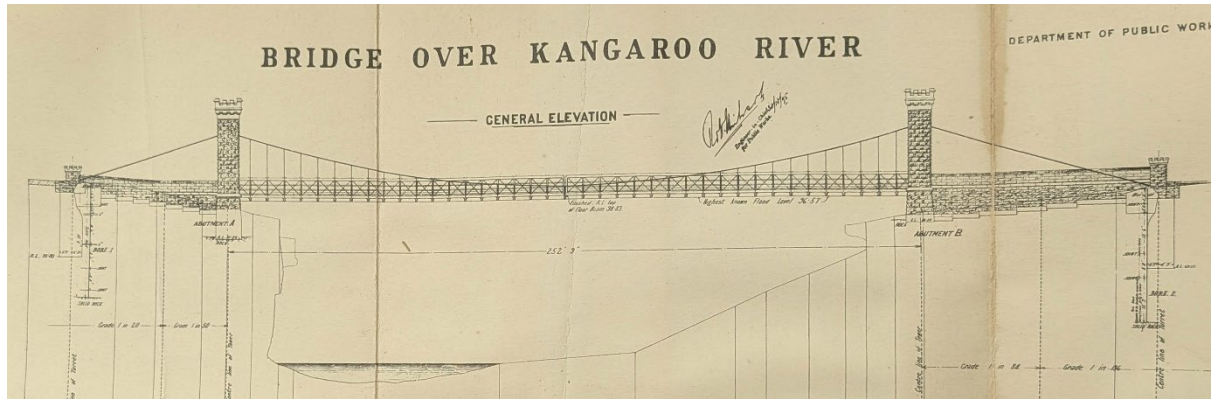


“Bridge Over Kangaroo River”



Historical Section of the larger 2025 Report by the Save the Hampden Bridge Technical Group

Draft 4.0

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Hampden Bridge: Liberty, Progress and Federation

Hampden Bridge was officially opened on 19 May 1898, two years before Australian Federation. The NSW Minister for Works, J.H. Young, gave the dedication speech and formally bestowed the name before a crowd of 400. The choice was deliberate and symbolic, reflecting the Valley's strong pro-Federation sentiment and the era's celebration of British constitutional heroes (Kangaroo Valley Times, 24 May 1898; Kiama Independent, 24 May 1898).

The name references Governor Lord Hampden (Henry Robert Brand, 2nd Viscount Hampden, Governor of NSW 1895–1899), proposed by **Engineer-in-Chief Robert R. P. Hickson** as a courteous tribute to his tenure. Young approved after receiving the Governor's consent (Sydney Morning Herald, 20 May 20 May 1898).

Young himself made the double meaning explicit three years earlier when he opened Wagga Wagga's Hampden Bridge (1895): "Mr. Young said the bridge was to be named the Hampden Bridge in honor of their new State Governor, Viscount Hampden; but good and worthy as that gentleman might prove himself to be, he hoped the people of Wagga would never forget to associate the bridge with the illustrious patriot (John Hampden), who had fought for the liberties of Englishmen over 250 years before." (Daily Advertiser, 10 October 1938).

Local sentiment was even more explicit. A correspondent who signed his letter "Kangaroo Valley" wrote to the *Shoalhaven Telegraph*: "If the bridge had been named the John Hampden I fancy a nicer compliment would be paid to his Excellency... In this age of social, political and religious caterpillars and grasshoppers, it is refreshing to read the history of such men. They never bowed down to or worshipped the Golden Calf; they felt and acted if they were sent into the world to perform duties instead of enjoying privileges." (Shoalhaven Telegraph, 28 May 1898).

Hampden Bridge in Kangaroo Valley thus stands as one of the clearest built expressions of the late-1890s belief that Australia's coming nationhood was the natural continuation of the long struggle for parliamentary liberty that began with John Hampden's refusal to pay an illegal tax in 1637.

