



23 January 2014

The Australian Heritage Strategy
Heritage Branch
Department of the Environment
AusHeritageStrategy@environment.gov.au

Dear Australian Heritage Strategy team,

THE AUSTRALIAN HERITAGE STRATEGY & AN AUSTRALIAN HERITAGE QUALITY FRAMEWORK

This is a joint submission from Australia ICOMOS and the Australasian Chapter of the Association for Preservation Technology (International) focussed on the benefits of an Australian Heritage Quality Framework to the 2014 Australian Heritage Strategy. A separate submission contains the broader response from Australia ICOMOS.

An Australian Heritage Quality Framework (AHQF) would consist of a series of Heritage Quality Measures (HQM) for various conservation activities, but in particular for the conservation of significant heritage fabric. The HQM would not replace existing heritage guidelines but would reinforce their use by requiring conservation work to comply with relevant HQMs as a statutory condition of approval for work to heritage places; and/or as a condition of heritage funding.

The AHQF would: provide for consistent heritage management across Australia; provide more certainty for owners and applicants when applying to carry out works at heritage places; assist in the streamlining of heritage applications; and provide a quality management vehicle for exempting certain works from the statutory approval process.

The excellent research and reporting by Heritage Chairs and Officials of Australia and New Zealand (HCOANZ) and the Construction and Property Services Industry Skills Council (CPSISC) has highlighted the disconnect in Australia between a high level of heritage conservation planning and other pre-consent processes and the lack of focus on the delivery of quality heritage conservation outcomes. The application of a HQF will also stimulate the demand for training in traditional trades because the HQM will demand the application of best practice methods.

The development of the AHQF could be staged across several years, perhaps beginning with a pilot project concentrating on quality physical conservation for heritage properties. The HQF could be achieved with input from those most experienced in the relevant technical aspect of heritage conservation and should also involve consultation with appropriate stakeholders including representatives of property owners.

Attached is a paper prepared by Donald Ellsmore and Mary Knaggs on behalf of the Australia ICOMOS Traditional Trades Working Group and the Australasia Chapter of the Association for Preservation Technology (International). The paper further explores the idea of an Australian Heritage Quality Framework.

Please contact Australia ICOMOS if you have any queries.

Yours faithfully

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TEMPLATE FOR INPUT INTO THE AUSTRALIAN HERITAGE STRATEGY

Overview

This template should be used to provide comments on the design of the Australian Heritage Strategy.

Contact Details

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Date:	22/01/2014

Questions

Please add your comments for some or all of the three questions below. If you have other information you wish to provide, please add this in the other comments field.

1. What do you think are the key elements of the Commonwealth's role in heritage?

Australia ICOMOS (AI) provided a previous submission on the Australian Heritage Strategy dated 14 June 2012 (in italics below). These key elements are still supported by AICOMOS as outlined in a separate submission.

This supplementary submission from Australia ICOMOS and the Association for Preservation Technology (International) Australasia Chapter is focussed on the need to create an Australia Heritage Quality Framework.

An Australian Heritage Quality Framework (AHQF) would consist of a range of Heritage Quality Measures that are to be met when managing heritage in Australia. An AHQF has the potential to:

- stress the national leadership role in heritage of the Commonwealth, especially a prominent role for the Australian Heritage Council;
- promote and facilitate national coordination and cooperation between all jurisdictions (Commonwealth, State/territory and local governments), including clarity about and integration of management decision-making and consistent best- practice heritage legislation;
- recognise and support the important role local government should play regarding Australia's heritage by giving local government a practical set of tools for heritage management;
- recognise that communities have a responsibility for and a right to participate in decisions affecting their heritage by assisting community understanding of quality heritage outcomes;
- promote a comprehensive and integrated view of Australia's heritage, enabling linkages across between different Heritage Quality Measures (e.g. cross referencing moveable heritage and intangible heritage);
- promote links and coordination with other strategic and policy frameworks : (e .g. the proposed National Cultural Policy);
- provide a comprehensive and up to date process for the listing of Australia's heritage places;



- provide an integrated national database of heritage places enabling a single web-based point of inquiry for the community and business. The database should also enable cross- jurisdictional research and understanding;
- provide for a coordinated national program of research to allow the preparation and review of the Heritage Quality Measures. (e.g. methodological and technical conservation issues);
- take a leading role in coordinating all of the listing and regulatory processes dealing with Indigenous heritage, especially to respond to issues identified by the 2011 State of the Environment report (e.g. erratic identification of sites, intangible heritage at great risk);
- assist effective national monitoring and reporting of identification, protection, conservation and interpretation activities, with clear quality measures to allow for consistent benchmarking;
- increase demand for training in best practice heritage activities to enable practitioners to understand and achieve the quality measures (e.g. to respond to the traditional heritage skills crisis);
- assist in the integration of heritage conservation with the Green Star and other sustainability systems (e.g. Providing clarity on when points can be achieved for heritage conservation and the embodied energy in existing structures, not just for measures of operational energy efficiency); and
- provide a national quality standard for interpretation of Australia's heritage places, emphasising the need for community engagement and authenticity.

2. What new cooperative models could be explored to open up opportunities for heritage protection?

Across Australia there are now accepted standards for management planning for heritage sites. However there are no similarly consistent quality measures for physical works to heritage places. An Australian Heritage Quality Framework will provide consistency in best practice heritage outcomes across all heritage agencies, community organisations and the general public, in a similar manner to the way the Australia ICOMOS Burra Charter sets a consistent policy standard for heritage management planning across Australia.

While initially the Australian Heritage Quality Framework would be aimed at improving physical outcomes for heritage places, the model can also be used to promote best practice in areas such as heritage interpretation and Aboriginal heritage management.

