



# New Ōpaoa River Bridge



**Locals and visitors to Marlborough will be well aware of progress on the New Ōpaoa River Bridge project, particularly the opening of the northbound lane to traffic in June, and the southbound lane shortly afterwards.**

Despite some delays to works due to the COVID-19 lockdown, the past months have seen an extraordinary effort from the wider team involved in building the new Ōpaoa River Bridge, conserving the original Opawa Bridge, and creating the prominent heritage gateway.

At this stage, construction of the new bridge is expected to be complete by the end of October. Work including final conservation and heritage measures will continue into November. This includes steam-cleaning the heritage bridge, the placement of two five-metre long panels that illustrate the story of Ōpaoa, and riparian planting of native species.

Barring any further COVID-19 interruptions, an official opening is planned for the end of November 2020.

We thank you whole-heartedly for your patience and support throughout this important project, from initial public consultation, through to navigation of the works as traffic was relocated to the new bridge. This has truly been a community effort, and has resulted in a fantastic community asset.



## Urban design the gateway to Wairau (Blenheim)

Conservation and heritage have been key priorities throughout the project, reflected in the urban design of the new bridge, and the recreation and gateway areas. Complex measures have been taken to preserve the original bridge for its protection and for the enjoyment of locals and visitors.

The new Ōpaoa River Bridge is deliberately simple and slender - though it's almost twice as wide as its predecessor - with octagonal piers that reflect the octagonal bowstring arches from the original.

Only three other bridges with this particular arch design remain in New Zealand, which makes preserving the original bridge important.

Cultural references and native plant themes help weave together the past and present, with harakeke (flax) elements appearing throughout the bridge design. Not only has harakeke been an important resource for iwi for hundreds of years, this area was also once home to a flax mill, making the plant a valuable part of the Ōpaoa story.

A stylised version of the harakeke and its flower appears along the new bridge's concrete side barrier. The patterns are repeated on several panels, with the motif fading from dark to light along the bridge's length.



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## Conservation and heritage

Heritage Conservation Architect Chessa Stevens, working with infrastructure consultancy WSP, came on board at the beginning of the project to create a Conservation Management Plan, aimed at ensuring the best possible preservation of the original Opawa Bridge.

Chessa specialises in conservation, restoration, renovation, and adaptive reuse of historic and character buildings and landmarks. She says the heritage bridge has been a fascinating project.

'It's been really satisfying to see this through from birth to fruition - and we're completing some of the last and most important processes to revitalise and preserve the bridge.'

Under Chessa's watchful eye, the old Opawa Bridge has been carefully steam-cleaned.

'This is the first time the bridge has ever been fully cleaned,' says Chessa. 'Steam is a good choice because it's very gentle and won't abrade the concrete, and it's effective at removing lichen, moss and other build-up. Keeping moisture to a minimum is important as well, as this has the potential to cause further damage.'

The next step will be to apply a special treatment specifically developed for historic structures, which will help prevent regrowth.

**'The bridge won't look like a brand-new structure after this work,' says Chessa. 'The aim isn't to get it perfectly clean and sparkling, but to give it a bit of TLC while maintaining the history and integrity. We're leaving some of the impact damage for example, because it tells the story of how the bridge was used by vehicles over the decades.'**



Under Chessa's watchful eye, the old Opawa Bridge is being carefully steam-cleaned.



Along with preservation, the Opawa Bridge will receive some upgrades, including state-of-the-art LED lighting, power points and tie-down points, and seating so the space can be used for local markets and recreation. It will also become a key part of the walking and cycling path alongside State Highway 1.

# Ten metres of storytelling

Artist, designer and storyteller Janet Bathgate has researched and written the two five-metre-long 'interpretive' panels that will sit on the southbound side of the bridge. These story panels will help visitors learn about and engage with the area, the bridge, and its historical importance.

Designed in 1912, the Opawa Bridge is a Heritage NZ Category 1 Historic Place, indicating a place of outstanding significance.

Janet worked over a two-year period with three local iwi, Te Rūnanga a Rangitāne o Wairau, Ngāti Toa Rangatira, and Ngāti Rārua, to gather stories about the abundant, complex history of Wairau. She also trawled through resources at the Marlborough Museum, as well as those used by Chessa Stevens in her conservation and heritage research on the original bridge.

