

PROGRAMME

- 11 am Welcome and Introductions.
- 11.05 Councillor Jim Angel, Mayor, City of Blue Mountains.
Historic Blue Mountains.
- 11.10 Bruce Howard, President, Sydney Division, The Institution of Engineers, Australia.
Engineering heritage and Lapstone heritage items.
- 11.25 Unveiling the plaque and taking of photographs.
- 11.30 Close.

HISTORICAL REVIEW

Following the crossing of the Blue Mountains in 1813 by Blaxland, Wentworth and Lawson, a road of sorts was constructed, starting near Emu Plains in July 1814. The abrupt nature of the rise of the Blue Mountains above the low country east and west led to the two most difficult features of the road, the eastern ascent of Lapstone Hill near Emu Plains and the western descent at Mt York. The latter was displaced in 1832 by Victoria Pass which was declared a National Engineering Landmark in April 2002.

Cox's road began near the present site of Emu Plains railway station and headed south-west parallel to the Nepean River, crossing Knapsack Creek at Nepean Street then swinging west to climb the steep escarpment via Glenbrook to present-day Blaxland near the conjunction of the Old Bathurst Road and Mitchell's Pass. This road was in use for seventeen years but was very steep and was frequently flooded by Knapsack Creek. By 1830 a more direct route from Emu Plains to Blaxland had been constructed which climbed the southern edge of Mt Riverview by zigzagging through the steepest parts. Known as the "zig-zag road" it became the Old Bathurst Road.

Concurrent with his work with Victoria Pass on the western descent, Major Thomas Livingstone Mitchell had traversed the area adjacent the "zig-zag road" and discovered a gully that was almost a straight line between Emu Plains and Blaxland through which a road could be built at a much lesser grade. However, a tributary called Lapstone Creek crossed the line of road which required a bridge.

Construction of the new road seems to have been reasonably straightforward. The bridge was built under the supervision of David Lennox from stone quarried nearby. The arch of dressed stone has a single clear span of 6.2 m (20 feet) carrying a roadway 9.1 m (30 feet) wide. The clear height of the arch soffit above the bed of the stream is also 9.1 m. The bridge was completed in

July 1833. Prior to this, Governor Bourke had named the road Mitchell's Pass and authorised one of the keystones to be inscribed "DAVID LENNOX" and the other with "A.D. 1833". With its rough stone wing walls, the northern one curved to suit traffic flow, the structure is 14.3 m (43 feet) long.

The combined work carried all traffic of the Great Western Highway until 1926 when the abandoned railway formation and its viaduct over Knapsack Gully were converted to road use. Since then Mitchell's Pass has served only lightweight traffic, mostly locals and tourists.

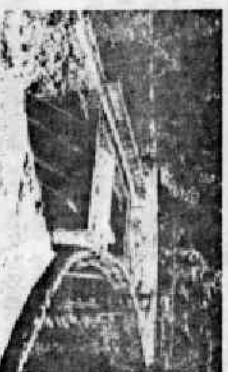
In the year of this ceremony, the combined work is 169 years old, one of the most durable and significant engineering works of the early colonial period.

RESTORATION

Despite its "retirement" to light traffic in 1926, the earlier heavy traffic had taken its toll and by the 1950s the bridge was exhibiting signs of severe structural distress and in the early 1960s the bridge was closed. In the mid-1970s the Blue Mountains City Council undertook the stabilisation of the bridge with the Department of Public Works providing engineering design and supervision, and the Government Architect's Branch recording the condition of the stonework and preparing a conservation document.

Investigations revealed that the primary cause of structural and stonework damage was due to the ingress of water to the fill between the arch and the abutments. Radical remedial measures were required if the bridge was to regain its function rather than be relegated to an historical curiosity.

The solution was to clean out the old fill inside the structure, replace selected stones that were critical to stability, build a bridge structure inside the walls and over the arch to relieve the original stone arch of load, then backfill with compacted clean sand and improving the drainage paths.



Exposed arch ready for the new interior bridge.



Restoration completed.

The restored bridge was reopened to traffic on 14 December 1982 by Mayor Peter Quirk and rededicated on its sesquicentenary in 1983 by the Premier of New South Wales.

BIOGRAPHIES



Major Thomas Mitchell



David Lennox

Thomas Mitchell (1792-1855) was born in Scotland and had served in the Peninsular (Spain and Portugal) War, against Napoleon's army, where he excelled in surveying and topographical work. In 1827 he arrived in Sydney to take up his appointment as Assistant Surveyor-General and became responsible for land surveys and for planning many towns, roads and bridges in the Colony. During 1831 and 1846 he made important exploratory journeys to inland New South Wales and the Western District of the future colony of Victoria. During this same period he was appointed Surveyor-General and was knighted in 1839.

David Lennox (1788-1873) was also born in Scotland and in the early 1800s gained valuable experience in building stone arch bridges with the famous Thomas Telford. Shortly after arriving in Sydney in 1832 he was "discovered" by Major Mitchell doing quality stone work in Macquarie Street and was immediately hired to "plan the stone bridges we require". On June 26, 1833 he was formally appointed Superintendent of Bridges thus becoming responsible for planning, design and supervision of construction of bridges including training many convicts in the skills of stonework. Typical of the quality and durability of his bridges are the surviving, 1833 at Lapstone Creek, 1836 Prospect Creek at Lansdowne and the 1839 Church Street bridge over the Parramatta River at Parramatta. In 1844 Governor Gipps directed Lennox to work in the Port Phillip district (Melbourne) and before returning to Parramatta in 1855 he had built the first Princes Bridge (1850) over the Yarra River, about fifty other bridges, plus roads, wharves and jetties.



MITCHELL'S PASS AND LENNOX'S HORSESHOE BRIDGE, LAPSTONE

AS A JOINT

HISTORIC ENGINEERING MARKER

On Site
Sunday December 1, 2002
at 11 am



The 1833 Lennox's Horseshoe Bridge carrying Mitchell's Pass over Lapstone Creek, is the oldest surviving bridge on the Australian mainland