

Gustavus/NPS Intertie

Design Phase Public Information Meeting

November 2020

Contact Jason Custer – jason.c@aptalaska.com

Gustavus Intertie Project Objectives

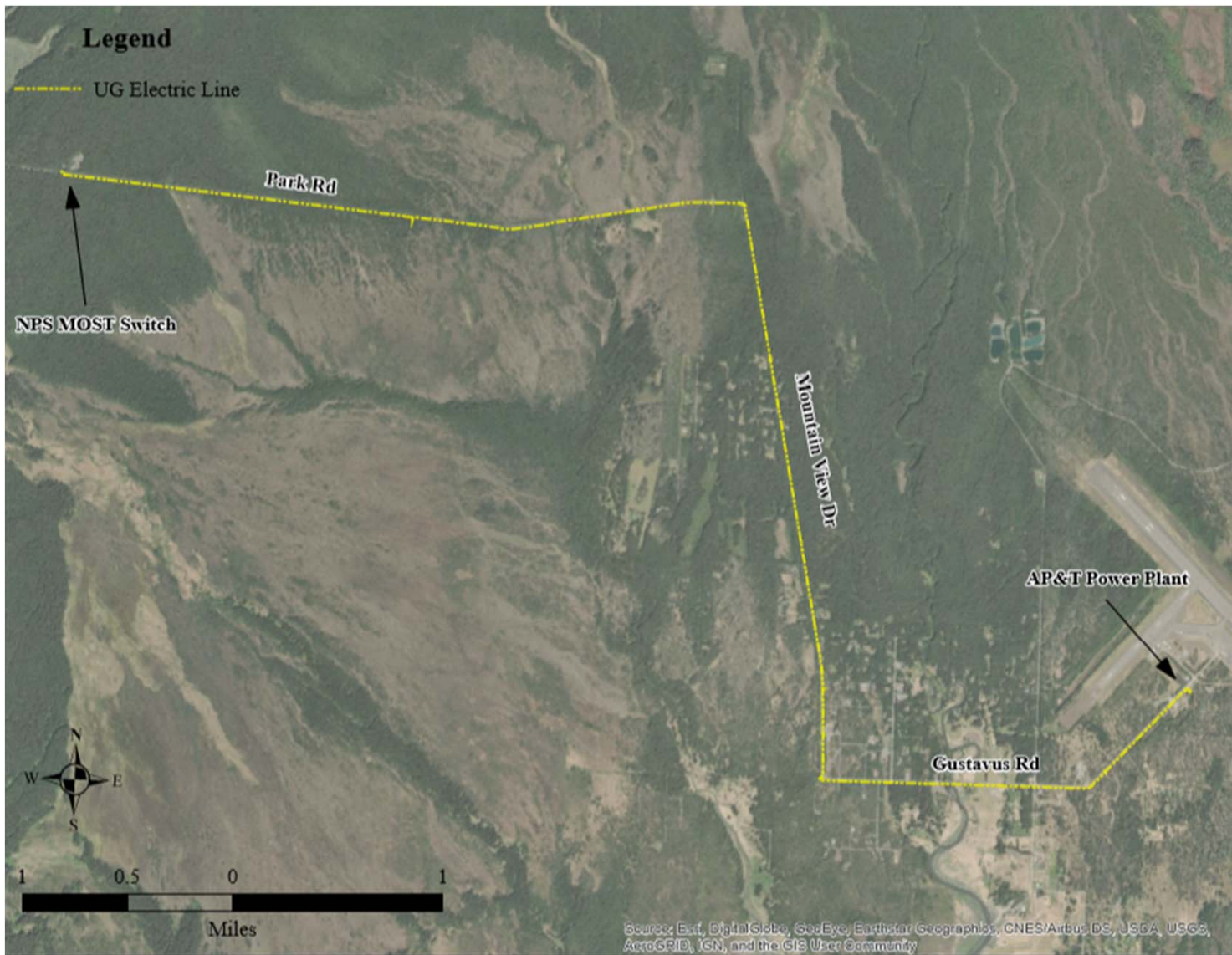
- Displace diesel-based generation (environmental benefits)
- Lower community energy costs
- Lower NPS energy costs
- Improvements to grid resiliency
- Improved reliability, including access to contingency generation resources
- Use existing resources as efficiently as possible



Project Design

- 12.47Y/7.2 KV three-phase electrical intertie between Gustavus distribution system, and the NPS utility system.
- Fiber optic cable included for signal and control connections between the NPS power plant and AP&T facilities. Spare capacity for NPS use.
- Underground facilities.
- 6.1 mile line following existing road
- Installation of equipment near NPS depot to facilitate switching, voltage regulation, and metering.



