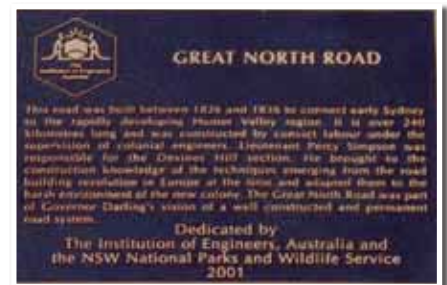
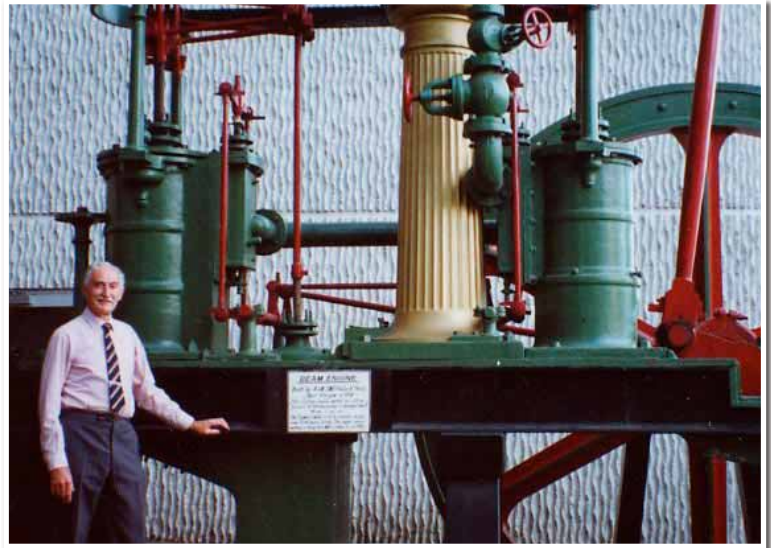
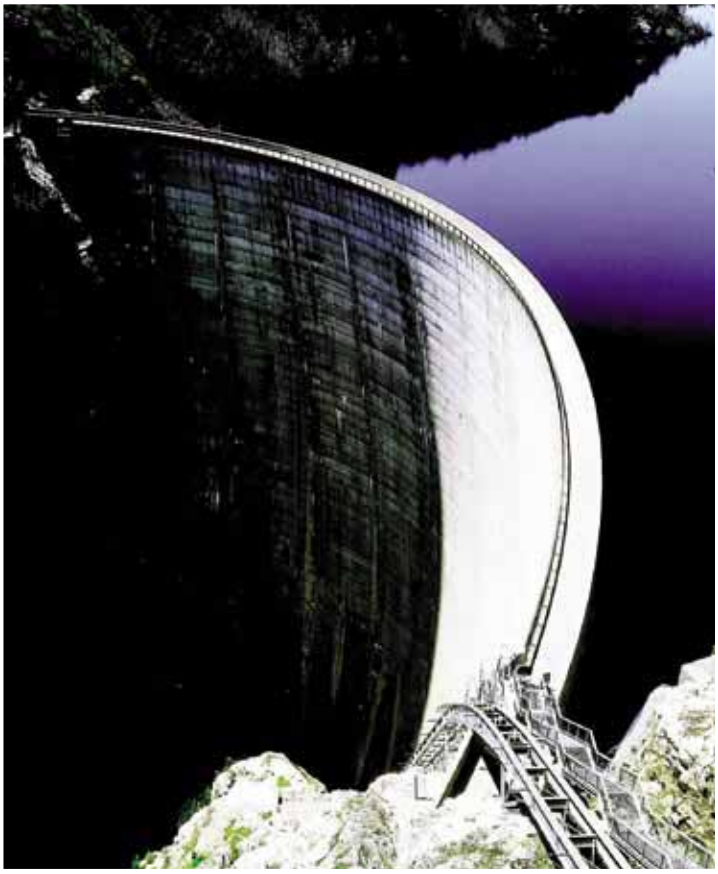


Guide to the

AUSTRALIAN HISTORIC PLAQUING PROGRAM



**ENGINEERS
AUSTRALIA**

2006



ENGINEERS
AUSTRALIA

**GUIDE TO THE
AUSTRALIAN HISTORIC
ENGINEERING PLAQUING
PROGRAM**

Revision 20 November 2006

FOREWORD

Recording the history of engineering and the conservation of its heritage, play an important role in establishing our professional standing within the community and in ensuring that the substantial contribution of engineers to building the Nation is recognised. Engineering Heritage Australia and the heritage groups in each Division carry this responsibility for Engineers Australia.

A significant part of their activity is *The Australian Historic Engineering Plaquing Program*, under which plaques and interpretive signs are awarded to important historic engineering works. The program began in 1985 and the 100th plaque was awarded in 2003.

Every facet of life in modern Australia owes something to engineering. The nation's industries, its transportation systems, electricity, water, sewage, communications, the health and safety of its people, the food they eat, their entertainment, the convenience and comfort of their homes, offices and workplace, all rely on the skills of engineers.

Australians are well aware of the benefits that flow from current technological advances, many of which are acknowledged and honoured in a number of ways such as engineering excellence, design and construction awards. They are less aware of the technological achievements of the past, which have made possible the standard of living they presently enjoy.

Many engineering works are also historically important and are thus significant items of Australia's cultural heritage. Many are recognised as valued components of the states, territories and national estates.

In celebrating Australia's engineering heritage, Engineers Australia's *Historic Engineering Plaquing Program* brings to the attention of both engineers and the general community, the part played by engineers and engineering in the development of the Nation, whilst encouraging the conservation of our important historic engineering works.

Anyone and any organisation can nominate works for plaquing. I therefore encourage all engineers, as well as those who value the work of engineers, to use the *Historic Engineering Plaquing Program* to bring to attention engineering works of heritage significance and to participate in their conservation.

This Guide has been prepared to facilitate preparation of plaquing nominations and also to assist in the nomination of heritage works to State, Territory and National heritage registers. Additional help can be obtained through Engineering Heritage Australia and the engineering heritage groups in the Divisions.

Heritage Engineering is now a recognised and growing discipline. Engineers Australia is indebted to Engineering Heritage Australia for its management of the Program and for its continuing effort to increase awareness of the work of engineers and to preserve our engineering history.

Peter Cockbain
National President
Engineers Australia

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Cover photos

Gordon Dam: 140m high arch dam in Tasmania, a National Engineering Landmark, 2001.

McNaught Beam Engine in Tasmania: Historic Engineering Marker, 1997.