The Australian Heritage Quality Framework would consist of Heritage Quality Measures for various heritage practices. These measures will also assist with streamlining statutory approvals and the provision of exemptions and will provide more certainty for applicants.

3. How can communities engage more effectively in the management of heritage places?

The Australia ICOMOS Burra Charter 2014 promotes community engagement with heritage management processes, particularly Article 12 Participation:

Conservation, interpretation and management of a place should provide for the participation of people for whom the place has significant associations and meanings, or who have social, spiritual or other cultural responsibilities for the place.

Australian Heritage Quality Measures can be developed for appropriate Community Engagement with the planning and implementation of particular heritage projects.

Other comments

More information on the concept of an Australian Heritage Quality Framework is provided in the attached submission.

TOWARDS AN

AUSTRALIAN HERITAGE QUALITY FRAMEWORK

FOR SUSTAINABLE CONSERVATION OF PLACES OF CULTURAL
HERITAGE SIGNIFICANCE

JANUARY 2014

**AUSTRALIA ICOMOS & THE ASSOCIATION FOR PRESERVATION
TECHNOLOGY (AUSTRALASIA CHAPTER)**

Prepared by

- Mary Knaggs, Coordinator AICOMOS Traditional Trades Working Group; and
- Donald Ellsmore, Convenor APT Australasia Chapter.

Note on Authorship: The information in this paper is based on information developed jointly by members of Australia ICOMOS and the APT Australasia Chapter in 2013.

CONTENTS

1.0	INTRODUCTION TO A HERITAGE QUALITY FRAMEWORK (HQF).....	1
2.0	RELATIONSHIP OF THE HQF TO AUSTRALIA ICOMOS BURRA CHARTER	3
3.0	RELATIONSHIP OF THE HQF TO TRADITIONAL TRADES.....	4
4.0	OTHER BENEFITS OF A HERITAGE QUALITY FRAMEWORK.....	6
5.0	WHAT WILL THE AUSTRALIAN HQF LOOK LIKE?	7
7.0	WHAT IS REQUIRED TO PUT THE AHQF IN PLACE?	10
8.0	REFERENCES, TERMS AND ABBREVIATIONS	12
APPENDIX 1: SAMPLE HQF QUALITY MEASURE 1: GENERAL REQUIREMENTS		13
APPENDIX 2: SAMPLE QUALITY MEASURE 2 – STRUCTURAL CONDITION REPORTING		10
APPENDIX 3: SAMPLE QUALITY MEASURE 3 – WOOD AND CARPENTRY REPAIRS.....		16

1.0 INTRODUCTION TO A HERITAGE QUALITY FRAMEWORK (HQF)

This paper proposes a quality framework for sustainable heritage conservation. The quality framework would have two key objectives:

- to assure the quality and sustainability of works to heritage places and improve heritage outcomes
- to drive the training and development of human resources to sustain cultural heritage values over time.

While the proper conservation and sustainable use of built and cultural heritage is an enduring ambition shared by communities around Australia, it is apparent that a decline in the standard of works to heritage places has resulted in the diminishment of cultural heritage values at some places and a serious threat to the sustainability of those cultural heritage resources to the communities they serve. The evidence of the decline can be observed in several ways:

- the substitution of non-sustainable materials and works practices for sustainable, traditional materials and practices
- a precipitous decline in traditional skills and a lack of training of specialist tradespeople to meet current and future conservation needs
- an emphasis on pre-works compliance requirements without adequate attention to monitoring and assurance of the quality of outcomes
- an over-emphasis on the economic values of heritage places, particularly in relation to the tourism value of heritage resources, without a corresponding awareness of the long-term viability and sustainability of high levels of exploitation of those resources.

This proposal and the attached supporting documents, explain the issues and benefits to be derived from a quality framework to improve heritage management efficiency and to assure the delivery of better outcomes.

Planning and heritage management systems (including works approvals processes) in the states, territories and nation place emphasis on pre-approval processes. Less emphasis is placed on the monitoring of outcomes or enforcement of consent conditions. There is usually a disconnect between pre-consent planning processes, which are sometimes costly and time consuming, and post-consent delivery, which can expose heritage-listed places to pragmatic decision making and adverse impacts on heritage values. Whereas, these two critically dependent parts of a heritage management system should be seamless and complementary; however, they are not. The current disconnect between them diminishes the potential to achieve sustainable and consistently sound conservation outcomes.

A well-constructed quality framework would address this flaw. It would provide improved security for the conservation of heritage places. It would enable all to enjoy the benefits of more sustainable outcomes, including better performance and improved environmental returns, as well as improved community health and wellbeing and a higher quality of heritage works.

The idea of a Heritage Quality Framework is not new. Work has already been undertaken in Victoria for the Heritage Council with the involvement of heritage technical specialists (see Appendix 1). The Minimum Standards of Maintenance and Repair under Section 9A of the NSW Heritage Act, 1977 can be considered to be a quality measure, which has been embedded in legislation. Many Heritage Sites have Management Plans with Key Performance Indicators or Objectives, which are used in monitoring and reporting. In most jurisdictions consent conditions are tailored for individual places, whereas they could be more readily provided in standards within a quality framework.

In summary, improved outcomes could be achieved by the application of a quality framework to all activities in relation to the care of heritage places. Accordingly, the Australia ICOMOS Executive Committee (through the AI Traditional Trades Training Working Group) and the APT Australasia Chapter are jointly coordinating an endeavor to bring about the introduction of a National Quality Framework for sustainable conservation of heritage places.

