MACCAFERRI

CASE HISTORY

Rev: 2, Issue Date 16.10.2024

BANK PROTECTION AT DRAIN OUTLET

SINGAPORE, SINGAPORE, SINGAPORE

Longitudinal Protection

Problem

The ITTC (Integrated train testing center) Singapore is one of the biggest and prestigious projects of South East Asia. It is situated at the coastal line. The civil construction is being operated by Land Transport Authority.
At one of the location along the sea side, the drain outlet is being given such that it shall discharge in the sea water. Now the existing coast line and the drain water getting discharged caused the turbulence in the water. This is in addition to the wave impact at the bank. All these lead to the erosion of the bank. If suitable protection measures are not being taken up, it can cause the bank failure and even damage the drain network.

Solution

The main challenge for this project was the requirement of underwater installation. There was a min 1.5 to 2m water level present all the time and the bed was below that. Hence, to protect the bank, Renomac plus was selected as it is specially designed for underwater applications.
The Renomac Plus is a mattress unit with extended mesh on two sides along with non woven geotextile attached at base, In additon the unit has the lifting hooks arrangement integrated with the mesh, hence it is very convenient to lift it at the site. No special arrangement is to be made for lifiting. The extended mesh on two sides helps to align the units and prevents any erosion due to the gap between two units.
Approx 1000sqm area to be protected under this stretch.

Client: Land Transport Authority
Designer / Consultant: Arup ONG & ONG
Contractor: Benco Maritime pte ltd.
Products used (Qty.)

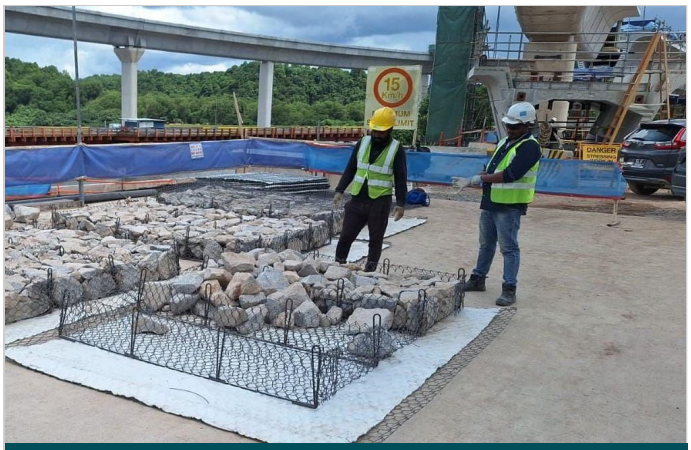
- Reno Mattress Plus	3x2x0.3m - 167nos

Date of construction: 09/2023 - 12/2023

Google Maps Google Earth



Site photo



Filling

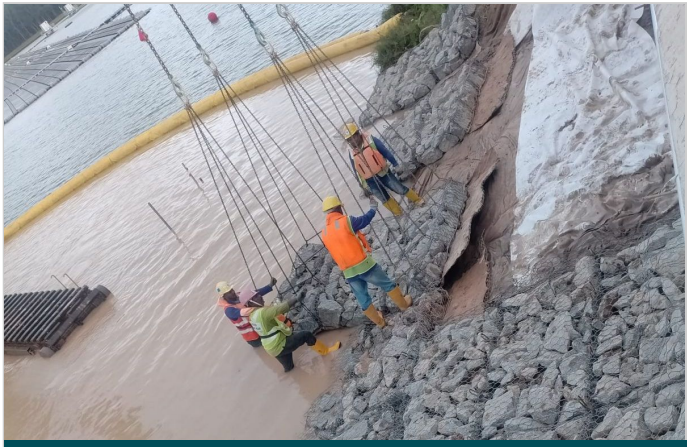
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Lifting



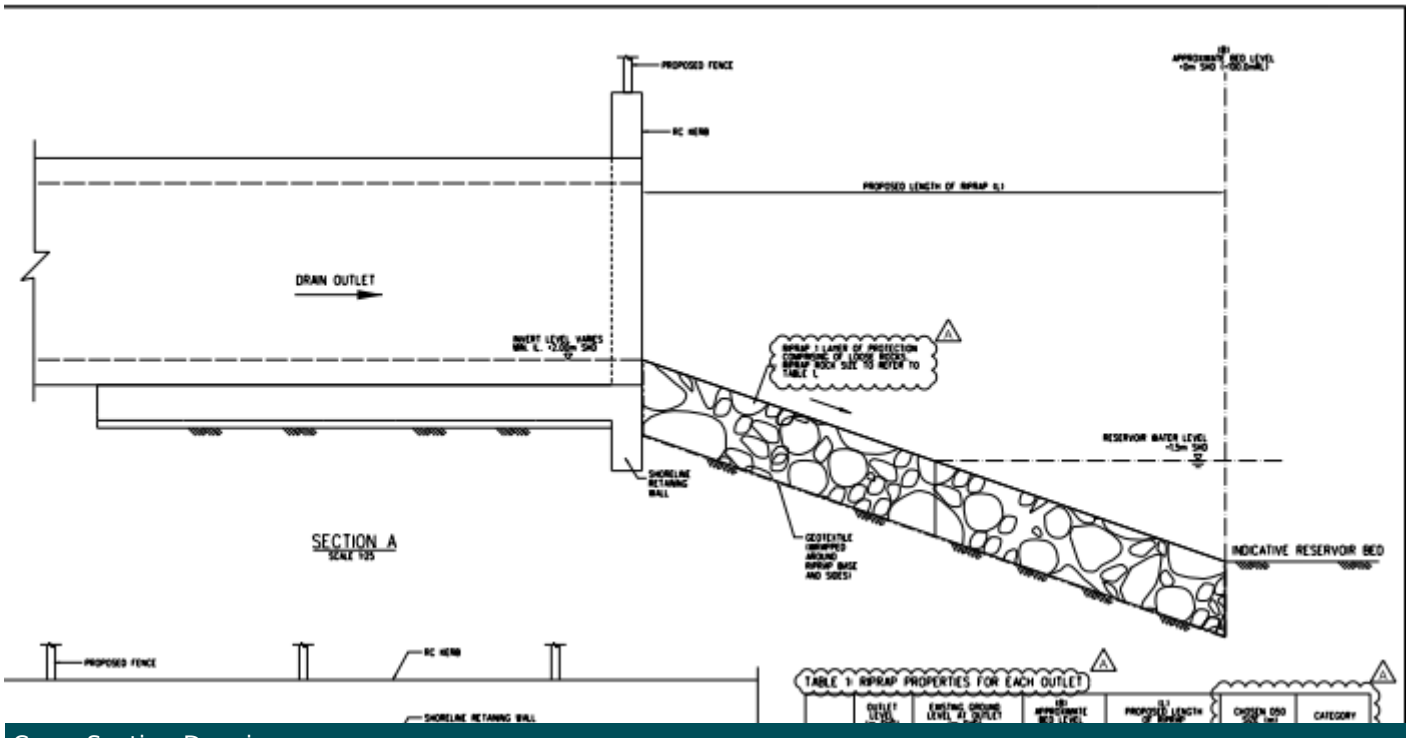
Installation



Installation



Site photo



Cross Section Drawing

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