



# SOUTH FLANK ROM WALL

## Mining & minerals

### Dump structures

Australia, Western Australia, Pilbara



**Owner / Client :**  
BHP

**Engineer :**  
Jacobs

**Main contractor :**  
NRW Holdings

**Terre Armée entity :**  
Reinforced Earth Pty Ltd  
(Australia)

**Date :**  
2020

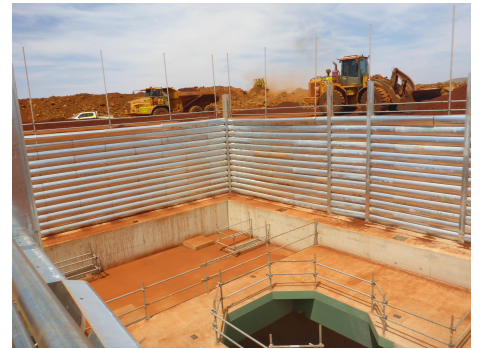
Primary Crusher 1 - Terramet ROM Wall

**Activity :**  
Reinforced Earth

**System :**  
TA "Classic"

**Reinforcement :**  
HA / HAR steel strips

**Key figures :**  
Area : 6090 m<sup>2</sup>  
Rise: 27 m



Primary Crusher Dump Pocket

## The Project

South Flank is a US\$3.6b project that will fully replace production from the 80mtpa Yandi mine, which is expected to end its economic life in the mid-2020. The first ore from South Flank is targeted for the 2021 calendar year, with the project expected to produce ore for more than 25 years. South Flank iron ore project will be the largest iron ore processing facility ever built in Western Australia.

The project includes an 80-million-ton-per-year crushing and screening plant, an overland conveyor system and rail-loading facilities.

Reinforced Earth were originally engaged by the consultant Jacobs in 2018 to carry out detailed design of 2 identical TerraMet® dump walls labelled Primary Crusher 1 and Primary Crusher 2 on the project. This progressed into the manufacture and supply of the walls through engagement by NRW holdings in 2019.

## The Solution

Vertical joints in the dump pocket walls were added to the design to ensure expected differential settlement between the wall sections founded on the concrete counterforts of the insitu dump pocket and those not was allowed for.

As part of the ongoing service provided by Reinforced Earth throughout the construction of the walls, a full-time presence on site was maintained by our specialist Technical Advisor to assist NRW with construction methodology. The added benefit of this full time presence on site is that we are then able to certify for the owner that the walls have been constructed correctly to our specification.

## The Advantages

The integrated arrangement of the TerraMet® walls with the insitu reinforced concrete dump pocket (designed by others) resulted in challenges when considering differential settlement and interaction between the 2 different structures.

The complex shape of the dump pocket portion of the TerraMet® walls with a number of corners and vertical joints meant that sufficient care and regular monitoring would need to be implemented to ensure the walls were aligned at the completion of construction.