Great North Road, NSW: National Engineering Landmark and Information plaques, 2001.

INTRODUCTION

Engineers Australia (EA) established the Australian Historic Engineering Plaquing Program in 1984 as a means of bringing public recognition to engineering works of historic or heritage significance and to the engineers who created them. The purpose of the Program is to encourage conservation of Australian engineering heritage and to raise community awareness of engineering and the benefits it provides.

A list of engineering works already awarded plaques can be viewed on Engineers Australia's website, currently

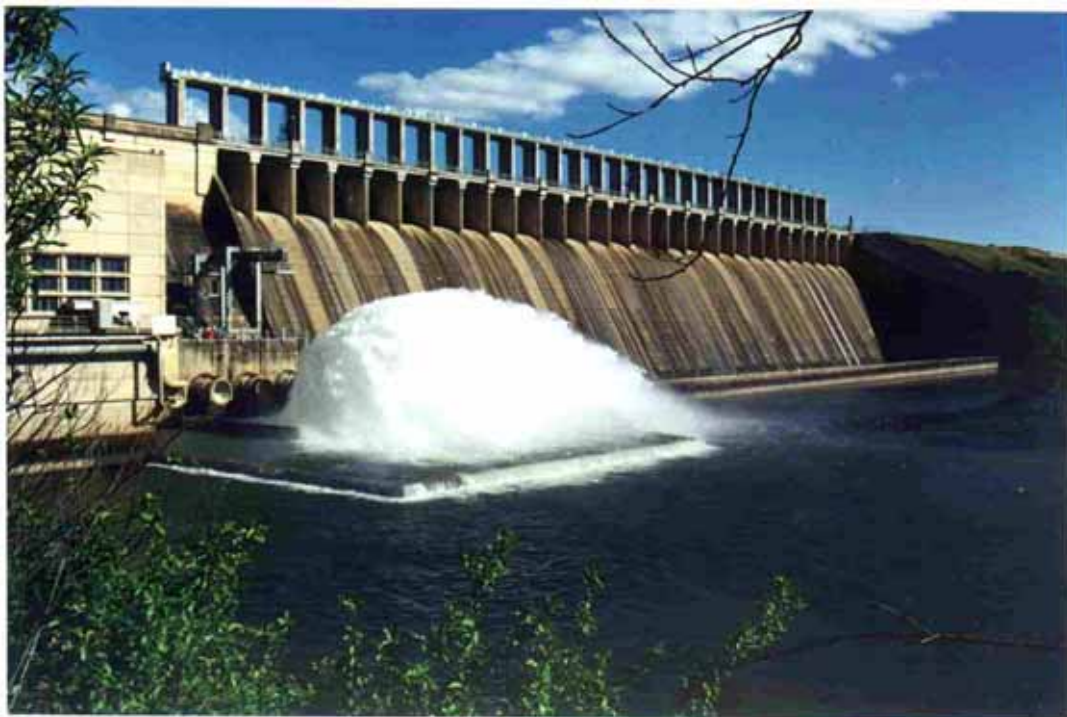
www.engineersaustralia.org.au/about_us/our_groups/special_interest_groups/Engineering_Heritage_Australia

The Program is managed by Engineering Heritage Australia (EHA) through its Plaquing Committee.

Significant historic engineering works are those which have been judged to be valuable to a group of people, or have contributed something of value to the nation, a region, or to the practice of engineering. This could include works derived from overseas.

The term "works" is most frequently used to refer to engineering items such as locomotives, bridges or computers. It can also mean places or sites, objects, equipment, artefacts, writings, drawings, photographs or other engineering items, including moveable items. "Sites" may include locations of former significant engineering works, which have since been demolished.

This document is a guide to help with the nomination of engineering works for recognition under the Program.



River Murray Works plaqued 2001 (Hume Dam Spillway 1961)

OBJECTIVES

The objectives of the Program are to:

- identify and designate engineering works of historic or heritage significance;
- mark these works with a plaque with the agreement of the owner and/or parties having a bona fide interest;
- promote conservation of the works by drawing attention to them and listing them on appropriate heritage registers;
- increase public understanding and appreciation of the social and environmental aspects of engineering works and their contribution to the development of Australia;
- raise engineers' awareness of their professional history and heritage; and
- assist in the documentation of Australian engineering history.



Goulburn Water Works, NSW plaqued 2003 (1886 Beam Engine)

THE PLAQUES

Levels of Awards

The Program recognises the significance of historic engineering works at two levels:

- National Engineering Landmark (NEL); and
- Historic Engineering Marker (HEM).

Engineers Australia reserves its ultimate accolade, the National Engineering Landmark, for historic engineering works of outstanding heritage significance. Such items would ordinarily represent a milestone or a benchmark by which progress is measured. These works will be seen not only as part of Australia's engineering heritage, but also as significant components of the national estate.

The Historic Engineering Marker is the appropriate award for historic items that satisfy the objectives of the Program, but are not of the level of significance required for a National Engineering Landmark.

Plaques works may mark a significant point or period in history.

The National Engineering Landmark (NEL)

The NEL plaque is a 300 mm diameter bronze casting bearing Engineers Australia's stylised coat of arms and the words "National Engineering Landmark".

The NEL plaque is generally accompanied by an Information Plaque, which is usually a rectangular bronze casting measuring 400 mm long by 300 mm high, with Engineers Australia's stylised coat of arms and the name of the work across the top in "sentence" case. It carries descriptive text in "sentence" case and can accommodate about 80 words (at 32 point font size), excluding the title and names of organisations. Larger size plaques can be used where more words are necessary to adequately describe the work and its significance.



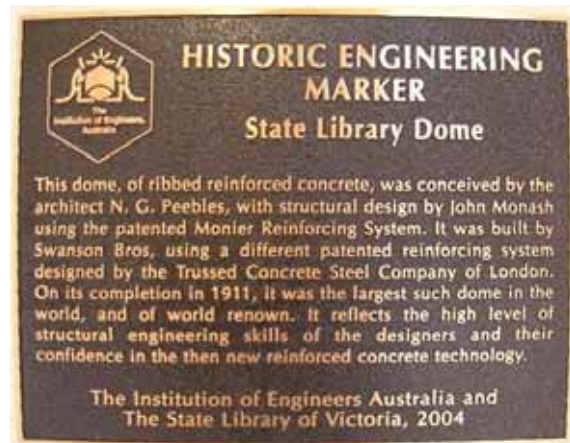
Great North Road, NSW 1826-36 (2001)

The Historic Engineering Marker (HEM)

The HEM plaque is the same style and size as an Information Plaque for a NEL, but has the words HISTORIC ENGINEERING MARKER (in upper case) at its head to the right of the stylised coat of arms, with the name of the work below.

