

MP 147.5 Repair Earthquake Embankment Damage



The 2018 earthquake caused settlement and sluffing of track embankment adjacent to the Knik River, near the railroad bridge at MP 147.5.

Purpose

The 7.1 magnitude earthquake on Nov. 30, 2018, damaged Alaska Railroad (ARRC) track infrastructure in several areas throughout Southcentral Alaska. This project will address the damage along a stretch of mainline track roughly 35 miles north of Anchorage. Repairs will restore track to stable operational condition.

Project Scope

The earthquake caused settlement and sluffing that damaged and destabilized parts of the north-facing track embankment adjacent to the Knik River, between Eklutna and Palmer. Damage includes loss of shoulder and subgrade materials that support the track bed sub-structure.

ARRC plans to rework embankment subsoils, install protective riprap, and reestablish vegetation to prevent future erosion. Work is entirely within the existing right-of-way.

Project Benefits

Repaired embankment and associated drainage structures will:

- improve overall track stability and operating safety;
- help prevent ongoing embankment erosion and future embankment failure;
- reduce ongoing cost to maintain transit facilities; and

- improve slope stability and reduce destructive environmental impacts.

Project Status

- Environmental review, project design and permitting is complete.
- Construction is anticipated to begin during fall 2021.
- Project completion is expected within a few weeks of construction start.



The 2018 earthquake caused extensive shoulder and sub-structure damage to track infrastructure.

Cost and Funding

The project budget is \$237,000.

After the earthquake disaster, ARRC originally requested assistance from the Federal Emergency Management Agency (FEMA). Project funding has since moved from FEMA to funding 80% by Federal Transit Administration (FTA) grants with a 20% match by ARRC (to be reimbursed by the State of Alaska).



The earthquake damaged and destabilized parts of the track embankment adjacent to the Knik River, which flows under railroad bridge 147.5.