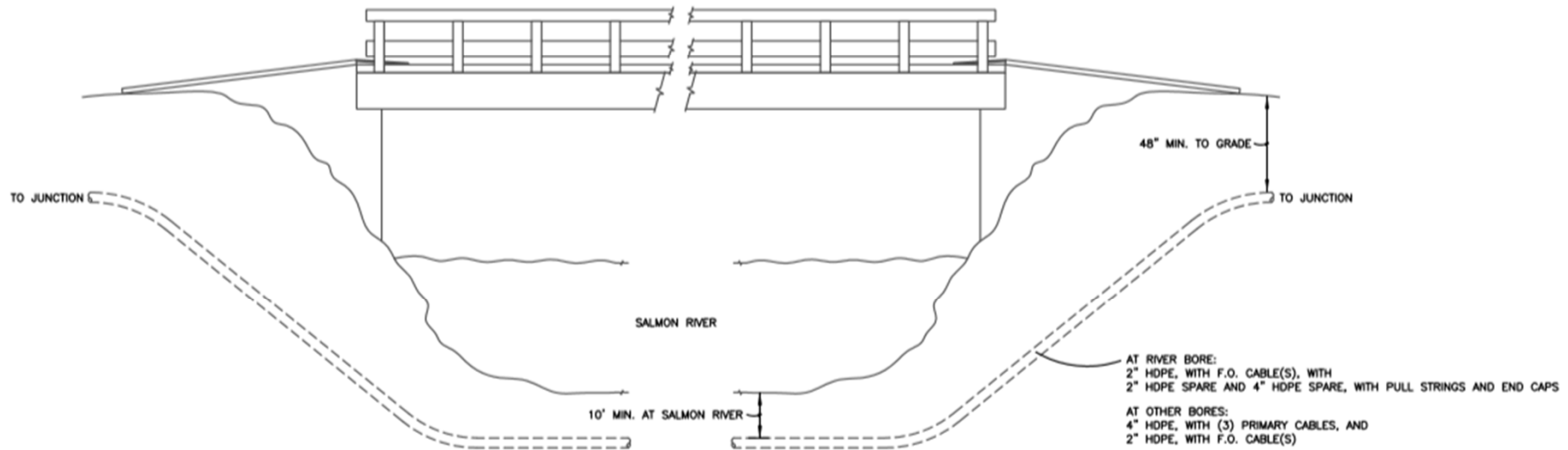


Overview

Project follows existing road ROW to the NPS diesel power plant.



① TRENCH SECTION
SCALE: NTS



② BORE SECTION AT BRIDGE (OTHER BORES SIM.)
SCALE: NTS

DESCRIPTION CONST
GLACIER B/

Anadromous stream crossing accomplished through directional boring below bridge.





Directional boring machine. Crossings below the road ROW would also be accomplished by boring.



Timeline

- **Design Phase** – Q3-4 2020 (ongoing)
 - Field survey complete
 - Preliminary design complete
 - Permits submitted to State DOT and NPS for use of ROW
- **Construction start** – Q2 2021
- **Completion** of construction, commissioning, and demobilization activities – Q4 2021

Funding for the project has been appropriated by Congress, and is available to support completion of the project in full.



Environmental Impacts

Design is optimized to avoid adverse environmental impacts.

- Underground facilities avoid visual and landscape impacts.
- Facilities placed in existing road right-of way, adjacent existing road, to minimize new disturbances.
- Route optimized to avoid wetlands and sensitive areas.
- Directional boring beneath stream at crossing area.
- Use of a SWPPP to mitigate any short-term impacts to surface or groundwater quality.
- Archaeological monitoring to avoid impacts to cultural resources.

The project will provide a tremendous new environmental benefit stream.



Estimated Benefits in 1 Year =



600 tons of carbon dioxide avoided.



38,436 gallons of fuel that do not travel to Gustavus / Glacier Bay.



915 barrels of oil left in the ground.



128 passenger vehicles taken off the road for 1 year.



Carbon sequestered by 707 acres of US forest.



1,470,588 miles not driven by passenger vehicles.



Estimated Benefits in 30 Years =



18,000 tons of carbon dioxide avoided.



1.15 million gallons of fuel that do not come to the community.



27,380 barrels of oil left in the ground.



128 passenger vehicles taken off the road for 30 years.



Carbon sequestered by 21,201 acres of US forest in 1 year.



44,117,647 miles not driven by passenger vehicles.
(1,771 trips around the earth.)





Assumptions Used in Estimates

(You can use the EPA's tool to investigate your own assumptions!)

- » 843,045 average kWhs used at Bartlett Cove
- » 11.75 kWh / gallon fuel efficiency at Bartlett Cove
- » 800 tons / year of carbon produced from diesel-based generation
- » 75% of NPS diesel generation at Bartlett Cove offset by Falls Creek thanks to the Gustavus Intertie project.
- » EPA equivalency calculator:
<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

While we can estimate benefits based on historical information, actual results will depend upon numerous variables, including weather patterns.





Other Points of Interest in the World of Beneficial Electrification

» AP&T Electric Vehicle Incentive Program

www.aptalaska.com/amp-up Recently expanded to include incentives for **municipal chargers**, and to lower the minimum battery size requirement to 14 kWh. (Yes, the electric Harley-Davidson now qualifies!) **Gustavus has the highest rate of use by community**, both on a total # and % basis.

» Alaska's first electric school bus now operational in AP&T's Tok service area.

» Bring the Heat. AP&T is encouraging customers to consider installing air-source heat pumps, which have 3x or higher the efficiency of resistance electric heaters. Viability will improve in Gustavus as the intertie helps decrease rates. <https://www.aptalaska.com/bring-the-heat/> Alaska Heat Smart (Juneau) also a great resource.

» Hydro Tracking Tool. AP&T continues to maintain the Gustavus % hydro tool on our website. <https://www.aptalaska.com/gustavus-energy-profile/>

» AP&T is evaluating a **battery/hydro project** to optimize use of Falls Creek, and increase useful output.

Contact: Jason.c@aptalaska.com or 907-617-3773

Thank you!

We look forwards to working together to improve environmental quality in the Gustavus/ Bartlett Cove region, while supporting affordable energy costs.