In other respects the HEM is the same as the Information Plaque.

State Library Dome, Victoria (2004)



Museum Collections

Museum collections containing significant engineering heritage items may be considered for award of either a NEL or HEM.

The award may be made on the basis of a significant engineering collection in a museum, theme park, society collection, private collection or any other grouping of engineering heritage artefacts.

The collection

- could consist of any number of items;
- may include items derived from or manufactured overseas;
- may be housed indoors or outdoors;
- may be a group of artefacts on a single theme or multiple themes;
- need not be housed in a heritage building;
- may consist of only one item (or a small group of items) of engineering heritage significance housed within a collection of non-engineering heritage items.

In assessing the award it should be recognised that individual items within a collection may change over time.

The procedures for nomination, assessment, selection of the level of award and the plaquing ceremony are the same as for other NEL and HEM awards as described in this Guide, except that the word “collection” should preferably appear in the Citation, and the wording of the citation should include a reference to the “theme” of the plaqued collection.

The nomination documentation should list at least the most significant engineering heritage items in the collection but need not list the items exhaustively. The documentation may provide information on the provenance of all or some of the items in the collection.

At the time of the plaquing ceremony a letter should be provided to the owners of the collection listing the main items in the collection and the fact that, if some of the main items were to be disposed of, then the plaque may be withdrawn.

Periodic inspections of plaqued collections should be made to ensure they are still intact and generally in accordance with the text of the plaque. Any significant changes should be recorded.

Certificates

Where the installation of a plaque would be inappropriate, e.g. for machinery that is in operation and/or inaccessible to the public, a certificate may be substituted for the plaque and presented to the owner for hanging in a prominent place where it can be readily inspected.

The certificate will be a mounted A3 size metal plate and will:

- include the coat of arms of Engineers Australia;
- state the level of the award, i.e. National Engineering Landmark or Historic Engineering Marker as the case may be;
- include the citation; and
- be signed by the President of Engineers Australia.

In addition, the certificate may include colour images, descriptive diagrams and other interpretive material.

In special circumstances it may be appropriate to present a certificate to an owner in addition to a plaque. However, this would need to be negotiated in advance with the Plaquing Committee.

As with plaques, the final wording of the plaque or certificate is decided by agreement between the Convenor of the Plaquing Committee, the nominating body and the owner. In the event of an impasse, the Convenor may make a determination.

Interpretive Signs

On sites where works have been demolished and/or evidence obliterated, it may be appropriate to install an interpretive sign in addition to or in lieu of a plaque.

Signs without plaques will include the title “National Engineering Landmark” or “Historic Engineering Marker” as appropriate, the citation and additional information such as a description of operation, diagrams, maps and pictures of engineers associated with the work.

Signs with plaques will not repeat the information on the plaque/s but provide information to aid the appreciation of the work.

The signs should be suitably mounted, etched metal plates (preferably graffiti-proof and scratch-resistant, e.g. stainless steel).

Provision of signs will need the approval of the Plaquing Committee, if EHA funding is involved or if they make reference to EHA and its plaquing program.



Cowra Bridges Interpretive Sign, NSW (2002)

Ownership of Plaques

All plaques remain the property of Engineers Australia.

Replacement of Lost, Stolen or Damaged Plaques

When it is desired to replace a lost, stolen or damaged plaque, the new plaque will be of the current design as described above. It shall have the words "Plaque replaced (year as appropriate)" engraved on the rim (front face, lower right hand corner). If errors have been corrected, then the engraving should be "Plaque replaced (year) with corrections".

Procedure when Plaqued Work is Removed or Demolished

When a plaqued work is removed or demolished it may be appropriate to erect an interpretive sign either in association with the plaque or as a replacement, which would give the history of the structures at the place, together with other relevant information as described above.

Cost and Supply of Plaques

The cost of supplying plaques (including replacements), certificates and interpretive signs that have been approved by the Plaquing Committee, will be met by Engineers Australia through Engineering Heritage Australia (EHA). This will also apply to multiple plaques when required to adequately cover the extent of the work e.g., the Trans-Australian Railway and the Engineering Works of the River Murray. However, where the owner or other authority requests additional plaques beyond what would be normally required, they may be provided at cost to the relevant organisation. EHA will arrange for manufacture and delivery of plaques, certificates and interpretive signs.

Installation of Plaques and Signs

The installation of plaques and signs, and the meeting of any related costs, are to be arranged by the local organising committee. Plaques and signs should be mounted in a prominent place accessible and clearly visible to the public.

Plaques should be fixed to a substantial supporting structure such as a wall or piece of rock or the structure being plaqued. They should be at a readable height and preferably not at ground level.

The fixing of a plaque to a heritage structure should be done in a manner that will not adversely affect its heritage value and, where the work is heritage listed, will require the consent of the owner and heritage regulator.

A plaque should not be fixed to a heritage structure if it could adversely affect its heritage value. In such a case the plaque should be fixed to a substantial support nearby.

For a National Engineering Landmark, there are generally two plaques that complement one another (the NEL plaque and the Information Plaque) and so they must be mounted in close proximity. It is usual for the NEL disc to be mounted centrally above and near the information plaque, separated by 50 to 100mm. Where this is not possible the disc may be mounted centrally to the left of the information plaque.

The local organising committee should agree with the owner on the location of the plaque and provide instructions on its installation, method of attachment and care (see Appendix F).

MAKING A NOMINATION

In nominating a work the following matters must be addressed:

- agreement of the owner (where known);
- public access to the plaque or sign;
- future care of the work; and
- access to the work.

Proposal to Plaque

Abortive work in the preparation of a plaque nomination may be avoided if a brief exploratory submission (Proposal to Plaque) of about 250 words or a typed A4 page is first submitted to the Plaquing Committee, stating what the proposal is and the heritage significance of the work. Based on this, the Committee will provide an opinion as to whether a nomination would be likely to succeed.

It is strongly recommended that proponents of a plaquing nomination adopt this course. The Proposal should be forwarded through the Division engineering heritage group for information and endorsement

Where nominators find difficulty in complying with the formal requirements of this Plaquing Guide, they should discuss the opportunity for assistance in the preparation with the Divisional engineering heritage group.

