



CLIENT

NSW RailCorp

PROJECT
The Argyle Cut

PROJECT DESCRIPTION
Concrete removal using the wire saw

PROGRAMME DURATION
January 2007

PROJECT VALUE
\$ 27,000

BACKGROUND

The NSW Rail Corporation required an emergency exit door installed in the concrete tunnel wall of the Shore Down Line, close to the Argyle Portal, which forms part of freeway approach to the Sydney Harbour Bridge.

The tunnel wall is 1.2m thick and the opening needed to be 1.5m wide by 2.2m high.

KEY CHALLENGES

The floor of the tunnel was found to be 670mm lower than the outside ground level, so the top and bottom cuts had to cut on an angle of 28° from horizontal.

A further complication was that the concrete had to be cut and lifted off and the opening made safe in a 40 hour closure from 6am Saturday to 10.00pm Sunday.

As the project was taking place in Observatory Park in central Sydney, the working area had to be fenced off and fail-safe slurry control measures implemented.

Various signal and communication cable ducts were within 100mm of the planned top of the opening.

All personnel had to be RailCorp Track Awareness inducted, and stringent Occupational Health and Safety precautions observed.

PROJECT METHODOLOGY

150mm diameter lifting holes were drilled and used to check the construction drawings and to verify the height difference of 670mm;

Four 150mm diameter corner holes were drilled on the 28° angle, and two 50mm diameter intermediate holes were drilled horizontally;

Two side cuts were made, followed by the sloping bottom cut, the horizontal middle cut and the sloping top cuts using a wire saw;

A 20 tonne crane was used to remove the two pieces of concrete weighing just under 10 tonnes in total.

PROJECT SUCCESSES

With the cutting finished and concrete removed we cut and formed stairs and fitted a door before leaving the site clean and secure well before the Sunday deadline!