Building Hampden Bridge (1895–1898)

The headline in the *Shoalhaven Telegraph* on 4 April 1896 was “A Magnificent Bridge” – a new suspension bridge to be erected over the Kangaroo River, close to the old wooden bridge on the upstream side. To carry the cables, a pair of 42 ft high and 8 ft square towers of sandstone masonry, quarried from the immediate vicinity, would rise on each bank. The deck would sit 60 ft above the river, with a total length of 928 ft including approaches. The contractors were Messrs Loveridge and Hudson, and the designer was Ernest de Burgh, Assistant Engineer for Bridges, under the supervision of Chief Engineer for Bridges Robert R. P. Hickson (1896, 4 April).

The hand drawn bridge tender documents are a wonder to behold. The reproductions here come from a copy of the tender documents held in the Mitchell Library which were owned by W.S. Scott whose family became intertwined in the Upper River with other pioneering Valley farming families. From this we can discern that many farming families worked on or were contracted for different parts of the production process.(de Burgh)

We reproduce the five original figures here as a tribute to the early bridge builders of NSW and also a reminder to the 21st century of the care and craftsmanship that went into the construction of a simple bridge across the Kangaroo River in 1898.

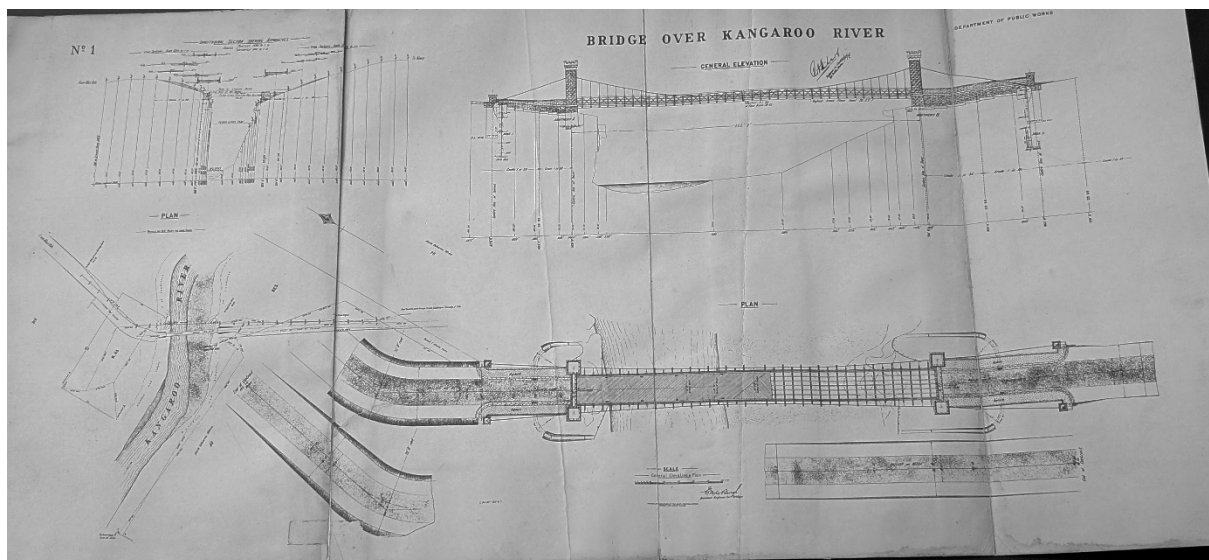


Figure 1 – General Elevation and Plan, 1895 (Mitchell Library, Q624.23/1 – Sheet No. 1) Signed by Robert Hickson and E.M. de Burgh – the classic side view that has appeared on countless postcards.

