MACCAFERRI

CASE HISTORY

Rev: 1, Issue Date 07.03.2024

MICT BERTH 8 EXPANSION PHASE 1

MANILA, NATIONAL CAPITAL REGION, PHILIPPINES

Sub-grade Improvement

Problem

The Manila International Container Terminal (MICT) Berth 8 Phase 1 Project is constructed on an existing reclaimed area. This area is further developed as part of a proposed expansion plan to increase MICT's annual container capacity, in terms of Twenty-foot Equivalent Units (TEUs). Located adjacent to Berth 7, the reclaimed land needs to be prepared for construction and safe operation by addressing potential geohazards, such as liquefaction and settlements.

Solution

Considering that the deeper compressible soft clay layers may not be improved or consolidated (through PVD or wick drains) due to the obstructions, settlements shall be addressed in the structural design of the superstructures. The foundation design incorporates basal reinforcement using geosynthetics in order to mitigate differential settlements.

Maccaferri provided technical assistance to the designer and contractor of the MICT Berth 8 Phase 1 project. This assistance included design calculations and installation support for a cost-effective solution that addressed the geohazard. The solution involves a crushed stone subbase (150mm to 345mm thick) that was compacted over the prepared sand subgrade. To mitigate differential settlement risks, biaxial extruded geogrids were placed between the subbase and subgrade.

This innovative solution not only addressed the geohazard but also delivered significant commercial benefits. By distributing weight more evenly, the geogrid allowed for a nearly one-third reduction in crushed stone volume, resulting in cost savings and a reduced environmental footprint. Through this project, Maccaferri demonstrates how technical assistance alongside geosynthetic reinforcement like geogrids can contribute to sustainable and cost-effective infrastructure development, enabling the Manila North Harbor to support economic growth and enhance its role as a key Philippine trade gateway.

Client: Prime Metro BMD Corporation

Designer / Consultant: Philkoei International, Inc. / GHD

Contractor: Prime Metro BMD Corporation

Products used (Qty.)

- Biaxial Geogrids	240rolls EG20S, 30rolls EG30S

Date of construction: 11/2022 - 06/2024

Google Maps Google Earth



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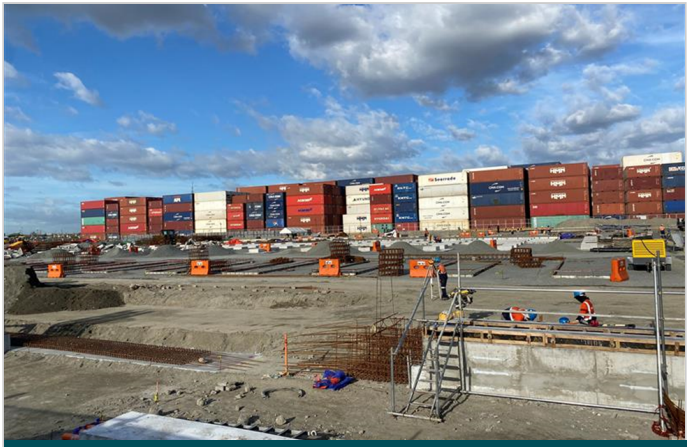
During Installation



During Installation



During Installation



During Installation



During Construction

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