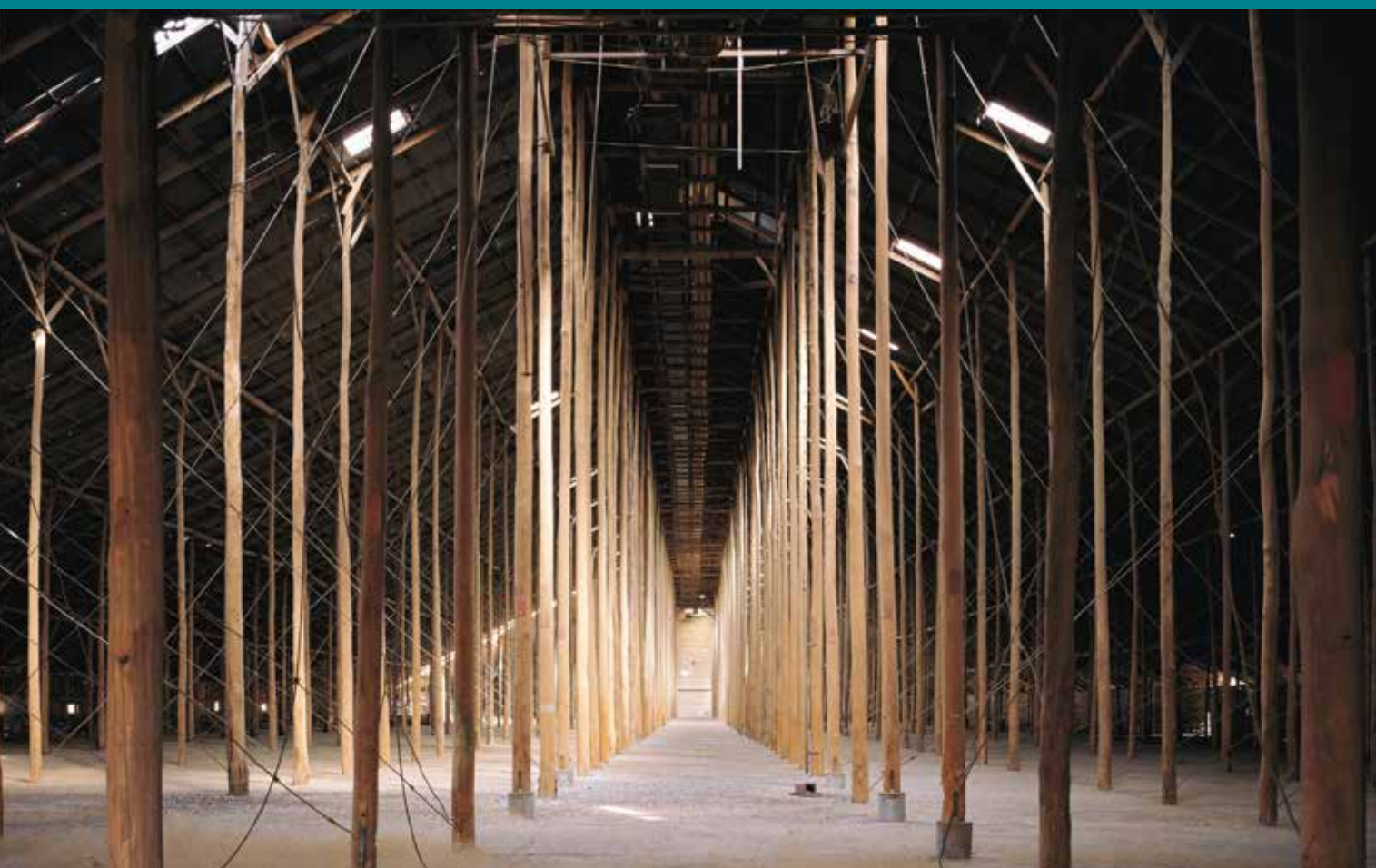


# TOOLKIT

## VICTORIAN GOVERNMENT ASSET MANAGEMENT CONDUCTING A HERITAGE AUDIT



The Murtoa Grain Store 'Stick Shed'. Image Bruce Thomas, Melbourne.

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# Foreword

The Victorian Government has a vital role to play in maintaining important places and objects in its custodianship. This will ensure they have a sustainable future and to demonstrate best practise in the care of our heritage.

Our heritage buildings represent our history and it is important for current and future generations that they are conserved and used.

