	ESS ID	ESS Name	Location	Easting	Northing	UTM Zone
CP	CP-LUse-100	Churchill Wildlife Management Area	Entire Extent of Map 2	-	-	14N

Potential Effects:

CP-LUse-100: *Within the Churchill Wildlife Management Area*

Specific Mitigation:

- Must not place food for the purpose of attracting, feeding or holding polar bears
- All project staff must record all polar bears encountered/observed on a daily basis, any observations of polar bears or polar bear tracks must be reported to the MH Site Environmental Officer or MH Environmental Inspector
- All garbage must be stored in bear proof containers or within electric fencing and removed from Wildlife Management Area
- Clearing within the ROW will be kept to a minimum and with non -non-hazard trees removed. Any trees that are cleared must be cut, piled and burned under safe conditions
- Carry out construction activities on well frozen ground in wetlands

ESS Group : Species of Concern

Sec ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
KW	KW-Eco-302	Species of Concern (plant)	816418	6293878	14N
KW	KW-Eco-303	Species of Concern (plant)	816418	6293878	14N
KW	KW-Eco-304	Species of Concern (plant)	816575	6293727	14N
KW	KW-Eco-305	Species of Concern (plant)	816146	6293427	14N
KW	KW-Eco-306	Species of Concern (plant)	816139	6293400	14N
KW	KW-Eco-307	Species of Concern (plant)	816153	6293382	14N
KW	KW-Eco-308	Species of Concern (plant)	816437	6293267	14N
KW	KW-Eco-309	Species of Concern (plant)	816411	6293207	14N
KW	KW-Eco-310	Species of Concern (plant)	816455	6293258	14N
KW	KW-Eco-311	Species of Concern (plant)	816073	6292988	14N
KW	KW-Eco-312	Species of Concern (plant)	816120	6292933	14N

Potential Effects:

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

Specific Mitigation:

- Non-mitigable due to complete removal of all vegetation cover for site.

ESS Group : Water Crossing

Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-101	Unnamed Tributary of Nelson River	-	-	N/A	N/A	N/A	N/A
KW	KW-Aqua-102	Unnamed Tributary of Nelson River	-	-	N/A	N/A	N/A	N/A

Potential Effects:

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 vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation 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 : Water Crossing

Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-103	Unnamed Tributary of Nelson River	-	-	N/A	N/A	N/A	N/A

Potential Effects:

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:

- 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 vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation Clearance Requirements.
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing

ESS Group : Wetland

Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-300	Unnamed wetland	-	-	N/A	N/A	N/A	N/A
KW	KW-Aqua-301	Unnamed wetland	-	-	N/A	N/A	N/A	N/A

Potential Effects:

Loss of riparian vegetation, rutting, altered surface water flows.

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods within buffer
- The application of herbicides is prohibited within buffer

ESS Group : Water Crossing

Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-104	Fifteen Creek	-	-	N/A	N/A	N/A	N/A

Potential Effects:

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 vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation 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 : Water Crossing

Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-105	Fourteen Creek	-	-	N/A	N/A	Marginal	Low

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 vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation 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