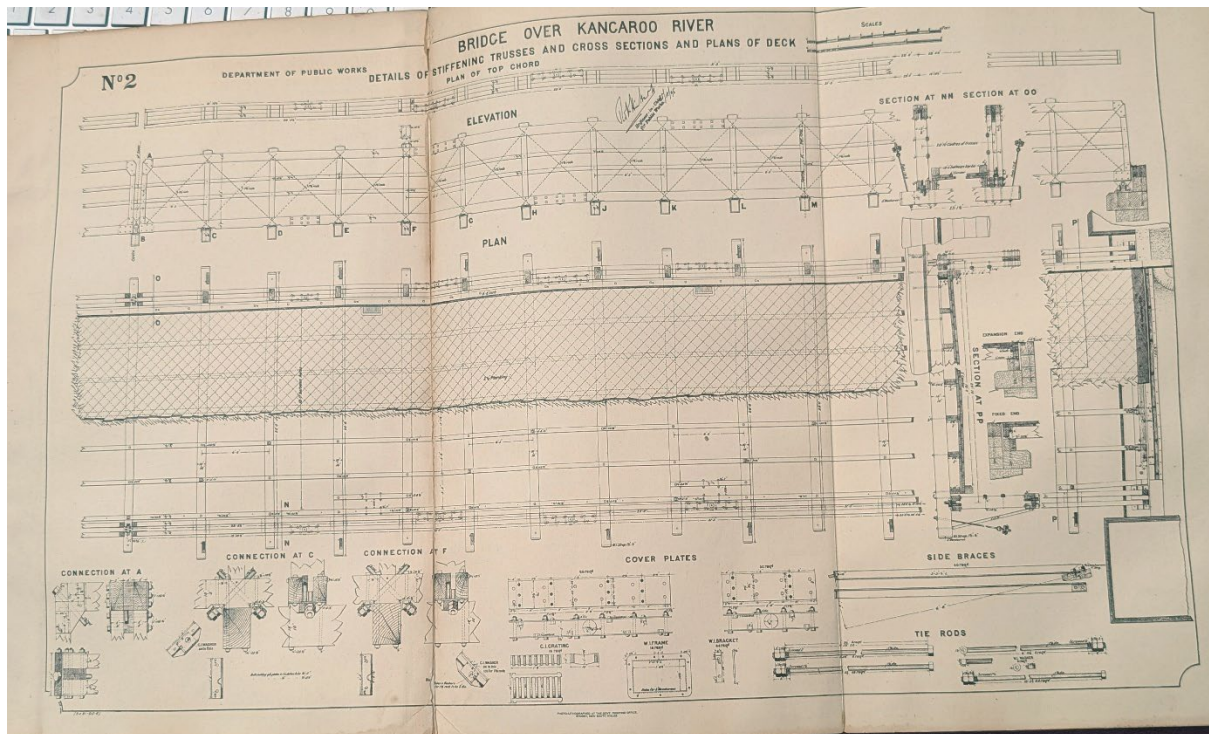


Figure 2 – Details of Stiffening Trusses and Cross Sections and Plans of Deck, 1895 (Mitchell Library, Q624.23/1 – Sheet No. 2) Pratt truss 4.27 m deep, Oregon pine chords, steel diagonals, 18 ft roadway + 2 × 1.2 m footways.