2.0 RELATIONSHIP OF THE HQF TO AUSTRALIA ICOMOS BURRA CHARTER

The Heritage Quality Framework would be complementary to the articles of the Burra Charter. In particular the Heritage Quality Framework would reinforce the following Burra Charter articles:

Article 2: Conservation and management

Article 3: Cautious approach

Article 4: Knowledge, skills and techniques

Article 6: Burra Charter process

Article 14: Conservation processes

Article 15: Change

Article 16: Maintenance

Article 17: Preservation

Article 18: Restoration and reconstruction

Article 19: Restoration

Article 20: Reconstruction

Article 21: Adaptation

Article 22: New work

Article 28: Disturbance of fabric

Article 29: Responsibility for decisions

Article 30: Records

Article 31: Removed fabric

Article 32: Resources

3.0 RELATIONSHIP OF THE HQF TO TRADITIONAL TRADES

Recent Australian studies have highlighted that there is shortage of specialist traditional trade skills in Australia. This is mainly because there is nothing to sustain skilled graduates or to keep highly skilled, older tradespeople in the industry. General building skills are accepted on most heritage projects, rather than the implementation of specialist skills particular to the heritage fabric under repair or adaptation.

There is a prevailing assumption that the shortage of specialised trades skills could be overcome by providing specialised training to more tradespeople thereby shortages in traditional fabric skills would be overcome. This assumption overlooks the reality that there are no incentives in the current system to encourage tradespeople to take up training or to sustain trained specialists in suitable work.

The most recent, fully funded training initiative at Holmesglen Institute in Victoria was quickly discontinued because of the lack of enrolments¹.

On page 3 of the *Heritage Trades Training Scoping Project* (CPSISC 2012) the report illustrates the steps of a 'successful heritage project'.

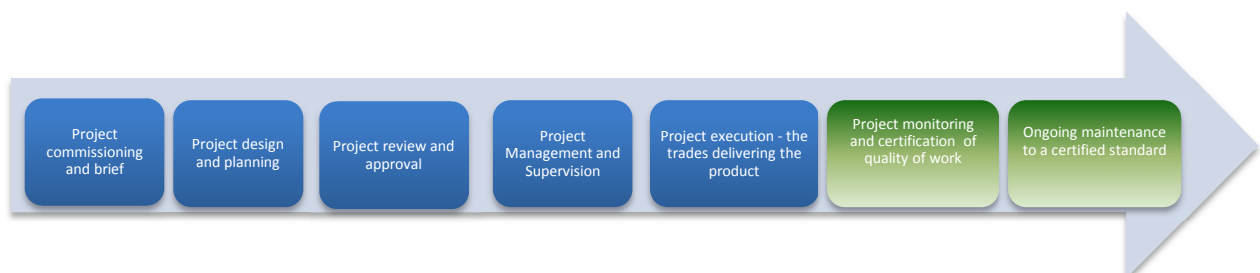


This diagram requires explanation. The first three steps in the process usually involve the mandatory involvement of heritage specialists, heritage consent authorities and heritage compliance tools, such as conservation management plans and heritage impact assessments. The last two steps do not involve any mandatory compliance with standards, and only the most basic checks regarding compliance with the heritage inputs.

Owners and developers are effectively given a free reign to carry out heritage conservation works. This is of concern, especially given the lack of knowledge and technical experience in traditional building skills. When approval conditions are ignored there is rarely any satisfactory follow up or recovery of heritage values.

The process requires two further quality control steps:

1. "CERTIFICATION" that the quality conservation work has occurred; and
2. "MAINTENANCE", to ensure ongoing care for the heritage values and fabric.



¹ <http://staffnet.holmesglen.vic.edu.au/admindepartments/shared/hnews/archives/september2006/HIT-News.pdf>

This proposal for an Australian Heritage Quality Framework seeks to establish the system that will ensure quality work is carried out on heritage places. The setting of known standards for work on heritage places will lead to training on how to meet the standards.

The second issue of ongoing maintenance is partly addressed in NSW for places on the State Heritage Register by the Minimum Standards of Maintenance and Repair under Section 9A of the *NSW Heritage Act, 1977*. Places on the World Heritage List also have incentives for maintenance through the reporting requirements of the World Heritage Convention. Extending the incentives for maintenance and repair to a National system would be a subsequent project for the Australian Quality Framework. In the interim Quality Benchmarks can be established for the preparation of Maintenance Plans for the various types of heritage places, and certification required that the Maintenance Plan has been put in place.

While the *Heritage Trades Training Scoping Project* (CPSISC 2012) correctly identifies both the need for training and the need to provide incentives for trainers and trainees. While the CPSISC study provides recommendations for training, it does not provide any recommendations on incentives. A Heritage Quality Framework adopted by all Australian heritage stakeholders can provide this incentive by requiring those executing the conservation project to meet quality benchmarks, and thus to seek the training to achieve this goal.

While there are many technical guidelines and accreditation systems for heritage conservation management, Australia is now experiencing a crisis in the area of specialised trade skills. Three things need to happen soon or the crisis will deepen:

- First, the relevant parties should align to establish a quality framework for heritage conservation work at places of cultural heritage significance. The framework should include clear outcome measures and/or quality standards for all conservation activities.
- Certification that the benchmarks have been achieved should be mandatory as part of any statutory conditions of approval or government funding.
- Lastly, when the quality framework is in place, registered training organisations (RTOs) and other suitable training providers should be encouraged to develop and offer appropriate training in each of the quality framework activities or specialist trades. Incentives, such as funding support, should be provided to trainees to take up the training.

Within a Heritage Quality Framework trainees in traditional trades would enjoy a secure future with improved employment opportunities arising from a higher community commitment using specialist heritage trades.

