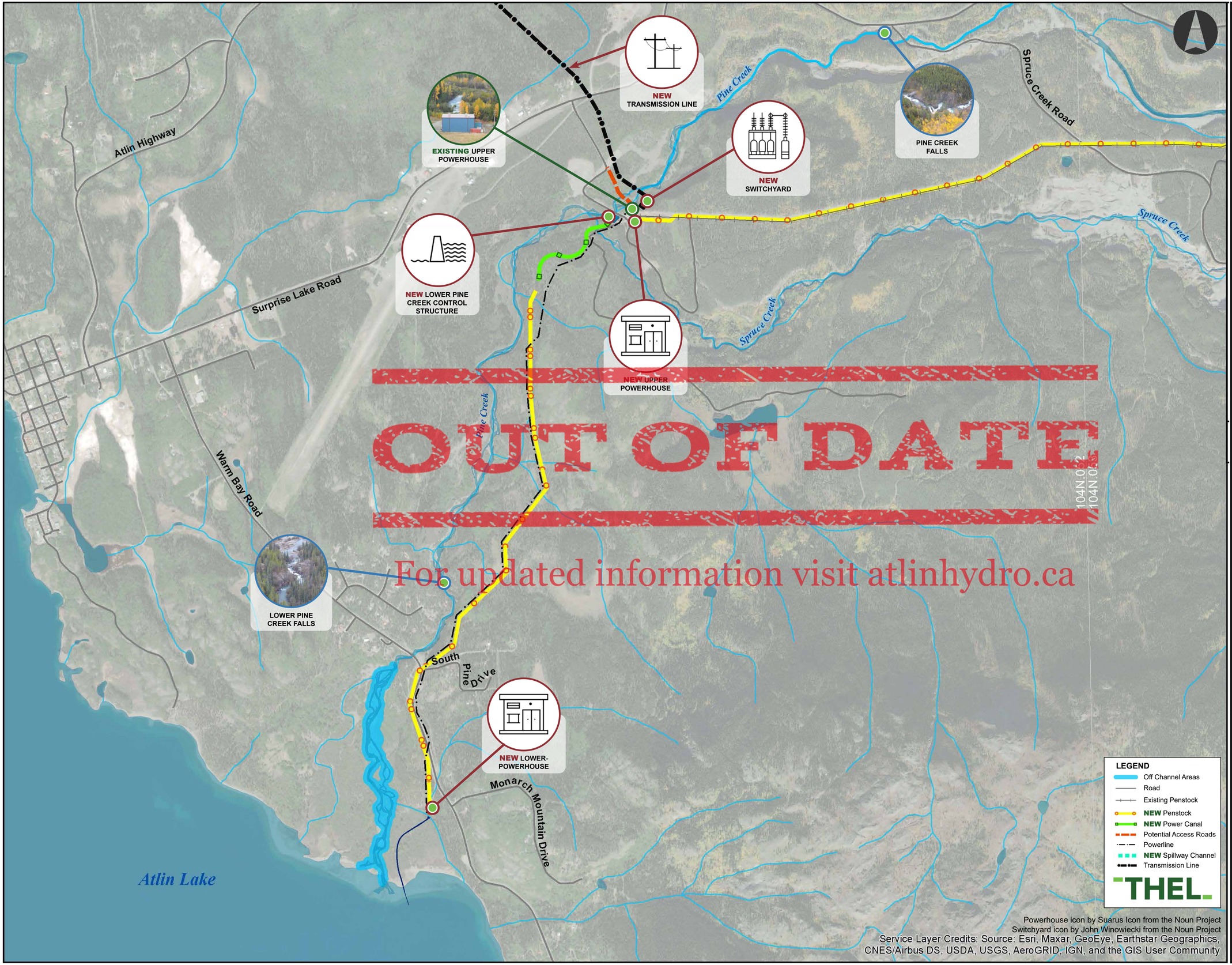


EXISTING INFRASTRUCTURE

EXISTING UPPER POWERHOUSE
The existing facility is owned and operated by Xeilt Ltd. a sister company to THEL. This facility produces 2.1 MW and will continue to function with the addition of the project. Water is currently diverted from upper Pine Creek and conveyed in the existing penstock to the facility. The new penstock will follow the same route as the existing penstock.

