

PROJECT PROFILE

Geraldton Engineering Group Civil / Structural / Mechanical Design of RTO Fuel Facility at 6 mile Fuel Facility Dampier

CDMS were commissioned by Geraldton Engineering Group to provide civil, structural and mechanical engineering design and detailing services for a new heavy and light vehicle refuelling facility for Rio Tinto at 6 Mile Fuel Facility Dampier, Western Australia.

OUTCOME

- Installation of an existing 110kL Diesel Tank and Design of new concrete footings
- Design of vehicle pavement slabs and bunded area
- Design of piping, buried services and pumping layout for the new facility

BACKGROUND

Rio Tinto is a global mining and metals company working in more than 40 countries. The existing fuel facility at 7 Mile which services trucks and small vehicles was becoming too congested with increased safety risks. A new facility at 6 Mile was proposed to be designed and constructed to meet resolve the issues at 7 Mile. Geraldton Engineering Group, a West Australian construction company, in partnership with CDMS Consulting Engineers, provided the engineering and design services for the project.

PROJECT OBJECTIVES

The construction of a new refuelling facility at 6 Mile, Dampier for Rio Tinto to relieve congestion and safety risks at Rio Tinto existing fuel facility at 7 Mile. The new facility is to include a new 110kL Diesel tank, vehicle slabs and bunded area and associated mechanical piping and pumping and access walkways.

CHALLENGES

To incorporate the use of an existing 110kL tank from another mine site to tie into the new installations making the layout and arrangement of the proposed facility a challenge.

OUR APPROACH

The team at CDMS began working on providing a preliminary design and general arrangement layout drawings for the facility which were then sent to the client for approval. CDMS provided recommendations to the client for possible changes to the proposed layout which ensured the design would be most efficient to fit in with the client's needs. Once the preliminary design and key changes were approved, CDMS began finalising the engineering design calculations and produced engineering design drawings for the contractor

Meetings with the client GE Group and the end user Rio Tinto were conducted regularly intervals including organising the HAZOP meetings to ensure that all the key project information was communicated effectively between all the parties involved. Designs were required to comply with the all the relevant regulatory and Australian standards including Rio Tinto Iron Ore project specifications.