

**Submission by  
Sydney Engineering Heritage Committee,  
Engineers Australia**

to

***Inquiry into the Policy Framework and Incentives for the  
Conservation of Australia's Historic Built Heritage Places***

**Terms of Reference**

1. *the main pressures on the conservation of historic heritage places*
2. *the economic, social and environmental benefits and costs of the conservation of historic heritage places in Australia*
3. *the current relative roles and contributions to the conservation of historic heritage places of the Commonwealth and the state and territory governments, heritage owners (private, corporate and government), community groups and any other relevant stakeholders*
4. *the positive and/or negative impacts of regulatory, taxation and institutional arrangements on the conservation of historic heritage places, and other impediments and incentives that affect outcomes*
5. *emerging technological, economic, demographic, environmental and social trends that offer potential new approaches to the conservation of historic heritage places, and*
6. *possible policy and programme approaches for managing the conservation of Australia's historic heritage places and competing objectives and interests.*

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**Relevant Points**

Engineering and industrial heritage are significant areas of heritage that are often overlooked and unappreciated.

Virtually every facet of our lives owes something to engineering. Our industries, our transport, communication, health, food, water supply and sewerage systems, our buildings in terms of their structure and services, entertainment, and the convenience and comfort of our homes - all rely to a greater or lesser extent on engineering.

However, much of this technology is not spectacular or of great aesthetic appeal. Much of it is hidden from view (water and sewerage systems) and because it is commonplace and

considered utilitarian, items tend to be discarded and replaced when worn out or no longer wanted. Their heritage value can thus be easily overlooked.

Even so engineering and industry are an important part of our cultural heritage, and as well as having obvious heritage value, they can amongst other things:

- demonstrate the stages of technological development
- aid understanding of the history of society and the influences on its growth and development
- demonstrate the nature of work, and changes in working conditions and practices

The engineering is often a component of highly visible items. It is for instance, an essential element in major buildings, but its heritage value can be easily overlooked when assessing the heritage significance of the building. The foundations, the structural work and the services, may have significant heritage value in their own right, separate from the architectural design of the building.

The engineering may have innovative aspects, it may represent an advance in technology or thinking, and it may have an association with an important engineer. A most obvious case in point is the Sydney Opera House, which spawned great advances and innovations in structural design and in construction techniques. Without these developments the building in its final form would not have been possible. However this can also apply to much more modest structures.

An increasing change in the rate of technological innovation means that some engineered technology has heritage significance even though it is not necessarily very old i.e. early (1980s) computer technology.

The effort and dedication of volunteer groups is a most significant ingredient in achieving conservation of the Nation's heritage. This needs much greater recognition and support by governments at both State and Commonwealth level.

Government 'support' for heritage implies, but is not limited to:

- better resourced, trained and skilled government agencies;
- in addition to being concerned with bureaucratic matters such as heritage registers, guidelines, policies, procedures and statutory provisions, government agencies should pro-actively pursue programs to educate and interest students and the general public in the nation's heritage; to excite, enthuse and encourage them to take ownership and pride in Australia's history and heritage;
- governments taking an honest and committed approach to the conservation of our heritage, instead of paying lip service through legislation and establishment of regulatory authorities, and then dispensing with their own legislation when it is politically expedient, under the guise of 'State or National interest' (see Attachment D);
- a national heritage fund and increased State funding to support community-based heritage organisations and to assist owners in conserving significant heritage assets, especially when they are subject to conservation orders.

In addition to this submission, the Sydney Engineering Heritage Committee strongly supports that of the Heritage Trail Project.

## **Response to Terms of Reference**

**ToR 1.** *The main pressures on the conservation of historic heritage places.*

- Heritage places occupying significant or valuable sites desired for re development.
- Government's using their legislative and administrative power to not adhere to their own legislation (see Attachment D).
- Re development of heritage works and sites which can no longer satisfy their original purpose. This may be because they can no longer cope with:

- present day load/design requirements that have implications for strength, or carrying capacity (e.g., bridges);
- deterioration of fabric; high maintenance costs; difficulty of obtaining genuine replacement material;
- re-alignment or re-routing such that works are no longer in the required place;
- design a hindrance to modern needs (e.g., opening bridges, open place workplaces as opposed to small rooms).
- Perceived cost of conservation compared with demolition and replacement or utilisation of site for another purpose.
- Lack of thought given to possible, relevant and appropriate adaptation.
- Decreasing availability of trades people with correct skills to carry out restoration work.
- Perception that as engineering and industrial works are utilitarian, they have little, if any, heritage value and the norm is for them to be demolished when no longer needed, or to be replaced when no longer adequate or economic.
- Lack of concern for heritage values by engineers, industrialists, developers and investors.
- The changing demographics of many of our cities, placing much greater pressure on heritage structures.
- Lack of availability of trained professional and practicing engineers as both advocates for conservation of heritage items and as technical advisers and designers to direct conservation, refer Attachment B.

