

# CITY OF SOUTH PERTH LOCAL HERITAGE INVENTORY

Management  
Category

A+

## PLACE RECORD FORM

Prepared by *Heritage Today*, March 2000  
Most recent update by City of South Perth, November 2015

Place No: **MPt 3**      **Narrows Bridge**



(Gina Fraser, City of South Perth, June 2007)

### LOCATION

|                                   |   |
|-----------------------------------|---|
| <b>Name of Place</b>              | <i>Narrows Bridge</i>   |
| <b>Other / former names</b>       | Main Roads Western Australia Bridge No. 953   |
| <b>Address</b>                    | Swan River and Perth Lot 920, 921; Res 33804  |
| <b>Suburb</b>                     | Perth, South Perth  |
| <b>Local Government Authority</b> | City of South Perth   |
| <b>Scope of listing</b>           | This heritage listing applies to the 1959 traffic bridge, the 2001 traffic bridge and the 2007 railway bridge, which all comprise the <i>Narrows Bridge</i> |

### LISTINGS BY OTHER BODIES

| <b>Name of Body</b>                   | <b>Reference No.</b> | <b>Grade of Listing</b> | <b>Date</b>   |
|---------------------------------------|----------------------|-------------------------|---------------|
| Heritage Council of Western Australia | 4795                 | Permanent               | 23 April 1999 |

**LAND DESCRIPTION**

| Reserve No.  | Location No. | Plan/Diagram | Vol/Folio               |
|--------------|--------------|--------------|-------------------------|
| 33804, 37594 | 920, 921     |              | V3040 F55<br>V3043 F251 |

**PERIOD**

|                          |  |
|--------------------------|--|
| <b>Design Style</b>      | Two detached five span pre-stressed concrete bridges with a railway bridge between |
| <b>Construction Date</b> | 1959, 2001, 2007   |
| <b>Source/Details</b>    | Heritage Council of WA Assessment July 1998  |

**USE(S) OF PLACE**

|                       |                          |
|-----------------------|--------------------------|
| <b>Original</b>       | Road bridge              |
| <b>Present</b>        | Road and railway bridges |
| <b>Other / former</b> |                          |

**HISTORICAL NOTES**

*This information is partially drawn from the Heritage Council of WA Assessment prepared in July 1998 and partially from City records.*

The *Narrows Bridge* is important in the history of the development of the City of South Perth and the whole of Perth. It is the first physical manifestation of the Stephenson-Hepburn Plan of 1955, which contributed to the development of the Freeway road systems in Western Australia and Perth Metropolitan Region Scheme from the 1960s. The northern extremity of the Mill Point Peninsula is known as Point Belches. The *Narrows Bridge* spans the portion of the Swan River between Point Belches and the foot of Mt Eliza.

The *Narrows Bridge* was built in 1959. Discussions about how to bridge the narrow neck in the river, known as 'the Narrows', between Perth Water and Melville Water, first took place in the 1840s. However, priority was given to a causeway to the east of the Perth CBD, which was opened to traffic in May 1843. The first means of crossing from Point Belches to the foot of Mt Eliza, the closest point, was via a pole punt carrying horses, riders and cargo from 1833.

Then in 1901, the debate was reopened with a parliamentary report, and the first plans were drawn up under the State Engineer, Mr C S R Palmer. Palmer envisaged the bridge as a wooden pile and deck bridge, 905 feet (276 m) long, carrying two lanes of vehicular traffic and two pedestrian paths. Depending on which design was chosen, his estimated cost varied from £31,500 (\$63,000) to £50,000 (\$100,000).

Access to South Perth at this stage was by ferry, or via the Causeway. The issue of a bridge across the Narrows caused division within both the South Perth Council and the community. Local residents objected on the grounds that it would spoil the view to and from the city. Direct road access to South Perth from the CBD was favoured by land and property developers, but was resisted by those who wanted South Perth to retain its quiet residential character and did not want a main highway passing close to their properties. At this time, many of the South Perth residents were daily commuters between the peninsula and the City of Perth. The ferry and tram system was a constant source of dissatisfaction among the commuters. By 1935, a Road Board publication referred to the bridge as inevitable and from about 1952 onward, the pressure for a bridge became really intense.