The panels are illustrated with original photos, drawings, landscape paintings and maps.

'We can tell from the concrete bowstring arch truss that the designers of the bridge were pioneering innovators, highly aware of advances in international architecture,' says Janet.

She says there were several attempts to bridge the river before this, but flooding was a major issue.

'A rail bridge was in place for 30 years before the new construction, but with no official road or pedestrian access. Three years after work began, the new bridge opened in 1917.'

## Ōpaoa/Opawa River evolves from trade highway to bridged highway

From the time of the first Polynesian settlement of the Wairau, the Ōpaoa River was utilised as a "highway" for travel and trade. Following European settlement, river transport gradually declined as road and rail became the dominant forms of transport.

**Wairau – place of many waters**

European settlement of the Wairau Plains began in the late 1840s, it was a 30-hour overland journey along the coast to reach Wairau (today) for more than today's 20 minutes.

Ships from Wellington and Nelson served the fledgling settlement. They anchored off the Wairau River mouth and carried cargo on small boats up river to the confluence of the Ōpaoa and Taylor rivers. Here, a cluster of shanty towns became known as Blenheim Station and the growing town became known as Blenheim Town because of its low lying and flood-prone geography.

Early surveyors recorded the Ōpaoa River as Opawa River. The name was finally officially corrected to Ōpaoa River in 2018. One story behind the name is that when men, rising from the sea filled with water, giving the appearance of snakes.

**Ōpaoa – the place of smoky waters**

During earthquakes in 1848 and again in 1855, the level of the Wairau Plains dropped, increasing the depth of the Ōpaoa River. Larger trading vessels could now reach Blenheim Station. Expanding warehouses and small forges formed the nucleus of Blenheim, and regular Wellington-to-Blenheim shipping services became established on the river.

As Blenheim grew, the trading link between Picton and Blenheim strengthened, while shipping services declined and finally ceased in 1912 with the advent of the Cook Strait ferries. By this time, the Ōpaoa Bridge had become integral to New Zealand's state highway network and was a vital bridge link between the North and South Islands via the Port of Picton.

**Flooding of the Opawa River took over several bridges before reliable transport was established.**

The importance of a road link between Picton and Blenheim was recognised early in the development of the Wairau, but the first attempts at bridging the Ōpaoa River were short-lived. Major floods took out bridges on at least two occasions, in 1858 and 1877. The flood took the life of coach driver Mr. Hudson and his horses. Crossing the river reverted to ferry and punt.

Flooding was a problem for decades, with flows from the Wairau River pouring down the Ōpaoa River. Extensive flood protection works were eventually carried out across the plain. Stop banks constructed near Blenheim cut the main Ōpaoa flood source, and the Wairau River Diversion allowed part of the lower Wairau flow to run directly into the sea.

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Mr. Hudson, the owner of the vessel, had been engaged in the business of carrying passengers and cargo between Picton and Blenheim. The vessel was carrying a large quantity of goods, and was valued at £1000. The vessel was wrecked on the 18th inst. and the goods were all lost. The vessel was insured for £1000, and the loss was £1000. The vessel was insured for £1000, and the loss was £1000. The vessel was insured for £1000, and the loss was £1000.

Following the 1877 flood that caused the road bridge to collapse, a combined road and rail bridge was considered. The Picton-to-Blenheim line terminated at the northern bank of the Ōpaoa River and locals were keen to see it extended into town. However, a second rail-only bridge was eventually constructed in 1920.

Despite not being designed for other traffic, the rail bridge was an attractive alternative to ferry crossings. It became a heavily used, multimodal shared-use bridge, and remained this way for 37 years before a traffic-only bridge was built.

The rail bridge you look out at today was a replacement, built in the late 1930s as part of a major upgrade of the Main Trunk Line.

**river gave way to road and rail**

**the Ōpaoa River was the main trade highway**

**1848** Wairau Plain surveyed for settlement    **1856** Beaver Town sections surveyed    **1869** Road bridge over the Opawa River built at end of Grove Road    **1877** Road bridge over Opawa River collapses in heavy flooding    **1880** Railway bridge over Opawa River constructed

**1848** Marlborough Earthquake    **1855** Wairarapa Earthquake    **1859** Province of Marlborough gazetted    **1869** Blenheim becomes a Borough    **1875** Picton-to-Blenheim railway line opens, terminating at the north bank of the Opawa River

## Examples of the interpretative panels.

## A new century, a new design

By the turn of the 20th century, the once state-of-the-art Opawa Bridge was no longer efficiently serving State Highway 1. A new bridge over the Ōpaoa River, designed in 2016 with construction started in 2018, opened to the public in 2020.