**ToR 2.** *The economic, social and environmental benefits and costs of the conservation of historic heritage places in Australia.*

- Benefits:
  - The birthright of future Australians telling them where they have come from and how things were.
  - National pride.
  - Tourism income.
  - Employment: trades people, historians, archaeologists, architects, engineers, tourist guides, graphic designers, printers, public servants, specialist suppliers of materials and equipment, etc.
  - Occupation of the retired and elderly, giving them an interest, keeping them active and contributing to maintenance of their mental health.
  - Maintenance of traditional skills and knowledge e.g. blacksmithing,
  - Holiday and leisure destinations.
  - Education: learning about changes within society and culture over time. Access to real examples.
  - Saving on energy and resources by keeping buildings and works in use rather than demolishing and replacing.
- Costs:
  - Specialist labour costs.
  - Costs of materials that are now rare in supply.
  - On-going management and maintenance costs.
  - Possible need to import trades and materials.

**ToR 3.** *The current relative roles and contributions to the conservation of historic heritage places of the Commonwealth and the state and territory governments, heritage owners (private, corporate and government), community groups and any other relevant stakeholders*

- Unsatisfactory resourcing of Department of the Environment and Heritage (DEH)
- The Sydney Engineering Heritage Committee works closely with the NSW Heritage Office in provision of both technical advice and also provision of human resources.

Through this we have become aware of a considerable lack of resources in the NSW Heritage Office to deal with:

- Approvals processes required by planning legislation.
- Provision of advice and education to professionals, tradespeople, asset owners and the public on heritage philosophy and detail.
- Being a central resource for the collation and storage of heritage data.
- Technical issues relating to items of engineering importance.

The profile of heritage as an issue and the success of legislation in ensuring heritage is considered in all planning processes is not matched by resources to deal with this success.

The ability to handle the intricacies of heritage issues in a pragmatic and systematic manner with an appropriate balance between the community good arising from preserving heritage and the community good of growth and development requires both experience and a high level of academic achievement.

The NSW Heritage Office must maintain a profile that attracts high calibre staff

- Members of volunteer groups have a more intimate and personal interest in the conservation of our heritage than do governments and public servants. They often have a personal and emotional association with the items and thus an important stake in their conservation. Individuals and group members therefore play a very significant role as watchdogs, activists and advocates in the cause of heritage conservation.

The establishment of heritage legislation and the consequent administrative framework is a result of community pressure, and thus the activists have a vested interest in ensuring the system works, is strengthened over time, is not watered down and is not abused by governments, powerful lobby groups and developers.

Whilst private developers and owners may be blamed for the destruction of much of our heritage, governments and their instrumentalities are frequently guilty, particularly in respect of the large publicly owned assets of which they should be the community's stewards. Their actions often display a lack of commitment to the policies they publicly espouse. Thus unfortunately, experience shows that neither governments at any level nor their agencies can be relied on to safeguard the nation's heritage (see Attachment D).

A large part of the responsibility for protecting the integrity of our heritage is therefore taken by the community at large in the knowledge that, as for liberty, the price of conserving heritage and the environment, is eternal vigilance!

Organisations such as the engineering heritage groups of Engineers Australia, the Royal Australian Institute of Architects, Royal Australian Historical Society, National Trusts, the Convict Trail Project, local historical societies, specific issue groups as well as concerned individuals, are thus an essential and important ingredient in heritage conservation. Unfortunately they are severely constrained by lack of finance and often by government and bureaucratic support.

To illustrate the extent of the contribution of volunteer bodies, a copy of a 6 month report of the activities of the Sydney Engineering Heritage Committee, a volunteer body of around 16 active members with minimal financial resources, is at Attachment A.

**ToR 5.** *Emerging technological, economic, demographic, environmental and social trends that offer potential new approaches to the conservation of historic heritage places.*

- Research into materials technology and better understanding of materials.
- Heritage tourism
- Virtual tours using (electronic technology) both on-site and on CDROM.
- Self guided tours using pamphlets and guide books (see Attachment C).

