

# ENGINEERING HERITAGE AUSTRALIA

## ENGINEERING HERITAGE PRACTICE NOTES

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ENGINEERS  
AUSTRALIA

### PRACTICE NOTE No.1

## EVALUATION OF ENGINEERING HERITAGE

### Purpose

The purpose of this practice note is to provide engineers and others with essential background information on the assessment of the engineering heritage significance of an item or work.

### Preamble

The conservation of Heritage items has widespread recognition in Australia with Commonwealth, State and Local Government legislation.

There is an Australian Heritage Council and each State has a Heritage Council.

Added to this are numerous and varied bodies dedicated to the conservation of numerous and varied items.

The conservation of engineering items such as railway engines, motor vehicles and bridges appear often as news items and generate much public interest.

Engineering Heritage, whilst inclusive of these, is much broader.

**Items of engineering heritage are those significant engineering works carried out by our predecessors which are worthy of handing on to succeeding generations.**

The significant works may be large and prominent items represented by bridges, they may be individual small items such as the microchip, bionic ear or the heart pacemaker; they may be an engine, a pump, a dam, a water supply, a current rectifier, a concept such as prestressing or a design development such as spun pipe manufacture.

The engineers who developed the ideas, who designed the works, expanded the concept, developed innovations and who constructed the works, are important elements of the heritage.

### Principles

**The Australian Burra Charter** is used as the basic reference document for the conservation of heritage places in Australia and its principles have been widely adopted.

It provides, for engineering heritage, a rational basis for the conservation of heritage items.

It sets out conservation techniques and provides guidelines for their implementation.

Engineers Australia uses the Burra Charter for the evaluation of engineering heritage items and has extended the Charter Articles for specific engineering needs.

The Burra Charter defines the techniques as:-

**Conservation** is defined as all of the processes needed to retain cultural significance.

It includes maintenance and may include preservation, restoration, reconstruction and adaptation dependent upon specific circumstances. It commonly involves a combination of more than one of these.

Conservation is not concerned with making things new again, but with giving them a use

compatible with the retention of their cultural significance and of their long-term survival.

**Maintenance** is continuous protective care. It is different to repair which involves reconstruction or restoration.

**Preservation** is the process of maintaining the fabric in its existing state and retarding deterioration.

**Restoration** means, for example, returning a locomotive to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.

**Reconstruction** mean, for example, returning a locomotive to a known earlier state and is distinguished by the introduction of new materials.

**Adaptation** means modifying to suit proposed compatible uses.

The use of these techniques for engineering items requires knowledge of the end use of the item.

If the item is to continue in service then maintenance and adaptation are likely to be primary considerations.

Public safety is mandatory and adaptation will likely be needed to achieve this. Current relevant Australian Standards are to be complied with.

A museum location would involve preservation and may include some restoration and reconstruction dependent upon specific evaluation.

### **Burra Charter Version**

The most useful version of the Burra Charter 1999 includes the Charter Guidelines which provide detailed advice on use of the Charter Principles. The overriding commitment to *do what is necessary but change as little as possible* should be followed.

**Australian Heritage Legislation** is used by Engineers Australia for works generally.

All governments use lists as the basis for publicly identifying Australia's heritage places, protecting these places and communicating their heritage significance.

Key tools used to decide a place's heritage significance are criteria and thresholds.

Criteria are a collection of principles, characteristics and categories used to help decide if a place has heritage value.

Examples of commonly used criteria include:

- the place's importance in the course, or pattern, of natural or cultural history;
- the place's importance in demonstrating a high degree of creative or technical achievement at a particular period; and
- the place's importance for its special association with the life or works of a person, or group of persons, of importance in natural or cultural history.

The threshold is the level of significance to be achieved in order to be listed.

### **Engineering Heritage Australia Significance**

**Works of engineering heritage significance are those which:-**

- mark an important achievement or change in direction in our knowledge or skills;
- are directly associated with an historic phase, eminent person or organisation;
- are highly valued by a particular community or group;
- are rare; or
- are representative of a particular class of works;
- provide evidence of important engineering activity.

## **Evaluation of Works**

Evaluation requires determination of significance for each of the criteria.

Evaluation requires that considerations of environment, occupational health and safety, operation, maintenance and monitoring be addressed.

The evaluation should assess these considerations for impact on the heritage outcome.

It is recommended that an engineer who is expert in the works being assessed be involved.

## **ROLE OF ENGINEERS AUSTRALIA**

Engineers Australia, through Engineering Heritage Australia, will provide advice and nominate experts as needed for a specific assessment.