Atlantic Industries Limited

PROJECT PROFILE

No road or rail traffic interruptions for Super-Cor heavy haul road arch installation

All construction took place within a very tight schedule

Atlantic Civil Products Pty Ltd, a major AIL Australian licensee, needed to convince a client that a large, two-lane heavy haul road arch system could be constructed over an existing twin track rail line and two adjacent access roads without traffic interruption. The two compelling factors that sealed the deal were:

- Our extensive experience designing Super•Cor deep-corrugated steel plate structures for use under extreme live loads, and
- Our project history building the Stockton, UK, railway arches under similar traffic constraints.

Accelerated delivery plus some bells and whistles
The project specified that the components be delivered and assembled according to a very tight schedule and include embedded

Project at a glance:

Project Name: Nammuldi Mine

Application: Haul Road Crossing

Location: Brockman 2 Iron Ore Mine

Rail Tunnel Specifications: Super•Cor Arch HA 68S with Ribs; Span: 13.6 m (44' 7"), Rise: 9.8 m (32' 2"), Length: 82.4 m (270' 4")

Rail Tunnel Specifications: Super•Cor Arch SC 54S Span; 11.4 m (37' 6"), Rise: 7.2 m (23' 6"), Length: 80.8 m (265' 4")

Minimum/Maximum: Engineered Backfill Cover; 2.6 m (8' 6") / 5 m (16' 3") at a density of 27.0 kN/m3

Live Weight Load: Up to GVM 390t

Design Service Life: At least 50 years

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electronic monitoring. AIL got to work, and less than a month after the contract was awarded, the components were manufactured, test assembled and shipped from AIL's New Brunswick plant to Australia, arriving well ahead of the planned summer construction window.

The first road tunnel went up in seven days, while the subsequent rail tunnel took 18 days and the second road tunnel only 11 days. Engineered ramping and backfilling of approximately 80,000 m^3 (2,825,173 ft^3) of earthworks took 38 days. The design incorporated the installation of strain gauges, pressure plates and a data logger to the exterior of the rail tunnel.

There was no rail or road traffic interruption, and the work was completed on time, making for one very satisfied customer.

See all Project Profiles on ail.ca

Project at a glance:

Client: Hamersley Iron Pty Ltd, Perth, WA

Design Consultant: Kellogg Brown & Root, Perth, WA

Project Managers: Integrated Project Solutions, Perth, WA

Civil Contractor: NRW Pty Ltd, Perth, WA

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