

Watercourse Crossing	Proposed Crossing Type	Stream Type ¹	Field Check Required ²	Habitat Conditions ³	Fish Habitat Suitability ⁴
1	Culvert or short bridge	Ephemeral	✓	Ephemeral, no defined channel exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
2	Culvert	Ephemeral, very small drainage	✓	Straight drainage channel. Low flow observed with dense willow shrub.	Provision of food and nutrients; non-fish bearing.
3	Bridge	Perennial, small water course	✓	Dense cover and gravels observed within riffle-pool habitat.	Large upstream watershed; good potential for migratory / spawning / rearing habitat.
4	Bridge	Perennial	✓	Silt bed materials.	Provisions of migratory and rearing habitat; moderate spawning habitat.
5	Culvert	Perennial, very small headwater lakes	✓	Irregular meandering; low flow.	Provisions of limited migratory and rearing habitat.
5a	Culvert		✓		
6	Culvert	Ephemeral, short runoff channel	✓	Straight meltwater runoff channel on hill side.	Provision of food and nutrients; non-fish bearing.
7	Culvert or short bridge	Ephemeral, short runoff channel	✓	Straight channel, low flow. Flow occurring over moss and grasses within willow drainage.	Provision of food and nutrients; non-fish bearing.
8	Culvert or short bridge	Perennial	✓	Extensive large woody debris in riffle-pool habitat. Numerous bank failures.	Provision of good migratory and rearing habitat with limited spawning habitat due to large amount of fines.
9	Culvert or short bridge	Ephemeral	✓	No defined channel exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
10	Culvert	Ephemeral, no headwater lakes	✓	Straight drainage in swamp with multiple drainage pathways. No connection to any lake.	Likely no potential for migratory or rearing habitat downstream.
11	Culvert	Ephemeral, no headwater lakes	✓	Low flowing drainage in very thick shrub.	Provision of food and nutrients; non-fish bearing.
12	Culvert or short bridge	Perennial, small, flowing channel	✓	Numerous beaver dams; wide littoral area of upstream lake; low flow downstream.	Provision of limited migratory and spawning habitat due to obstructions and high fines; good rearing habitat.
12a	Culvert		✓		
12b	Culvert		✓		
13	Culvert or short bridge	Ephemeral	✓	Open swamp area; no channel observed; intermittent water flowing over land.	Provision of food and nutrients; non-fish bearing.
13a	Bridge	Perennial, short channel between lakes	✓	Irregular meandering; short, wide migration channel between lakes.	Captured several stickleback; provision of excellent migratory, rearing and spawning habitat.

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14	Culvert	Ephemeral, very short drainage channel draining small headwater lake	✓	Wide, low flow, connecting channel.	Provision of limited migratory and rearing habitat.
15	Culvert or short bridge	Ephemeral, drains small upstream headwater lake	✓	Very wide, straight drainage, sourced from headwater lake.	Provision of food and nutrients; non-fish bearing.
16	Culvert	Ephemeral, drains small upstream headwater lake	✓	Drainage between small lakes; in-stream vegetation.	Provision of food and nutrients; limited migratory habitat.
17	Culvert	Ephemeral, very small drainage	✓	Iron rich with lots of organics.	Provision of food and nutrients; non-fish bearing.
17a	Culvert or short bridge		✓		
18	Culvert	Perennial, tributary to Jimmy Lake	✓	Major tributary to Jimmy Lake. Heavy willow cover may reduce light penetration.	Provision of good migratory, spawning and rearing habitat.
18a	Culvert		✓		
19	Culvert or short bridge	Ephemeral	✓	Ephemeral, no defined channel exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
20	Culvert	Intermittent	✓	Intermittent channel with isolated pockets of standing water exists at this location .	Nil for small bodied forage fish species. Nil for large bodied fish species.
20a	Culvert		✓		
21	Culvert or short bridge		✓	Willows in creek, on banks and on floodplain.	
21a	Culvert	Ephemeral	✓	No defined channel exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
22a	Culvert or short bridge	Perennial	✓	Irregular meandering channel moderate confinement, shallow flat habitat. Banks comprised of fines. Bed comprised of unconsolidated organic material. Grass, forbs, and shrubs along both banks bordered by open tundra. Banks moderately stable. Flat approach slope, low to moderately stable.	Nil to low for small bodied forage fish species - spawning, rearing and feeding and low for overwintering. Nil to low for large bodied fish species - spawning, rearing, feeding and nil to low for overwintering (Northern Pike, Burbot, Arctic Grayling and Coregonids).

