

JOB SHADOW INITIATIVE 2023

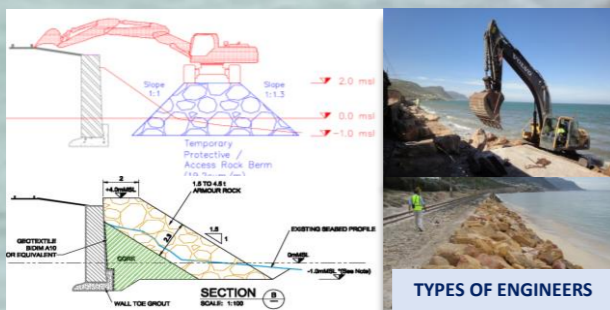


SCHOOLS REPRESENTED:

1. Rondebosch Boys'
2. Cape Academy of Mathematics, Science and Technology
3. Edgemoad
4. Cultivating Excellence



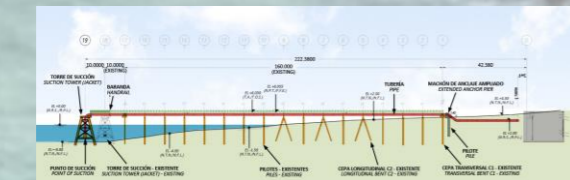
HISTORY OF THE STRUCTURES AT THE V&A WATERFRONT
Walk around the V&A waterfront to see the historical structures was unfortunately interrupted by mother nature



TYPES OF ENGINEERS

Introduction to Engineering

Marine Pipelines



- Cooling water for power stations
- Inland waterways/ canals
- Seawater cooling systems
- Drinking water (desalination) - coastal developments and towns
- Process water supply (sand bypass systems)
- Fire fighting



Learners participated in an activity where they designed and built jetties using marshmallows, jelly tots, and sticks. The point system included aesthetics, material use and weight testing.

THE WINNING TEAM



PRDW held a job shadow programme on 28 and 29 June 2023. A total of 6 learners were hosted this year. This programme aimed at giving a broad understanding of a career in engineering, education requirements and daily tasks at PRDW. The learners attended presentations and participated in practical activities that covered the following:

Structural Modelling

- Overview of civil and structural engineering
- Fundamentals of structural engineering
- The structural engineering process – as applied to marine structures
- Interface with other fields within civil engineering
- Marine structures and their failures
- Software tools

Breakwaters & Physical Modelling

- Purpose of breakwaters
- Types of breakwaters
- Design inputs and elements
- Design methodology
- Construction considerations
- Design validation
- Guidelines

Revetment Construction

Learners were tasked to build revetments using armour units, in groups of two. String was used to act as a crane for placement of the armour units.

Numerical Wave Modelling

- Waves
- Hydrodynamics
- Water quality
- Sediment transport
- Model calibration

Port Planning

Dredging & Reclamation

- Importance of Ports
- Terminal Types
- Port Planning Principles
- Port Planning Tasks
- Major South African Ports

- Uses
- Dredging equipment
- Reclamation types
- Example projects/ application
- Design standards