Owner's Agreement

The owners shall be given a copy of the Guide or the web address at which it can be found. When seeking permission to install a plaque, it is important that the nominator gains written owner permission from the appropriate level in the owner's organisation and follows that organisation's protocols (if any).

Documentation

Nominations must be thoroughly and carefully researched with particular attention being paid to the accuracy of dates and statements about historical events. Claims to uniqueness or superlative characteristics must be supported by adequate documentary evidence. Claims of being the "first", "last" or "only example" etc. are difficult to establish absolutely and have, on occasions, subsequently been proved incorrect. Primary sources should be consulted as much as possible to avoid errors of fact which may appear in publications, even those by respected authors.

The task of researching and preparing the nomination is the responsibility of the nominating body. Consultation with the relevant Division heritage group prior to and during preparation of the nomination is recommended. The basic purpose of preparing a document sufficient for a plaquing nomination substantially for nomination to a government heritage register, will be served by adopting the following format which has proved useful in facilitating assessment. All items in this format should be included:

- Introduction (what is being nominated and why);
- Nomination Form;
- Location Map;
- Heritage Assessment (refer to Appendix B);
- Proposed wording (citation) of the Information Plaque or the Historic Engineering Marker plaque.
- Appendices:

- documentary evidence sufficient to support the significance assessment, including references, abstracts, photographs and drawings;
- physical evidence, including photographs and drawings.

Whilst adherence to the above-mentioned format will be sufficient for nomination purposes, it is recognised that during the course of preparing the nomination additional information may be assembled, which could add value to the document and be of interest to others. Accordingly, authors may wish to include such information in their reports.

Irrespective of the format, the presentation of nomination reports should be suitable for deposit in a library or archive.

Examples of successful nominations for various types of works are held by the Administrator of EHA. A copy of a relevant example will be supplied on request.

Assessment Criteria

Historic significance is not a quality that is easily evaluated. Essentially the plaquing program is about recognising engineering works of heritage significance, as opposed to only recognising works of engineering heritage significance. The distinction is important as engineering has a social purpose and even works that are not remarkable in engineering terms may have provided great social benefits. On the other hand, a work may be highly significant in engineering terms, yet have had little social impact.

It is also possible that an “engineering failure” may for a time have made a significant social contribution, or may have generated research, innovation or invention that has been of great subsequent benefit. In other words, the possible plaquing of so-called engineering failures should be determined on the basis of their overall heritage significance and should not be ruled out arbitrarily.

Assessment should be under seven main criteria:

- Historic Phase
- Historic Individuals or Association
- Creative or Technical Achievement
- Research Potential – Teaching and Understanding
- Social or Cultural
- Rarity
- Representativeness.

Refer to Appendix C for guidance on using these criteria. All criteria should be addressed if possible, but the depth will depend on the characteristic of the item.

Note that age alone does not assure significance, nor need very significant items be old. A returned space probe may be significant at the completion of its brief mission. Nevertheless, in most cases heritage status implies high value over some lengthy time span.

The assessment criteria should be addressed to parts as well as the whole of the work and be answered from the point of view of all disciplines; consultation with relevant specialists may thus be required.

A list of Assessment headings is at Appendix B and an example of a completed Assessment is at Appendix D. Guidelines for *Assessing Heritage Significance* are at Appendix C.

The Assessment will assist in nomination of the work for listing with the appropriate State heritage body; by and large it identifies the information required by them. However, authors should not be concerned at omitting information where it is not readily available, or would require research not essential to the plaquing nomination.

Statement of Significance

The Statement (of preferably no more than 300 words) is the most important part of the nomination and summarises the essential information derived from the assessment of heritage significance. It should clearly answer the basic question - "why is the object significant"? The statement ensures that the nomination is justified and from it the plaque wording is derived. It must not be a repetition of the assessment criteria, or merely a recital of the history of the work.

It is important that all the elements of the work that contribute to its significance be identified, in order that the Statement can be of use in later conservation activity.

If the nomination is for a NEL, then the Statement of Significance must demonstrate that the engineering works have outstanding heritage significance under at least one and preferably more of the assessment criteria listed in Appendix C. Rarity alone is not sufficient justification for a NEL.

Proposed Citation

As mentioned earlier the plaque carries a descriptive text or citation. It can accommodate about 80 words (at 32 point font size), excluding the title and names of organisations.

The following points should be addressed in succinct plain English:

- what it is;
- who did it;
- its significance.

Plaquing text should, if possible, be in the active voice, e.g. "The ABC Company's Chief Engineer, John Bloggs, designed and supervised construction of the Smithtown Dam in 1881 to 1882" not "The Smithtown Dam was designed by ...".

A sentence in plaque wording should be used for each idea, such as a paragraph would be in normal prose. Most plaques will contain three or four sentences expressing the main facts. Any technical content should be worded for immediate comprehension by the general public.

For collections it could be impractical for the citation to mention all the items. However it could describe the theme or themes in the collection and perhaps mention one or more highly significant items.

The Institution of Engineers Australia and the names of those of bone fide organisations involved in the plaquing decision (such as the owner), appear centred at the bottom of an Information Plaque, together with the year of the plaquing ceremony. The name of an organisation that has no relationship with the work, either past or present, should not appear. Mere funding of a ceremony, or provision of other financial support, would not necessarily constitute sufficient reason for inclusion of an organisation's name on a plaque.



Sydney Tramway Museum (2001)

Submitting Nominations

Nominations may be made by any unit of Engineers Australia, such as a Division, College, Society Branch, Panel, Regional Group or Conference Committee, or by any interested organisation or individual. However, all nominations should be submitted through the Division engineering heritage group in whose area the work is located.

A nomination comprises a nomination report including a completed nomination form signed by the Chair of the relevant engineering heritage group.

Initially, four copies of the nomination/submission are required (not including copies for the nominating body or the owner); a perfect copy incorporating original photographs for the Engineers Australia's file and three copies for the Plaquing Committee for assessment of the proposal (these may be photocopies).

The Division heritage group should forward the four copies to the Administrator of Engineering Heritage Australia at the EA National Office, preferably at least six months before the proposed date of the unveiling ceremony.

Plaquing Committee

The Plaquing Committee is appointed by Engineering Heritage Australia and comprises the Convenor and two other members. The Chair of EHA is an ex-officio member.