**HISTORICAL NOTES (cont'd)**

Largely as a result of the Stephenson-Hepburn Report released in 1955, a decision was made at State Government level to proceed with the construction of a bridge. In 1955, eminent consulting engineers,

Maunsell and Partners of London and Melbourne, were appointed consulting engineers. Also involved were consulting architects, Sir William Holford and partners in the UK. In March 1957 a tender of £1,700,000 (\$3,400,000) was accepted from Christiani and Nielson, in association with J O Clough & Son (Pty) Ltd of Perth. (The final cost of the bridge was 34 times the estimate of the 1901 plans).

Construction of the bridge involved reshaping Point Belches and taking about 200 feet (61 metres) off the shoreline, reclaiming a controversially large extent of Perth Water and changing the character of the view of Perth from Mt Eliza. At one stage, the name of the new bridge was to be the 'Golden West Bridge', but this decision was later reversed, and the *Narrows Bridge* was officially opened on Friday 13 November 1959.

The *Narrows Bridge* included entry and exit ramps at South Perth near the tip of the peninsula. Initially, the entry from South Perth onto the freeway was in the form of a loop road under the Bridge via South Perth Esplanade; and the exit from the freeway into South Perth was a simple ramp that connected to the northern end of Mill Point Road. However, by 1967, congestion caused traffic movements to be re-examined. The local roads were modified to close the original entry ramp and create new north- and south-bound entry ramps and a south-bound exit ramp at Judd Street, while also modifying the north-bound exit ramp at the tip of the peninsula. This had the benefit of reducing traffic at the northern end of Mill Point Road and South Perth Esplanade.

In the 1970s, owing to an increase in traffic volumes and congestion across the bridge, (at peak hour in the morning an average of 2,700 cars per lane used the bridge), plans were floated for a second bridge alongside the original *Narrows Bridge*. This did not eventuate until 1998 when plans to add additional lanes to the bridge were announced.

The decision to duplicate the *Narrows Bridge* was opposed by South Perth residents, who feared greater traffic noise and an ugly skyline. Eventually, in 1998, plans to add additional lanes by duplicating the bridge were announced. Work began on the duplicate bridge in May 1999, with Leighton Contractors test piling on the site. The new bridge is situated 6 metres west of the original bridge.

In October 2001, after more than two years of construction, the second road bridge opened alongside the original *Narrows Bridge*. The new bridge was designed to carry north-bound traffic, doubling the capacity of the original 3 x 3 lane bridge and including a dedicated bus lane on each bridge. The construction was achieved without the need to widen the existing freeway reserve, or undertake further reclamation of the river. The second bridge very closely imitates the design of the first bridge. Considerable renovations to the original bridge were also undertaken as part of this work.

In 2005, further construction work commenced on the dual *Narrows Bridge* to accommodate a two-way railway line. This was part of a new railway line located between the opposing traffic lanes of the Kwinana Freeway; and extending from the Perth central business district to Mandurah. The work on both bridges was completed in 2007, accommodating south-bound lines on a new railway bridge constructed in the 6.0 metre gap between the two road bridges. The north-bound tracks are laid on the north-bound (western) road bridge which opened in 2001.

**DESCRIPTION**

The *Narrows Bridge* comprises three separate bridges which appear to be one single bridge. These are the original road bridge (1959) to the east, a duplicate road bridge (2001) six metres to the west, and a railway bridge (2007) situated between them. Having the appearance of a single structure, the *Narrows Bridge* is a strong landmark element of the landscape which comprises the Perth central business district near the northern end of the bridge, the natural landforms of the Swan River and Mt Eliza and, near the southern end, the rising residential buildings in South Perth.

