

NOWERGUP | depot access road



Client: Public Transport Authority

Location: Butler, WA

Value: \$2.3 million

Completion Date: 2013

Commissioned by the Public Transport Authority of Western Australia, the Nowergup depot access road provides access to the Nowergup rail maintenance facility. The contract was awarded to the Bocol-RJ Vincent Joint Venture in the form of a design and construct contract.

The access road was comprised of two major elements; a 7m high, 100m long cantilevered retaining wall and a cut-and-cover arch tunnel adjoining a system of mechanically stabilised earth walls.

The cantilever retaining wall was built to retain the existing live railway line approaching the Nowergup depot. The arch unit was designed and built to permit the passage of buses and other vehicles to the Nowergup depot while creating an access for the future railway line approaching the Nowergup depot from the West.



Installation of the
contiguous bored piled wall



cantilever retaining wall

- 7m high, 100m long
- Comprised of 900mm diameter contiguous bored piles anchored into the limestone cap-rock
- Piles bored up to 18m below ground level
- Prefabricated reinforcement cages welded to length on site
- High strength, high slump concrete with a superplasticiser additive used to infill bores
- Once excavated, the piles extended up to 7m above ground level to form the retaining wall
- Shotcrete was used to treat the exposed surface of the cantilever wall in order to stabilise the structure during wet weather.



special features



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arch tunnel

- Designed to handle the surcharge loading of trains travelling over the arch tunnel
- Comprised of proprietary precast concrete arch unit supported on a strip footing, founded on contiguous bored piles, anchored into the limestone cap rock
- The arch units were oriented and manoeuvred into place using three cranes
- Mechanically stabilised earth wall units used to retail the backfill to the top of the arch tunnel
- Apex of arch tunnel backfilled using a 5% stabilised sand mix for increased strength due to the proximity to the railway.

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