



engenium
smart project delivery

Demonstrated Capabilities

- Rapid response to the clients needs, working to a tight deadline and evolving technical requirements.
- Integrated engineering discipline team's created innovative design solutions.
- Demonstrated construction cost reductions resulting from innovative and lateral thinking.

Nepean River Pedestrian Bridge Engineering Design and Drafting

Client Civmec

Project Location

Penrith, Western Sydney, New South Wales

Scope

Engenium was engaged as the engineering design and drafting consultant, to support Civmec's heavy engineering fabrication division for the Nepean River Pedestrian Bridge - Australia's longest single span pedestrian footbridge. The scope was to design, model and provide shop detail drawings for the temporary works that would be used to support the bridge structure during fabrication.

Business Objective

The client had a very specific building technique for the fabrication and erection, and needed an engineering solution that would meet their needs for functionality, timing and cost. Engenium was required to deliver reliable and operable temporary works design and fabrication drawings within very exacting timing and cost constraints.

Challenges to Overcome

An innovative installation and construction technique required bespoke temporary works design. The temporary works were required to operate under high loads at elevated heights as well as having tight geometric constraints dictated by the bridge geometry and the construction technique.

Smarts

Engenium provided several innovations to enable the client's requirements to be met:

- Integrated design modelling, saving time in interface clash checking and design dimensional data gathering.
- Integrated mechanical and structural temporary works design enabling the effective design of large structural machines to facilitate the required construction sequence.
- Existing building foundations were used reducing construction time and saving significant costs in the order of \$150,000.
- The use of winched pulley systems as a low cost and effective replacement for hydraulic drive systems.
- Innovative interface design of the building foundations to the temporary works structure enabling the movement of the temporary works units within the construction building grid system.

Project Outcome

The project enabled the client to successfully and safely undertake the required innovative fabrication and construction technique and achieve the expected time and cost benefits. Integrated 3D modelling for clash detections allowed the effective elimination of fabrication rework for the temporary works for all standard construction sequences.

Want To Know More?

For more information please contact our Perth office on +61 (0)8 6460 0300, email info@engenium.com.au, or visit our website www.engenium.com.au.

Delivering Value. Delivering Results.