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moddex®

MetCONNx Byford Rail Extension

Case Study

SMART BARRIERS FOR COMPLEX RAIL INTERFACES

Through a three year collaborative design process, Moddex delivered a fully compliant, custom engineered handrail and balustrade system for the Metconnx Byford Rail Extension Project.

The Metconnx Byford Rail Extension is a significant infrastructure project in Western Australia, extending the Armadale Line approximately 8 kilometres south to a new ground level station in Byford.

This extension aims to provide residents of Byford and the wider area with an easier 42 minute train journey to Perth's CBD, supporting one of Australia's fastest growing regions.

Inclusivity was a core value throughout the project, guided by the Public Transport Authority's (PTA) commitment to "A Western Australia for everyone." This motto reflects the PTA's dedication to ensuring that public transport services are accessible to all members of the community, including people with disabilities, seniors, and families with young children.

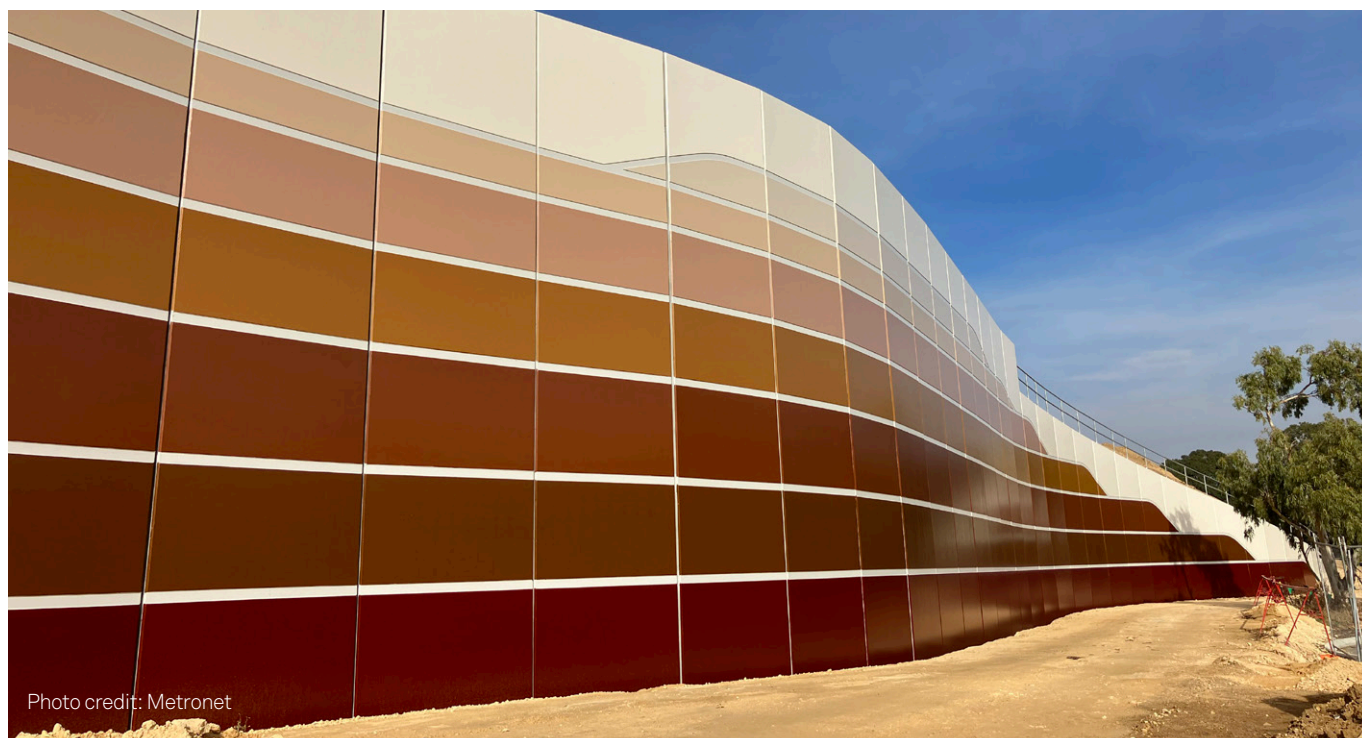
Similarly, solutions were sought for various parts of the project that ensured inclusivity and accessibility while helping beat the looming project completion deadline – and Moddex's prefabricated modular products were the perfect alternative to traditional on-site welding methods that would have typically taken much longer to fabricate and install.

