

## Mercer to Longswamp Expressway

### Client

Transit NZ/Bloxam Burnett & Olliver Ltd.

### Project

This 11 km section of the \$91 M Waikato Expressway traversed some geotechnically demanding terrain. The northern part of the route was jammed between several large block landslides, the North Island Main Trunk Railway and the Waikato River.

Tonkin & Taylor was instrumental in the adoption of an innovative route option in the northern section, which bypassed the railway, excavation of the toe of the landslides and unloaded the head of many landslides, thereby significantly mitigating short and long term risk for Transit NZ and their contractors.

The southern section of the route required crossing many swamps including the deep very soft and compressible soils beneath Longswamp, a backwater swamp of the Waikato River. Particular attention was paid to accelerating settlement and controlling embankment stability in an area which had experienced problems on other similar construction projects. This was done carefully using wick drain technology in conjunction with high strength geofabrics and staged embankment construction.

T&T was responsible for the geotechnical investigations, design and geotechnical construction observation/monitoring of this 4-lane expressway section.

### Services provided

- 23 embankments up to 8 m high on very soft alluvial deposits
- Slope design and construction monitoring and control for 8 existing block landslides
- Risk assessment of route options and value engineering on bridge/embankment options
- Piled foundation design of five road and rail overbridges
- Earthworks design and specialist construction advice on unusual problems
- Development of pavement designs and construction inputs.



[www.tonkin.co.nz](http://www.tonkin.co.nz)