- An increasing acceptance within the community to adaptively re-use heritage buildings for both dwellings and commercial purposes. E.g. Sydney woolstores for domestic living.

**ToR 6.** *Possible policy and programme approaches for managing the conservation of Australia's historic heritage places and competing objectives and interests.*

- The Australian Heritage Council and the State heritage authorities should include in their charters a responsibility for undertaking and promoting programs aimed at educating and creating interest in students and the general public in the nation's heritage, and to excite, enthuse and encourage them to take ownership and pride in Australia's history and heritage.
- Governments should commit to an honest approach to the conservation of our heritage especially in regard to their own projects, and ensure that all government and private-sector projects comply with legislative requirements without exception (see Attachment D).
- A substantial national heritage fund should be established, and increased State funding provided to support community-based heritage organisations and to assist owners in conserving significant heritage assets, especially when they are subject to conservation orders.
- Guidance should be provided to community-based groups on matters relevant to achieving sustainability in the heritage conservation effort. E.g., Business planning, maintaining viable volunteer organisations etc. Whilst the *Second International Engineering Heritage Conference* (brochure and program attached as pdf) will be addressing many issues of concern, a more global approach is required from governments and their agencies.

## ENGINEERING HERITAGE COMMITTEE, SYDNEY

## Progress Report 1 Oct 04 to 30 Apr 2005

PROGRAMS	PROGRESS 1 October 04 to 30 April 05	PROPOSED ACTIVITY 1 May 05 to 31 August 05
<b>Program Area 1 - Marketing and Communication</b>		
H 1.1 Pre-Professional and Young Engineers		<ul style="list-style-type: none"> <li>Continue with liaison and annual heritage walks for Young Engineers.</li> </ul>
H1.2 Professional Education in Engineering Heritage	<ul style="list-style-type: none"> <li>Brochure to assist with the identification and assessment of items of engineering and industrial heritage has been posted on Heritage Office website. There has been complimentary comment.</li> </ul>	<ul style="list-style-type: none"> <li>Support ASHET.</li> <li>Web site development</li> <li>EH Conference preparation</li> <li>Liase with railway fraternity for Sesquicentenary</li> </ul>
<b>Program Area 2 - Education and Assessment</b>		
H 2.1 Professional Education in Engineering Heritage	<ul style="list-style-type: none"> <li>Part of the EHC's submission to the Productivity Commission's Inquiry will be about the paucity of professional heritage skills and of heritage trade skills, the latter having reached crisis point.</li> </ul>	<ul style="list-style-type: none"> <li>Make submission to Productivity Commission's inquiry</li> </ul>
H 2.2 Accreditation and Recognition		
H 2.3 Competency Standards and Assessment		
<b>Program Area 3 - Engineering Practice</b>		
H 3.1 Professional Education and Development in Engineering Heritage	<b>2005 International Engineering Heritage Conference:</b> <ul style="list-style-type: none"> <li>Conference organisation (see separate report)</li> </ul>	<b>2005 Heritage Conference:</b> <ul style="list-style-type: none"> <li>Conduct Conference</li> <li><b>Issue papers on CDROM</b></li> <li>Produce conference dossier as an aid to future organisers.</li> </ul>
H 3.2 Engineering Heritage Excellence	<b>NSW Heritage Volunteer Awards</b> <ul style="list-style-type: none"> <li>On 28 October at Parliament House, Harry Trueman received an inaugural <b>Lifetime Achievement Award</b></li> </ul>	<b>Excellence Awards:</b> <ul style="list-style-type: none"> <li>Continue on Judging Panel.</li> </ul>
<b>Program Area 4 - Public Policy and Representation</b>		
H4.1 Engineering Heritage Representation	<b>Represented Engineers Aust</b> on following Government Authorities' heritage advisory committees and other heritage-related committees: <ul style="list-style-type: none"> <li>Heritage Council's State Heritage Register Committee (Michael Clarke appointed March 05)</li> <li>Heritage Council of NSW: Moveable Heritage Committee</li> <li>Railways Heritage Committee</li> <li>Roads &amp; Traffic Authority Heritage Committee</li> <li>Sydney Water Heritage Committee</li> <li>Sydney Catchment Authority Heritage Committee</li> <li>National Trust Industrial Heritage Committee</li> </ul> <b>Personal memberships:</b> 5 separate members of the Committee sit in a private capacity on: <ul style="list-style-type: none"> <li>the Sydney Opera House Conservation Council</li> <li>Aust. Society for History of Eng. &amp; Technology, Management Committee (until March 05)</li> <li>Heritage Council of NSW Technical Advisory Group</li> <li>Oral History Association of Australia (NSW): Management Committee</li> <li>Harry Trueman appointed RTA Timber Bridge Advisory engineer</li> </ul>	<ul style="list-style-type: none"> <li>Representation on heritage committees to continue.</li> <li><b>Removal of Dams and Weirs</b> <ul style="list-style-type: none"> <li>Action in abeyance due to conference</li> </ul> </li> </ul>