THE CHALLENGE

The MetCONNx Alliance had to work through a lot of challenges, mainly due to the technical compliance requirements of the project. With the project falling under the jurisdiction of the Perth Transport Authority (PTA), all solutions had to meet their strict safety and engineering standards. This included eliminating Human Factor on-site and the integration of Galvanised Steel Troughs (GST) that housed the Signal cable – which had its own unique engineering specifications that had to be considered.

The MetCONNx Alliance also needed a system designed that could be installed onto large pre-cast concrete beams before they were transported, then lifted into place on-site.

Existing solutions lacked the flexibility to meet these compliance requirements. Traditional installation methods such as welded handrails would have required extensive work at heights along exposed edges, significantly increasing safety risks and prolonging the installation timeline.





THE MODDEX SOLUTION

Moddex worked closely with the Client and Engineers for at least 3 years prior to the works commencing to supply the following Moddex Products:

- Tuffrail® Industrial Handrail TR20 and TR30 and custom TR35
- Conectabal® Commercial Balustrades CB10, Custom CB20 and CB30

Partnering with Moddex gave MetCONNx Alliance a direct contact to eliminate a lot of their challenges. Being a modular system, Moddex could make multiple adaptations to our core product range to deliver a fit for purpose solution that eliminated multiple pain points:

Eliminated human factor on-site

A key driver behind Moddex's design approach for the project was the elimination of the human factor on-site, reducing risks associated with manual handling, working at heights, and complex on-site adjustments. Moddex designed a foldable base plate that allowed the balustrades to be pre-installed onto concrete beams before being transported and lifted into place on-site. This innovation reduced the need for high risk work at heights and ensured installation was significantly faster and safer – saving the client up to 75% of on-site install time.

Compliant to Perth Transport Authority Considerations:

As always, Moddex had to comply to the Australian Standard AS1428 for Design for Access and Mobility, but also to specific requirements set by the Public Transport Authority (PTA) of Western Australia.

The PTA is committed to providing accessible public transport services for all community members, including individuals with disabilities, seniors, and

parents with young children.

This commitment covers the design and construction of infrastructure elements such as handrails, which must be safe and accessible for all users. Moddex's solutions were developed in alignment with the PTA's Accessibility Policy, which aims to ensure that public transport services and facilities are accessible to all passengers, as far as reasonably practical.

Incorporation of Galvanised Steel Through (GST)

As part of the project, we had to incorporate Galvanised Steel Troughs (GST) with our handrails, where a steel tray was mounted to the side of the handrail to carry signal cables. This had specific engineering requirements and Moddex collaborated closely with the client and engineering teams to ensure that the handrail and balustrade systems were compatible with these GSTs and could hold the additional weight. In some sections of the project, two GSTs had to be accommodated, adding further complexity to the design and installation process.



Moddex is Australasia's leading supplier and manufacturer of innovative and pre-fabricated handrail, barrier and access systems. Pre-engineered for guaranteed compliance, their proprietary systems are load tested and configured to Australian and New Zealand Standards and Building Codes.

Moddex is committed to finding 'a better way', making it their mission to search for better solutions to the unique challenges of construction projects. Through their collaborations with designers and asset owners, Moddex continues to innovate its product portfolio in line with the company's vision to create pathways in work and in life.

To learn more about our products and specification services, get in touch with our team of experts.

AU: 1800 663 339 | info@moddex.com.au
NZ: 0800 663 339 | info@moddex.co.nz