CASE STUDY

A bridge not too far: Safer, environmentally sound road travel for passengers in Sweden

ViaCon Sweden enables safer, more environmentally sound road travel, as the Swedish Transport Administration a new road at Scandinavian Mountains Airport

With the construction of the new commercial airport, Scandinavian Mountains Airport, to serve large ski resorts near Sälen in Sweden, Trafikverket, the Swedish Transport Administration, needed to build a new road to serve the increase in traffic.

THE CHALLENGE

Bridge construction formed part of the road construction requirement, helping to shorten travel distance for drivers. Design requirements included:

- Life load according to EN 1991
- A cover depth of 1.15 metres
- Backfilling parameters according to SDM with sub-base material
- 120 years' durability
- Corrosion protection layers: zinc coating of thickness according to EN ISO 1461:2009 Fe/Zn 115, surface of the structure painted 100% on both sides with paint to thickness of 300 µm

STAKEHOLDERS

Investor: Trafikverket
Designer: WSP
Product: UltraCor Special 38U
Contractor: PEAB

Part of the challenge was to move away from the more environmentally demanding concrete bridge construction common throughout Scandinavia. The less resource-intensive soil-steel composite bridge construction method was selected instead.

THE SOLUTION

ViaCon Sweden met the challenge, providing UltraCor Special 38U, contributing to the successful construction of the bridge by August 2019.

The resulting steel structure had the following measurements:

- Span: 14.42 m
- Rise: 4.13 m
- Bottom length: 12.3 m
- Top length: 12.3 m
- Plate thickness: 9 mm
- Steel grade: S420MC

THE VIACON ADVANTAGE

With ViaCon, the new six-kilometer-long road including the new bridge shortened travel distance, leading to increased safety as well as other short and long-term environmental performance benefits, such as.

- Easier and faster to build, due to simpler structure
- Lower maintenance requirements
- Competitive costs, including less energy and fossil fuel consumption during construction
- Steel is 100% recyclable, contributing to the circular economy at end of life

Prefilled gabions were used as retaining walls, which had a special requirement for red-colored stones inside them to match the natural stone material in the surrounding area.

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