



**EASTERN DISTRIBUTOR TUNNELS**

The piggy back, 3 lane, tunnel configuration of the 3.5 km Eastern Distributor in Sydney was a PSM concept, presented by Leighton Contractors as a design alternative, and accepted by the NSW Government. The two major advantages of the scheme were:

- Reduction in tunnel easement requirements, with much of the route fitting beneath existing roads, and
- Only one length of crown support.

Maunsell, supported on 600 mm wide ledges in the Hawkesbury Sandstone, which were reinforced where necessary according to PSM design requirements.

At the point where ramp tunnels to William Street join the Main tunnel, the span is 24 m, which is the widest span created to date in the Hawkesbury Sandstone.

Permanent support is provided by rockbolts and shotcrete, there is no formed concrete passive lining. Design and implementation of all temporary and permanent support was the responsibility of PSM.

The upper deck of the tunnel is formed by prestressed concrete planks, designed by

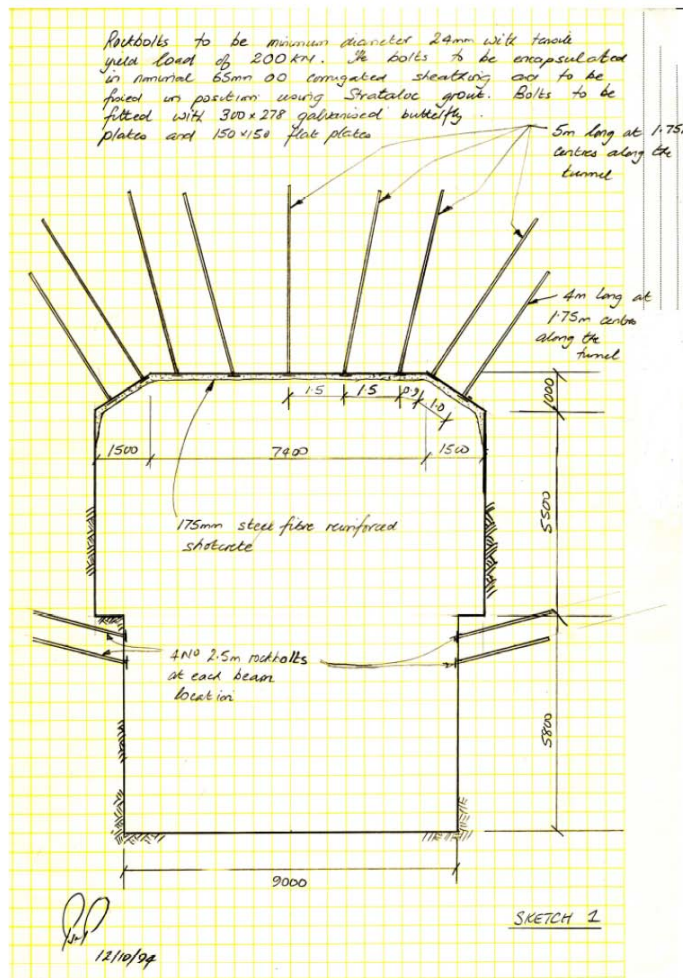




Photo 1 Excavation of Upper Deck of Piggy Back Tunnel



Photo 2 Concrete planks for Northbound Lanes supported on narrow ledge – approaching fault zone wherein the planks had to be supported on a column-beam structure