The role of the Committee is to:

- consider Proposals to Plaque (brief exploratory submissions) and provide an opinion as to whether a nomination would be likely to succeed;
- evaluate plaque nominations and ensure they satisfy the laid down criteria;
- consider proposed citations and negotiate acceptable wordings with Division groups, who may need to consult owners;
- consider matters relevant to the Plaquing Program and make recommendations to EHA;
- provide advice and information on plaquing matters to Engineers Australia and its members and to others as required; and
- revise and up-date the Plaquing Guide and procedures as required and recommend amendments to EHA.

In evaluating plaquing nominations, members of the Plaquing Committee may use their professional knowledge and will not necessarily rely solely on the information provided. However, it is not its responsibility to undertake further research. They thus may refer particular matters back to the proponent for further information, justification, clarification etc., or to experts in the field.

**Ross Bridge, Tasmania
1836 (2003)**



PLAQUING CEREMONY

Organisation of Ceremony

The nominating body has the responsibility for overseeing arrangements for organising and financing the plaquing ceremony. To ensure nothing is overlooked and the needs of stakeholders are met, it should initiate formation of a Ceremony Committee as described in Appendix E.

The owner generally makes the actual arrangements. Early planning is prudent, but no firm commitments should be made until receipt of formal advice that the nomination has been approved.

Once planning starts in earnest, a sense of an important local event can be created by co-opting local organisations and individuals, whilst keeping a firm hold on the overall organisation. People closely associated with the work, directly or through distant relatives and friends, will appreciate being included in the ceremony. Plaquing ceremony guidelines are at Appendix E. The guidelines are based on experience gained from many successful ceremonies.

Plaque Unveiling

The unveiling of the plaque is usually performed by a senior office bearer of Engineers Australia assisted by a local dignitary (perhaps Governor, politician or mayor) and a representative of the owner.

For a NEL it is desirable Engineers Australia's senior representative be the National President or in his absence, the Deputy President or a Vice President.

For an HEM Engineers Australia's senior representative is usually the Division President or in his absence, the Senior Vice President or a Vice President.

Ceremony Report

As indicated at Appendix E, a report should be prepared to establish an historical record of the plaquing ceremony. Amongst other things it should include copies of the handout ceremony brochure and program, photographs and any publicity obtained.

Archiving and Listing

The research that has established the significance of the work has the potential benefits of providing both a reference source for future researchers and information suitable for listing the work with government heritage bodies and the National Trust. Such listing may provide some protection for the work against future demolition or unsympathetic alteration.

Accordingly:

- documents relating to the nomination and the plaquing ceremony should be lodged with the relevant State library;

- an electronic copy of the nomination document should be forwarded to the Administrator of EHA for record purposes. This record should include the final wording used on the information or HEM plaque. (At the time of writing, Adobe (*.pdf) is the preferred format but Microsoft Word may be acceptable for the new web site); and

- subject to the concurrence of the owner, a copy of the Assessment Form should be forwarded to the relevant government heritage body and National Trust, with a request for inclusion of the work on the appropriate heritage register. The assessment form should be forwarded even if the work is already listed, as it will be a further reference and may provide additional relevant information.

Appendix A

Plaque Nomination Form

The Administrator
Engineering Heritage Australia
Engineers Australia
Engineering House
11 National Circuit
BARTON ACT 2600

Name of work:

The above-mentioned work is nominated to be awarded a

National Engineering Landmark or an **Historic Engineering Marker** (*delete as appropriate*).

Location, including address and map grid reference if a fixed work:

.....
.....

Owner (name & address):

.....
.....

The owner has been advised of this nomination and a letter of agreement is attached.

Access to site:

.....
.....

Nominating Body:

.....
Chair of Nominating Body

Date:

.....
Chair of Division Engineering Heritage Group

Date:

Appendix B Heritage Assessment

Assessment of the eligibility of the work for plaquing should address the following headings. An example of a completed Assessment is at Appendix D.

1. BASIC DATA

Item Name:

Other/Former Names:

Location (grid reference if possible):

Address:

Suburb/Nearest Town:

State:

Local Govt. Area:

Owner:

Current Use:

Former Use (if any):

Designer:

Maker/Builder:

Year Started:

Year Completed:

Physical Description:

Physical Condition:

Modifications and Dates:

Historical Notes:

Heritage Listings (information for all listings)

Name:

Title:

Number:

Date:

2. ASSESSMENT OF SIGNIFICANCE

Historic Phase:

Historic Individuals or Association:

Creative or Technical Achievement:

Research Potential:

Social:

Rarity:

Representativeness:

Integrity/Intactness:

References:

Statement of Significance:

Assessed Significance (*whether National, State or Local*)

Image(s) with caption(s):

Appendix C

Assessment of Significance

Acknowledgements

This appendix is based principally on the work by the NSW Heritage Office in preparing its revised 2001 publication, *Assessing Heritage Significance*, which is part of the NSW Heritage Manual. Readers are referred to that publication for a list of contributors and sources. Their contribution is gratefully acknowledged.

Other State publications and the Australian Heritage Council Guidelines have also been consulted in an attempt at Australia-wide uniformity.

Limitations

Due to the differences existing between State heritage acts and their assessment guidelines, relevant State guidelines and procedures or those of the Australian Heritage Council, may need to be consulted if it is intended that a work be submitted for inclusion in a State or National heritage register. However, following these Guidelines will provide sufficient basic information for a plaquing nomination.

Historic Phase

<i>Guidelines for Inclusion</i>	<i>Guidelines for Exclusion</i>
Shows evidence of a significant human activity; Is associated with a significant activity or historical phase; and Maintains or shows the continuity of a historical process or activity.	Has incidental or unsubstantiated connections with historically important activities or processes; Provides evidence of activities or processes that are of dubious importance; and Has been so altered that it can no longer provide evidence of a particular association.

Historic Individuals or Association

<i>Guidelines for Inclusion</i>	<i>Guidelines for Exclusion</i>
Shows evidence of a significant human occupation; and Is associated with a significant event, person, or group of persons.	Has incidental or unsubstantiated connections with historically important people or events; Provides evidence of people or events that are of dubious historical importance; and Has been so altered that it can no longer provide evidence of particular association.

