



## Earthquake Engineering

Earthquake engineering is a broad field, drawing on aspects of geology, risk analysis and other technical areas. All these fields fall within the core services provided by Tonkin & Taylor.

### Expertise

Our particular area of emphasis, however, is in geotechnical earthquake engineering which includes the following:

- Seismic Hazard Assessment
- Local Site Effects
- Design Ground Motions
- Design Spectra and Response Spectra
- Liquefaction
- Seismic Slope Stability
- Seismic Design of Retaining Walls
- Seismic Design of Dams
- Soil Improvement for Mitigation of Seismic Hazards
- Seismic Risk Analysis.

### Experience

Typical tasks carried out for major projects involve the following:

- Identification of active faults
- Assessment of level of ground shaking
- Assessment of ground rupture hazard
- Site investigation and classification of site subsoil category

- Evaluation of amplification of ground movements due to specific site conditions
- Assessment of potential for liquefaction of ground
- Evaluation of landslip risk and displacement under earthquakes.

T&T has provided earthquake engineering services to the following market sectors:

- Water Supply
  - Design and evaluation of dams
- Roading
  - Stability of embankments
  - Cut slopes and bridge abutments
- Hospitals
  - Design criteria
  - Liquefaction assessments
  - Local site effects
- Mining
  - Tailings dams
  - Waste stacks
  - Open pits
- Hydro-Power
  - Fault studies
  - Seismic hazard.