**The 3.4km distance between banks on Blenheim's "Banana Bridge" was causing major traffic problems. Articulated trucks required the whole contingency width to cross, which caused long queues of cars at either end. The bridge was also vulnerable to damage from earthquakes and floods.**

An investigation by the Waka Kotahi NZ Transport Agency in 2015 found that a new bridge over the Opawa River was required to keep people and goods moving safely and efficiently.

The following year a final plan for a new \$21 million bridge was agreed, and construction company Clewley reported to build it. The two-lane bridge, 185m long and 10m wide, would be stronger, safer, and better able to withstand the impact of earthquakes and flooding.

**When started in 2018, the construction project team put some innovative techniques to use.**

The bridge is located in an area with very loose, sandy silt deposits, meaning poor bearing capacity, and potential for ground subsidence. The aim is also prone to hydrocarbon and lateral spreading in earthquakes.

To counter this, the foundations for the new bridge were strengthened by adding hundreds of stone columns into the surrounding ground, up to 10m deep, at the northern and southern abutments.

**In addition to deep abutment foundations, each bridge pile is 2.6m in diameter with a 60mm thick steel casing filled with reinforced concrete, and extends approximately 24m under the ground to bear on a large gravel layer.**

The main superstructure was created in one place with no expansion joints at each pier, reducing noise and vibration.

The new bridge was designed to be as thin and simple as possible to not detract from the adjacent heritage bridge, and the tapered pier stems above ground reflect the bowstring arches on the 1917 bridge.

**innovative construction methods were used for the new bridge over the Ōpaoa River**

**1980s** Large commercial vehicles finding the bridge a challenge    **2004** Concrete and seismic repairs undertaken    **2014** Opawa Bridge chosen for investigation    **2018** Site work for new bridge begins    **2020** New Opawa River Bridge opens

**1980s** Ministry of Works & Development plan to convert the Opawa Bridge into a single-lane bridge; this does not proceed    **2014** Opawa River gazetted as Opawa River



## From landscaping to landscapes

Jim Gardiner is used to getting his hands a bit dirty while working on the new Ōpaoa River Bridge project, but these days it's just as likely to be from his love of paintbrushes and oils.

The Blenheim local's not only part of the hard-working project team, he's also the project's resident painter.

**'It was in my early 20s when I started to get into it - studying nature, light on subjects, how the effects of light can change tone and depth perception. I'm what you call a landscape artist, I appreciate anything in nature - oceans, mountains, waterfalls, the light coming through leaves in forests.'**

While he has been painting for about eight years, it was only when he started work on the Ōpaoa River Bridge that he was encouraged to try something different.

'This is the first time I've done a structure, so it was more of a learning experience. I was at the local tavern, where we drink on Friday nights and people realised I was an artist. They all started saying, 'you should paint the bridge, Jimmy!' I had thought about it while I've been working here, and it was a no-brainer. I thought I'd have a go at it, and then I brought it in.'

His workmates were so impressed at the first-up effort that they organised a whip-around, presenting the painting to a retiring colleague, Downer Project Manager Paul Cunliffe, as a farewell gift.

'I heard it's over forty years he's been working for Downer. So, I was happy that it's in good hands and he has some sort of memory of what he's accomplished.'

Jim says that seeing the pleasure his paintings give others is always rewarding, but it's also the challenge of accurately capturing a subject that keeps him coming back to the canvas.

'You just get lost with it. You've got to look for something you want to persevere with, and for those tonal ranges. It's really a study after that - you want to get the shapes right, the brushwork - it's a bit more of a science at the later stages, the finishing touches.'

While he's never considered making a living out of painting, Jim says he's definitely open to further commissions.

'If NZTA want me to do a painting of the Auckland Harbour Bridge, that'd be nice!'



Visit our website for more information on this project:  
[www.nzta.govt.nz/projects/new-opaoa-river-bridge](http://www.nzta.govt.nz/projects/new-opaoa-river-bridge)