

### MAP NUMBER : 117

#### **ESS Group :** Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S02	N3-Soils-105	Permafrost	Site: 27 to 28	E-481729 N-6051522	E-481605 N-6051462	14N	137m
N3-S02	N3-Soils-106	Permafrost	Site: 29 to 30	E-481146 N-6051240	E-479741 N-6050560	14N	1561m
N3-S03	N3-Soils-107	Permafrost	Site: 33 to 34	E-478526 N-6050117	E-477212 N-6049669	14N	1388m

#### **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 ٠
- Avoid organic soils containing permafrost to the extent possible ٠
- Maintain shrub and herbaceous vegetation to the extent possible ٠
- Remove trees by low-disturbance methods ٠
- Confine vehicle traffic to established trails to the extent possible ٠
- Implement erosion protection before commencing construction in accordance with Erosion/Sediment Control Plan

#### **ESS Group :** Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S02	N3-Aqua- 200	Aquifers Vulnerable to contamination	Site: 21 to 22	E-487455 N-6054295	E-479552 N-6050468	14N	8780m
N3-S03	N3-Aqua- 200	Aquifers Vulnerable to contamination	Site: 31 to 32	E-479552 N-6050468	E-460122 N-6044246	14N	20403m

### **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-S02	N3-Aqua- 101	Unnamed Tributary into Mitishto River	481627	6051473	14N	9m	9m	Marginal	Moderate
N3-S03	N3-Aqua- 102	Mitishto River	479219	479219	14N	17m	17m	Important	High
N3-S03	N3-Aqua- 103	Mitishto River	479131	6050324	14N	22m	22m	Marginal	Moderate
N3-S03	N3-Aqua- 104	Unnamed Tributary into Mitishto River	478723	6050185	14N	N/A	N/A	Marginal	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.
- Bridges and Snow Fills, and Overhead Line Construction
- No instream works or fording from April 15 July 15

Adhere to Department of Fisheries and Oceans (DFO) Operational Statements for Temporary Stream Crossings, Ice

## MAP NUMBER : 117 cont'd

# ESS Group : Archaeological

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N3-S03	N3-Hert-100	Mitishto River	479227	6050357	14N
N3-S03	N3-Hert-101	Registered Archaeological Site (The Les Phillips (Sky Sailor) Site)	479112	6050321	14N
N3-S03	N3-Hert-102	Mitishto River	479138	6050309	14N

## **Potential Effects:**

Potential disturbance to Heritage Resources

### 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 : Birds and Habitat

Sec-Seg ID	ESS ID	ESS Name	Easting	Northing	UTM Zone
N3-S03	N3-Wild-101	Waterfowl Sensitivity Area	479228	6050336	14N
N3-S03	N3-Wild-102	Waterfowl Sensitivity Area	479138	6050309	14N

### **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 setback during 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
- Monitor bird density and mortality/injury in accordance with Biophysical Monitoring Plan and adjust mitigation accordingly

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### MAP NUMBER : 118

#### ESS Group : Groundwater

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S03	N3-Aqua- 200	Aquifers Vulnerable to contamination	Site: 31 to 32	E-479552 N-6050468	E-460122 N-6044246	14N	20403m

# **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-S03	N3- Aqua- 105	Unnamed Tributary into Mitishto River	476179	6049316	14N	6m	N/A	Marginal	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 ٠
- Identify and flag buffer areas prior to start of work ٠
- Riparian Buffers shall be a minimum of 30m and increase in size based on slope of land entering waterway. Within ٠ 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 ٠

#### ESS Group : Permafrost

Sec-Seg ID	ESS ID	ESS Name	Location	Start	Stop	UTM Zone	Distance
N3-S03	N3-Soils-107	Permafrost	Site: 33 to 34	E-478526 N-6050117	E-477212 N-6049669	14N	1388m
N3-S03	N3-Soils-107	Permafrost	Site: 35 to 36	E-477123 N-6049638	E-477043 N-6049611	14N	84m
N3-S03	N3-Soils-107	Permafrost	Site: 37 to 38	E-476118 N-6049295	E-475909 N-6049226	14N	221m
N3-S03	N3-Soils-107	Permafrost	Site: 39 to 40	E-475601 N-6049129	E-475531 N-6049106	14N	74m
N3-S03	N3-Soils-107	Permafrost	Site: 41 to 42	E-475320 N-6049040	E-474214 N-6048691	14N	1159m

### **Potential Effects:**

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### **Specific Mitigation:**

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- 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