CONSTRUCTION OF DEPOT FOR MRT LINE 7

QUEZON CITY, NCR - NORTH, PHILIPPINES

Slope Protection

Problem

During the construction of the depot for the MRT Line 7 system, the project encountered significant challenges related to soil erosion on the berms surrounding the construction area. These berms played a critical role in supporting adjacent access roads and containing surface runoff within the site, helping to prevent localized flooding and pollution in nearby communities. However, they were highly vulnerable to environmental elements such as heavy rainfall, strong winds, and natural slope instability. Without proper protection, the berms experienced accelerated erosion, leading to the degradation of slope stability and an increased risk of sediment runoff. This erosion posed a serious threat to the structural safety of the depot site and its surroundings, potentially resulting in higher maintenance costs and long-term environmental impacts. A durable and sustainable erosion control solution was urgently required to ensure the long-term integrity of the construction site and reduce harm to nearby areas.

Solution

To address these site challenges, Active Geoanchor Inc., with design and consultation provided by Philkoei International, Inc. and Meinhardt Philippines, implemented an effective erosion control solution using MacMat R1, a high-performance mat supplied by Maccaferri. A total of twenty rolls of MacMat R1 were installed on the most erosion-prone berms. Made of synthetic material filaments tangled into a deformable, porous layer, MacMat R1 forms a protective surface that shields soil from direct rainfall impact while promoting natural vegetation growth. Its uniform thickness and light permeability create an ideal environment for root development, which further stabilizes the slope over time. The system significantly reduced surface runoff, minimized soil displacement, and safeguarded the depot's structural foundation. Additionally, by reducing the need for frequent repairs and maintenance, this solution supported sustainable construction practices and long-term cost efficiency. The successful application of MacMat R1 demonstrates how innovative geosynthetic technology can solve critical erosion challenges in large-scale infrastructure projects.

Client: ACTIVE GEOANCHOR INC.
Designer / Consultant: Philkoei International, Inc. / Meinhardt Phil
Contractor: Active Geoanchor
Products used (Qty.)
- MacMat R 20 Rolls

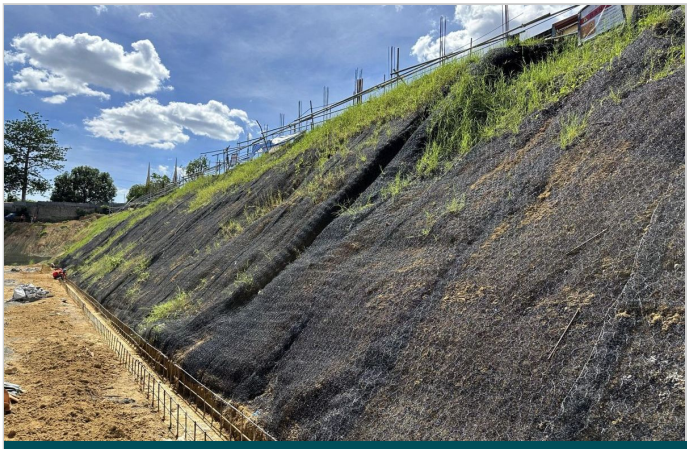
Date of construction: 09/2023 - 09/2024

Google Maps Google Earth

During Construction

During Construction

MACCAFERRI



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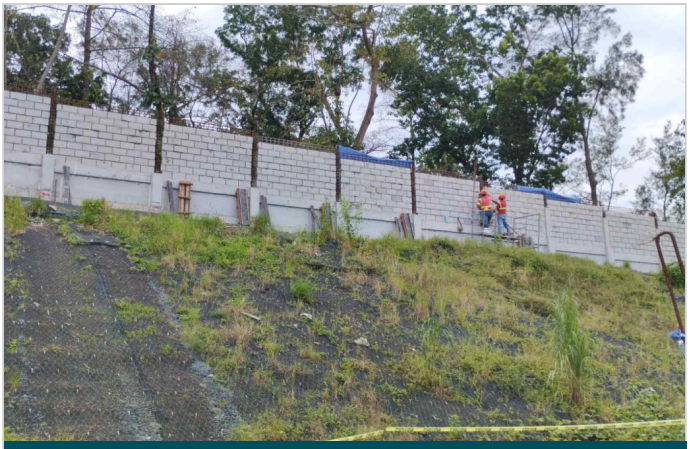

During Construction

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