4.0 OTHER BENEFITS OF A HERITAGE QUALITY FRAMEWORK

In addition to improving outcomes for improved traditional trade skills, a heritage quality framework could assist in fast tracking heritage planning approvals by providing greater assurance to authorities that standards of heritage conservation can be conditioned and monitored. Exemptions for straightforward works could be provided within a heritage quality framework rather than being tailored to each place on a case-by-case basis, thus simplifying many approvals processes.

A Quality Framework for works at heritage-listed places could provide important benefits for the community by:

- improving the quality and sustainability of outcomes
- providing transparency in planning and decision-making processes
- fast-tracking approvals processes, and
- delivering of greater certainty to the community, heritage owners and developers.

5.0 WHAT WILL THE AUSTRALIAN HQF LOOK LIKE?

While there are many guideline documents and standard conditions of approval for carrying out heritage conservation works – there are few tools to enable certification that the works have been carried out to meet those guidelines on conditions of approval. Quality measures would provide a set of indicators and critical information about the requirements to meet a given standard in any and all processes.

Sample quality measures have been drafted and are attached as Appendices to this report.

It is proposed that the Australian Heritage Quality Measures be grouped in accordance with common Australian practice for construction specifications. However because the Heritage Quality Measures will apply to big and small conservation projects, they will be simple checklists in plain English, without the complex wording and repetition of a construction contract.

Quality Measures for the following materials and processes are proposed:

1. Planning and implementing the Heritage Conservation Project
2. Conservation Planning and Heritage Impact Assessment
3. Condition and Structural Assessment – Heritage Buildings and Structures
4. Condition Assessment and Works – Heritage Landscape Elements
5. Procuring Works
6. Managing Hazardous Materials at Heritage Places including Cleaning
7. Roofing Repairs
8. Carpentry and Structural Repairs
9. Masonry Repairs
10. Damp Management in Heritage Structures
11. Concrete Analysis and Repairs
12. Investigation and Repair of Ferrous Metals
13. Investigation and Repair of non-Ferrous Metals
14. Analysis of Thermal Performance and Insulation
15. Joinery Repairs and Timber Floors
16. Metal Window and Door Repairs and Glazing
17. Hardware, Fixtures and Repairs of Fittings
18. Plaster Repairs
19. Tiling Repairs
20. Painting and Applied Finishes
21. Utility Services at Heritage Places (Stormwater Water, Sanitary, Gas, Electrical, Communications)
22. Mechanical and Electrical Services
23. Maintenance Planning for Heritage Places

Further Quality Measures could be considered.

7.0 WHAT IS REQUIRED TO PUT THE AHQF IN PLACE?

Australia ICOMOS consider that the following actions are required to progress the Australian Heritage Quality Framework (AHQF).

	ACTION	RESPONSIBILITY	TIME FRAME
1	AICOMOS and the APT Australasia Chapter finalise an outline paper.	Australia ICOMOS Traditional Trades Working Group led by Mary Knaggs with APT	February 2014
2	Heritage Chairs and Officials of Australia and New Zealand adopt the aim to prepare an AHQF.	Secretariat to and members of HCOANZ.	March 2014
3	Consultation with relevant stakeholders across all States and Territories.	Steering Committee and Working Group	Mid 2014
4	Development of Quality Measures by co-opted professionals and Trades people.	Appointed HCOANZ staff member.	End 2014
5	Heritage Quality Frameworks - consultation with stakeholders.	Stakeholders would include representatives of: <ul style="list-style-type: none"> - Statutory bodies - Property owners - Master builder & master trades associations. - Traditional tradespeople - Heritage Professionals (including AI and APT) 	Mid 2015
7	Quality Measures on exhibition in every state.	Heritage Quality Measures placed on exhibition via National, state and local heritage approval authority websites.	July 2015
8	Workshops to introduce the Heritage Quality Measures	Hosted by state heritage approval and funding authorities.	End 2015
9	First edition of Australian Heritage Quality Measures launched	National, state and local heritage approval authorities.	Mid 2016

7.2 ISSUES REQUIRING RESOLUTION

At least two key issues will require clarification prior to implementation:

- National Implementation (condition of approval at national, State and local level; condition of grant funding?)
- Accreditation and certification will need to be resolved to achieve consistency across jurisdictions. Initially this might be achieved via HCOANZ

8.0 REFERENCES, TERMS AND ABBREVIATIONS

References

Ellsmore, Donald (July 2013)

Sustainable Conservation of Heritage Places: Proposal for a Quality Framework.

Prepared as Convenor APT Australasia Chapter.

Godden Mackay Logan, La Trobe University and the Donald Horne Institute (September 2013)

Heritage Trades and Professional Training Project

Prepared for Heritage Victoria on behalf of HCOANZ.

Construction and Property Services Industry Skills Council (CPSISC) (August 2012)

Heritage Trades Skills Report

purple infinity (2011)

Heritage Building and Construction Skills Final Report

for the Tasmanian Building and Construction Industry Training Board

Terms

The Definitions in the Australia ICOMOS Burra Charter apply. See

<http://australia.icomos.org/publications/charters/>

Abbreviations

AI	Australia ICOMOS
CPSISC	Construction and Property Services Industry Skills Council
HCOANZ	Heritage Chairs and Officials Australia and New Zealand
HQF	Heritage Quality Framework
HQM	Heritage Quality Measure
ICOMOS	International Council of Monuments and Sites

APPENDIX 1: SAMPLE HQF QUALITY MEASURE 1: GENERAL REQUIREMENTS FOR ACHIEVING HIGH QUALITY CONSERVATION OUTCOMES

This overarching document relates to all heritage conservation activities.

This HQM is an update by Donald Ellsmore of the technical prepared for and published by Heritage Victoria.