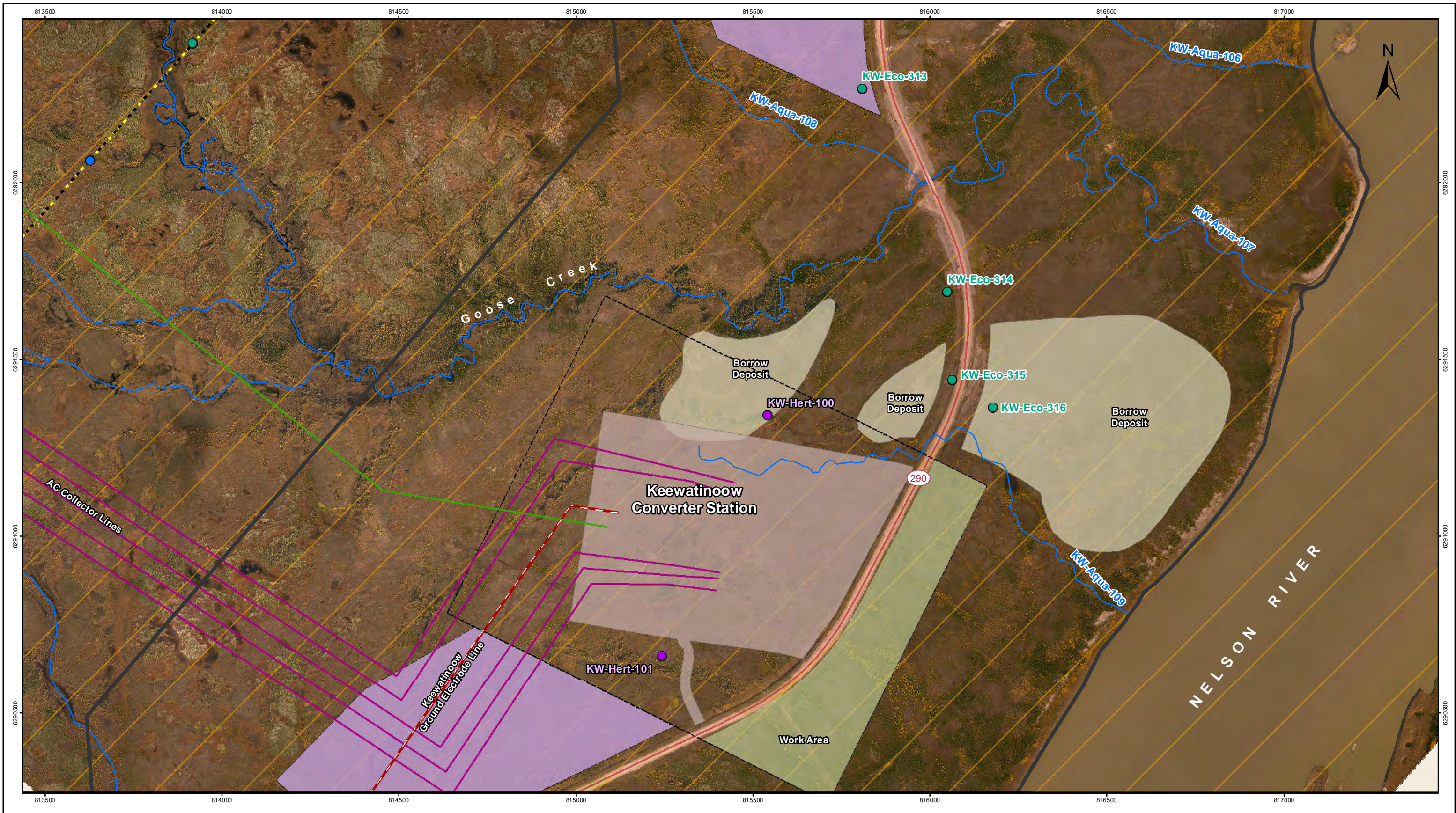
Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-106	Unnamed Tributary of Nelson River	-	-	N/A	N/A	Marginal	Low

Potential Effects:

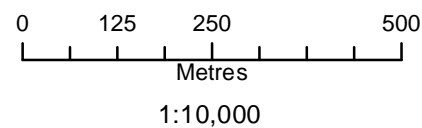
Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; damage to stream banks; loss of riparian vegetation; rutting of floodplain

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 vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation Clearance Requirements
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing



Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: October 24, 2013



Land Base

- Provincial Highways
- Provincial Roads
- Watercourse
- Waterbodies

Project Infrastructure

- BPIII Final Preferred Route
- Keewatinooow Converter Station
- Ground Electrode Line
- Construction Power Line
- Ground Electrode
- Work Area Zone

- Manitoba Hydro & Contractor Work Area
- Borrow Deposits
- Excavated Material Placement Area
- Access Road Security Gatehouse

ESS Legend

- | | |
|--------------------|-----------------|
| Ecosystem | Water |
| Species of Concern | Water Crossing |
| Heritage | Land Use |
| Archaeological | Churchill WMA |
| Water | |
| Water Crossing | |

Bipole III Transmission Project
Construction Environmental Protection Plan
Keewatinooow C.S. and Infrastructure
and Ground Electrode Site
Environmentally Sensitive Site Locations
Map 3

MAP NUMBER : 3

ESS Group : Conservation

Sec ID	ESS ID	ESS Name	Location	Easting	Northing	UTM Zone
CP	CP-LUse-100	Churchill Wildlife Management Area	Entire Extent of Map 3	-	-	14N