The original 335 metre long pre-stressed concrete road bridge, said to be the largest of its type in the world when it was constructed, is built on hollow steel cylinders filled with reinforced concrete and driven about 34 metres below the river's surface. The original six-lane *Narrows Bridge*, on foundations sunk into reclaimed mud flats, is fixed at its northern end and rolls on ball bearings at its southern end to cope with expansion. The construction involved innovative engineering technology at the time, and utilised structural design, techniques and materials appropriate to a structure required to be low-profile in a visually critical location, with difficult foundation characteristics.

The second road bridge, constructed in 2001, closely follows the design of the original bridge. The railway bridge, centred between the two road bridges, is almost undiscernible from a distance, apart from some vertical infrastructure at intervals along the bridge. At night, the bridges are illuminated, making the *Narrows Bridge* a prominent landmark at all times.

**ASSOCIATIONS****ASSOCIATION TYPE**

|                                      |  |
|--------------------------------------|--|
| Professor Gordon Stephenson          | Eminent Town Planner responsible for the Stephenson-Hepburn Report and the Freeway road system |
| Maunsell & Partners, UK              | Consulting engineers   |
| Sir William Holford and Partners, UK | Consulting architects  |

**HISTORIC THEME / Sub-theme****CATEGORIES OF SIGNIFICANCE**

|   |                |
|---|----------------|
| Transport and Communications/ <i>Road Transport</i> | Aesthetic      |
|   | Historic       |
|   | Scientific     |
|   | Social         |
|   | Representative |

**RATING AND ASSESSMENT****High****Low**

|  |     |     |   |   |   |
|--|-----|-----|---|---|---|
| Aesthetic value (streetscape, setting) | 1 ✓ | 2   | 3 | 4 | 5 |
| Architectural merit (design features)  | 1 ✓ | 2   | 3 | 4 | 5 |
| Rarity value                           | 1   | 2 ✓ | 3 | 4 | 5 |
| Value as part of a group/precinct      | 1 ✓ | 2   | 3 | 4 | 5 |
| Condition                              | 1 ✓ | 2   | 3 | 4 | 5 |
| Integrity                              | 1 ✓ | 2   | 3 | 4 | 5 |

## STATEMENT OF SIGNIFICANCE

The *Narrows Bridge* has aesthetic, historic, scientific, social and representative cultural heritage significance. The bridge is a prominent Perth landmark, and is highly visible at all times, being illuminated at night. The bridge was a major component of the Stephenson-Hepburn Plan of the 1950s, which laid the groundwork for the development of the Freeway road systems in Western Australia and the Perth Metropolitan Region Scheme. Construction of the bridge required innovative engineering technology at the time. The *Narrows Bridge* demonstrates the characteristic slim profile and structural form of pre-stressed concrete bridge design which developed in the 1950s. The duplicate *Narrows Bridge*, constructed in 2001, completely complements the original bridge and strengthens the significance of the bridge in this location. The *Narrows Bridge* has social value as the main north-south access across Perth Water, and for its continuous use as a traffic bridge since 1959.

## MANAGEMENT RECOMMENDATIONS

### Management Category A+ : Exceptional significance – Registered

Conservation essential. Essential to the heritage of the locality. Rare or outstanding example. Registered by the Heritage Council of Western Australia. Demolition or significant alteration to a place in Management Category A+ of the Heritage List is not permitted. Any alterations or additions are to be guided by a Conservation Plan, if any, and reinforce the heritage values of the place.

## SUPPORTING INFORMATION / BIBLIOGRAPHY

- Heritage Council of WA Assessment Report July 1998.
- Florey, Cecil C. *Peninsular City: A Social History of the City of South Perth*, City of South Perth, WA, 1995.
- City of South Perth Municipal Heritage Inventory (No. 1) 1994.
- Reviews of Municipal Heritage Inventory by *Heritage Today* in 2000 and 2006.
- Article in the *West Australian*, 13 April 1998.
- Heritage Today's updated Place Record Form, March 2000.