INTRODUCTION

The challenge of conserving heritage places for our education and enjoyment now and in the future is greatly complicated by dwindling resources such as traditional materials and trades skills, and by the high cost of labour in the 21st Century. It is therefore essential that work should be undertaken to a high quality standard so that it will last well and appreciate over time. Poor quality work is uneconomical and damaging to heritage places.

ORIGINS OF GOOD BUILDING CONSERVATION PRACTICE

Building conservation in Australia is values based. All work should be appropriate to the significance of the place. Conservation aims to conserve the significance of places. Highly significant places are accorded the utmost care to protect their high values. The approach has its origins in nineteenth-century Europe where the extensive restoration of some of Europe's most appreciated ancient buildings to a standard of uniformity that the original buildings never had drew sharp criticism from the likes of John Ruskin and William Morris, who argued that the evidence of the history of age was an irreplaceable characteristic that should not be erased by restoration or worse, reconstructed to some imagined ideal state that might have been. Bodies such as the National Trust and the Society for the Protection of Ancient Buildings that Morris founded promoted honest conservative practices that respected all periods and characteristics of heritage places whereby every brick and every tile has its own individual history and value and none should be discarded without careful consideration. International Charters enshrine these principles.

PRINCIPLES GOVERNING GOOD BUILDING CONSERVATION PRACTICE

The aim of conservation is to retain cultural significance, including aspects of greater and lesser significance that demonstrate the history of the place.

Traditional techniques and materials are preferred for significant building fabric because of their proven performance over time. New technologies should not be used unless there is no alternative and, when used, should be proven to be safe and reversible.

All works should be carefully planned and supervised by persons appropriately experienced and skilled to the level demanded by the significance of the place. Records should be kept for future reference.

Work should be limited to the parts needing attention. Do only what is necessary and nothing more. Remember that minor surface characteristics and imperfections usually add value to a heritage place. New work can be inferior.

New work will be and should be readily identifiable as such. Authentic fabric should be retained in situ. Only badly damaged parts should be replaced.

TWENTY-FIRST CENTURY CHALLENGES AND COMPLICATIONS

Traditional skills and materials are becoming scarce, making it difficult to undertake many of the tasks that were once routine. For example, it is no longer possible to obtain high quality, well-seasoned, termite resistant timber for carpentry and joinery works because resources have been depleted to the point whereby strict environmental protection controls put the materials beyond reach. Even manufactured items like bricks and roofing tiles are difficult to procure in their traditional forms because processes have changed in response to economic and environmental needs. This makes it all the more important to retain every last piece of our heritage places since they can never be replaced, at least not to the same standard. A piece of sound, aged timber will outlast its likely replacement and even rusted corrugated iron or steel roofing can have a longer future life than the much lighter gauge modern material.

A further important consideration is the energy that is embodied in building materials such as the energy used to fire terra cotta products and metals, or to quarry and transport stone. It would be irresponsible today to discard and replace materials, which are, still sound enough to last many years. Works can be extended to include borderline replacements if expensive access arrangements are required for the works but doing more now to save time and cost later is a concept that is often contrary to good conservation practice.

PLANNING OF WORKS

Good forward planning is a wise investment. All presumptions should be tested in advance and all required resources should be secured before any work commences. Cost blow-outs and unanticipated losses are usually associated with poor planning. All works should be well planned.

DOCUMENTATION OF WORKS

Clear, concise documentation is required to avoid misunderstandings and adverse outcomes. That does not mean to say that all works can be documented in advance but well prepared plans eliminate much of the potential for overpricing. When new circumstances arise (unforeseen termite damage is a common one) the documentation should be revised and the extent of works renegotiated.

PROFESSIONAL ADVICE AND SKILLS

Money spent of planning and supervision will be money well spent. By employing skilled practitioners the works will have greater value over the long term. For these reasons it is wise to engage the services of suitably experienced and appropriately qualified people to plan and execute works. Damage and loss of significance will result from poor decision making and rough execution.

TRADE SKILLS

Specialist trades can be undertaken effectively only by experienced people. It takes many years of training and practice to become a competent stonemason, carpenter or roof slater.

Even with the aid of modern tools and equipment bricklayers and solid wall plasterers will struggle to achieve visually satisfying results unless they know their trade well. Always seek out the best people and verify their reputations and references before entering into contractual arrangements with them at heritage places.

TRADITIONAL MATERIALS AND TECHNIQUES

The best methods to employ at heritage places are usually the traditional methods. Traditional methods in the common trades have not changed substantially over the years. The results are evidenced in works that are not just decades but centuries old. It is therefore unwise to depart from the use of traditional methods and materials unless the reasons for doing so are compelling.

MODERN TECHNOLOGIES – WHEN TO USE

Modern technologies should be used only when they would provide superior results and the technology is proven. Traditional technologies are preferred in all other instances. Be wary of claims that materials can be effectively cleaned or consolidated with chemical applications, or that dampness can be cured with electric currents or chemical injections as most of these new technologies will have at least some unanticipated impact on traditional materials. There have been far too many conservation disasters to have total faith in the new technologies and especially not those that have no proven history of success in the specific situations where their use is contemplated. Always undertake assiduous research before embarking on the use of new technologies and always maintain detailed records of the treatments so that they can be reassessed at some future date.

Ensure that the process is fully reversible if applied to significant, irreplaceable fabric.

DOCUMENTATION OF WORKS INVOLVING NEW TECHNOLOGIES

The need to carefully document the use of new technologies is enshrined in scientific discipline. When treatments show signs of unusual behavior over the long term it can be useful to refer to the records of the original treatment. When an anti-graffiti treatment produces a white bloom on masonry, or a clear varnish begins to turn opaque, it can be very useful to know the details of the material and its original treatment so that a remedy can be decided. The same applies to all of the other new building and waterproofing technologies that could be detrimental to heritage places and even to human health in extreme cases.