Potential Effects:

Within the Churchill Wildlife Management Area

Specific Mitigation:

- Must not place food for the purpose of attracting, feeding or holding polar bears
- All project staff must record all polar bears encountered/observed on a daily basis, any observations of polar bears or polar bear tracks must be reported to the MH Site Environmental Officer or MH Environmental Inspector
- All garbage must be stored in bear proof containers or within electric fencing and removed from Wildlife Management Area
- Clearing within the ROW will be kept to a minimum and with non -non-hazard trees removed. Any trees that are cleared must be cut, piled and burned under safe conditions
- Carry out construction activities on well frozen ground in wetlands

ESS Group : Archaeological

Sec ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
KW	KW-Hert-100	Registered Archaeological Site	815541	6291342	14N
KW	KW-Hert-101	Registered Archaeological Site	815242	6290660	14N

Potential Effects:

Potential disturbance to Heritage Resource

Specific Mitigation:

- Permanent fences will be established to protect the site
- 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

ESS Group : Species of Concern

Sec ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
KW	KW-Eco-313	Species of Concern (plant)	815808	6292265	14N
KW	KW-Eco-314	Species of Concern (plant)	816050	6291691	14N
KW	KW-Eco-315	Species of Concern (plant)	816062	6291441	14N
KW	KW-Eco-316	Species of Concern (plant)	816178	6291364	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 hand or other low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible

ESS Group : Water Crossing

Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-106	Unnamed Tributary of Nelson River	-	-	N/A	N/A	Marginal	Low

Potential Effects:

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

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 vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation Clearance Requirements
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing

ESS Group : Water Crossing

Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-107	Goose Creek	-	-	N/A	N/A	Important	Moderate

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 vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation 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 ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-108	Unnamed Tributary of Goose Creek	-	-	N/A	N/A	Important	Moderate

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 vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation 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

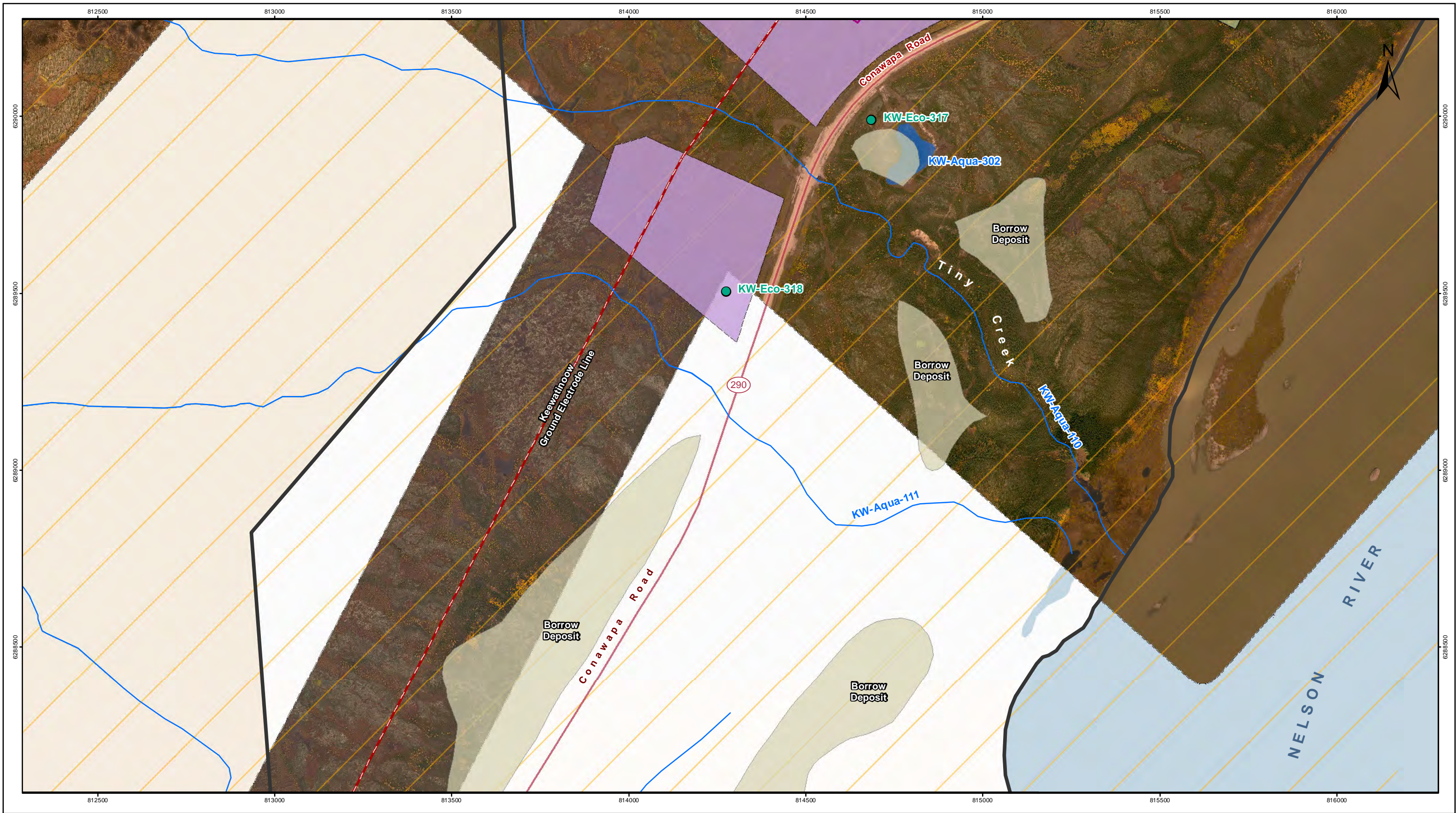
Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-109	Unnamed Tributary of Nelson River	-	-	N/A	N/A	Marginal	Low