## HISTORY OF HERITAGE LISTING BY CITY OF SOUTH PERTH

|  | Date Adopted by Council |
|--|-------------------------|
| Initial listing in MHI                                       | December 1994           |
| Update of MHI  | February 1996           |
| Update of MHI  | December 1996           |
| Update of MHI  | December 1997           |
| Review of MHI by <i>Heritage Today</i>                       | June 2000               |
| Update of MHI  | June 2002               |
| Update of MHI  | March 2003              |
| Review of MHI by <i>Heritage Today</i>                       | February 2006           |
| Interim Heritage List – Policy P313 'Local Heritage Listing' | April 2013              |
| Updated in renamed LHI                                       | November 2015           |





**The *Narrows Bridge* comprising two traffic bridges with a central railway bridge.**  
*(Gina Fraser, City of South Perth, June 2007)*



**The three *Narrows Bridges*, looking north from South Perth - the original 1959 bridge on the right (east), the newer (2001) traffic bridge on the left (west), and the 2007 railway bridge in the centre.**  
*(Gina Fraser, City of South Perth, December 2014)*

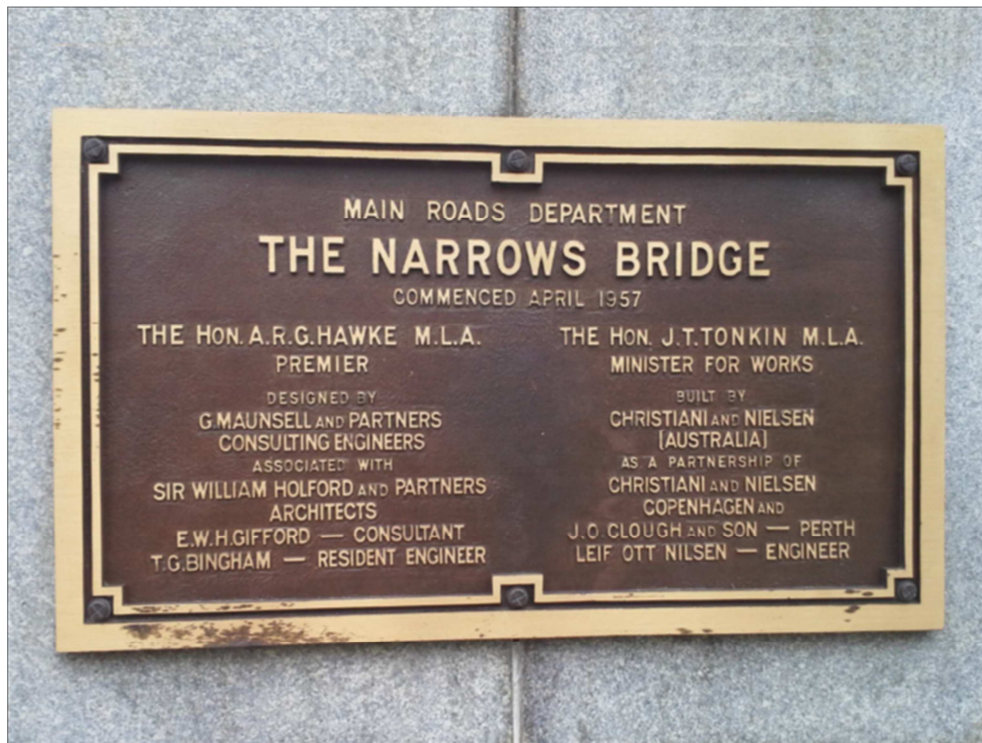


**The three *Narrows Bridges*, with public car parking beneath.**  
*(Gina Fraser, City of South Perth, December 2014)*