MEASURING THE QUALITY OF OUTCOMES

At the end of the conservation process a few questions must be answer to evaluate the outcome — to confirm the quality of the outcome:

- “has the job been done well” and “will the work stand the test of time”?
- “has the significance of the place been conserved”?

SAMPLE HERITAGE QUALITY MEASURE 1: GENERAL REQUIREMENTS

ACTIVITY / PROCESS	QUESTIONS ANSWERED	OUTCOME MEASURE	RESPONSE	MEASURE ACHIEVED?
Works Planning	Is the work planned in accordance with an endorsed conservation management plan?	All works are consistent with an endorsed management plan.		
	In the absence of an endorsed conservation management plan, has the significance of the place been investigated and understood?	The significance of the place is understood and verified (e.g. by local heritage adviser).		
Documentation	Is the level of documentation suitable to ensure an outcome consistent with the significance of the place?	Documentation sighted and agreed by the person who will undertake the work.		
	For simple works, requiring only verbal discussion, has the discussion covered all aspects of the work?	Record of discussion formalised by signed work method statement or similar.		
Professional Skills	Has the work been planned and supervised by a suitably experienced and qualified professional?	References attesting to qualifications and experience of professional obtained and verified.		
Trade Skills	Has the work been undertaken by a suitably experienced and qualified tradesperson?	Certificates of competency supplied and verified. References obtained and verified.		

ACTIVITY / PROCESS	QUESTIONS ANSWERED	OUTCOME MEASURE	RESPONSE	MEASURE ACHIEVED?
Materials	Have all materials been sourced from proven suppliers?	Source and reliability of materials verified by relevant industry body.		
Traditional Materials	Are the materials compliant with Australian Standards, or are they recognized alternatives consistent with guidelines issued by the relevant heritage agency or consent authority?	Materials and techniques are consistent with Australian Standards and heritage guidelines.		
New Technologies (when used in lieu of traditional materials and techniques)	Does the technology (materials and techniques) have a proven record of reliable performance over the long term in this situation (climate, exposure and original material)?	Successful applications verified by way of affidavits or references from reliable sources.		
	Is the material and technique warranted for five years or more?	Warranty affirmed by relevant industry body.		
Documentation of completed works (traditional practices)	Have the completed works been recorded by means of annotated drawings, notes and photographs?	Works have been fully documented. The record is stored safely for future reference.		

ACTIVITY / PROCESS	QUESTIONS ANSWERED	OUTCOME MEASURE	RESPONSE	MEASURE ACHIEVED?
Documentation of completed works (new technologies and techniques)	Have the details of the materials and techniques been retained for future reference, including technical notes about products and suppliers details?	Details of materials and techniques retained and archived for future reference.		

APPENDIX 2: SAMPLE QUALITY MEASURE 2 – STRUCTURAL CONDITION REPORTING

This HQM was prepared by Donald Ellsmore.

INTRODUCTION

This example set of quality measures is offered for situations involving consideration of the full or partial demolition of a heritage place, or destruction of an item of cultural heritage significance for reasons of structural unsoundness.

The main purpose of the quality measures is to provide a benchmark against which to measure the quality of the end result — from the commissioning of a consultant and agreement on a brief, through to consent or rejection of an application for consent to demolish. Owners, managers, consent authorities and interested community members should benefit from the application of these quality measures in relevant circumstances.

There are few provisions for demolitions of heritage places or heritage items within conservation precincts, yet demolitions are sometimes proposed, considered and approved. Best practice guidelines, rather than policies are sometimes applied in such situations, providing guidance such as:

- demolition of heritage places or identified structures within heritage precincts should not be permitted except in exceptional circumstances, where the item is structurally unsound and beyond economic repair
- the existing condition poses a significant health or safety risk and is beyond economic repair
- a structural engineer's report for full, major or substantial demolition is required to demonstrate that there are structural issues beyond economic repair or significant health or safety risks exist
- normal wear and tear, cracking or settlement would not be considered as grounds for demolition
- elements of high significance should not be demolished
- demolition of intrusive elements (e.g. non-significant modern additions) is encouraged
- minor partial demolition of less significant elements may be allowed to facilitate appropriate additions and alterations to secure sustainability provided the heritage values are substantially retained
- partial demolition should result in the retention of the essential form of the original building when viewed from the public domain
- significant fabric should be repaired rather than replaced. Demolished fabric should be re-used in the works.

Statutory consent authorities usually rely on the advice of structural engineers to furnish reports in support of proposals to demolish heritage structures. Demolition reports must therefore be credible documents based on an appropriately rigorous assessment by a suitably qualified and experienced person. These measures will help to confirm whether a demolition report is credible or not.

SAMPLE QUALITY MEASURE 2 – STRUCTURAL CONDITION REPORTING

ACTIVITY / PROCESS	QUESTIONS ANSWERED	OUTCOME MEASURE	RESPONSE	MEASURE ACHIEVED?
Preliminaries	Is there any statutory issue or pre-existing research that would have a bearing on a demolition inspection and report?	The report contains clear evidence of a search for relevant information. All relevant information is cited.		
	Is there a conservation management plan (CMP) or heritage impact assessment (HIA) concerning the place?	Current CMPs and HIAs are referenced in the report. These can be accessed.		
Qualifications of Practitioner	Does the person undertaking the assessment have demonstrated knowledge of conservation and experience with traditional building construction relevant to the task?	The qualifications and experience of the person undertaking the assessment have been provided and verified independently.		
	Does the person have technical knowledge with traditional construction? Is that knowledge recognised within the industry?	The person is known to have sound technical knowledge about traditional construction recognised in the industry and confirmed by the relevant industry body.		
Assessment process	Has the assessment included a thorough investigation of all structural elements?	The assessment covers all of the structural elements. There is clear information provided regarding footings, floors, walls, roof and related elements.		