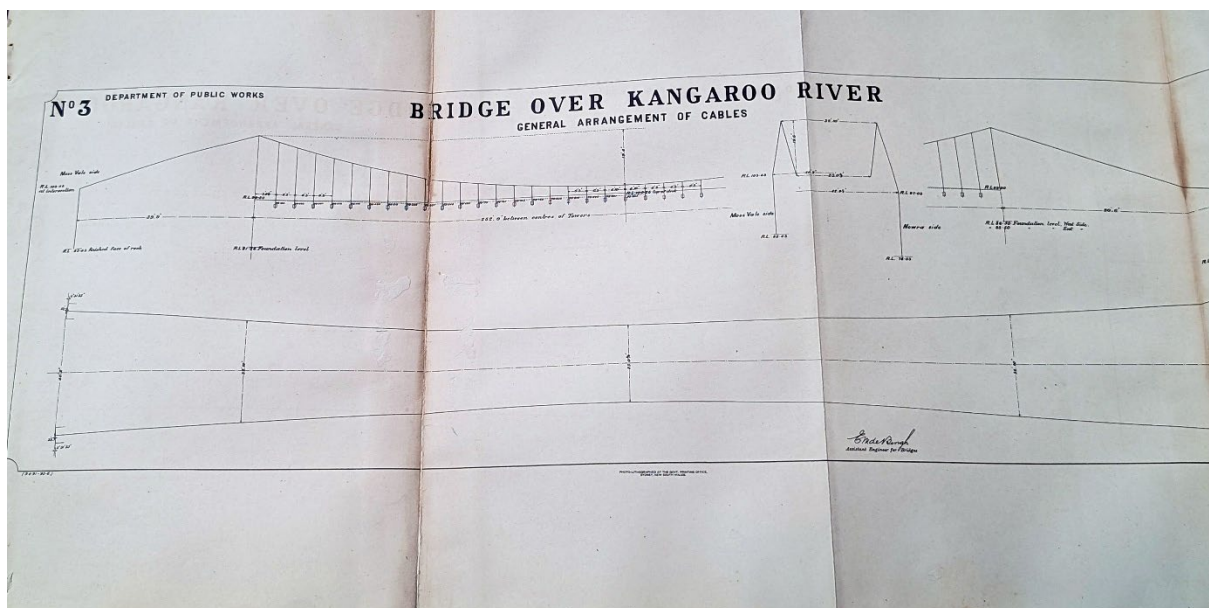


Figure 3 – General Arrangement of Cables, 1895 (Mitchell Library, Q624.23/1 – Sheet No. 3) 28 ropes in 4 hexagonal nests of 7, 1½ inch circumference each, 180 ft long, 80–90 tons ultimate strength per rope.

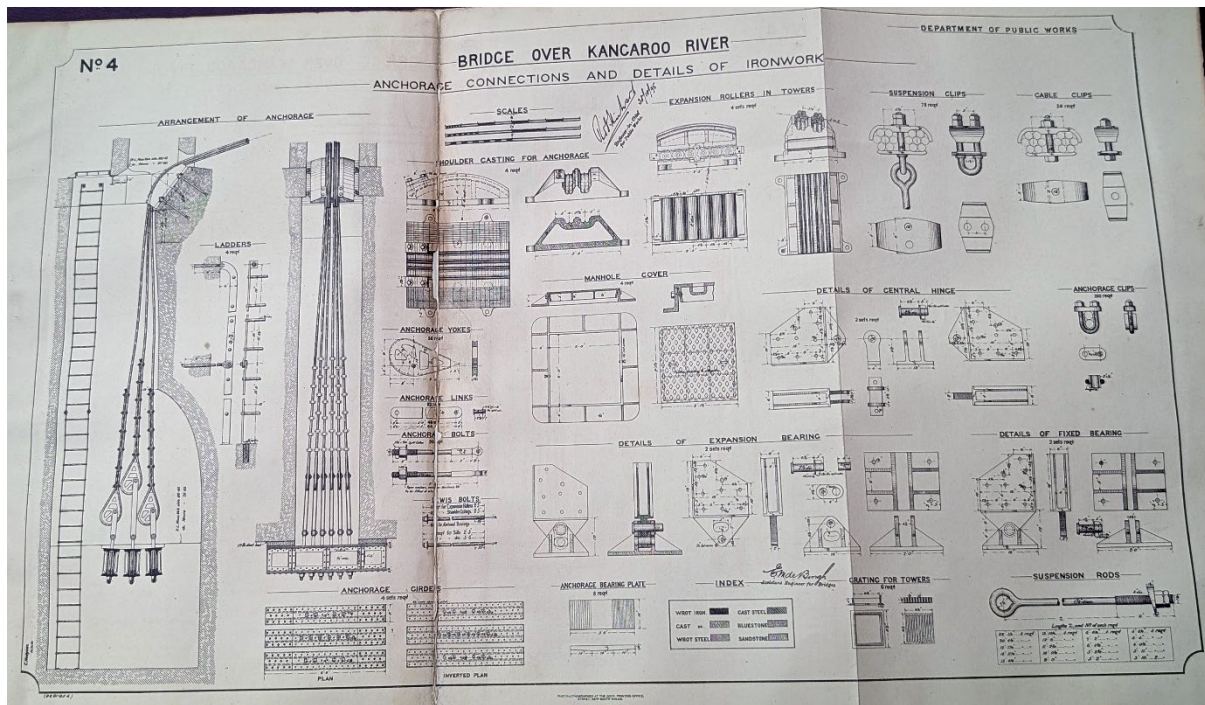


Figure 4 – Anchorage Connections and Details of Ironwork, 1895 (Mitchell Library, Q624.23/1 – Sheet No. 4) Dovetailed anchorage girders cut 24 ft into solid rock, expansion rollers in towers, suspension clips – the “umbrella spokes” of 1897.