PROGRAMS	<p style="text-align: center;"><b>PROGRESS</b> 1 October 04 to 30 April 05</p>	<p style="text-align: center;"><b>PROPOSED ACTIVITY</b> 1 May 05 to 31 August 05</p>
	<p><b>Memberships:</b></p> <ul style="list-style-type: none"> <li>• History Council of NSW; and</li> <li>• Oral History Association of Australia (NSW)</li> </ul> <p><b>Advocacy</b></p> <ul style="list-style-type: none"> <li>• <b>Productivity Commission's Inquiry into the Policy Framework and Incentives for the Conservation of Australia's Historic Built Heritage Places:</b> <ul style="list-style-type: none"> <li>– Sydney Committee is preparing a submission to the Inquiry and will be contributing to the submission to be made by the Heritage Office.</li> </ul> </li> <li>• Successful in having an acceptable proposal adopted for lifts at <b>Gordon Railway Station</b></li> <li>• Negotiations with <b>RTA</b> about proposed work on Monkerai, Tumut, &amp; other timber bridges</li> <li>• Proposal to build three tower blocks around <b>Sydney Tower</b> have been abandoned for the time being.</li> <li>• <b>Macleay Museum:</b> Concern expressed to Vice Chancellor Sydney University about a proposal to amalgamate curator positions of Scientific Instruments and Photographic Collection.</li> <li>• <b>Sydney Observatory:</b> Objection lodged with Heritage Office to a proposal to build a brick structure (for corporate functions &amp; education purposes) adjacent the rear wall of the 1858 sandstone Observatory.</li> <li>• <b>Aust. Defence Industries:</b> Conservation, listing and plaquing Hydraulic system at Garden Island.</li> </ul> <p><b>Advice &amp; Assistance</b></p> <ul style="list-style-type: none"> <li>• <b>Heritage Office</b> <ul style="list-style-type: none"> <li>– Heritage Office is preparing a financial contract with the EHC to undertake commissions including preparing nominations to the State Heritage Register.</li> <li>– CMP review for timber Bridges &amp; Sydney Water</li> <li>– Position paper prepared on conservation of timber truss bridges</li> <li>– Continuous provision of advice to HO including State listing of eng heritage items; regional heritage study reviews; input into the Heritage Office Data Base.</li> </ul> </li> <li>• <b>National Parks &amp; Wildlife Service</b> <ul style="list-style-type: none"> <li>- military bridge at Hornsby</li> </ul> </li> <li>• <b>Roads &amp; Traffic Authority</b> <ul style="list-style-type: none"> <li>– Review of Conservation Management Plans</li> <li>– Stakeholder position in Cobram Bridge replacement</li> <li>– Offered content for Peats Ferry Bridge review</li> </ul> </li> <li>• <b>Sydney Harbour Foreshore Authority</b> <ul style="list-style-type: none"> <li>– Advice on interpretive signage</li> <li>– Advice on restoration of hydraulic whip</li> </ul> </li> <li>• <b>Australian National Maritime Museum</b> <ul style="list-style-type: none"> <li>– Conducted industrial heritage cruise for Members.</li> </ul> </li> <li>• <b>ICE:</b> Biography of Engineers Project. Don Fraser is providing some Sydney entries.</li> <li>• <b>Prefecture of Osaka:</b> Conducted inspection of waterfront re-development for Governor Fusae Ohta on 11 November 04.</li> <li>• <b>Linden Observatory:</b> Archiving of plans.</li> </ul>	<p><b>Advocacy</b></p> <ul style="list-style-type: none"> <li>• Continue as an advocate for the conservation of engineering heritage</li> </ul> <p><b>Advice &amp; Assistance</b></p> <ul style="list-style-type: none"> <li>• Continue providing advice to organisations &amp; individuals</li> <li>• Possible chance of reviewing Heritage Act with greater emphasis on engineering items</li> </ul>

