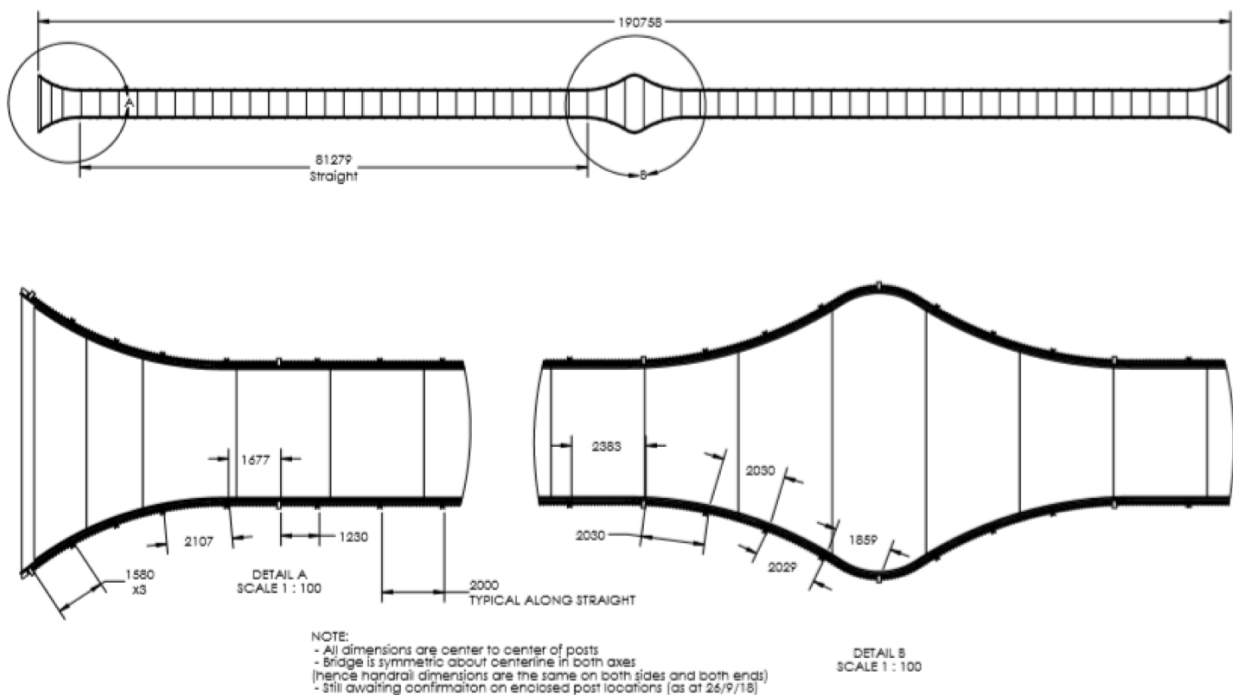


Case Study – He Ara Kotahi Bridge

Using Richie Rail 26

The Karaka tree inspired, this bridge is connecting the Esplanade and Ruha Street in Dittmer Reserve, New Zealand. The best view of the tree design can be seen from high above. The Karaka design has strong links to the history of iwi, Rangitāne. Generations of Karaka have lined Karaka Grove at Massey University, providing food and shelter for the people that once lived there.

The 190m long He Ara Kotahi cycle and pedestrian bridge connects to the Victoria Esplanade in Palmerston North City, and to Dairy Farm Road, which cuts through Food HQ to give access to Massey University.



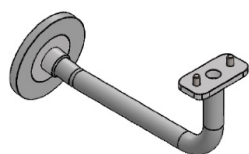
The Richie Rail 26 handrail was bent to conform to the curves of the bridge. The curves at the very centre of the bridge were too tight to bend the handrail to, so this area was done with standard round tube instead of RR26.



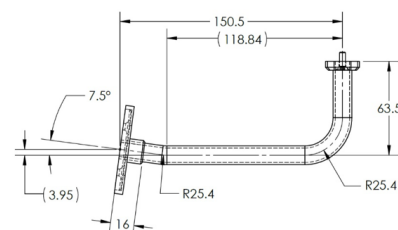
Lighting design was not initially considered and it wasn't until construction had begun that lighting became of concern. Fifth Season Design was appointed the lighting design consultants to deliver this project to the client - Palmerston North City Council.

The design was developed which incorporated a continuous illuminated handrail. The challenge was finding a complete handrail lighting system that could work with the design of the bridge. The engineers and designers had a challenging task to find the best option of continuous lighting by integrating one of the profiles into their handrail design.

Initial offer was to use Richie Rail 20 and the consultants saw that RR20 will solve a lot of the design challenges they were facing. They were prepared to redesign how the handrail would attach to the balustrade accordingly. However, engineers discovered that the fixing points were at 2m intervals and therefore the RR20 with a maximum span of 1450mm would not work. After long discussions, Richie Rail 26 was selected because of its possibility to span 2000mm and therefore became the best solution.



As an integral part of the balustrade a custom Richie Rail mounting bracket was designed. Although this suits the design it did not incorporate a method of connecting the power. To solve this a wall bracket was adapted with a longer and angled tube to connect to the RR26 and the post.



Design Challenges

1. The bridge had curved sections in the middle (viewing platform) and also at both ends. RR26 was bent for the first time ever.

2. The light driver location and frequency.



