

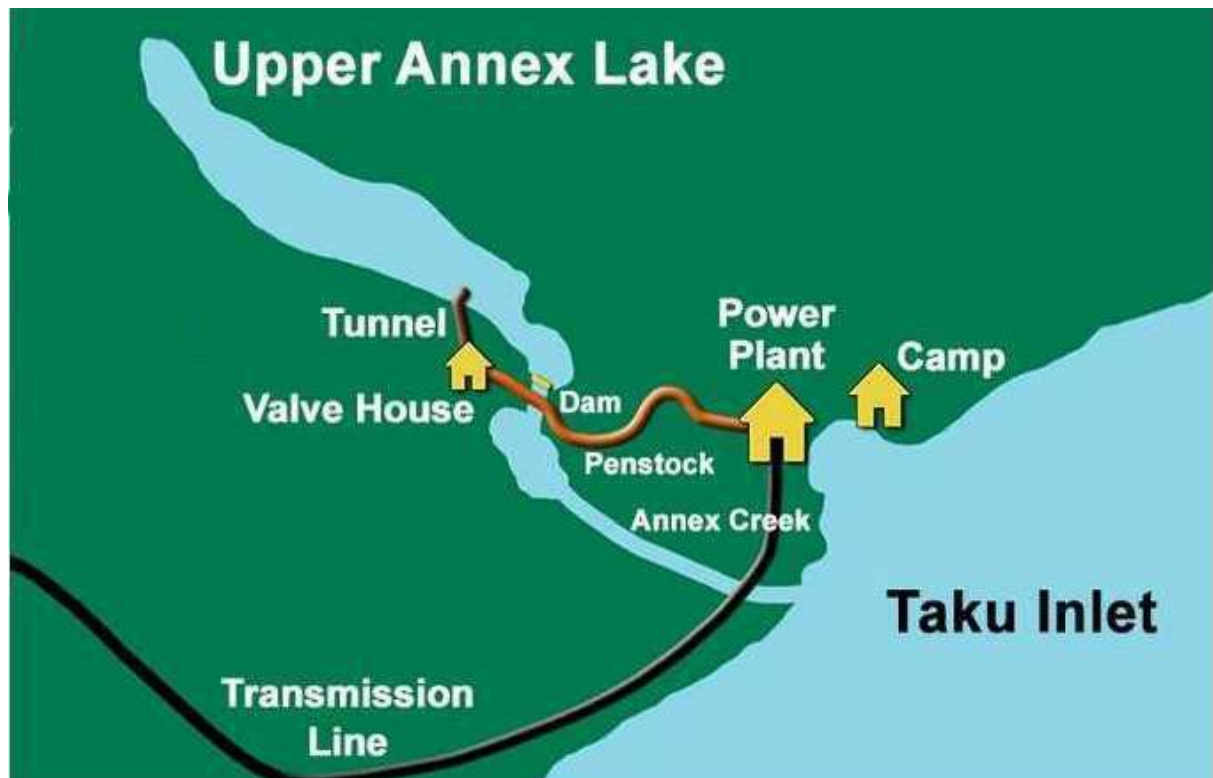
## Annex Creek Hydro

### [Topo Map](#)

<http://www.aelp.com/annexcreek/main.htm>

<http://www.aelp.com/Annexcreek/achistory/Mineplant/aghydro.htm>

The Annex Creek Hydroelectric Project was constructed by the Alaska Gastineau Mining Company to power their new mill at Thane. The project came on line in 1915 and still provides clean, renewable power to Juneau today, a century later. The Annex Creek Project is located almost entirely within the Tongass National Forest and is operated under a Special Use Permit administered by the U.S. Forest Service, Juneau Ranger District. It is also licensed by the Federal Energy Regulatory Commission (FERC License P-2307).







Upper Annex Lake is a natural lake nearly two-miles long and about a half-mile wide. When it is full, it holds 26,000 acre-feet of water at a water-surface elevation of 844 feet.



A 15-foot tall wooden dam was installed at the natural outfall of Upper Annex Lake during construction of the hydro project to allow more water to be stored. The dam failed in 1935 and was replaced the next year with a 20-foot tall dam. The dam was replaced again in 1967 and that dam stands today.