NEW INFRASTRUCTURE

NEW LOWER PINE CREEK CONTROL STRUCTURE
This new structure will divert maximum flow of 6.0 m3/s from Pine Creek into the lower penstock and to the lower powerhouse.

NEW SWITCHYARD
This will be a switchyard and substation to take power from both lower and upper powerplants and direct the power into the new transmission line to the Yukon

NEW UPPER POWERHOUSE
The new powerhouse will have an installed capacity of 5.7 MW using a Francis turbine. The building will be added to the existing powerhouse that is part of the existing Xeilt Ltd. hydro facility. Power from the new lower powerhouse will be conveyed using a buried powerline along the same corridor as the lower penstock.

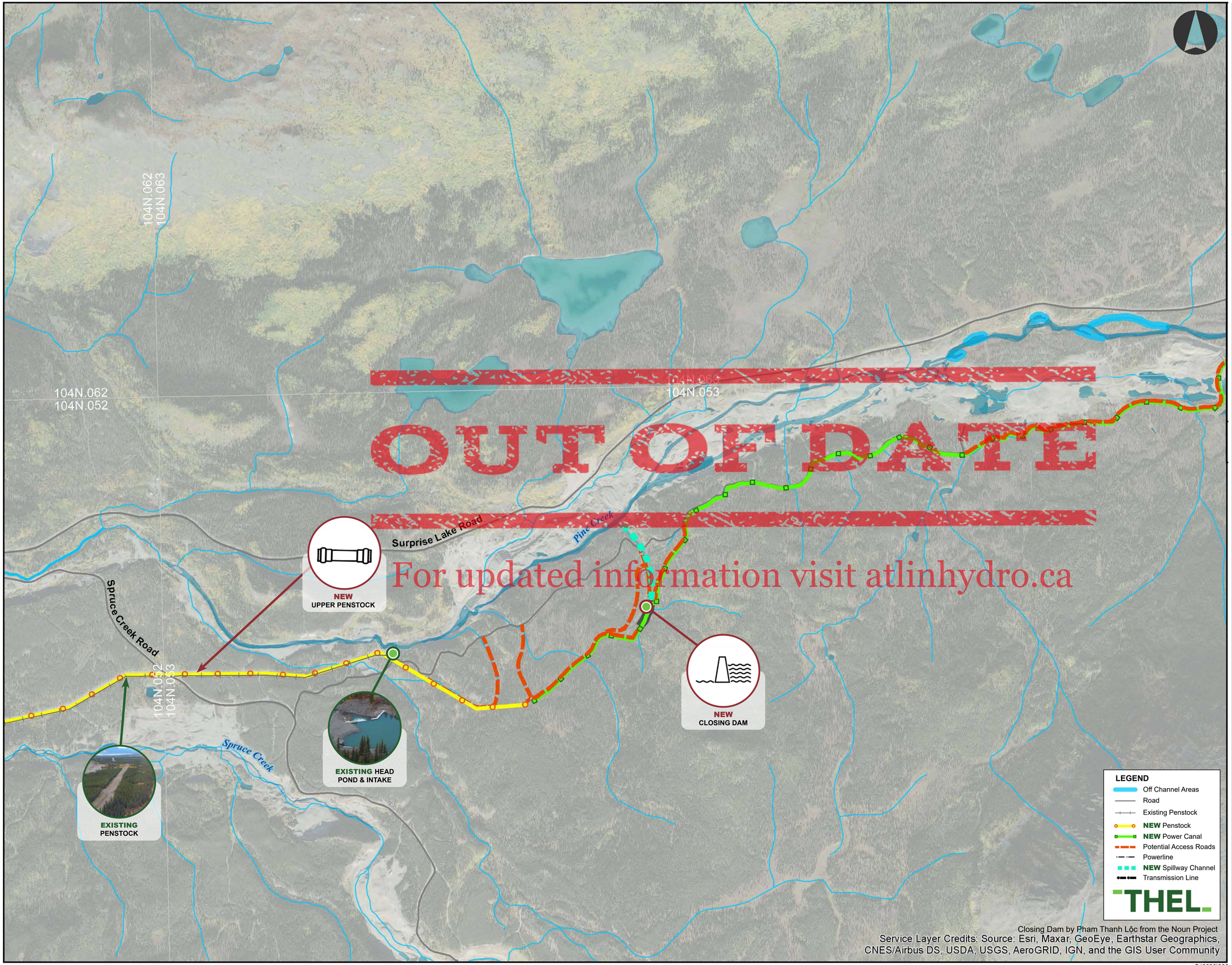
NEW LOWER POWERHOUSE
The lower powerhouse will have an installed capacity of 2.8 MW using a Francis turbine to generate power. The lower powerhouse use water recycled from the upper power plant via the new power canal and lower penstock. The power will be sent to the new switch yard via a buried 25kV powerline that will follow the same route as the lower penstock.

