MACCAFERRI

CASE HISTORY

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PARAMESH WALL (MSE WALL) AT NICKEL LATERITE SMELTER PROJECT

OBI ISLAND, NORTH MALUKU, INDONESIA

Reinforced Soil Walls and Slope Reinforcement

Problem

Nickel Laterite Project is a Nickel Smelter that is located in Obi Island, North Maluku, Indonesia. New Smelter is planned to be built to increase the capacity of Nickel production. The client's purpose of this retaining wall structure is as a base foundation and able to withstand the load for new Smelter construction. Soil Retaining structures are varied from 5m to 20m in height. The area is characterized by a high seismic level and a horizontal seismic acceleration equal to 0.25g had to be considered during the design process.

Solution

As the Client needed a solution that not as expensive as the traditional concrete retaining structure, Paramesh System as a retaining wall with height varied from 5m to 20m was proposed by Maccaferri Indonesia. Paramesh system is retaining wall structure which are flexible, environmentally friendly, and cost effective system compared to traditional concrete structure.

Paramesh system is a mechanically stabilized earth type soil retaining structure consist of Primary reinforcement using Geogrid, secondary reinforcement of a Terramesh made of double twisted wire mesh 8x10 with a coating of Galvanized and polymer steel wire, Mactex non-woven geotextile behind Terramesh facia unit as separator, and Macdrain as Geocomposite drainage to drain water from soil embankment. Paramesh system construction does not require specialist contractor or laborer for construction. Quality control on site is strictly monitored by Maccaferri Product assistance.

All Stability checks of the structures in static and seismic conditions were performed using Macstar, an internally developed software by Maccaferri.

Client: JINCHUAN GROUP INTERNATIONAL RESOURCES Co. Ltd

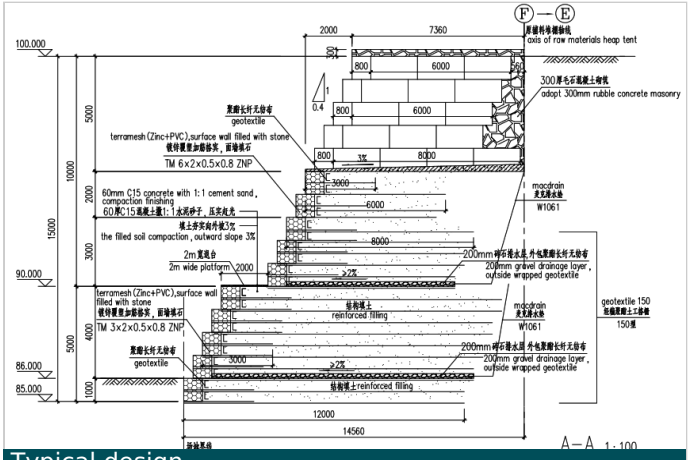
Designer / Consultant: JINCHUAN GROUP INTERNATIONAL RESOURCES Co. Lt

Contractor: JINCHUAN GROUP INTERNATIONAL RESOURCES Co. Lt

Products used (Qty.)

- Terramesh	6,200 m2 Facing of Paramesh
- MonoAxial GeoGrids	6,200 m2 Facing of Paramesh
- Nonwoven Geotextiles	6,200 m2 Facing of Paramesh
- Drainage Geocomposites	6,200 m2 Facing of Paramesh

Date of construction: 06/2017 - 01/2018



Typical design

Cutting Operation (Before Terramesh Installation)

Construction of Terramesh System

Finished construction

Finished construction

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