

## Project: *Exit 54 Pacific Highway – Abraham Road*

Principal:  
*Department of Transport and  
Main Roads*

Location:  
*Coomera, Gold Coast, Qld*



### Introduction

The Department of Transport and Main Roads identified that as a result of an increasing population of the Coomera area, the Motorway interchange at Exit 54 northbound had significant safety concerns for the public. These included long traffic delays for motorists, and traffic queues which extended onto the motorway off ramp during peak periods. The need for improvement became of high importance for the region.

A new link road between the current Exit 54 Motorway northbound off ramp and Abraham Rd was designed, along with upgrades to the Abraham Rd intersection. The upgrades would resolve flooding issues of Abraham Rd, and a new slip lane between Abraham Rd and Days Rd would service local schools. Upgrading the public facilities was also identified, with a new bus stop and footpaths to be constructed as part of the improvement works.

Neumann Contractors Pty Ltd became involved in the project after the original Principal Contractor for the project entered financial administration and liquidation. Taking over the project in December 2009 for DTMR, the works quickly came back on track for the client with progress meeting the original deadlines.



Project: *Exit 54 Pacific Highway – Abraham Road, cont.*

### Scope of Work:

The scope of work included:

- ◆ Clearing and grubbing of 22,000m<sup>2</sup> of grass land
- ◆ Translocation of frog habitat wetland
- ◆ Demolition of existing drainage structures
- ◆ Removal and disposal of 5,000m<sup>3</sup> of unsuitable material
- ◆ Importation and placement of 12,000m<sup>3</sup> of embankment material.
- ◆ Construction of major drainage culverts and end structures
- ◆ Importation of 4,500m<sup>3</sup> of pavement gravels
- ◆ Dense graded asphalt pavements, including deep lift and wearing courses
- ◆ Installation of guidance and information systems
- ◆ Installation of road lighting and traffic signal infrastructure
- ◆ Perimeter fencing
- ◆ Landscaping of verges, batters and wetland areas

### Challenges

- ◆ The translocation of frog habitat was a task that was previously unfamiliar to the onsite staff. Through consultation with environmental experts, a process of slabbing the habitat and relocating
- ◆ The amount of unsuitable material that needed to be removed and replaced proved to be time consuming to the program. Additional plant was allocated to the task to prevent the works from delaying the completion date.
- ◆ The construction of major drainage structures proved challenging through the wetter part of the year, however the issue of controlling storm water was overcome by the implementation of diversion drains and a series of control pumps.
- ◆ The upgrade works on Abraham Rd needed to be phased in such a way that live traffic would not be impacted, particularly given that the area contained a high number of schools and workplaces. Traffic Guidance Schemes were carefully thought out to ensure that the construction works would not impact on the public, but at the same time maintaining a workable area for the contractor.
- ◆ The take over from a previous Principal Contractor introduced additional challenges; however, these were all easily resolved with the client in a timely manner.

### Innovation

- ◆ Different methods of overcoming wet and unsuitable areas were suggested by Neumann Contractors, with these options being implemented by DTMR. These included the use of geofabrics, geotextiles, and bridging rock in particularly bad areas.

### Outcome

- ◆ Completion of the project was reached in early September 2010. The improvements to traffic flows could be immediately seen once the new roads were opened, proving that the upgrade works were in desperate need for the local community.

