

YUSUFELI DAM RELOCATION ROADS PROJECT

ARTVİN - BLACK SEA - Turkey



TYPE OF PROJECT
Simple Drapery

YEAR OF CONSTRUCTION
2024

CLIENT
**GENERAL DIRECTORATE OF
HIGHWAYS**

CONTRACTOR
LIMAK CONSTRUCTIONS

DESIGNER
MACCAFERRI

PROD. RELATED
Netting (28.880,00)

Challenge

The Yusufeli Dam Relocation Roads Project involves the construction of infrastructure necessary for the construction of the Yusufeli Dam, with particular attention to the D050 Artvin-Ispir highway and the surrounding areas near Tunnel T14. One of the significant challenges of the project is the presence of unstable rock masses along the highway, which pose a serious risk of rockfalls. The implementation of rockfall protection systems was required to ensure the safety of the construction process and road users, particularly in regions characterized by surficial instabilities.

The volcanic rock mass along the highway is characterized by weathered, brownish-dark green

surfaces and fresh, dark green and black fracture surfaces. The rock mass is highly fractured, with frequent and variously oriented discontinuities that intersect each other. This geological structure significantly increases the risk of rockfalls, especially in areas where these discontinuities intersect. In addition, free-hanging and unstable rock blocks were observed on the surface. These factors can create a major rockfall hazard to the highway, posing a threat to the traffic. Given the heavy rain and moisture environmental factors, it was expected that rockfalls could occur over time, creating a serious safety risk.



Steep slope outcrop view before drapery system



During the construction

Solution

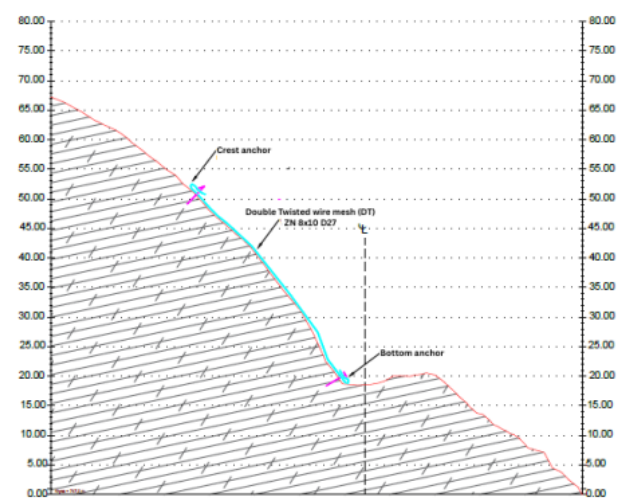
To mitigate the potential risks posed by rockfalls, a Drapery System (Passive) was implemented. This system was applied over a total area of 28,800 m², specifically targeting the most vulnerable sections of the highway where rockfalls were likely to occur. The drapery system were installed to prevent the falling of rock blocks, providing a passive and long-term protective solution. The drapery system effectively

reduced the rockfall hazard, ensuring the safety of drivers.

The application of the Drapery (Passive) System not only addressed immediate safety concerns but also provided a solution to the ongoing risk of rockfalls, preventing potential hazards from affecting the road and surrounding infrastructure.



During the construction



Typical cross section



OPEN GOOGLE MAPS



OPEN GOOGLE EARTH