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22b	Culvert		✓		
23a	Bridge	Perennial	✓	Winding channel moderate confinement, shallow run habitat. Banks comprised of fines. Bed comprised of unconsolidated organic material. Grass, forbs, and shrubs along both banks bordered by open tundra. Banks moderately stable. Flat approach slope, low to moderately stable.	Moderate for small bodied forage fish species - spawning, rearing and feeding and low for overwintering. Moderate for large bodied fish species (northern pike) -spawning, rearing, feeding and low spawning, rearing and feeding for Arctic Grayling and nil to low for overwintering (northern pike, Arctic Grayling).
24a	Culvert or short bridge	Perennial	✓	Irregular meandering channel moderate confinement, shallow run habitat. Banks comprised of fines. Bed comprised of unconsolidated organic material. Grass, forbs, and shrubs along both banks bordered by open tundra. Banks moderately stable. Flat approach slope, low to moderately stable.	Low for small bodied forage fish species - spawning, rearing and feeding and nil to low for overwintering. Low for large bodied fish species (Northern Pike) rearing, feeding and spawning. Nil to low suitability for Arctic Grayling and Coregonid species spawning and rearing. Nil to low for overwintering.
24b	Culvert	Ephemeral, very small drainage	✓	Wet; no flow.	
25	Culvert or short bridge	Perennial	✓	Irregular meandering channel moderate confinement, shallow run habitat. Banks comprised of fines. Bed comprised of unconsolidated organic material. Grass, forbs, and shrubs along both banks bordered by open tundra. Banks moderately stable. Flat approach slope, low to moderately stable.	Nil to low for small bodied forage fish species - spawning, rearing and feeding and low for overwintering. Nil to low for large bodied fish species. Nil for overwintering.
26	Culvert	Ephemeral	✓	Ephemeral, no defined channel exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
27a	Culvert or short bridge	Intermittent	✓	Intermittent channel with isolated pockets of water exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species
27b	Culvert	Ephemeral	✓	Ephemeral, no defined channel exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
27b2	Culvert		✓	Flow observed.	
27c	Culvert		✓	Flow observed.	
28a	Culvert or short bridge	Perennial	✓	Winding channel moderate confinement, shallow run habitat. Banks comprised of fines.	Low to moderate for small bodied forage fish species -spawning, rearing and feeding and nil

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				Bed comprised of unconsolidated organic material. Grass, forbs, and shrubs along both banks bordered by open tundra. Banks moderately stable. Flat approach slope, low to moderately stable.	to low for overwintering. Nil to low for large bodied fish species (Northern Pike, Arctic Grayling) -spawning, rearing, feeding and nil to low overwintering.
29	Culvert	Ephemeral	✓	Ephemeral, no defined channel exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
29a	Culvert or short bridge	Perennial	✓	Irregular meandering channel moderate confinement, shallow flat habitat. Banks comprised of fines. Bed comprised of unconsolidated organic material. Grass, forbs, and shrubs along both banks bordered by open tundra. Banks moderately stable. Flat approach slope, low to moderately stable.	Nil to low for small bodied forage fish species - spawning, rearing and feeding and nil to low for overwintering. Nil for large bodied fish species.
30a	Bridge	Perennial	✓	Irregular meandering channel moderate confinement, shallow run habitat. Banks comprised of fines. Bed comprised of cobble, gravels and fines. Grass, forbs, and shrubs along both banks bordered by open tundra. Banks moderately stable. Flat approach slope, low to moderately stable.	High for small bodied forage fish species - spawning, rearing and feeding and nil to low for overwintering. Moderate to high for large bodied fish species (Northern Pike, Arctic Grayling) -spawning, rearing, feeding and nil to low for overwintering.
31	Bridge	Perennial	✓	Irregular meandering channel moderate confinement, shallow run habitat. Banks comprised of fines. Bed comprised of cobble, gravels and fines. Grass, forbs, and shrubs along both banks bordered by open tundra. Banks moderately stable. Flat approach slope, low to moderately stable.	High for small bodied forage fish species - spawning, rearing and feeding and nil to low for overwintering. Moderate to High for large bodied fish species (Northern Pike, Arctic Grayling) -spawning, rearing, feeding and nil to low overwintering.
33	Culvert or short bridge	Perennial, small stream	✓	Sluggish flow, silt substrate, willow cover. Tributary to Zed Lake.	Known fish habitat (fish observed).
33a	Culvert	Intermittent	✓	Intermittent channel with isolated pockets of water exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species. Use of the channel by fish is limited to periods in spring, early summer and fall when flowing water is present.
33b	Culvert or short bridge	Intermittent	✓	Intermittent channel with isolated pockets of water exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species. Use of the channel by fish is limited to periods in spring, early summer and fall when flowing