Creative / Technical Achievement

<i>Guidelines for Inclusion</i>	<i>Guidelines for Exclusion</i>
<p>Shows or is associated with, creative or technical innovation or achievement;</p> <p>Is aesthetically distinctive;</p> <p>Has landmark qualities; and</p> <p>Exemplifies a particular taste, style, or technology.</p>	<p>Is not a major work by an important designer or artist;</p> <p>Has lost its design or technical integrity;</p> <p>Its visual or sensory appeal or landmark qualities have been more than temporarily downgraded; and</p> <p>Has only a loose association with a creative or technical achievement.</p>

Research Potential

<i>Guidelines for Inclusion</i>	<i>Guidelines for Exclusion</i>
<p>Has the potential to yield new or further substantial scientific and/or archaeological information;</p> <p>Is an important benchmark or reference site or type; and</p> <p>Provides evidence of past human cultures that is unavailable elsewhere.</p>	<p>Has little archaeological or research potential;</p> <p>Only contains information that is readily available from other resources or archaeological sites; and</p> <p>The knowledge gained would be irrelevant to research, human history, or culture.</p>

Social

<i>Guidelines for inclusion</i>	<i>Guidelines for Exclusion</i>
<p>Is important for its association with an identifiable group; and</p> <p>Is important to a community's sense of place.</p>	<p>Is only important to the community for amenity reasons; and</p> <p>Is retained only in preference to a proposed alternative.</p>

Rarity

<i>Guidelines for Inclusion</i>	<i>Guidelines for Exclusion</i>
<p>provides evidence of a defunct custom, way of life or process;</p> <p>demonstrates a process, custom, or other human activity that is in danger of being lost;</p> <p>shows unusually accurate evidence of a significant human activity;</p> <p>is the only example of its type;</p> <p>demonstrates designs or techniques of exceptional interest; and</p> <p>shows rare evidence of a significant human activity important to a community.</p>	<p>is not rare; and</p> <p>is numerous but under threat.</p>

Representativeness

<i>Guidelines for Inclusion</i>	<i>Guidelines for Exclusion</i>
<p>is a fine example of its type;</p> <p>has the principal characteristics of an important class or group of items;</p> <p>has attributes typical of a particular way of life, philosophy, custom, significant process, design, technique or activity;</p> <p>is a significant variation to a class of items;</p> <p>is part of a group which collectively illustrates a representative type;</p> <p>is outstanding because of its setting, condition or size; and</p> <p>is outstanding because of its integrity or the esteem in which it is held.</p>	<p>is a poor example of its type;</p> <p>does not include or has lost the range of characteristics of a type; and</p> <p>does not represent well the characteristics that make up a significant variation of a type.</p>

Appendix D Example of a Completed Heritage Assessment

(Note that this is only an example. A copy of a complete Nomination is available as a separate document).

HERITAGE ASSESSMENT

1. BASIC DATA

Item Name:	ALEXANDRA CANAL		
Other/Former Names:	Sheas Creek		
Location:	MGA Zone 56 6243N 330E to 6246N 333E		
Address:	Mascot, NSW		
Suburb/ Nearest Town:	Alexandria, St. Peters, Mascot, Tempe		
State:	NSW		
Local Govt Area:	Marrickville South Sydney Botany		
Owner:	Sydney Water		
Current Use:	Stormwater channel		
Former Uses:	Navigational canal		
Designer:	New South Wales Department of Public Works		
Maker/ Builder:	New South Wales Department of Public Works		
Year Started:	1887	Year Completed:	1899

Physical Description:

Alexandra Canal is an adapted artificial waterway (formally known as Sheas Creek), which stretches 4.5 km from its southern point at Cooks River to the north near Huntley Street, Alexandria. Its banks are formed by pitching which comprises sloping dry sandstone capped with a sandstone coping. It extends from approximately 0.5 metres below low water mark to approximately 1.5 metres above high water mark. 4 bridges span it: Shell pipeline bridge, Sydenham to Botany Railway line, Canal Road Bridge and a small footbridge.

Physical Condition:

Much of the fabric which belonged to the original section of the canal is in fair condition. Some sections of the walling appear to have been damaged or are missing. The fabric belonging to the Cooks River section of the canal is in poor condition.

Modifications and Dates:

The south-western walling of the canal beyond the Shell Bridge is rendered rubble walling. The south-eastern face is rendered rubble walling almost to the railway bridge. These alterations to the original fabric reflect alterations to the course of the canal near its junction with the Cooks River during the three phases of airport expansion.

Historical Notes:

Sheas Creek is a tributary of the Cooks River, which begins in the once sandy hills of the present Surry Hills east of Redfern. Dredging commenced in 1887 to adapt Sheas Creek to a canal, with the intention of creating manufacturing and industrial opportunities in the area by offering shipping as a means of transporting cargo. The canal was intended to be the 'Birmingham of Australia' and was constructed under an unemployed work relief scheme. The canal was originally lined with a fascine dyke, as were sections of the Cooks River. The original canal started to the southwest of the existing Sydenham to Botany railway bridge and extended to the Canal Road Bridge. In 1894 the canal was to be extended to Buckland Street, Redfern, however only part of this section was ever constructed, the limit of the canal was to the south of Huntley Street, Alexandria. During this period scientists were called in to record the finding of dugong bones displaying butchery marks and stone axes, which were the subject of an academic paper. As sections of the canal were completed, wharves were constructed along the canal to encourage its use. The canal, as originally planned, was substantially completed in 1900. Major

changes to the canal occurred when the airport was expanded over three phases from 1947 to 1970. These changes included altering the course of the canal near its junction with the Cooks River. The canal was never considered a success, its use limited by the shallow draught of the vessels that could use it, constant silting, tidal factors and the advent of commercial road transport in the 1930s. By the early 1940s the navigational use of the canal declined to such an extent that it was decided not to maintain the wharves and they were demolished.

Listings:	State Heritage Register NSW	Not listed
	Sydney Water s170 Register	Draft listing
	Register of the National Estate	Not listed
	National Trust of Australia (NSW)	Classified

2. ASSESSMENT OF SIGNIFICANCE

Historic Phase:

Alexandra Canal was built during the 1890s depression using unemployed labour. It is one of two navigational canals built in NSW and is the only canal built to provide access for water transport for the delivery of cargo in NSW. The canal, the warehouses and factories around it, the bridges that cross it and the remains of the wharves are evidence of attempts by the government to encourage development in the area.

Historic Association:

None known

Creative or Technical Achievement:

Sections of the canal exhibit relatively intact sections of ashlar stonework which are excellent examples of late 19th century coastal engineering works that provide a pleasantly textured and coloured finish to the canal. The canal is a major visual landmark in the area and has strong landmark appeal, particularly as viewed from the Rickety Street Bridge.

Research Potential:

The discovery of butchered Dugong bones, aboriginal axes and the remains of an ancient forest in this area, all of which were found beneath the then low water mark during the excavation of the canal, were the subject of an academic-paper. This paper contributed to the scientific understanding of the changing sea levels along the eastern seaboard and the antiquity of the aboriginal presence in the area. The Canal exemplifies and is rare tangible evidence of Government initiatives of canal transportation and implementation of pre 20th century unemployment relief schemes.

