

## PODLJUBELJ ROCKFALL PROTECTION

### PODLJUBELJ (TRŽIČ), UPPER CARNIOLA, SLOVENIA

#### Rockfall Embankments

##### Problem

Road 101 - km 3+200, near Podljubelj, was affected by a massive rockfall event when 300 m<sup>3</sup> of debris and boulders fell on the road. The investor aimed to build a rockfall protection system able to absorb multiple high energy impacts with low maintenance.

##### Solution

MACCAFERRI engineers inspected the site just after the rockfall event to assess and evaluate the scale of the problem and the boundary conditions.

MACCAFERRI proposed a rockfall embankment built with the Green Terramesh Duo system as the safest and most economical solution to achieve the investor target.

The rockfall embankment is 6,08 m high and 180 m long. The embankment width at the base is 5,86 m, while the upper width at the crown is 1,99 m.

The rockfall embankment can absorb the predicted maximum kinetic energy of the falling blocks (4,000 kJ) at 4 m height with a maximum total displacement of 25 cm on the valley side (roadside). The durability of the structure is 100 years, according to the European Technical Approval granted to Green Terramesh.

Thanks to the applied hydroseeding, the rockfall embankment naturally fit into the surrounding environment in a very short time.

In May 2020, just one year after the construction, the embankment was hit again by a 1,2 m<sup>3</sup> boulder, requiring only minimal maintenance without affecting the road traffic.

**Client:** Dri upravljanje investicij, d.o.o.

**Designer / Consultant:** Terras d.o.o.

**Contractor:** Gorenjska gradbena družba d.d.

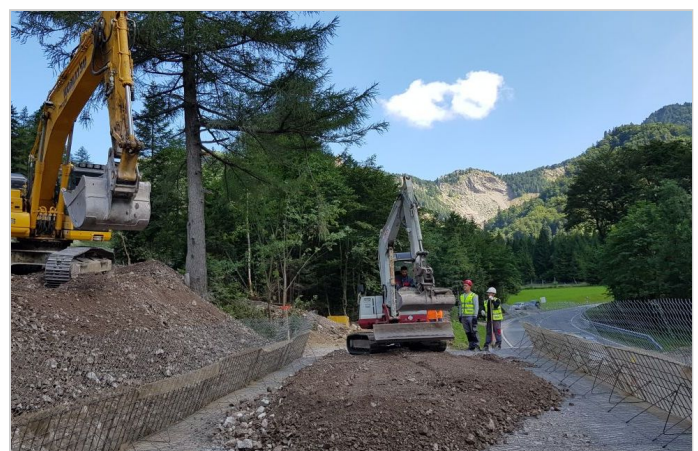
**Products used (Qty.)**

- Green Terramesh 2 500 m<sup>2</sup>

**Date of construction:** 07/2019 - 09/2019



April 2019

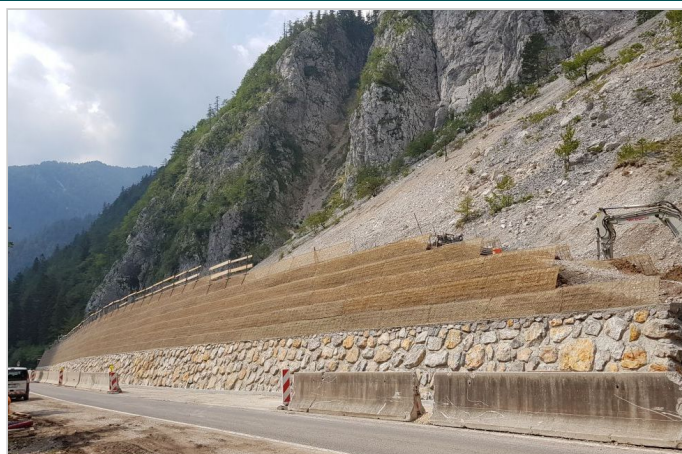


July 2019





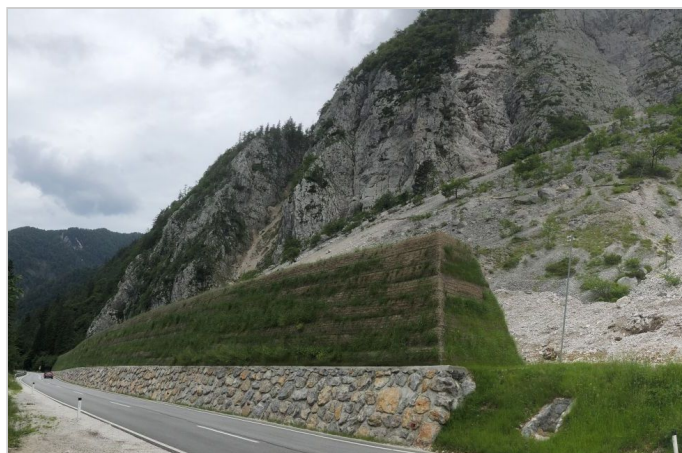
August 2019



August 2019



May 2020



June 2020



September 2019

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