PROGRAMS	PROGRESS 1 October 04 to 30 April 05	PROPOSED ACTIVITY 1 May 05 to 31 August 05
<b>H 4.2 Australian Historic Engineering Plaques</b>	<p><b>Plaques Unveiled:</b></p> <ul style="list-style-type: none"> <li>• Barham Bridge: 10 October 04</li> <li>• Manly Hydraulic Laboratory : 19 November 04</li> <li>• North Bourke 1883 lift bridge: 13 December 04.</li> <li>• Peats Ferry Bridge: 1 April 05</li> <li>• Hume Dam: 22 April 05</li> </ul> <p><b>Plaques pending:</b></p> <ul style="list-style-type: none"> <li>• Thornleigh Zig Zag, Railway &amp; Quarry (2006)</li> <li>• <b>Saunders Sandstone Quarries, Pymont</b></li> </ul> <p><b>Bridge Plaques:</b></p> <ul style="list-style-type: none"> <li>• Have proposed development of a bridge plaquing program with RTA to ensure significant bridges receive priority.</li> </ul> <p><b>Nomination Reports:</b></p> <ul style="list-style-type: none"> <li>• Committee has resolved to lodge copies of its plaquing nomination reports with the HO library in preference to the State Library.</li> <li>• Committee will place all its plaquing nominations on CDROM.</li> </ul>	<p><b>Nominations Submitted or in Preparation:</b></p> <ul style="list-style-type: none"> <li>• HIFAR (early 2006)</li> </ul> <p><b>Nominations in Preparation for EHA (Newcastle)</b></p> <ul style="list-style-type: none"> <li>• Bendemeer Bridge</li> </ul> <p><b>Nominations proposed:</b></p> <ul style="list-style-type: none"> <li>• Sydney Tower (NEL)</li> <li>• Lithgow Small Arms Factory</li> <li>• Eraring Power Station</li> <li>• Warragamba Dam</li> <li>• Umberumberka Waterworks, Broken Hill</li> <li>• Rock Bolting Development Site, Cooma</li> <li>• Joadja Shale Oil Works</li> <li>• Campbelltown 1830s dams</li> <li>• Menangle Compensation Weir</li> <li>• Double-Deck Railway Carriages</li> </ul> <p><b>Interpretive Signs</b></p> <ul style="list-style-type: none"> <li>• Research into manufacturers, cost and design</li> </ul> <p><b>Potential signs:</b></p> <ul style="list-style-type: none"> <li>• CSR Chemicals Site</li> <li>• Eveleigh Railway Workshops</li> <li>• Mortlake Gasworks</li> <li>• Lithgow Small Arms Factory</li> </ul>
<b>H 4.3 Oral History</b>	<ul style="list-style-type: none"> <li>• Tapes of 82 interviews were deposited with State Library on 4 November 04, increasing the <i>Engineers Oral History Collection</i> to 193 interviews</li> <li>• Application made for federal grant of \$50,000 to do oral history of Electricity Commission</li> </ul>	<p><b>National Engineering Oral History Program</b></p> <ul style="list-style-type: none"> <li>• Continue administrative support</li> <li>• Tapes being prepared for deposit with SLNSW.</li> </ul>
<b>H 4.4 Engineering History and Heritage Publications</b>	<ul style="list-style-type: none"> <li>• <b>Sydney's Engineering Heritage and Other Sites:</b> 46 copies sold.</li> <li>• <b>Sydney Harbour Bridge Video &amp; DVD: Sales by Sydney Division Office.</b></li> <li>• <b>Clips of SHB video</b> sold to Radical Media for use in a Schweppes TV advertisement.</li> <li>• <b>Copy of thesis <i>Development of Hydro Electricity in Australia</i> scanned and provided to Keith Montague for his <i>History of Hydro Electricity in Australia</i> project.</b></li> </ul>	<p><i>Sydney's Engineering Heritage ...</i></p> <ul style="list-style-type: none"> <li>• Continue marketing &amp; sales during heritage walks and tours</li> </ul>
<b>H 4.5 Newsletter - Engineering Heritage Australia</b>	<p><b>Articles supplied for Summer 2004 Issue:</b></p> <ul style="list-style-type: none"> <li>• Lifetime Achievement Award for Harry Trueman</li> <li>• Sydney Conference</li> <li>• Deposit of oral history tapes with SLNSW</li> <li>• Engineering &amp; industrial heritage brochure produced for Heritage Office</li> <li>• Heritage walks and cruises</li> <li>• Book review: <i>The Great Eveleigh Railway Workshops</i></li> </ul>	
<b>H 4.6 Engineering Heritage Web Page</b>	<ul style="list-style-type: none"> <li>• <b>"Engineering Heritage Publications" added to web site.</b></li> <li>• <b>Oral History program page developed</b></li> <li>• <b>EH Conference page created</b></li> </ul>	<ul style="list-style-type: none"> <li>• Sydney Harbour bridge page to be developed</li> <li>• Newcastle plaques can be added to web pages if EHA (Newcastle) wishes.</li> </ul>
<b>H 4.7 Public Heritage</b>	<p><b>Heritage Walks, Talks &amp; Tours</b></p> <ul style="list-style-type: none"> <li>• 5 heritage walks conducted with 47 participants</li> </ul>	<p><b>Heritage Walks and Tours</b></p> <ul style="list-style-type: none"> <li>• 1 walk for Engineering Week 2005</li> </ul>