From the grandeur of Flinders Street Station and Parliament House to small community halls and local public buildings: each plays a vital role in our daily life and reflects the many interests and activities of the people of Victoria. Their continued care and maintenance ensures their ongoing use and relevance for the community.

The Government is custodian of a significant collection of heritage places and objects which are greatly valued by the community. Many retain their original function while others have long been successfully adapted to new uses so they continue to play a valuable role in the community.

Understanding the value of our heritage and ensuring best practice in its maintenance is critical to ensure these places have an ongoing role in meeting our future needs.

It is essential that the Victorian Government leads by example and sets the standard for other owners and managers of heritage places and objects.

**Hon. Richard Wynne MP**  
**Minister for Planning**



## INTRODUCTION

This toolkit has been developed to assist Victorian Government departments and agencies in identifying and assessing the condition of heritage assets they own, occupy or manage to identify their future maintenance needs. The toolkit augments the *Victorian Government Cultural Heritage Asset Management Principles* endorsed by the Victorian Government in December 2009.

Regular audits allow asset managers to maintain and protect heritage assets on behalf of the wider community. Audits also allow managers to understand and plan for current and future costs associated with maintaining a heritage place or object.

This tool kit contains templates, web links and other resources that will assist in undertaking a heritage audit to ensure that our heritage is well maintained for future generations to appreciate.

## WHAT IS A HERITAGE ASSET?

Heritage assets include places and objects of historic, scientific, social, aesthetic or spiritual value.

Common types of heritage assets include buildings, trees, landscapes, streetscapes and precincts, archaeological sites, shipwrecks, works and structures, heritage plantings and cemeteries.

Heritage objects and collections may include furniture, uniforms and clothing, ceremonial items, flags and banners, agricultural machinery, tools and equipment, archaeological relics, and everyday articles that contribute to an understanding of both the service history of a government department and Victoria's history as a whole.

In Victoria, all three levels of government have different roles in identifying, managing and protecting heritage places and objects. Heritage assets may be affected by one or more statutory controls.

These guidelines prepared by Heritage Victoria (Department of Environment, Land, Water & Planning) focus on the management of built heritage assets, though the methodology can be adapted to other types of heritage places and objects. The exceptions are Aboriginal and environmental heritage which have specific requirements.

## WHY UNDERTAKE A HERITAGE AUDIT?

The purpose of a heritage audit is to identify and document heritage assets, and to assess their condition and maintenance requirements. Once an audit is completed, the asset manager must then determine what works are necessary, develop a likely budget and prioritise actions.

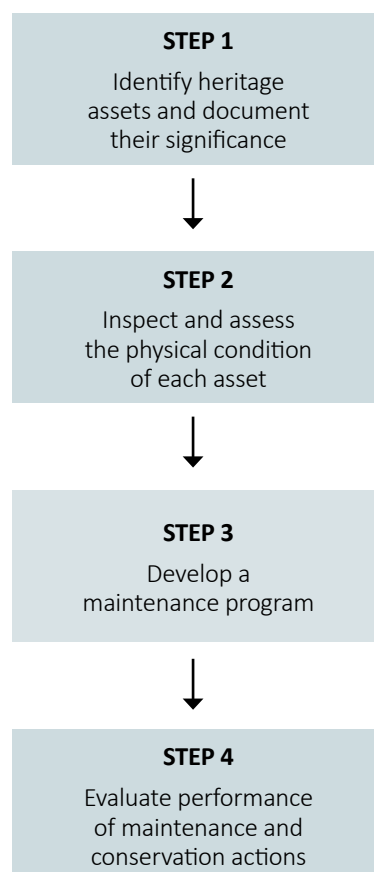
Undertaking an audit enables an asset manager to:

- develop an information base to make good decisions about the care and management of heritage assets in their custodianship
- develop a preventative maintenance plan to specify work proposed for the short, medium and long term
- identify future operating, maintenance and repair requirements in budgets
- meet community expectations regarding stewardship and custodianship of government assets
- comply with corporate commitments in respect to ecologically sustainable development and assist with triple bottom line reporting
- comply with the asset register and risk management strategies reporting requirements required in the *Financial Management Act 1994* (Section 44B)
- comply with the maintenance provisions for registered places and objects contained in the *Heritage Act 1995*

- comply with heritage controls that may exist under the *Heritage Act 1995* or the *Planning and Environment Act 1987*.

