



Atlantic Industries Limited

# PROJECT PROFILE



June 4, 2024

## AIL Geotextile Reinforced Soil (GRS) Bridge restores flood-damaged roadway and fish passage in Port Alberni, BC

Although the “atmospheric river” of rain that paralyzed southwestern British Columbia in November of 2021 had spared much of the Alberni Valley, the area still sustained some damage. The Trueman Creek crossing on Sportsman Road was washed out, cutting off some residents and preventing upstream fish passage.

### Resilient and sustainable AIL GRS Bridge chosen

We worked with our project partners and the British Columbia Ministry of Transportation and Infrastructure (BC MoTI), and a resilient and sustainable AIL GRS Bridge was selected to restore the road and creek.

AIL's GRS Bridges are pre-engineered, open-bottom soil bridge solutions that are fast, economical and fish/wildlife friendly. Our patented GRS technology features a buried arch bridge system originally developed for the forestry and resource industry sectors.

### Project at a glance:

**Name:** Trueman Creek GRS Bridge

**Location:** Port Alberni, British Columbia

**Owner:** BC MoTI

**Consultant:** Terratech

**Contractor:** Mainroad Mid-Island Contracting LP

**Sector:** Transportation

**Application:** Stream Crossing

**Product:** AIL Geotextile Reinforced Soil (GRS) Bridge

**Dimensions:** Span 8.27 m, Rise 3.07 m

**Installation Time:** Three weeks





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It uses steel anchor rods to connect a Super-Cor structural steel plate arch to the backfill/geotextile composite and transfers the loads into the surrounding GRS mass.

## **Built-in resilience to climate change...**

AIL's Buried Metal Bridges offer extreme-event features to reduce climate change flood and debris risks. These features include larger spans, geotextile reinforced backfill, scour protection, greater vertical clearances and more.

## **Buried Steel Bridges are the more sustainable solutions...**

Buried Steel Bridges have a substantially lower life cycle carbon footprint than concrete beam bridges<sup>1</sup> because steel is the world's most recycled material<sup>2</sup> and less energy is used in their production and shipping. They also accept a range of local backfill materials, potentially reducing trucking costs. Plus, the zinc used in galvanizing is a naturally occurring material and is 100% recyclable<sup>3</sup>.

## **Super-Cor Arch value engineered with coating on lower sections only**

To provide better value, our Best-Kote Buried Bridge Coating was applied to only the lower plate sections. Best-Kote offers superior protection and long-term durability for over 75 years against corrosion, abrasion and inorganic acid, salts or alkali (diluted).

## **Project used as a BC MoTI test site for seismic activity resilience**

Because it was located in a high seismic zone on Vancouver Island, BC MoTI wanted to use this as a test site for seismic event resilience.

AIL Engineering team members were involved with BC MoTI in several aspects, including walking through design options and collaborating over Finite Element Analysis (FEA). Together, we agreed on a Super-Cor Arch design with the appropriate steel thickness. Assembly of GRS bridge fish passage culvert

The project was scheduled for installation in 2022 and needed to be completed before the fish window closed. Mainroad Mid-Island

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Contracting placed a deposit early to ensure the materials were delivered in time.

Everyone was very pleased with the outcome. The residents had their road access back and the fish were able to make it upstream for spawning. Working closely together with all parties made this a successful project.

1. Third-Party Consultant (2022). AIL Life Cycle Cost Comparison Between a Sample Bridge and Buried Structure.
2. Reference: [www.aisc.org](https://www.aisc.org)
3. Reference: <https://galvanizeit.org/hot-dip-galvanizing/is-galvanizing-sustainable/hdg-environmental-advantages>



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