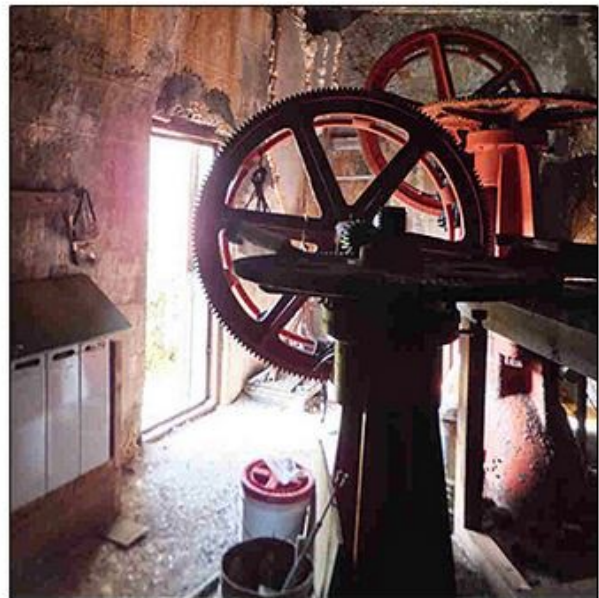




Since Upper Annex Lake was a naturally existing lake at high elevation, engineers decided to drill a hole in the side of the lake, about 150 feet below the water surface, and use the natural lake for water storage rather than build a large dam on a stream. The Annex Creek Hydroelectric Project initially came online with water taken from behind the dam by a pipe and put into the penstock to generate power while the tunnel was being completed. The 1,481 foot-long tunnel and lake tap was completed on Feb. 14, 1916. It is believed that it was the first lake tap in North America, and the first ever to save the water rather than drain the lake.



The Valve House is a small structure that houses a shut-off valve for the penstock. It is at the transition of the tunnel to the penstock. The shut-off valve can be closed if it is necessary to do maintenance on the penstock.

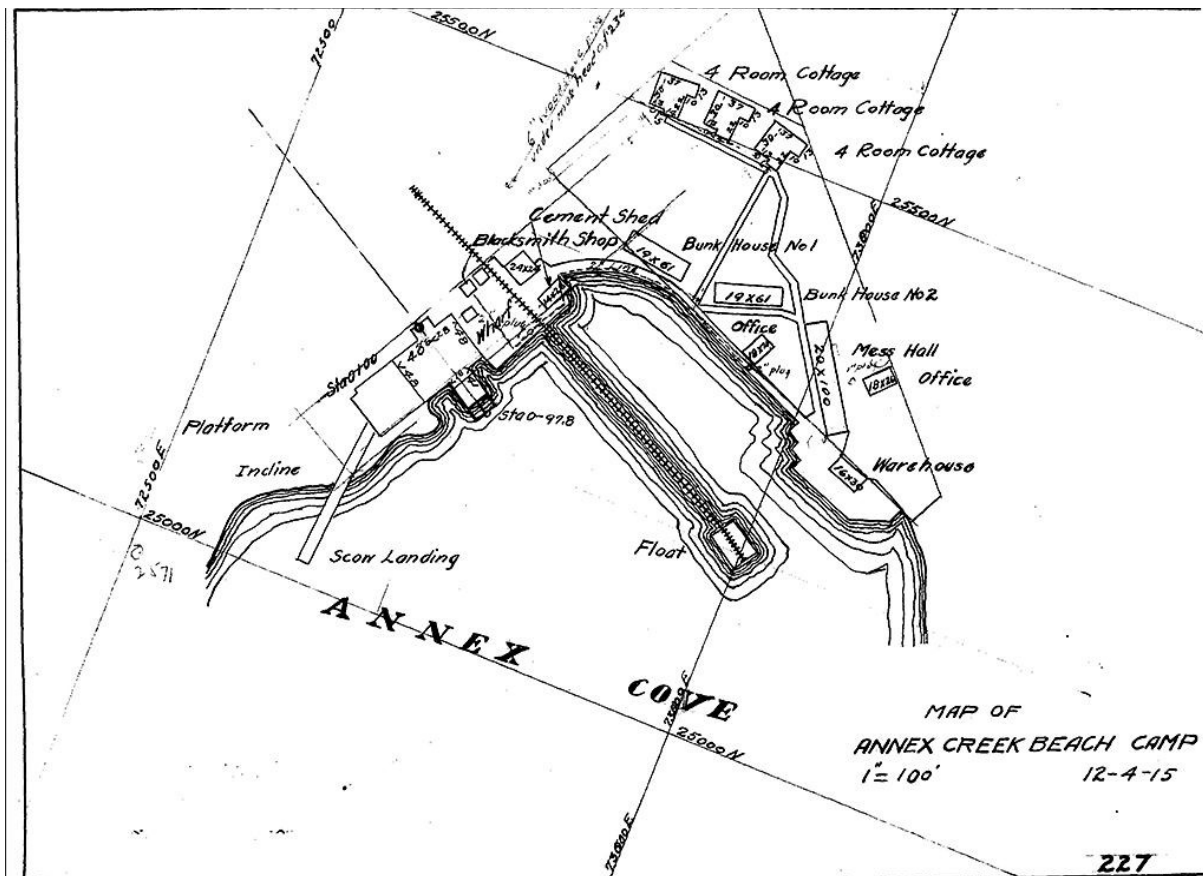


There are actually three pipes that come from the lake. The penstock carries water to the powerhouse for power generation. Another pipe (buried and not visible in the left photo) was used to drain rock and sand during the lake tap, then it was closed off. The pipe on the left in the left photo was intended for a second penstock to the powerplant if the Annex Creek Project was ever expanded. The valves on each of these pipes were originally operated by electric motors. They are now manually operated.





The Annex Creek Powerplant houses the power generation equipment. While it has a new roof, it is much the same as when it was originally constructed.



**Annex Creek Hydro Facilities today**



Annex Creek continues to generate hydro power for Juneau today. It normally provides around 5 percent of Juneau's electric energy demand. The Annex Creek Project is owned and operated by AFI & P