## Heritage Audit Process

A heritage audit is essentially a four step process:



## STEP 1

### Identify heritage assets and document their significance

The first step in any audit is to identify heritage assets, and gather information about their heritage significance or value, current use and specific management requirements.

Heritage Victoria promotes the use of a web delivered database called HERMES as a central information repository for all types of heritage places and objects in Victoria. HERMES may be used by a department or agency to develop a register of its heritage assets.

Information gathered on heritage assets should include:

- place name and location
- physical description
- ownership, occupancy/vacancy, management and current use
- statutory listings (non-statutory) and the requirements triggered by these listings
- details of previous works including conservation works, significance assessments and conservation plans
- a description of heritage significance.

In some cases the heritage significance of an asset will already be known and recorded in an asset register. The significance of a heritage asset may also be recorded in existing statutory 'registers' such as a Heritage Overlay in a Planning Scheme (local), on the Victorian Heritage Register (state) or the National Heritage List (Commonwealth).

If an asset is not covered by existing heritage controls, it may be identified in a local government heritage study or listed by the National Trust of Australia (Victoria). Conservation management plans prepared for an asset may also assist in understanding significance.

If an asset is highly valued, but not identified in any statutory list or other source, it is recommended that a succinct statement of significance be prepared. This statement should outline the reasons why the asset is considered to be of importance and what its heritage values are. Information on criteria used to assess heritage significance is available from [www.delwp.vic.gov.au](http://www.delwp.vic.gov.au).

Once you have identified which assets have heritage values and relevant information has been gathered, a data profile for each asset should be developed and integrated into your department's or agency's asset management system.

Having a good understanding of why a place is considered to be significant is critical in determining how to manage it. While the physical condition of an asset does not generally influence its significance, it will be a factor in determining conservation and maintenance requirements. An asset may be in poor condition but still be of heritage significance.

***Appendix 1 contains a Heritage Asset Management Checklist to capture key information required for developing a data profile for a heritage asset. It will assist asset managers in understanding what data they currently hold and what additional information needs to be captured.***

## STEP 2

### Inspect and assess the physical condition of the asset

The audit should include a physical inspection of the asset to determine its current condition, noting any deterioration and urgent maintenance works.

Inspections should be undertaken at least annually and the condition report benchmarked against the previous year's report. The overall condition of an asset should be graded, including an assessment of the effect of the current management regime.

***Appendix 2 contains a useful Inspection Schedule template, and Appendix 3 provides examples of approaches to grading an asset's condition, prioritising maintenance actions and assessing the success of maintenance works.***

It is much easier to manage a heritage asset where its condition and maintenance has been recorded over time. Records such as this will indicate whether a property has been properly maintained and can show if previous maintenance was appropriate or if there have been any design or material defects. This record will also highlight aspects of a place that have attracted little maintenance effort and therefore will have future needs.

When carrying out inspections, it is important to develop skills in detecting the first signs of deterioration. Do not attempt to carry out inspection activities that may expose you or others to danger and seek the help of relevant specialists if necessary.

Once the inspection has been completed, the information should be included on your asset management system.

### STEP 3

#### Develop a maintenance program

All assets require ongoing maintenance and periodic upgrading whether or not they hold heritage values.

The regular expenditure of a small amount of maintenance funds is much better for a heritage asset, and more cost effective, than large injections of capital every 20 years or so.

People often think that once a building or other asset has been 'restored' it does not need to be looked at again for many years. However, many major repairs to assets could have been prevented if simple things like leaking downpipes and gutters had been cleaned out or repaired quickly, through routine cyclic maintenance.

A maintenance program is the most cost-effective way to maintain the value of an asset and ensure its sustainable future use. It allows for an asset to be maintained in a systematic way and minimise the requirement for emergency corrective works, as well as providing for the significance of the asset to be maintained.

A maintenance program should also aim to identify compatible uses, and appropriate ways of retaining and making the significance of a place understood.

The maintenance program should identify the following types of work:

- corrective maintenance – work necessary to bring an asset to an acceptable standard (often as recommended by a conservation plan) such as treatment for rising damp

- planned maintenance – work to prevent failure which recurs predictably within the life of an asset, such as cleaning gutters or painting
- emergency corrective maintenance – work that must be initiated immediately for health, safety or security reasons or that may result in the rapid deterioration of the structure or fabric if not undertaken (for example, roof repairs after storm damage, vandalism, graffiti removal or repairing broken glass).