NEW TRANSMISSION LINE
A new 69kV transmission line will convey power from the switchyard to Jakes Corners in Yukon Territory. For most of the route, the line will follow the Atlin Highway right-of-way. A substation will be located at each terminus of the transmission line.

NATURAL AREAS

PINE CREEK FALLS
A natural waterfall on Pine Creek valued locally for its aesthetics. Flows over the falls will be reduced to less than 1 m3/sec, to about 10 – 15% of the mean annual discharge of Pine Creek.

LOWER PINE CREEK FALLS
The flows at this natural waterfall will be reduced to no less than 0.5 – 0.8 m^3/sec. The falls is likely a barrier to fish passage currently and will continue to be with the project.



Closing Dam by Pham Thanh Lộc from the Noun Project

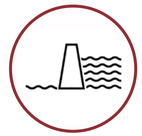
Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

EXISTING INFRASTRUCTURE

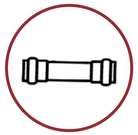
EXISTING HEAD POND AND INTAKE
The headpond on Pine Creek currently diverts flow form Pine Creek into the existing upper penstock. This is part of the Xeilt Ltd. existing facility and will be unchanged by the project.

EXISTING PENSTOCK
The penstock is used for the existing Xeilt Ltd hydro facility and will be unchanged by the project. The new penstock will take water from upper pine creek to the new powerhouse will follow the same route as the existing upper penstock.