ACTIVITY / PROCESS	QUESTIONS ANSWERED	OUTCOME MEASURE	RESPONSE	MEASURE ACHIEVED?
	Has the assessment determined the principal causes of deterioration and have these been explained?	The assessment includes information about all of the causes and effects of the deterioration.		
	Has the assessment included technical analyses? e.g. probing of deteriorated wood, measurement of moisture and salts in porous masonry, foundation bearing, soil sampling and other analyses relevant to the type of structure; the environment and the causes of deterioration?	The assessment includes clear evidence of the use of appropriate technical and analytical methods to verify the assumptions and findings.		
Reporting	Does the inspection report provide clear direction to the owner/manager and consent authority?	The inspection report provides clear direction to the owner/manager and consent authority regarding the condition of the structure, its defects and reasons why full or partial conservation would be feasible/not feasible.		

ACTIVITY / PROCESS	QUESTIONS ANSWERED	OUTCOME MEASURE	RESPONSE	MEASURE ACHIEVED?
	Does the inspection report conform to the standards or guidelines nominated by the consent authority?	The inspection report meets the standards required by the consent authority.		
	Do the findings rely on economic factors or assumptions?	The report does not rely on economic factors. It deals only with structural matters. (Issues such as financial hardship are dealt with elsewhere).		
Justifications for recommendations when demolition is supported	Can the failure mechanisms be demonstrated to relate to phenomenon other than vandalism, weathering and/or neglect by the owner(s)?	The failure mechanisms can be demonstrated to relate to phenomenon beyond the reasonable control of the owner(s).		
	Can the defects be demonstrated to require work in excess of conventional repair methods?	The defects can be demonstrated to require work in excess of conventional repair methods and could not be therefore recovered without imposing an unreasonable burden on the owner.		

ACTIVITY / PROCESS	QUESTIONS ANSWERED	OUTCOME MEASURE	RESPONSE	MEASURE ACHIEVED?
	Is the cost of works included as a reason for demolition?	The cost of works has not influenced the structural assessment.		
Related issues	All proposals for demolition to/at heritage places should be supported by credible HIA. Is there a recent credible HIA dealing with demolition?	The demolition report has informed the preparation of a HIA, with which it is consistent, dealing with all of the relevant issues in a credible manner.		
	Is the demolition appropriate according to the HIA?	The demolition is properly considered in the HIA and clear findings are provided with appropriate measures to minimize the impact on the probable loss of cultural heritage significance.		

APPENDIX 3: SAMPLE QUALITY MEASURE 3 – WOOD AND CARPENTRY REPAIRS

This sample HQM was prepared by Donald Ellsmore.

BACKGROUND

The challenge today of conserving heritage places and traditional structures is greatly complicated by dwindling resources such as traditional materials and trades skills and by the high cost of labour. High quality wood and good carpentry skills are increasingly hard to obtain. Wood (or timber) for standard construction purposes is now sourced mainly from sustainable sources but the quality and character of wood obtained from plantations is fast grown and substantially different from wood obtained in the past from old growth trees. High quality, well-seasoned wood in many of the species formerly used in construction is now virtually impossible to procure. It is therefore more important than ever to conserve and re-use old wood, even when it is damaged or partially unsound.

Repairs to serviceable wooden elements in heritage structures should be attempted before replacement is considered.

The choice of work method and wood requires careful consideration. Far too much wood is wasted as a result of the early onset of decay due to poor selection, inferior workmanship and inappropriate use. Poor quality woodwork is uneconomical, damaging to heritage places and unsustainable.

All work with wood should be carefully planned and carried out using the right materials and techniques by persons appropriately experienced and skilled to the level demanded by the situation.

Work should be limited to the parts needing attention. Do only what is necessary and nothing more. Minor imperfections do not justify replacement. Scars, bruising and wearing provide evidence of the history, character and significance of the wood and the place. Authentic fabric should be retained in situ. Only badly damaged parts should be replaced.

TRADITIONAL MATERIALS AND TECHNIQUES

The best methods to employ at heritage places are usually the traditional methods. They include traditional techniques for housing, splicing and jointing to obtain the strongest connections. Traditional methods of woodworking still provide the foundation for all high quality works, even when power tools and mechanical fixing methods are used. It is unwise to abandon traditional methods and materials unless the reasons for doing so are considered fully in the context of their sustainability and the impacts are well understood.

QUALITY OF WOOD

Timber obtained from old growth trees is more immune to attack from pathogens (fungi and insects) than plantation-grown wood. Old wood is usually more durable than replacement wood. It will last longer.

Wood is an organic material, which responds to changes in moisture content by changing dimension. When wood is taken from a tree it becomes stable only once it reaches equilibrium with its surrounding environment. Traditional construction methods allow for minor seasonal changes and movement caused by changes in relative humidity.

The lifespan of all wood can be prolonged by the application of suitable treatments and coatings or shortened by the application of inappropriate coatings. Water, which supports fungi and insects, is the cause of most decay. Damp wood in warm conditions is more susceptible to insect and fungal attack than dry wood. Under normal circumstances wood should be kept dry.