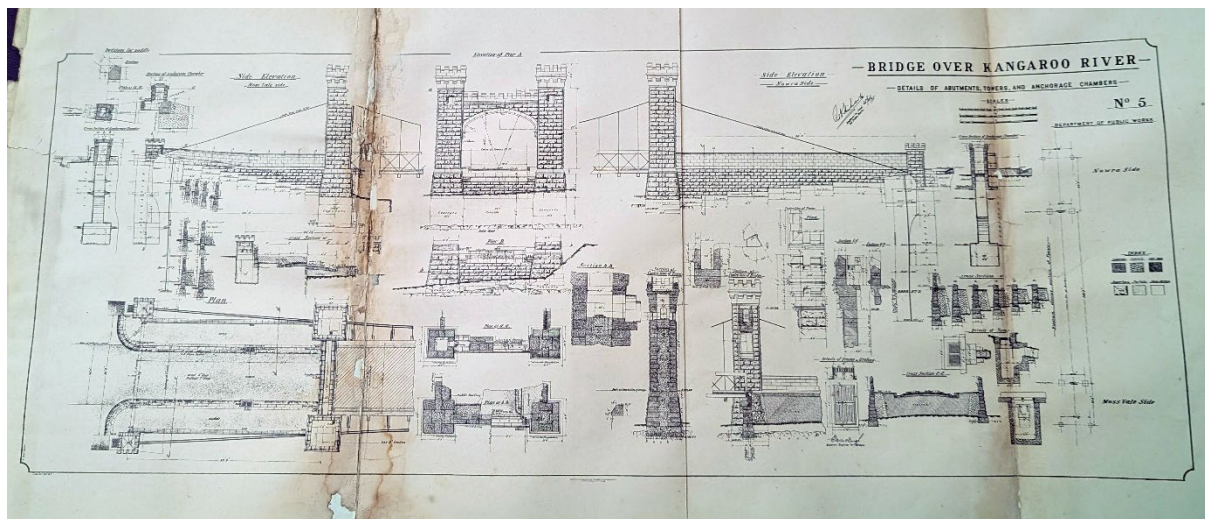


Figure 5 – Details of Abutments, Towers and Anchorage Chambers, 1895 (Mitchell Library, Q624.23/1 – Sheet No. 5) Towers 42 ft high, 8 ft square at base, battered 1:20, parabolic relieving arch, drainage tunnels – the arch whose keystone Miss F. Comer laid on 6 June 1896.

The work of building the bridge began in 1895. We have several public works and newspaper accounts of the progress of building the bridge.

6 June 1896 – Laying the Keystone On Saturday 6 June 1896 Miss F. Comer laid the keystone of the eastern pier’s parabolic relieving arch. She climbed the ladder, stood unsupported on the centre of the arch, and trowelled cement for fifteen minutes. The traditional question rang out: “Is the stone well and truly laid?” The cornermen answered with a resounding “Aye!” In the

evening the contractors' men toasted "the fair keystone setter" at the Commercial Hotel until 11 p.m. (1896, 06 June).

October 1896 – March 1897: Digging into the Gorge Dare records the work beginning on 14 October 1896 with excavation for the western anchorage, seven labourers and two bullock teams struggling in wet ground. By 22 November the contract had been awarded and foundation work on the western tower was under way (Fraser 1985).

April – September 1897: Towers Rising By June 1897 the eastern tower foundations were complete, eight stonemasons laying Gothic courses with two-ton blocks (DJ. 1985). The heat was brutal – Dare noted temperatures of 38 °C in the shade. De Burgh visited on 18 June and wrote that the battered bases (1:20) were holding firm (de Burgh 1897, June 18).

July–August 1897 – The Cables Go Across On Friday 9 July 1897 the first of the twenty-eight wire-rope cables was drawn across the river and christened with local "Pioneer" brew (Kangaroo Valley Times, 10 July 1897). By 7 August twenty ropes were permanently fixed, their suspension bolts dangling "like a lot of umbrella spokes" (1897, 7 August).

