



Atlantic Industries Limited

PROJECT PROFILE



June 14, 2023

AIL Geotextile Reinforced Soil (GRS) Bridge replaces suspended culverts, restores fish passage on Alberta creek

In the Waiparous Creek Provincial Recreation Area, a cluster of suspended culverts under a dirt road at one of the creek's tributaries had been an obstacle to spawning trout for decades. Remediating this had been on the Trout Unlimited Canada (TUC) wish list for a long while. After evaluating their options, TUC went with an AIL Geotextile Reinforced Soil (GRS) Bridge using our versatile Bolt-A-Plate Structural Steel Plate.



Project at a glance:

Name: Waiparous Creek Crossing

Location: Waiparous Creek, Alberta

Owner: Trout Unlimited Canada- New Window

Consultant: Terratech Consulting Ltd.

General Contractor: Secure Energy- New Window

Sector: Transportation

Application: Stream Crossing

Product: AIL Geotextile Reinforced Soil (GRS) Bridge (Bolt-A-Plate)

Dimensions: Span 5.2 m, Rise 2.2 m, Length 12.3 m

Assembly Time: Two weeks



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GRS technology simplifies remote installations, reduces costs

AIL's GRS Bridges employ a patented technology that uses steel anchor rods to connect the arch to the backfill/geotextile/headwall composite, transferring the loads into the surrounding GRS mass. These pre-engineered solutions are lightweight, easy to ship to remote sites and easy to install while maintaining existing streambeds. They also eliminate the need for concrete or pile foundations and permit the use of a wider range of backfill materials.

Organization had used AIL's fish-friendly GRS Bridges before

AIL had also designed and supplied other GRS crossings for TUC's rehab projects, including this one at Quigley Creek and this one at South Tony Creek — their first major culvert rehab project to be completed under their conservation program.

We worked very closely with all of our project partners to ensure the GRS Bridge components were delivered to the site on time. AIL representatives went to the site as well and assisted with assembly supervision for a full day.

Our project partners were all happy with the outcome and TUC volunteers even planted willow shoots on and around the completed structure.

"AIL staff provided on-site support with plate assembly and were able to accommodate Trout Unlimited Canada's needs throughout the process. The GRS arch is a massive improvement from the set of five perched culverts that had been in place for decades. The new structure will allow native, at-risk Westslope Cutthroat Trout and Bull Trout to access upstream habitats and will restore natural processes to the creek. The culverts had not only been blocking fish passage, but the crossing was also causing sediment and woody debris to accumulate upstream, while scouring and starving the stream on the downstream side of the road. Because the road disposition belongs to a non-profit youth camp without the capacity or access to funding to support managing the project, the culvert replacement

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was led by Trout Unlimited Canada, as part of the organization's native trout recovery efforts in Alberta. Trout Unlimited Canada first identified the project in 2019, and following several years of fundraising, planning and an additional fish habitat restoration project upstream, it came to fruition in September 2022.

— Leslie Peterson, Alberta Provincial Biologist, Trout Unlimited Canada



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