

SCHOTEN HOOGMOLENBRUG BRIDGE 54
SCHOTEN, VLAANDEREN, BELGIUM

Reinforced Soil Walls and Slope Reinforcement

Problem

With almost 40 million tons of goods transported per year, the Albert Canal is the most important waterway in Flanders. Container transport, in particular, has seen a steep rise over the past decade. As part of the effort to increase the capacity of the Albert Canal, De Vlaamse Waterweg nv is therefore investing in the further expansion of the Albert Canal.

The current limitation in clearance height and width under the bridges forms a bottleneck for inland navigation on the Albert Canal. The raising of the bridges to a vertical clearance of 9.10 m will allow barges with four layers of containers to sail safely and smoothly. In addition, Short Sea Shipping will have better opportunities on the Albert Canal.

The new Hoogmolen bridge is located on the reservation strip of the A102 and is used as the main connection for freight traffic between both banks, in combination with the Houtlaan. There is an additional bicycle connection and attention is paid to embedding in the landscape.

For this purpose, the Hoogmolen bridge 'was moved' 250m towards Antwerp to provide:

- A direct link between N120 (Merksemsebaan - Bisschoppenhoflaan) and Metropolitan street
- Schoten's traffic safety/livability: keep freight out of the center
- High-quality cycle connection between both banks
- Landscape connection between both banks
- Green Corridor

Solution

The design of the reinforced soil structure has been carried out following the Eurocode 7 in combination with the Belgian Annex.

The possibility to modify the units to follow the exact shape of the bridge has been very well appreciated by the contractor FRANKI, that later chose the same system for the next bridges on the Albert Canal, like in Meerhout and Kuringen.

In this case, the original plan was to have a slope inclination equal to 75°. to respect this design requirement Maccaferri proposed to use 80° Green Terramesh element installed with some little steps between the units. In correspondence to the bridge abutment, some units were directly connected to the concrete wall as a cladding system.

Client: Texion Geosynthetics NV

Designer / Consultant: Arcadis NV / Sweco

Contractor: FRANKI / HYE

Products used (Qty.)

- Green Terramesh 1500 sqm of facing

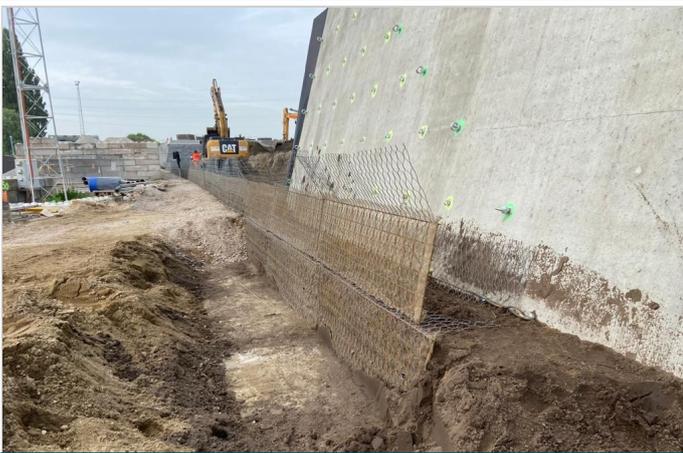
Date of construction: 06/2021 - 09/2021



Start of the installation phase



During the installation: detail of the bridge abutment



During the installation: detail of the cladding system



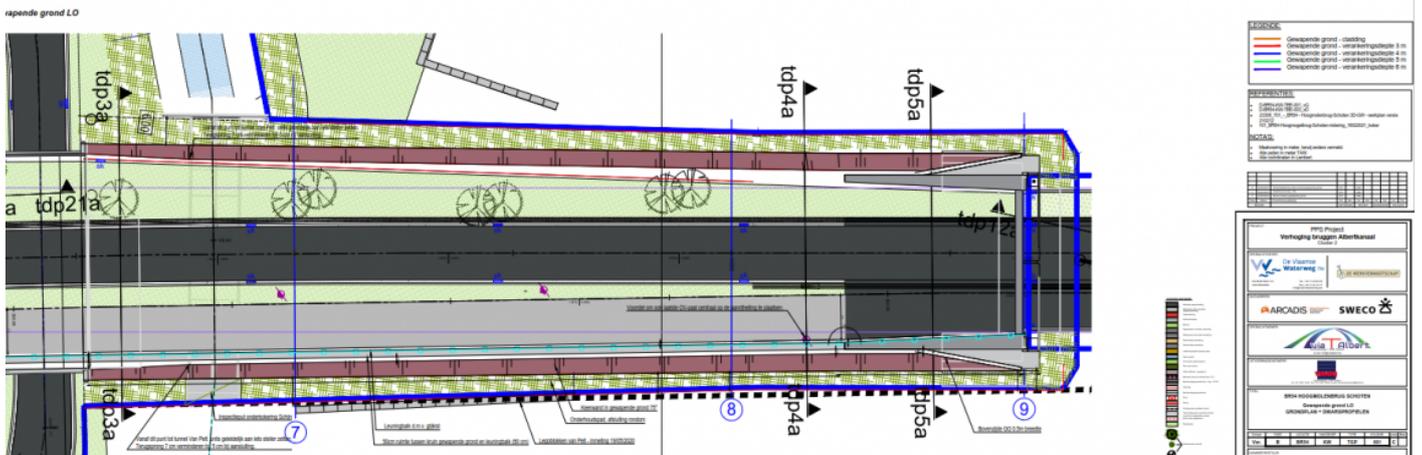
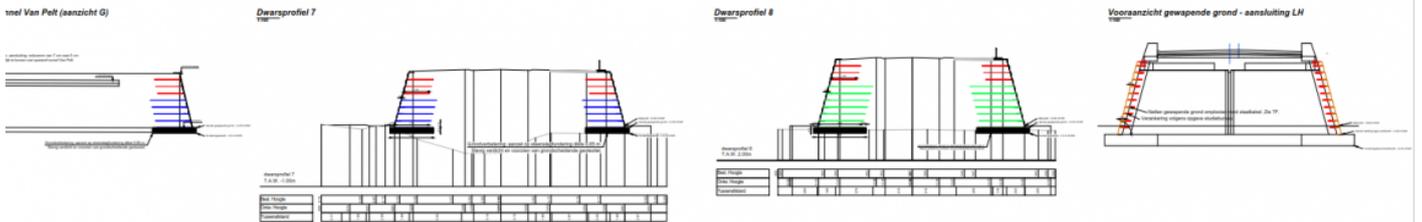
During the installation: detail of the cladding system



After installation



After installation: detail of the steps between the units



Schematic top view

Maccaferri Balkans Sh. P. k.
Autostrada DR-TR; KM 6, SH2, Xhafzotaj, Durrës, Albania

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