Social:

This canal is an outstanding example of the use of 19th century engineering to provide services and development of a city.

Rarity:

Alexandra Canal is one of two extant navigational canals in NSW and one of the few built in Australia in the 19th and 20th century. It was the only purpose built canal constructed to provide navigational access in industrial areas in NSW.

Representativeness:

Alexandra Canal is a representative example of a late nineteenth century coastal navigational canal.

Integrity/Intactness:

The course of the canal, at the southern end near the Cooks River, has been altered due to airport expansion. Sections of the stonework south of the railway bridge near the Tempe Reserve have been removed while the remainder is substantially intact.

References:

	Author	Title
	Graham Brooks and Associates	Sydney Water Heritage Study
	Edward Higginbotham & Associates	Heritage Study of the Upper Nepean

3. STATEMENT OF SIGNIFICANCE

Alexandra Canal is of high historic, aesthetic and technical/research significance. Historically, it is a rare example of 19th century navigational canal construction in Australia, being one of only two purpose built canals in the State, with one other known example in Victoria. It has the ability to demonstrate the NSW Governments initiative to create water transport as a means of developing an industrial complex in the Alexandria and Botany areas and exploiting the use of unemployed labour to achieve its scheme. It played a seminal role in the changing pattern and evolution of the occupation and industrial uses of the local area and nearby suburbs, which included filling large areas of low lying land for development. Intact original sections of the canal, comprising pitched dry packed ashlar sandstone, provides a textured- and coloured finish which is aesthetically valuable in the cultural landscape. It is a major landmark and dramatic component of the industrial landscape of the area, particularly as viewed from the Rickety Street Bridge and along Airport Drive. Scientifically, the excavation of the canal provided a valuable contribution to the understanding of the changing sea levels along the eastern seaboard and the antiquity of the aboriginal presence in the area. Intact original sections of the, fascine dyke sandstone construction are rare examples of late 19th century coastal engineering works.

Assessed Significance: State

Images



General View of Canal



Aerial View of Canal

Appendix E Plaquing Ceremony Guidelines

A Ceremony Committee should be formed and planning meetings commenced either about six months before the plaquing ceremony, or immediately on approval of the nomination if the lead time is less than six months (a useful planning timetable appears later). Where possible the committee should have representation or input (as appropriate) from:

- the agency with jurisdiction over the work or the owner;
- the local Division heritage group of Engineers Australia;
- the College(s) of Engineers Australia related to the work;
- the local municipality or shire;
- associated professional and technical bodies;
- local historical societies; and
- others as deemed appropriate.

The ceremony date is determined by the organising committee. However, selection of a date, which coincides with the Heritage Festival/Week, National Engineering Week, an anniversary or an Engineers Australia event such as a conference, should be considered. Weekends allow increased participation by working people.

The ceremony location should be as near as practicable to the work being plaqued. Where a plaque cannot be unveiled in its final position, a suitable temporary stand may be used and the plaque later fixed in its permanent place. However, a firm commitment should be obtained that the plaque will be fixed within a stipulated time and this should be followed up by the Division heritage group to ensure it happens.

It is essential to a well-run ceremony that members of the organising committee visit the plaquing site well before the ceremony and, in effect, rehearse the event to test the suitability of the arrangements.

Outdoor venues are appropriate for most occasions. Consideration should be given to:

- a platform for the speakers or the main party;
- a lectern with means to hold speech notes in place;
- a good reliable PA system with operator;
- an unveiling stand and its reliability of operation;
- seating for the guests;
- protection from the elements or a move to an indoor venue in the event of inclement weather;
- avoiding noisy locations; and
- the display of banners of Engineers Australia and the owner.

When an indoor venue is appropriate, try to ensure:

- the room size is adequate and ventilation is satisfactory;
- the PA system (if needed) works;
- the speakers and main party can be seen;
- the lectern is suitably lit;
- the unveiling stand is suitable;
- the seating arrangements are suitable;
- the banners can be displayed; and
- noise and distractions are eliminated.

Invitations. The following list should be checked in order to decide on invitations appropriate to all aspects of the occasion:

- President and Chief Executive of Engineers Australia;
- Division President;
- Chairpersons of the relevant Colleges, local Division Branches, Panels, Committees and the Regional Group;
- Chairperson, Engineering Heritage Australia;
- The Governor General;
- The State Governor;
- The Prime Minister;
- The appropriate Federal Minister and local Member of Parliament;
- The Premier; the appropriate State Minister and local Member of Parliament;
- The local Mayor or Shire President;
- Representatives of the owner of the work;
- Chairperson, Australian Heritage Council;
- Director, state heritage body ;
- Chairperson, State Heritage Council or equivalent;
- President and Executive Director, National Trust;
- Representatives of kindred professional bodies;
- Presidents of the local historical and museum societies; and
- Children and staff from local schools.

Matters of protocol and other sensitivities need to be considered as they may affect attendances and the make-up of the official party. Invitations to dignitaries should indicate whether they will be asked to speak or participate in the formalities.

Deadlines should be set for the return of invitations, the issuing of press releases and the preparation of the ceremony brochure.

A ceremony brochure, tastefully-designed, containing basic information about the work including the plaque text and explaining the significance of the event, should be available at the ceremony. A folded A4 sheet of reasonable quality so that it may serve as a souvenir, is usually adequate. The representative of the owner on the ceremony committee should be encouraged to play a major role in producing this brochure.

A ceremony program should also be provided and should include the names of important guests and those who are to officiate.

The ceremony guests should be welcomed and receive a copy of the program and ceremony brochure (often combined) and be allowed to congregate and converse for a few minutes. The formal ceremony should not normally exceed 30 minutes. A typical program could be:

Welcome to guests and purpose of event	5 minutes;
Plaquing Awards Program described	5 minutes;
Historical information about the work	10 minutes;
Presentation and/or unveiling the plaque	3 minutes;
Owner receiving the plaque	3 minutes;
Closing remarks	2 minutes;
Official photographs	5 minutes.

The unveiling of the plaque is normally performed by Engineers Australia's representative. Having regard to protocols relating to important guests, the owner's representative and/or a VIP might be invited to assist with the unveiling.

Visual displays are generally well received by the guests. They can provide additional information about the work, other similar works, the owner's and sponsor's activities. Expert advice should be sought about preparing the material and how best to display it. Many owners have experienced PR teams.