Potential Effects:

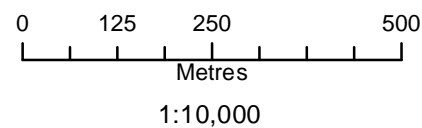
Infilling of fish habitat; Increased erosion and sedimentation of streams from construction of station

Specific Mitigation:

- Instream work will be conducted during favourable weather conditions
 - All instream construction activities will be conducted in isolation from flowing water using a temporary diversion if necessary
 - Exitsing local drainage will be maintained subsequent to in-filling
 - Flow to downstream areas will be maintained at all times while diversions are in place
-
- Turbid water generated from the isolated work will be pumped away from the watercourse to a vegetated area, filter fabric or other acceptable area that will provide filtration and/or settling time prior to entering watercourses



Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: October 24, 2013



Land Base

- Provincial Highways
- Provincial Roads
- Watercourse
- Waterbodies

Project Infrastructure

- BPIII Final Preferred Route
- Keewatinoow Converter Station
- Ground Electrode Line
- Construction Power Line
- Ground Electrode
- Work Area Zone

- Manitoba Hydro & Contractor Work Area
- Borrow Deposits
- Excavated Material Placement Area
- Access Road Security Gatehouse

ESS Legend

Ecosystem

- Species of Concern

Water

- Water Crossing

Water

- Water Crossing

Land Use

- Churchill WMA

Bipole III Transmission Project
Construction Environmental Protection Plan
Keewatinoow C.S. and Infrastructure
and Ground Electrode Site
Environmentally Sensitive Site Locations
Map 4

MAP NUMBER : 4

ESS Group : Conservation

Sec ID	ESS ID	ESS Name	Location	Easting	Northing	UTM Zone
CP	CP-LUse-100	Churchill Wildlife Management Area	Entire Extent of Map 4	-	-	14N

Potential Effects:

CP-LUse-100: *Within the Churchill Wildlife Management Area*

Specific Mitigation:

- Must not place food for the purpose of attracting, feeding or holding polar bears
- All project staff must record all polar bears encountered/observed on a daily basis, any observations of polar bears or polar bear tracks must be reported to the MH Site Environmental Officer or MH Environmental Inspector
- All garbage must be stored in bear proof containers or within electric fencing and removed from Wildlife Management Area
- Clearing within the ROW will be kept to a minimum and with non -non-hazard trees removed. Any trees that are cleared must be cut, piled and burned under safe conditions
- Carry out construction activities on well frozen ground in wetlands

ESS Group : Species of Concern

Sec ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
KW	KW-Eco-317	Species of Concern (plant)	814684	6289990	14N
KW	KW-Eco-318	Species of Concern (plant)	814276	6289506	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 hand or other low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible

ESS Group : Wetland

Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-302	Unnamed wetland	-	-	N/A	N/A	N/A	N/A

Potential Effects:

Loss of riparian vegetation, rutting, altered surface water flows, contamination.