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					water is present.
34a	Culvert	Ephemeral	✓	Ephemeral, no defined channel exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
34a2	Culvert		✓		
34b	Culvert	Intermittent	✓	Intermittent channel with isolated pockets of water exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
34c	Culvert		✓		
34e	Culvert	Intermittent	✓	Intermittent channel with isolated pockets of water exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
35a	Bridge	Perennial	✓	Irregular meandering channel moderate confinement, shallow run habitat. Banks comprised of fines. Bed comprised of gravel and unconsolidated organic material. Grass, forbs, and shrubs along both banks bordered by open tundra. Banks moderately stable. Flat approach slope, low to moderately stable.	High for small bodied forage fish species - spawning, rearing and feeding and nil to low for overwintering. High for large bodied fish species (Northern Pike, Arctic Grayling and Coregonids) - spawning, rearing, feeding and rearing and feeding for Burbot. Nil to low for overwintering.
36a	Culvert	Ephemeral	✓	Apparent historical lake with no channels observed. Intermittent wet areas.	Non-fish bearing.
37	Culvert	Ephemeral, drainage source to lake	✓	Small drainage channel into lake.	Provision of food and nutrients; non-fish bearing.
37a	Culvert	Ephemeral, large, wide drainage	✓	Drainage with multiple channels.	Provision of food and nutrients; non-fish bearing.
38a	Culvert or short bridge	Perennial stream	✓	Wide watercourse connecting two lakes, marshy edges; low flow.	Provisions of migratory and rearing habitat; limited spawning habitat due to fines.
39	Bridge	Perennial stream	✓	Riffles, runs and large, deep pools. Connects lake system to Husky Lakes.	Multiple Arctic Grayling and stickleback observed and captures; excellent migratory, spawning and rearing habitat.
39a ⁵	Culvert or short bridge	Perennial, short, wide channel between two lakes	✓	Riffle/run stream with good flow; flows into Husky Lakes.	Multiple Arctic Grayling observed. Excellent riffle-run migratory, spawning and rearing habitat.
39b	Culvert	Ephemeral, drainage to lake	✓	Meltwater drainage to lake.	Provision of food and nutrients; non-fish bearing.
39c	Culvert	Ephemeral drainage	✓	Numerous meltwater drainages; mostly dry but intermittent water; no flow and vegetated	No fish habitat observed.

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				throughout.	
39d	Culvert		✓		
A 1	Culvert or short bridge	Perennial	✓	Straight channel moderate confinement, shallow run habitat. Banks comprised of fines. Bed comprised of unconsolidated organic material. Grass, forbs, and shrubs along both banks bordered by open tundra. Banks moderately stable. Flat approach slope, low to moderately stable.	High for small bodied forage fish species - spawning, rearing and feeding and nil to low for overwintering. Limited suitability for rearing, feeding and spawning for large bodied fish species such as Northern Pike and Burbot. Low habitat suitability for Arctic Grayling and Coregonid spawning and rearing. Nil for overwintering.
A 2	Culvert	Intermittent	✓	Intermittent channel with isolated pockets of water exists at this location.	Moderate for small bodied forage fish species - spawning, rearing and feeding and low for overwintering. Low for large bodied fish species. Spawning, rearing, feeding and nil to low for overwintering (Northern Pike, Arctic Grayling).
A2a	Culvert or short bridge		✓		
A 3	Bridge	Perennial	✓	Meandering channel with low confinement, shallow flat habitat. Banks comprised of fines. Bed comprised of unconsolidated organic material. Grass, forbs, and shrubs along both banks bordered by open tundra. Banks moderately stable. Flat approach slope, low to moderately stable.	Moderate for small bodied forage fish species - spawning, rearing and feeding and low for overwintering. Moderate for large bodied fish species (Northern Pike and Burbot) -spawning, rearing, feeding, low spawning, rearing and feeding for Arctic Grayling and Coregonids and nil to low for overwintering (Northern Pike, Burbot, Arctic Grayling and Coregonids).
A 6	Culvert	Intermittent	✓	Intermittent channel with isolated pockets of water exists at this location.	Nil to low for small bodied forage fish species - spawning, rearing and feeding and nil to low for overwintering. Nil to low for large bodied fish species - spawning, rearing, and nil to low for overwintering (Northern Pike, Arctic Grayling).
A 7	Culvert	Ephemeral	✓	Ephemeral, no defined channel exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
A 8	Culvert	Ephemeral	✓	Ephemeral, no defined channel exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.