<b>PROGRAMS</b>	<b>PROGRESS</b> 1 October 04 to 30 April 05	<b>PROPOSED ACTIVITY</b> 1 May 05 to 31 August 05
<b>Activities</b>	<ul style="list-style-type: none"> <li>• 1 heritage cruise conducted with 42 participants</li> </ul> <b>Heritage Festival</b> <ul style="list-style-type: none"> <li>• One plaquing (Peats Ferry Bridge) in conjunction with RTA</li> </ul> <b>Lectures</b> <ul style="list-style-type: none"> <li>• Four public lectures</li> </ul>	<ul style="list-style-type: none"> <li>• East Port Jackson heritage cruise to be conducted for <b>Aust National Maritime Museum</b> on 29 May</li> </ul> <b>Lectures</b> <ul style="list-style-type: none"> <li>• Two public lectures</li> </ul>
<b>H 4.8 Engineering Archives</b>	<b>Hume Dam</b> <ul style="list-style-type: none"> <li>• Box of construction photos c.1950s obtained from widow of Resident Engineer.</li> </ul>	<ul style="list-style-type: none"> <li>• Examine, identify &amp; record Hume Dam photos, the lodge with State Records.</li> <li>• Researching Electricity Commission photos for recovery and archiving.</li> </ul>
<b>Program Area 5 - Governance and Executive</b>		
<b>H 5.1 Governance and Executive</b>	Chair: Glenn Rigden Deputy Chair: Simon Wiltshier Secretary: Own Parry Treasurer: John Heathers	
<b>H 5.2 Heritage Policy and Guidelines</b>		
<b>H 5.3 General Management</b>	Not enough Indians	Get more Indians
<b>H 5.4 Systems and Procedures</b>	Committee has resolved to store all its meeting papers on CDROM.	
<b>H 5.5 Heritage Group Membership</b>	19 active committee members; 4 attend occasionally Loose liaison established with industrial, mining and engineering heritage groups in Illawarra area.	Maintain liaison with Illawarra

**Glenn Rigden**  
Chair  
Sydney Engineering Heritage Committee

**THE PROFESSIONAL STRUCTURAL ENGINEER SERVICING THE HERITAGE INDUSTRY**

**AN OVERVIEW FROM PERSONAL EXPERIENCE**

By SIMON WILTSHIER, Structural Engineer and Director of Hughes Trueman Pty Ltd

**THE ISSUES**

1. STAFFING

- Sourcing staff with the necessary enthusiasm, interest and attitude towards heritage engineering
- Retaining and training those staff whilst maintaining the enthusiasm
- Sourcing staff with experience and technical knowledge
- Sourcing staff with training in heritage materials

2. FINANCIAL

- Turnover and profit: A senior engineer in a medium sized practice would be expected to turnover in the order of \$750,000 per annum with a profit in the order of \$185,000. This would generally necessitate a technical staff of about four reporting to the senior engineer
- A typical heritage project would generate in the order of say \$ 3,000 in fees. Therefore for a senior engineer to run a profitable heritage section approximately 250 jobs would need to be run in a year.
- With these figures it is difficult to envisage a senior engineer in a modern practice running a profitable section specialising in heritage projects.