Specific Mitigation:

- Carry out construction activities on frozen ground to minimize surface damage, rutting and erosion
- Provide 30 m vegetated (shrub and herbaceous) buffer around site
- Remove trees by low-disturbance methods within buffer
- The application of herbicides is prohibited within buffer

ESS Group : Water Crossing

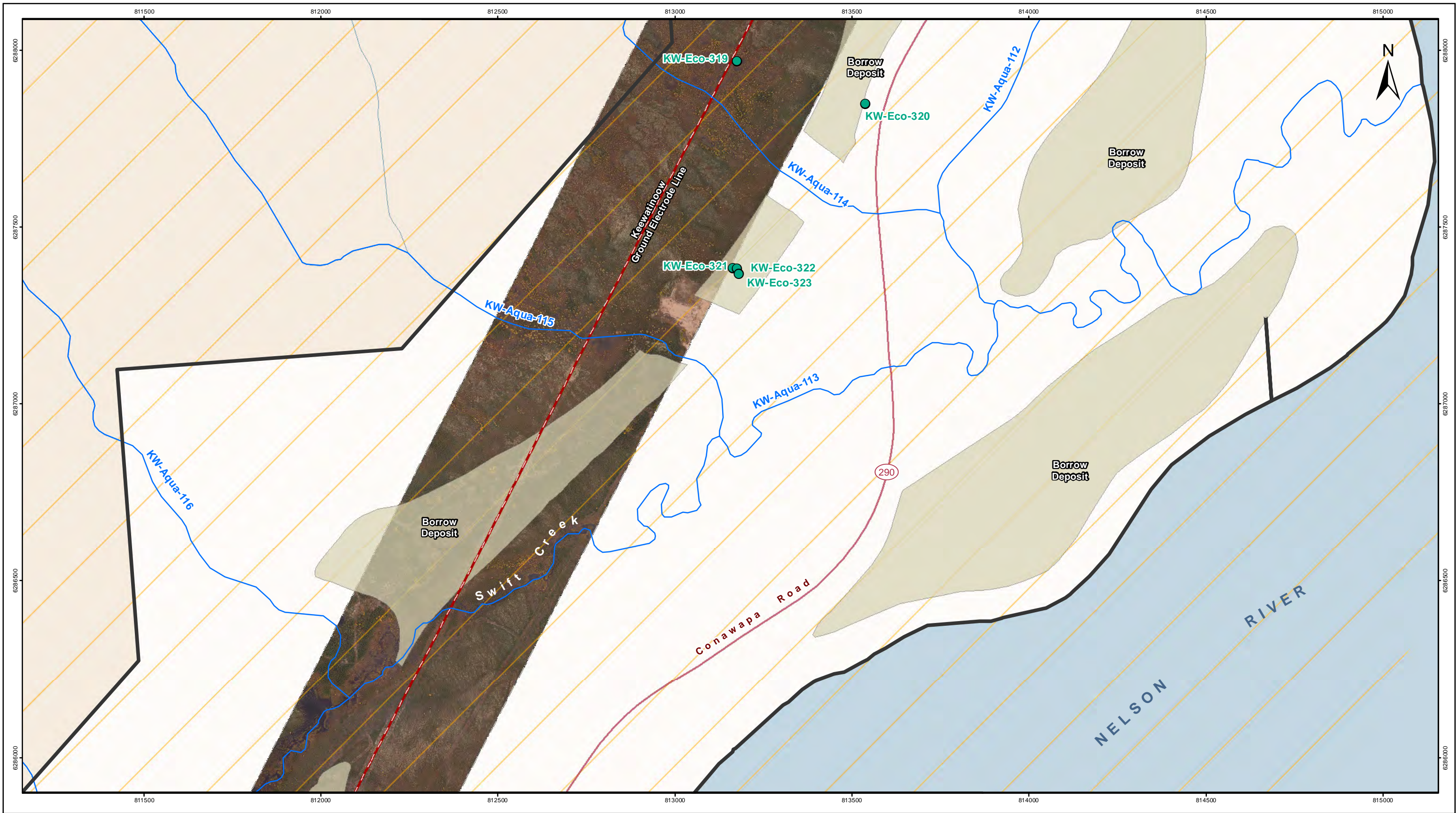
Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-110	Tiny Creek	-	-	N/A	N/A	Important	Moderate
KW	KW-Aqua-111	Unnamed Tributary of Nelson River	-	-	N/A	N/A	Marginal	Moderate