The Anchorages – The Secret of 127 Years of Immovability The cables are held not by concrete or friction, but by the gorge itself. From each bank, a long horizontal tunnel (adit) was driven at right angles to the bridge into the solid sandstone cliff – 98 ft 6 in (30.02 m) long on the Nowra (north-eastern) side and 65 ft 6 in (19.96 m) long on the Moss Vale (south-western) side. These tunnels lie entirely behind the line of the towers and do not pass beneath the roadway. At the landward end of each tunnel, the twenty-eight cable ropes drop vertically 24 ft (7.32 m) inside a shaft to a massive cast-iron anchorage girder, dovetailed and keyed into the rock on all sides. The weight of the entire cliff above provides the holding force. A smaller drainage adit keeps the chamber dry. A walk through them brought to remembrance the catacombs of Egypt – dark, echoing passages where the cables were secured, ready to hold against floods for centuries (1897, 10 July);.

See Figure 5 – Details of Abutments, Towers and Anchorage Chambers, 1895 (de Burgh 1895, October 30) Figure 5) Showing the two horizontal anchor chambers driven north-east (30.02 m) and south-west (19.96 m) into the gorge walls, with cables descending 7.32 m to dovetailed anchorage girders – all on the land side of the towers, not under the deck.

When the miners finished the **drainage tunnel** that runs from the bottom of each anchor chamber out to the river face, they were breaking through the last few feet of sandstone into the flooded chambers.

For weeks the vertical anchor shafts (24 ft deep) had been filling with groundwater that seeped through the rock joints after heavy rain. Because the chambers were sealed at the front while the tunnel was being driven, the water had nowhere to go – it built up to the top of the shafts, creating a head of pressure. The moment the final cross-cut (the connection between the two shafts on one side) was opened, **all that trapped water exploded out of the tunnel mouth in a single violent surge** – a "mill-race" (a fast, powerful stream like the one that turns a water-mill wheel). It shot across the riverbank with such force that two pedestrians on the old timber bridge (only a few metres away) were startled by the sudden roar and spray. The reporter described it as "a sudden appearance of a mill-race running out of the mouth of the tunnel" (1897, 10 July).

The Team

- Designer: Ernest Macartney de Burgh CMG – Assistant Engineer for Bridges (reporting to Chief Engineer Robert R. P. Hickson)
- Resident Engineer / Superintendent: Harvey D. Dare / James Rorison
- Contractor: Loveridge and Hudson, Sydney
- Labour: Stonemasons, labourers, and bullock drivers from Sydney and the Valley
- Peak workforce: ~50 men
- Valley farmers and workers including W.S. Scott

October 1897 – May 1898: The Final Push In October the Pratt truss sections were hauled down the escarpment by four bullock teams – one team bolting at a hairpin bend and delaying the convoy for hours (O'Connor, 1985). By 3 March 1898 the hardwood decking was complete and the bridge was ready for traffic (O'Connor 1985).

19 May 1898 – Opening Day Four hundred locals gathered on the new deck. The bridge was formally opened by Minister J.H. Young, who declared it open for traffic and read a congratulatory letter from Lord Hampden. The name “Hampden” was unveiled, the crowd cheered, and a banquet for 100 guests followed at the Commercial Hotel. The health of the Minister, Engineer-in-Chief Hickson, designer de Burgh, and the contractors were toasted with musical honours (1898, May 24); (1898a) (1898, May 20).

The First Great Test – February 1898 Three months before the official opening, the Kangaroo River delivered its verdict. Over 24 inches of rain fell in three days. The river rose 56 ft, coming to within 9 ft of the new deck and turning the valley floor into a 1½-mile-wide lake. The old timber bridge was torn away at dawn. Horses, cattle, and pigs were seen floating past the township. Families fled to higher ground in the night. The National Hall filled with 5 ft of water; the piano floated onto the stage and the Freemasons' regalia was destroyed. No lives were lost, but the flood left the Valley stunned – and grateful that de Burgh's bridge stood untouched (1898b).

28 months. £11,873. ~50 men at peak. One broken arm, two cases of fever, countless blisters – and not a single life lost.

They fought for twenty years to get it. They built it to last forever. 127 years later, it still stands. Let it be the centre of our community and road system for another 127 years.

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