Tours of the plaqued work are often appropriate. The ceremony committee should consider the possibility and negotiate with the owner, about safety and the provision of knowledgeable guides.

Entertainment and costuming when properly prepared and managed can provide enjoyment for the public and be beneficial from a news media viewpoint.

Refreshments may range from the equivalent of an afternoon tea through to a main dinner. The former would normally be provided free by the owner or ceremony committee, whereas the latter would require a participation charge.



**Woomera Rocket Range, SA.
NEL plaque in background**

Photography is the principal means of recording the occasion (a never-to-be-repeated event). Experienced photographers, still and/or video, should be used to ensure a good visual record is made. Digital photography will facilitate transmission of images, their placement on websites and their publication in ceremony reports and other documents.

Publicity

Activities associated with the overall publicity should start six to eight weeks before the event, although preliminary planning may have begun much earlier. The owner or sponsor will usually make available one of its PR team to assist with media coverage. Local newspapers, regional TV and the national media should be targeted to bring wide public attention to the ceremony and the significance of the works.

The local Division Office should be kept informed and sent copies of press releases for inclusion in Division Newsletters and transmission to "Engineers Australia" magazine.

Planning Timetable

The time taken for research and preparation of the nomination tends to dominate the total time between the initial suggestion and the plaquing ceremony. This time can be as short as 6 months, but experience has shown that it generally exceeds 12 months and may extend to 2 years.

Submission of the nomination to the Plaquing Committee should be made preferably 6 months or more before the proposed ceremony date. Administrative procedures ensure that assessment is dealt with quickly and a decision is conveyed to the nominating body in a month or two. The following planning guidelines are suggested:

Ceremony minus six months

Form a ceremony committee, enlisting people to whom specific tasks can be delegated.

Keep minutes of meetings and any other documentation; this helps in all stages of organisation and is useful for the ceremony report.

Decide on the date, time and location of the ceremony.

Inspect the site and agree on the format of the event.

Nominate and approach members of the official party to determine their availability, at least two speakers (representing Engineers Australia and the owner) should be selected, a third may be required.

Settle funding arrangements.

Prepare a list of invitees.

Begin the preparation of media releases, check deadlines of relevant journals, these may be very long.

Begin preparing the ceremony brochure, the program and other formal printed material;

Book the venue, the PA system (consider a backup unit) and the photographer.

Consider supplementaries, such as period dress, a parade, visual displays, community participation etc, begin arrangements if considered appropriate.

During the six months leading to the ceremony

Hold regular committee meetings to keep all parties informed.

Dispatch formal and general invitations.

Decide on the subject matter for each of the speakers.

Prepare basic speech notes and issue to speakers together with background information.

Discuss with local police any foreseen traffic or parking problems.

Finalise the exact location and fixing of the plaque(s).

Begin planning refreshments for the official party and other guests.

Check with the Administrator EHA that delivery of the plaque(s) is on schedule and that the manufacturer has been provided with the correct address for delivery.

Book guides for tours by the official party and other guests after the ceremony.

Revisit the site to check all plans for feasibility, consider contingencies for inclement weather.

Print handout material such as official program and ceremony brochure.

One week before the ceremony

Review all arrangements and ensure that everyone knows what they are expected to do.

Activate arrangements with the local media.

Arrange for a person to act as the official photographer.

Identify the person who will prepare the Ceremony Report.

On the day of the ceremony

Check site preparation and the function of all systems two hours beforehand.

Welcome the attending dignitaries; refer to them in proper precedence and by their correct titles during the introduction to the formal ceremony.

Distribute handout material.

Make official guests and all attendees feel that their presence is important and appreciated.

After the ceremony

Send letters of thanks to all the major participants.

Archive all documentation for future reference.

Write an account of the plaquing for the Division newsletter, for the Division website, for EHA Newsletter and for Engineers Australia Magazine; include images.

Ceremony Report

It is desirable to make a brief report of the event as evidence of EHA's community involvement and as an example for first-time ceremony organisers. The report could include photographs, copies of programs, brochures and media articles, texts of the speeches and a list of dignitaries. Photographs should include a close-up of the plaque wording and a shot showing its location. Comments which may assist future organisers of plaquing ceremonies may also be included.

One hard copy should be sent to the Division engineering heritage group, one to the owner and one to the EA National Office. In addition, as much as possible of the report should be in electronic form, and an electronic copy should be sent to National Office for ease of distribution.



Ceremony Audience (Broken Hill 2001)

Appendix F Fixing, Care, Ownership & Removal of Plaques

Fixing of Plaques

Fixing should be as permanent as possible in order to prevent damage. The method of fixing will vary due to site differences, but the following experience may be of assistance.

Plaques are provided with tapped bosses on the rear surface into which screws or bolts can be threaded.

Most plaques are attached to stone or concrete in which case a flat surface should be prepared and holes drilled to match the tapped bosses. After threading the mounting screws into the plaque, the heads of the screws are fixed into the holes using an epoxy mortar, which can also provide the bedding. The plaque is supported in position until the mortar has set.

Where plaques are to be mounted such that the heads of the screws or bolts are exposed, measures should be employed to ensure the screws/bolts cannot be undone and the plaque removed.

Plaques should end up hard against the mounting surface to make them less vulnerable to being pried off. If this is not possible a suitable grout should be packed around the edge, chamfered at approximately 45°.

Care of Plaques

Finish. Plaques supplied by Engineers Australia's supplier come with a protective coating to preserve the original appearance. However, this coating is not permanent and will change in appearance with natural weathering. Two courses are open for the care of these plaques.

Original appearance. Effects of weathering can be offset by washing the plaque with detergent and warm water followed by the application of a thin film of silicone-free floor polish or wax with a soft brush. The surface should then be buffed. Care should be taken to avoid polish build-up around lettering and edges. The wax is best applied on a warm day and not more frequently than monthly.

Natural finish is acquired by doing nothing except remove foreign substances and agents, which may cause staining. Natural weathering will impart a rich, natural patina. The rate of patina formation depends on atmospheric, weather and soil conditions and varies greatly by geographic location. The changes in bronze colour occur gradually until it stabilises usually after seventy to eighty years. In addition to the familiar verdigris patina, extreme climate and soil conditions can cause the development of shades of blue, brown, black and red.

Ownership and Removal of Plaques

Plaques remain the property of Engineers Australia unless agreed otherwise in writing. If the work or collection has materially changed and, as a consequence, the award is no longer valid, EA reserves the right to withdraw the plaque.