

EAST BAY LINK
CARDIFF, WALES, UNITED KINGDOM**Mass Gravity Retaining Walls****Problem**

The East Bay link is a new dual carriageway in the Welsh capital that will add better transport links to the East of the city. The project connects Ocean Way, Cardiff to the Queens Gate roundabout. This new route will mean there is now a continuous route from the M4 into the popular Cardiff Bay.

To form such a link road a low embankment and a series of viaduct structures were needed. The approximate cost of the project was around £27.3 million.

Due to the requirement of an embankment onsite, Dawnus Construction looked in Maccaferri's direction to come up with a temporary retaining solution that would be able to cope with onsite construction traffic. This had to be a temporary solution before the main retaining wall which would be installed towards the end of the project.

Solution

Maccaferri worked alongside Dawnus Construction Holdings to come up with a temporary work structure. Maccaferri suggested the use of FlexMac DT which is used for flood protection works to raise embankments and provide buttressing support for temporary works.

FlexMac DT is made of hexagonal double twisted wire mesh and vertical steel rods reinforce the mesh, the unit is lined with a non-woven geotextile. The unit can be filled with many different fill types, mainly we try to use locally sourced materials to reduce carbon footprint. This project used Type 1 Slag material recycled from the nearby steelworks and consisted of approximately 175m³ of material to fill the Flex Mac DT units to create a length of 77m.

This temporary retaining wall enabled the insertion of the long-term retaining wall system, MacWall®; this segmental blockwork retaining wall system combines the aesthetics of masonry walls with the engineered reassurance of reinforced earth. Segmental block retaining walls ("SRW"s) are increasing in popularity due to their ease of construction, cost-effectiveness and versatility.

Client: Welsh Government**Designer / Consultant:** Capita**Contractor:** Dawnus Construction Holdings**Products used (Qty.)****Date of construction:** 05/2016 - 05/2016[Google Maps](#)[Google Earth](#)

FlexMac DT temporary structure



Backfill placement behind the structure



Elevation of the Temporary Structure