

**SEMARANG-DEMAK TIDAL FLOOD CONTROL PROJECT  
SEMARANG, CENTRAL JAVA, INDONESIA**

Waterproofing of Reservoirs, Lakes and Channels

**Problem**

Located in the northern part of Central Java, Semarang is subjected to floods caused by high tides. In May 2022, the high sea level reached +210 centimeters above sea level, which triggered flooding. The tide was extreme compared to tidal records for the last 5 years (2017-2021), with the highest recorded at +180 cm above sea level. Ministry of Public Works carried out emergency handling efforts such as installing new embankments and coordinating with local governments to prepare flood control facilities.

**Solution**

As contractor, Nindya Karya - Mataram KSO has been instructed to install an embankment near Ahmad Yani Airport to control seawater from flowing through the areas. The 5-meter-high embankment consists of 3 meters of soil embankment and 2 meters of FlexMac DT on top. The embankment was built on top of Bamboo Pile, going 4 meters deep as the foundation.

Maccaferri Indonesia proposed to use FlexMac DT as the material for the embankment. As opposed to Geo Bags/Jumbo Bags, FlexMac DT offers speed installation with less manpower as FlexMac DT is best suited for disaster emergency response. The use of FlexMac DT as a barrier against floods has been around for decades in Europe and America but is still relatively new in Indonesia. Maccaferri Indonesia took this chance to introduce the multi-benefits of FlexMac DT and its versatile use.

**Client:** MINISTRY OF PUBLIC WORKS

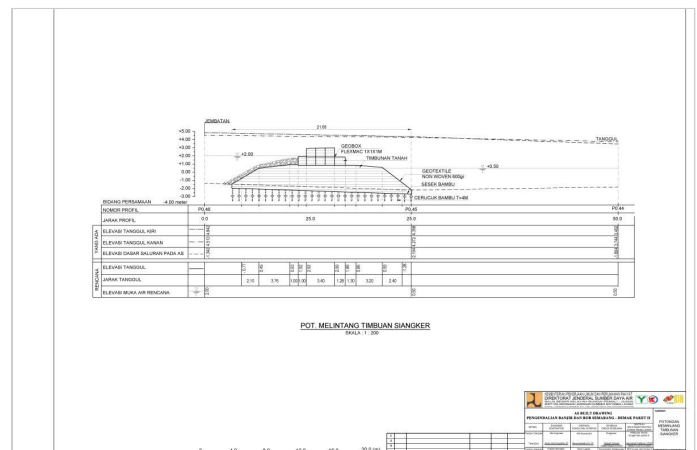
**Designer / Consultant:** Nindya Karya - Mataram KSO

**Contractor:** Nindya Karya - Mataram KSO

**Products used (Qty.)**

- FlexMac DT 16 pcs (5x1x1), 8 pcs (4x1x1)

**Date of construction:** 07/2022 - 07/2022



Cross Section



Construction (1)



Construction (2)



Construction (3)



After Construction