**The original *Narrows Bridge* which was constructed in 1959.**  
*(Heritage Today, 1999)*



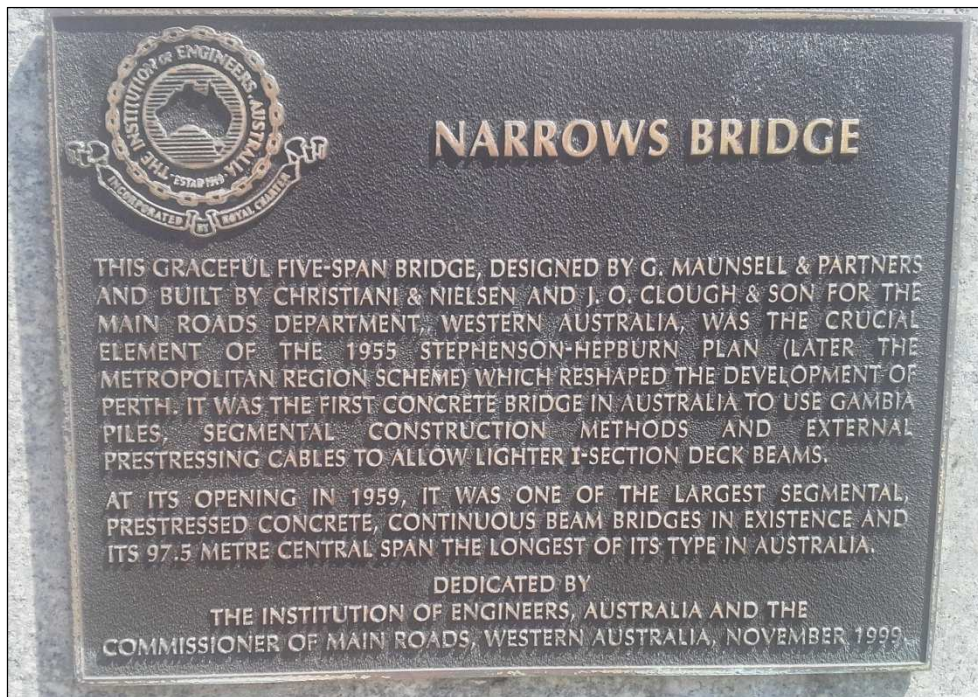


Plaque commemorating the commencement of construction of the Narrows Bridge, 1957.  
(Gina Fraser, City of South Perth, April 2015)



Plaque commemorating the 50<sup>th</sup> anniversary of the opening of the Narrows Bridge, 2009.  
(Gina Fraser, City of South Perth, April 2015)





**Two plaques situated at the northern end of the *Narrows Bridge*, paying tribute to the engineering attributes of the bridge.**  
(Gina Fraser, City of South Perth, September 2015)







**Opening of the original *Narrows Bridge* on Friday, 13 November 1959, looking southwards along the bridge towards South Perth.**  
*(Photograph reproduced with kind permission of the South Perth Historical Society.)*



**The original *Narrows Bridge* under construction c1957.**  
*(Photograph reproduced with kind permission of Engineers Australia (Western Australia Division))*





**Aerial photograph of the southern (Mill Point) end of the *Narrows Bridge* showing the duplicate bridge under construction, while the original bridge is still in use. 2000.**  
*(City records)*



**Promotional image produced in 1999 by Main Roads Western Australia, showing an artist's impression of the likely appearance of the proposed expanded *Narrows Bridge*.**  
*(Department for Planning and Infrastructure)*