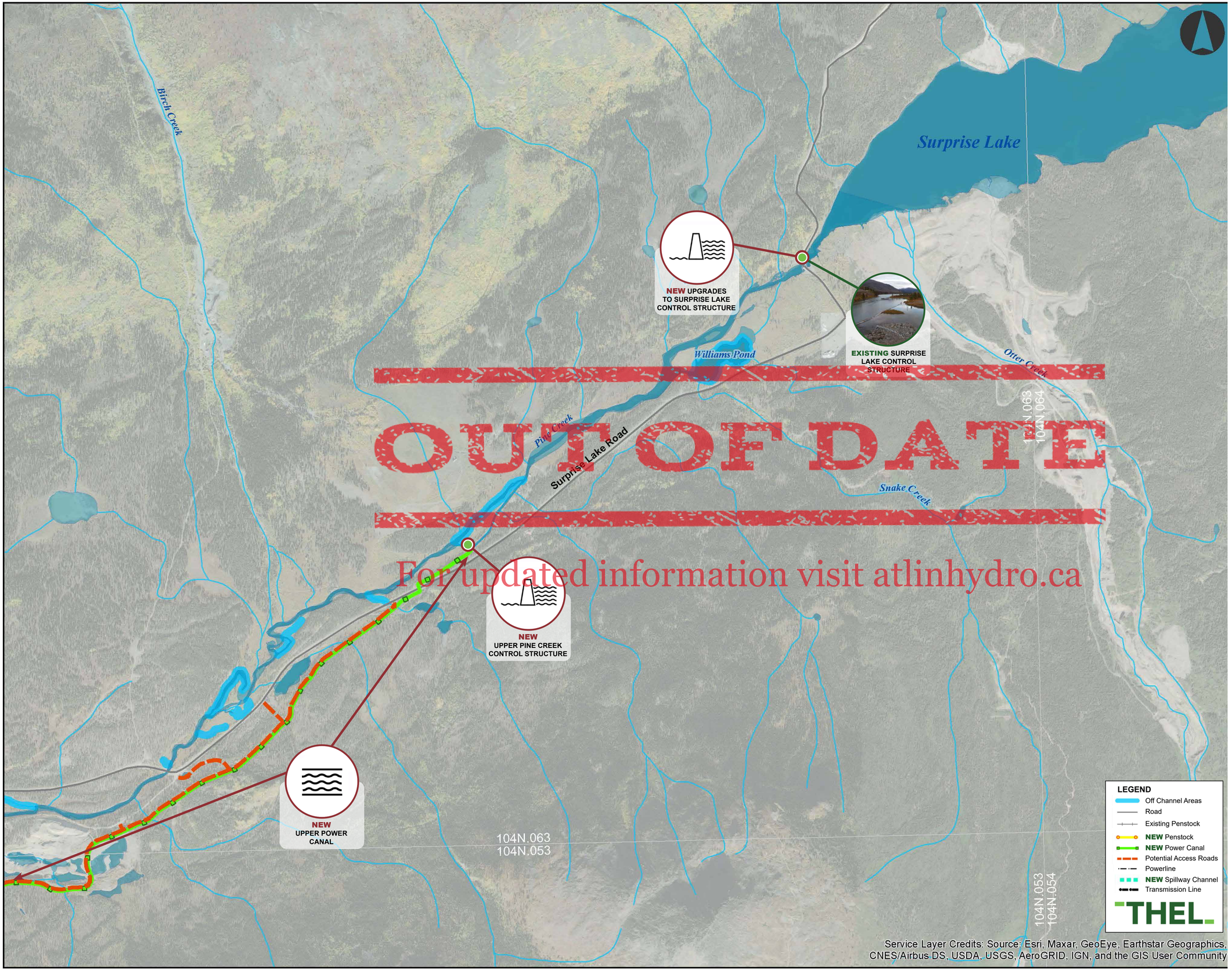
NEW INFRASTRUCTURE



NEW CLOSING DAM
A closing dam and spillway for the headpond will be constructed. The closing dam will allow the power canal to cross a small valley.



NEW UPPER PENSTOCK
Water diverted from upper Pine Creek will traverse through the power canal, to an intake headpond and into a penstock. The new penstock will run adjacent to the existing penstock, ultimately ending at the new upper powerhouse. By placing the existing and new penstock adjacent to one another it reduces the amount of clearing needed.



EXISTING INFRASTRUCTURE

EXISTING SURPRISE LAKE CONTROL STRUCTURE
The current structure has a weir crest of 913.15m to provide storage for the existing Xeilt Ltd hydro facility.

NEW INFRASTRUCTURE

NEW UPPER PINE CREEK CONTROL STRUCTURE
This new structure will divert a maximum flow of 4.7 m^3/s from Pine Creek into the upper power canal and to the upper powerhouse.

NEW UPGRADES TO SURPRISE LAKE CONTROL STRUCTURE
The upgrades will increase the storage range by increasing the height of the weir structure by 0.7m and excavating sediment to lower the low supply level by approximately 0.2m.

NEW UPPER POWER CANAL
The upper power canal will convey water from the new upper pine creek control structure to the upper penstock. The canal is about 8km long and uses a historical mining ditch from the early 1900's.