**THE HARD FACTS**

1. Young graduate engineers coming out of university have:
  - Little training in heritage philosophy, legislation or issues
  - Little training in heritage materials and construction methods
  - Very little interest in heritage work as a specialisation or career path
2. For engineering practices (excluding the sole practitioner) it is difficult to generate enough turnover or profit from heritage work to sustain senior staff or teams.
3. It is only senior staff who have the experience to deal with the typical smaller heritage projects and junior staff can only get involved (ie trained) when larger projects can justify it.
4. Senior staff enmeshed in small heritage projects are rendered unavailable to their firms for larger and more profitable "conventional" engineering projects. This does not endear heritage projects to the owners of the firms.
5. Young graduates who are assigned to heritage projects exclusively (or even extensively, say in excess of 50% of their time) will tend to leave the firm.
6. Authorities are requiring more and more certification of heritage projects and involvement in legal work in the heritage field by qualified professional engineers at a senior level (see 2 and 4 above).
7. Whilst there are sole practitioners working in heritage engineering they seldom have the facility to employ and train junior engineers (ie their experience is lost) and seldom have the infrastructure to handle the occasional major heritage project that arises.

## **THE WAY FORWARD**

1. Raise the profile of the heritage industry for prospective engineers at education stages, particularly at university but also including at school.
2. Provide training in heritage philosophy and technical issues for all structural and civil engineers at university as part of general training not as a specialist elective.
3. Raise the level of remuneration for heritage work to both stimulate commercial interest and allow for “on the job” training.
4. Ensure young engineers get a mix of heritage and “conventional” engineering work in a practice so that they are exposed to heritage projects and are trained in heritage work but do not feel trapped with a compromised career path. Hopefully some will rise to the challenge and develop a specialisation.
5. Clients (particularly government departments) need to realise that skills in heritage engineering can save them time and money on their projects and ensure an appropriate outcome. Tendering work on a lowest fee wins basis is not appropriate if the engineers tendering do not all have the necessary experience and understanding of the heritage requirements of a project.

Simon Wiltshier  
Prepared for Workshop on Practical Conservation Skills  
NSW Heritage Office  
11<sup>th</sup> May 2005

## Publicising Heritage

### Background

In general, heritage authorities/regulators do little to publicise heritage - to reach out to the public. Their literature and websites focus on matters like heritage registers, guidelines, policies, procedures, statutory provisions etc, material which to the lay person is deadly dull – in fact which can be a ‘turn off’. In general the authorities fail to engage with the wider community; to educate it and to excite, enthuse, encourage, and interest it in physically visiting heritage sites and appreciating the significance and richness of our heritage.

Whilst some owners and organisations like national trusts do this to some extent, the lack of perception and imagination shown by heritage authorities means they are wasting the opportunity to not only publicise and introduce the public to important cultural experiences, but to provide tangible evidence of their own worth to society and their relevance to the general public; they miss out on an important means of justifying their existence.

A fairly easy and effective means of addressing this is described below.

### ***The Sightseer’s Guide to Heritage***

The concept is to provide travellers, people on vacation, tourists – even those on day trips or looking for somewhere to go, with information that will encourage them to visit heritage places and which will enhance their experience.

Parallel to web-based heritage registers and accessed by links, would be attractive and well-designed pages showing location, address, contact numbers and opening times (where applicable) of heritage destinations, backed up by layers of information such as reader-friendly statements of significance, potted histories, images (plans, drawings, photographs of the work and people etc), biographies of associated people, and so on.

(See pages produced by Engineering Heritage Australia about the plaques it has awarded. These can be accessed through ‘Plaqued Works’, ‘Plaque Information’, at [http://sydney.ieaust.org.au/heritage/heritage\\_index.htm](http://sydney.ieaust.org.au/heritage/heritage_index.htm) It is planned to convert this rudimentary information into a ‘*Sightseer’s Guide to Engineering Heritage*’).

Pages as described above should be progressively developed for important items already on registers and automatically prepared for significant items as they are placed on registers. Most of the information already exists, but would need re-formatting into a user-friendly, interesting, non-bureaucratic form.

The project should be arranged on a State by State basis with the Australian Heritage Council’s (AHC’s) website providing a summary directory or index for the whole of Australia, with links (both ways) with the State sites.

Development of the material could be through a combination of consultants, owners and volunteer organisations, with achievement of a consistent format through a pre-developed template.