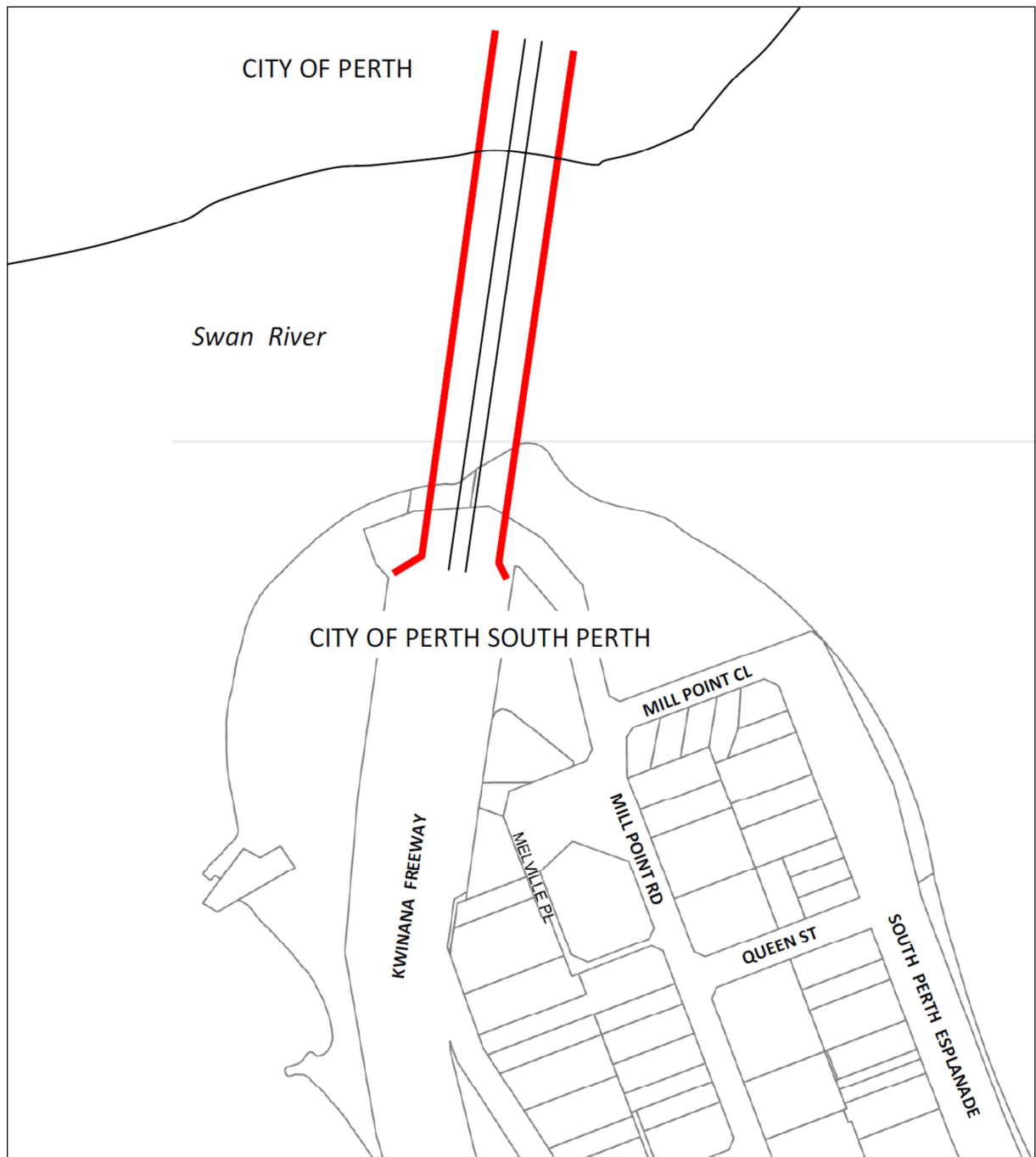


**1974 aerial photograph showing the original entry and exit ramps from the *Narrows Bridge* around the tip of the South Perth peninsula.**  
*(City records)*



**2015 aerial photographs showing the reconfigured roads near the *Narrows Bridge* at the tip of the South Perth peninsula.**  
*(City records)*

LOCATION MAP



(Digital Cadastral Data supplied by Landgate, WA. P295)