

ROCKFALL RISK MITIGATION IN AL HADA CITY

Al Hada - Taif - KSA



Al Hada - Steel Grid HR 30

TYPE OF PROJECT
Slope Protection

YEAR OF CONSTRUCTION
2024

CLIENT
MOT - Ministry Of Transport

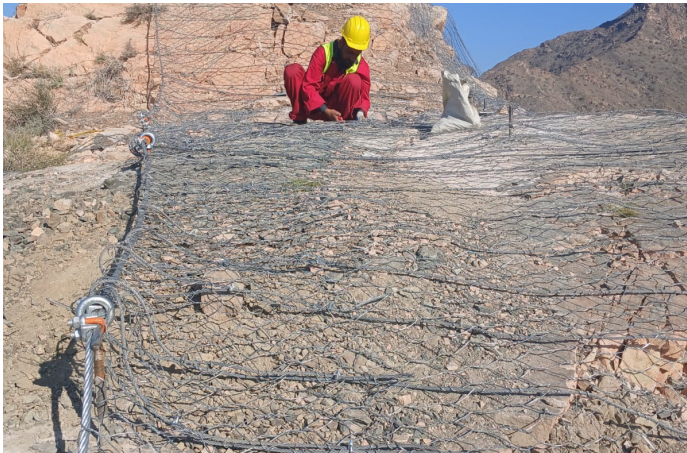
CONTRACTOR
Mutleg Al Ghweari
Contracting Company

DESIGNER
Maccaferri

PROD. RELATED
MacArmour & SteelGrid (35000 M2)

Challenge

Al Hada City is characterized by steep mountainous terrain, winding roads, and significant elevation changes. Due to the natural geology, fractured rock formations, and steep slopes, the area is highly susceptible to **rockfall hazards**, particularly during periods of heavy rainfall and temperature variations. These rockfalls pose a serious risk to **public safety, road users, and nearby infrastructure**, potentially causing traffic disruptions, property damage, and accidents. Existing protective measures are limited and do not provide adequate long-term mitigation against increasing rockfall events. Therefore, the authorities are seeking **reliable, durable, and proven rockfall protection solutions** that can be effectively installed in challenging mountainous conditions, minimize maintenance, and ensure long-term safety. **Maccaferri's engineered rockfall protection systems** are considered a suitable solution to mitigate these risks while preserving the natural landscape of Al Hada City.



During Construction



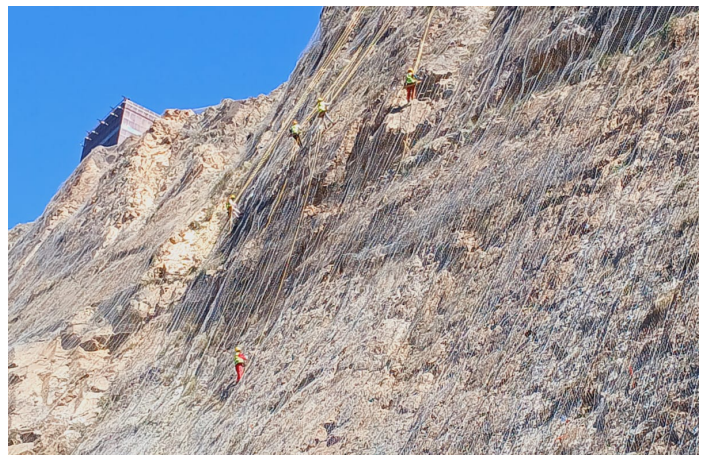
During Construction

Solution

To address the rockfall hazards identified in Al Hada City, an integrated and engineered protection solution is proposed, combining active slope stabilization and passive rockfall interception systems. The solution is specifically designed to suit the steep mountainous terrain, fractured rock geology, and environmental sensitivity of the area. Integrated Rockfall Risk Mitigation Strategy which was the proposed approach utilizes a combination of **slope surface protection, rock stabilization, and energy dissipation systems** to control rockfall hazards at source and along potential rockfall trajectories. This layered protection strategy ensures enhanced safety for road users and nearby infrastructure. **Maccaferri Steelgrid® 30** is proposed as the primary **active protection system** for stabilizing rock slopes and preventing rock detachment at the source. The system consists of a high-strength, double-twisted steel wire mesh designed to conform closely to the rock surface and restrain unstable blocks.



During Construction



After Completion



OPEN GOOGLE MAPS



OPEN GOOGLE EARTH