Potential Effects:

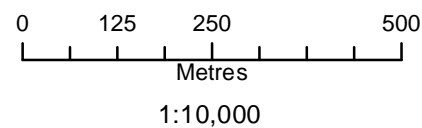
Habitat loss and contamination from structure foundations & installations; increased erosion & sedimentation of streams; Damage to stream banks; Loss of riparian vegetation; Fish habitat disturbances and impeded fish movement; Rutting of floodplain

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 vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation 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



Coordinate System: UTM Zone 14N NAD83
Data Source: MB Hydro, ProvMB, NRCAN
Date Created: October 24, 2013



Land Base

- Provincial Highways
- Provincial Roads
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- Waterbodies

Project Infrastructure

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ESS Legend

- Ecosystem**
 - Species of Concern
- Water**
 - Water Crossing
- Land Use**
 - Churchill WMA

Bipole III Transmission Project Construction Environmental Protection Plan Keewatinoow C.S. and Infrastructure and Ground Electrode Site Environmentally Sensitive Site Locations

Map 5

MAP NUMBER : 5

ESS Group : Conservation

Sec ID	ESS ID	ESS Name	Location	Easting	Northing	UTM Zone
CP	CP-LUse-100	Churchill Wildlife Management Area	Entire Extent of Map 5	-	-	14N

Potential Effects:

CP-LUse-100: *Within the Churchill Wildlife Management Area*

Specific Mitigation:

- Must not place food for the purpose of attracting, feeding or holding polar bears
- All project staff must record all polar bears encountered/observed on a daily basis, any observations of polar bears or polar bear tracks must be reported to the MH Site Environmental Officer or MH Environmental Inspector
- All garbage must be stored in bear proof containers or within electric fencing and removed from Wildlife Management Area
- Clearing within the ROW will be kept to a minimum and with non -non-hazard trees removed. Any trees that are cleared must be cut, piled and burned under safe conditions
- Carry out construction activities on well frozen ground in wetlands

ESS Group : Water Crossing

Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-112	Unnamed Tributary of Swift Creek	-	-	N/A	N/A	N/A	N/A

Potential Effects:

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

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 vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation Clearance Requirements
- 7m no machine zone will restrict equipment in close proximity to the waterbody except at the trail crossing

ESS Group : Water Crossing

Sec ID	ESS ID	ESS Name	Easting	Northing	Channel Width (m)	Wet Width (m)	Fish Habitat Class	Habitat Sensitivity
KW	KW-Aqua-113	Swift Creek	-	-	N/A	N/A	Important	Moderate
KW	KW-Aqua-114	Unnamed Tributary of Swift Creek	-	-	N/A	N/A	Marginal	Moderate
KW	KW-Aqua-115	Unnamed Swift Creek Tributary	-	-	N/A	N/A	Marginal	Moderate

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 vegetation will be maintained along with trees that do not violate Manitoba Hydro Vegetation 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 : Species of Concern

Sec ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
KW	KW-Eco-319	Species of Concern (plant)	813174	6287968	14N
KW	KW-Eco-320	Species of Concern (plant)	813538	6287848	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 hand or other low-disturbance methods
- Confine vehicle traffic to established trails to the extent possible

ESS Group : Species of Concern

Sec ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
KW	KW-Eco-321	Species of Concern (plant)	813163	6287384	14N
KW	KW-Eco-322	Species of Concern (plant)	813174	6287382	14N
KW	KW-Eco-323	Species of Concern (plant)	813181	6287367	14N

Potential Effects:

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

Specific Mitigation:

- Non-mitigable due to complete removal of all vegetation cover for site.