Coatings on wood should be water shedding but they should not inhibit the drying out of wood that becomes wet. Many modern paint coatings meet the first of these two criteria but not the second. Some of the modern paint coatings should not be applied without first using complementary measures to prolong the life of the wood. One of the most commonly neglected traditional carpentry practices is the sealing of end grain before assembling wooden element that will be exposed to weather. Failure to seal end grain can render works defective from the outset. Failure to prevent water from entering end grain will dramatically shorten the lifespan of new wood.

SAMPLE QUALITY MEASURE 3 – WOOD AND CARPENTRY REPAIRS

ACTIVITY / PROCESS	QUESTIONS ANSWERED	OUTCOME MEASURE	RESPONSE	MEASURE ACHIEVED?
Investigation and Planning of Works	Have the causes of deterioration of the wood been established?	Close examination of the wood revealed the nature of deterioration and the causes.		
	Has the extent of deterioration been confirmed by reliable methods?	The extent of damage has been verified using correct analytical techniques and processes. The extent of damage recorded prior to commencement of work.		
	Have all options for repair been considered; including consolidation, repair, partial replacement and full replacement?	All available options for repair/replacement have been considered with reference to the availability of skills, materials and resources.		
	Has it been established that resources are available to complete the repair strategy with a reasonable expectation of long-	Consideration of options was informed by reliable research and knowledge of available of suitable seasoned wood likely		

ACTIVITY / PROCESS	QUESTIONS ANSWERED	OUTCOME MEASURE	RESPONSE	MEASURE ACHIEVED?
	term durability?	performance in the situation.		
	For new work, the selection of the wood and its detailing and pre-assembly preparation becomes critical. Is the proposed work informed by reliable information?	The introduction of new wood has been informed by reliable knowledge of the long-term performance of the materials and the availability of the resources to complete the work in accordance with sound practice.		
Documentation	Is the level of documentation suitable to ensure a sustainable outcome? Are all of the required steps explained clearly in the documentation?	The documentation is suitable to ensure satisfactory completion and sustainable performance.		
	For simple works, requiring only verbal instructions, do all parties understand the full extent and the time and resources required to achieve the agreed outcome?	Records of discussion are formalised by signed work method statements or similar.		

ACTIVITY / PROCESS	QUESTIONS ANSWERED	OUTCOME MEASURE	RESPONSE	MEASURE ACHIEVED?
Professional Skills	Has the work been planned and supervised by a suitably experienced professional?	References attesting to qualifications and experience of supervising professionals were obtained and verified independently.		
Trade Skills	Does the person who will perform the work have the required levels of skill?	Certificates of competency were supplied and verified. References were obtained and verified independently.		
Materials	Are the materials available and ready for use?	The availability and suitability of materials was verified before commencement.		
	Have all materials been sourced from proven suppliers?	Source and quality of materials verified by relevant independent industry body.		
Extent of Work	Has the work been limited to only those parts needing repair, and the only material that has	All sound material has been retained and made serviceable by repair, reinforcement or		

ACTIVITY / PROCESS	QUESTIONS ANSWERED	OUTCOME MEASURE	RESPONSE	MEASURE ACHIEVED?
	been discarded is that which is no longer serviceable, which cannot be retained without risking the outcome of the work.	consolidation. Only those parts needing repair, and the immediate adjoining effected material have been replaced.		
Process	Is safe access to the worksite available and is there sufficient time to complete the work?	A clean, safe work area was established for the duration of the work.		
	Have arrangements been put in place to complete complementary tasks including pre-sealing the end grain of all exposed wood?	Time and budget provided for satisfactory completion of all complementary tasks to safeguard and sustain the works.		
	Are arrangements in place to protect the work from weather before, during and after completion?	The work was protected from weather up to and including completion of finishing trades.		
Traditional Materials	Are the materials compliant with Australian Standards, or are they	Materials and techniques are consistent with Australian		

ACTIVITY / PROCESS	QUESTIONS ANSWERED	OUTCOME MEASURE	RESPONSE	MEASURE ACHIEVED?
	recognised alternatives consistent with guidelines issued by the relevant heritage agency or consent authority?	Standards and heritage guidelines.		
New Technologies (when used in lieu of traditional materials and techniques)	Does the technology (materials and techniques) have a proven record of reliable performance over the long term in this situation (climate, exposure and original material)?	The use of new technologies was informed by reliable information about long-term performance in comparable situations, verified by way of references from reliable sources.		
	Is the material and technique warranted for five years or more?	Warranty affirmed by relevant industry body.		
	Has the use of synthetic consolidates (such as epoxy resin) been restricted to areas that cannot be conserved by traditional methods and where non-reversibility is acceptable?	None of the significant fabric has been subjected to non-reversible consolidation. Records of all treatments have been retained for future reference.		

ACTIVITY / PROCESS	QUESTIONS ANSWERED	OUTCOME MEASURE	RESPONSE	MEASURE ACHIEVED?
Measures to Safeguard Significance	Are the new materials expressed clearly in the works?	The new work is suitably blended to the finish but distinguishable from old upon close inspection		
	The working of the timber allows for swelling and shrinkage in line with normal changes in relative humidity	Allowance has been made for up to 10% change in the volume of the wood and up to 2% increase in length.		
	Sound material has been retained or re-cycled in the work.	Nothing of value has been discarded.		
	New timber is keyed to existing by means of carpentry joints and proper joinery techniques.	The repairs are apparent on close inspection and look strong.		
Documentation of completed works (traditional practices)	Have the works been recorded by means of annotated drawings, notes and photographs?	Works have been fully documented. The record is stored safely for future reference.		
Documentation of completed works (new technologies and techniques)	Have the details of the materials and techniques been retained for future reference, including technical notes about products and suppliers details?	Details of materials and techniques retained and archived for future reference.		