

ROCKFALL PROTECTION WORK AT JABEL HAFEET

AL AIN ABU DHABI U.A.E



TYPE OF PROJECT
Simple Drapery

YEAR OF CONSTRUCTION
2025

CLIENT
**DEPARTMENT OF
MUNICIPALITIES &
TRANSPORT**

CONTRACTOR
AL FAHJAN CONSTRUCTION

DESIGNER
**TESSCO – TECHNICAL
ENGINEERING &
SCIENTIFIC STUDIES**

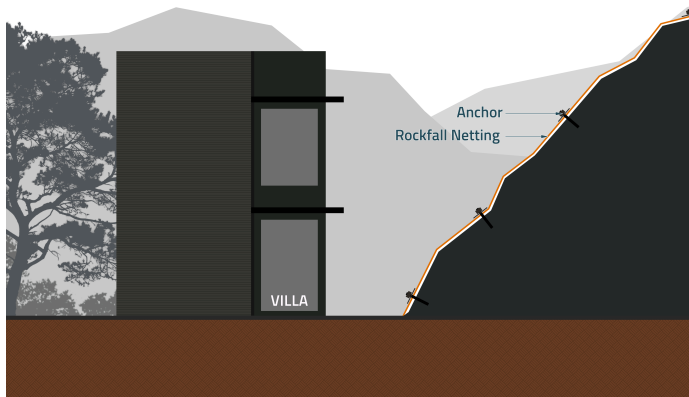
PROD. RELATED
Netting (5750 M2)

Challenge

The private palace for the rulers of the UAE is a highly sensitive and strategically important architectural landmark situated near the summit of Jebel Hafeet, Abu Dhabi's highest peak. This exclusive location offers breathtaking views but is inherently susceptible to geohazards typical of steep, exposed mountain environments composed primarily of fractured limestone and marl, requiring state-of-the-art geotechnical engineering solutions.

The primary challenge was safeguarding this critical, high-value infrastructure from the continuous threat of

natural slope instability and rockfall events. The steep, exposed rock faces directly above and adjacent to the palace structure and access roads posed a significant risk of loose rock fragmentation, and any failure could lead to catastrophic damage to the palace and its surroundings. The extreme desert climate (high UV, significant temperature variations) demanded materials with superior longevity and corrosion resistance, while the location's high-security nature meant the installation needed to be efficient, minimize disruption, and be visually discrete.



Section Drawing of the Project



During Construction

Solution

The chosen solution involved a collaborative effort utilizing Maccaferri's specialized rockfall mitigation systems. The engineering approach focused on passive protection using a simple drapery system enhanced with an advanced protective coating. A double-twisted steel wire mesh was securely anchored at the crest of the mountain to act as a protective blanket, guiding any falling rocks into designated collection trenches. To ensure durability in the aggressive desert climate, the steel wire was coated with Maccaferri's innovative

PoliMac coating material, which offers exceptional resistance to corrosion and UV degradation, ensuring a long design life of over 120 years. A specific color of PoliMac coating was used to match the natural limestone of Jebel Hafeet, ensuring the protective measures were effective yet visually integrated into the sensitive architectural and natural landscape, with specialized execution by contractors managing substantial rock removal around the palace.



After Construction



After Construction



OPEN GOOGLE MAPS



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