Access to the pages should be through both State heritage websites and the AHC’s site. Links should also be made to all kinds of other related sites such as those of tourist organisations, national trusts, Engineers Australia, Institute of Architects and so on.

An enhancement could be the development for downloading of virtual heritage trails i.e. self-guided heritage tours. (see ‘Self Guide Tours’ at [http://sydney.ieaust.org.au/heritage/heritage\\_index.htm](http://sydney.ieaust.org.au/heritage/heritage_index.htm) ).

The material provided on websites such as described could be converted in a selective way into hard copy booklets and pamphlets, which would of course also refer readers to the more extensive listings on heritage websites.

Michael Clarke  
9 July 2005.

Sydney Morning Herald  
28 May 2005

# State kills debate on critical projects

Darren Goodsir  
Urban Affairs Editor

The State Government will take total planning control of almost all coastal areas and contentious sites as diverse as Penrith Lakes, ski resorts in Kosciuszko National Park and the Rhodes Peninsula medium-density estates under laws aimed at speeding up major developments.

The Minister for Infrastructure and Planning, Craig Knowles, also spelt out in Parliament yesterday his determination to abandon stringent environmental requirements for controversial projects such as mines, big apartments, key agricultural industries, fish farms and oil production, a decision that provoked outrage in green groups.

Mr Knowles introduced provisions to exclude debate when approving critical infrastructure such as the proposed desalination plant and expansion of the Port Botany freight terminal.

Consultation will be relegated to arguments about how projects should proceed and be managed, not, as now applies at the first instance, whether they should be approved.

## APPROVAL BY DECREE

- Almost all coastal development
- Chatswood railway interchange
- Kosciuszko ski resorts
- Kurnell
- Newcastle-Honeysuckle
- Penrith lakes
- Port sites such as Botany and Sydney Harbour
- Rhodes Peninsula
- Fox Studios, Moore Park, Showground, SCG
- Foreshore sites: Circular Quay, Rocks to Dawes Point, Walsh Bay, East Darling Harbour, Darling Harbour, Banks Street, Fish Markets.
- Specific Suburban sites: Ballast Point, Rozelle marshalling yard, White Bay power station and hotel site, ADI site, Ryde, HMAS Platypus, naval stores, Ermington, Woolwich defence lands.
- Taronga Zoo
- Australian Museum
- Redfern Waterloo Authority
- Sydney Olympics Park
- Housing in Ku-ring-gai
- Sydney Opera House

Mr Knowles argued that slashing restrictions and the need for layers of approvals and permits was essential, because NSW's economic health depended on "business being able to work with

certainty, a minimum of risk, low transaction costs and appropriate levels of regulation".

"There is no doubt that this bill dramatically improves the climate in which to do business in this state," Mr Knowles said.

Environmentalists condemned the winding back of key land protection, sustainability, fire management and heritage controls. The Greens MP Sylvia Hale said the changes were little more than a payback for years of developer-backed donations to Labor Party coffers.

"This bill hands the minister complete power with far fewer checks and balances and without having to consult the community," Ms Hale said.

The executive director of the Total Environment Centre, Jeff Angel, whose feedback the Government respects, led the charge, labelling the laws "disgusting" and one of the most retrograde planning measures in recent memory.

"The new regime is a developers' banquet," he said.

"It strips away public consultation and ability to enforce consent conditions, makes adequate environmental assessment optional and excludes expert agency involvement.

"There are no limits on what project can be favoured under this gift. Sensible developers should fear the community backlash and inevitable future conflict with the public."

Those sentiments were echoed by the director of the Nature Conservation Council of NSW, Cate Faehrmann, who said it was appalling that ministerial discretion could render appeals non-existent, and that developers had lengthier appeal rights than objectors.

"These new laws leave an obscene amount of control in the hands of one person," she said.

"Throw developer donations into the mix and we're left with a system that is totally corruptible. This government is treating hard-won laws like those designed to protect threatened species and Aboriginal cultural artefacts as mere annoyances that must be removed."

The proposed laws, likely to be supported by the Opposition and applauded by property groups, cover developments worth more than \$50 million, issues of state significance and sites where the state interest is deemed to be of a higher status than existing planning rules.

The bill outlines both the sites and the type of industries and developments for which the streamlined laws will apply, emphasising the one-stop shop approach to approvals.

In addition, stop-the-clock measures - which allow a project to be halted after the discovery of an environmentally or culturally sensitive feature, have been diluted.