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A 9	Culvert	Perennial	✓	Irregular meandering channel moderate confinement, shallow run habitat. Banks comprised of fines. Bed comprised of unconsolidated organic material. Grass, forbs, and shrubs along both banks bordered by open tundra. Banks moderately stable. Flat approach slope, low to moderately stable.	Moderate for small bodied forage fish species - spawning, rearing and feeding and nil to low for overwintering. Low to moderate for large bodied fish species (Northern Pike and Burbot), feeding, rearing and spawning. Nil for Arctic Grayling and Coregonid spawning. Nil for overwintering (large bodied fish species).
A 10	Culvert	Intermittent	✓	Intermittent channel with isolated pockets of water exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
A 11	Culvert	Ephemeral	✓	Ephemeral, no defined channel exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
A 12	Culvert or short bridge	Perennial	✓	Irregular meandering channel moderate confinement, shallow run habitat. Banks comprised of fines. Bed comprised of unconsolidated organic material. Grass, forbs, and shrubs along both banks bordered by open tundra. Banks moderately stable. Flat approach slope, low to moderately stable.	High for small bodied forage fish species - spawning, rearing and feeding and nil to low for overwintering. Low to moderate for large bodied fish species for rearing, feeding and spawning (Northern Pike, Burbot). Nil to low for Arctic Grayling and Coregonid spawning and rearing. Nil to low for overwintering (large bodied fish species).
A 13	Culvert	Intermittent	✓	Intermittent channel with isolated pockets of water exists at this location.	Nil for small bodied forage fish species. Nil for large bodied fish species.
Tuk 1	Culvert ⁶	Ephemeral		Small watercourse.	No potential to support fish populations.
Tuk 2	Culvert	Ephemeral		Small watercourse.	No potential to support fish populations.
Tuk 3	Culvert	Ephemeral		Small watercourse.	No potential to support fish populations.
Tuk 4	Culvert	Perennial		Tundra stream. Substrate consisted of fines and organic material. Undisturbed areas overgrown with willow, aquatic grasses and emergent vegetation.	Ninespine stickleback captured during electrofishing. May have the potential to support sportfish populations on at least a seasonal basis, and/or provide suitable habitat for forage species.
Tuk 5	Culvert	Perennial		Tundra stream. Culvert already installed at time of vegetation. Substrate comprised of fines and organic material (observed downstream from culvert. Undisturbed areas overgrown with willow, aquatic grasses and emergent vegetation.	Ninespine stickleback captured during electrofishing in pool downstream of culvert. May have the potential to support sportfish populations on at least a seasonal basis, and/or provide suitable habitat for forage species.

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Tuk 6	Culvert	Perennial		Tundra stream. Substrate consisted of fines and organic material. Undisturbed areas overgrown with willow, aquatic grasses and emergent vegetation.	Ninespine stickleback, northern pike, broad whitefish and cisco species captured during electrofishing. May have the potential to support sportfish populations on at least a seasonal basis, and/or provide suitable habitat for forage species.
Tuk 7	Culvert	Ephemeral		Small watercourse.	No potential to support fish populations.
Tuk 7b	Culvert	Intermittent		Tundra stream. Culvert already installed at time of vegetation. Substrate comprised of fines and organic material (observed downstream from culvert. Undisturbed areas overgrown with willow, aquatic grasses and emergent vegetation.	Small watercourse that does not provide fish habitat at the crossing location, but may contribute to downstream fish habitat.
Tuk 8	Culvert	Ephemeral		Small watercourse.	No potential to support fish populations.

¹ Determined by different field crews in different years. EBA 2009 and 2010 field surveys yielded in some instances different ("lower") categories. In these instances, the "higher" category provided by IMG-Golder (2011) or Stantec (2012) was chosen. E.g., if EBA determined a watercourse to be ephemeral and IMG-Golder stated is as intermittent – intermittent was chosen in this table.

² As determined by Stantec after 2012 Survey.

³ Assessed by different field crews in different years (fall 2009; spring 2012; fall 2011; spring 2012)

⁴ Assessed by different field crews in different years (fall 2009; spring 2012; fall 2011; spring 2012)

⁵ This crossing was moved – as stated in EBA EIS.

⁶ All culverts for Tuk watercourse crossings exist (and are not proposed).