Maintenance can also be categorised according to who carries out the work:

- housekeeping maintenance – carried out by asset managers
- second line maintenance – carried out by specialist tradespeople.



**Parliament House, Melbourne** Conservation works to Parliament House including extensive parapet reset works completed along the south and east facade. The removal of the cornice course exposed the thin veneer of previously completed repairs that, in most cases, exceeded their life expectancy requiring remediation works. The deterioration of the previous veneer repairs was amplified by the ingress of water through the cornice joints causing the fixings to rust and the stone to decay internally, which resulted in the repairs becoming unsound.

Many heritage buildings are constructed from materials and techniques that require less renewal and replacement than modern buildings. While traditional materials and skills may appear more expensive, they will last longer and are more economically and environmentally friendly in the long-term.

Heritage significance is an important factor in determining maintenance priorities. The level of significance will assist in determining priority of works, types of materials and costings.

Listed heritage assets might require permits to undertake works. For assets included in the Victorian Heritage Register under the provisions of the *Heritage Act 1995*, permits are required for activities that may alter a place or object including:

- building extensions, constructions, interior works, demolition or relocation of buildings and structures, changes of colour schemes and signage
- subdivision and construction of new buildings and garden structures such as fences or decks, pathways and driveways, and changes of materials
- works to registered trees and gardens which are not regular maintenance works
- relocation, repair and conservation treatment of objects.

Permit exemptions allow for minor and other works or activities to be undertaken without having to obtain a heritage permit. Exemptions can be granted at the time of including a heritage place or object in the Victorian Heritage Register, or as a result of an owner applying for exemptions for particular works. Heritage Victoria can provide pre-application permit advice to help guide your project.

For local heritage places listed in a schedule to the Heritage Overlay in the planning scheme, a planning permit is required from a local council. Generally a planning permit is required to carry out works, repairs and maintenance which change the appearance of a heritage place or which are not undertaken to the same details, specifications and materials. Your local council can clarify any planning permit requirements and provide other assistance.

It is advantageous to record the long-term performance of repairs and other works in order to assess their suitability for future maintenance activities.

Where there may be changes in maintenance personnel, the failure to keep detailed records could result in a repeat of previous mistakes. The usefulness of written records will often be enhanced by taking photographs and measurements periodically to illustrate detrimental changes to the place.

***Appendix 4 provides further information on documenting maintenance and repair works to heritage buildings.***

The New South Wales Government has produced minimum standards for the essential maintenance of heritage assets including weatherproofing, fire protection and security. Although these standards only apply to listed heritage places in New South Wales, they can be used as a guide for other asset managers, and can be accessed at: [www.environment.nsw.gov.au/resources/heritagebranch/heritage/infominimumstandards](http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/infominimumstandards).

## STEP 4

### Evaluate performance of maintenance actions

The effectiveness of the actions carried out as part of a maintenance program for a heritage asset should be reviewed regularly.

An important part of the maintenance program is to review previous actions to gauge the success of the works applied. This can guide the expenditure of future funds to achieve targeted results.

Issues to consider when reviewing the work include:

- whether the maintenance action was necessary or appropriate
- the timing and standard of works undertaken
- the timeframe of the planned maintenance work.

The maintenance program should be evaluated annually following a physical inspection of the heritage asset.

### Conclusion

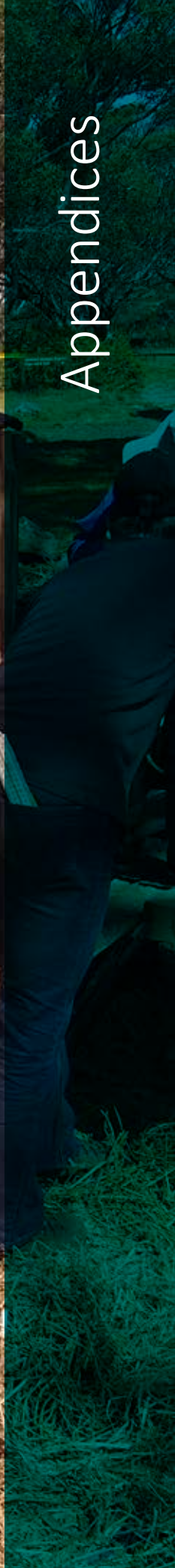
The Victorian Government as an important role in the protection and management of heritage assets on behalf of the community.

Knowing your assets and implementing a regular maintenance program is crucial to ensuring their sustainable use into the future.

***Further information on relevant legislation, policy and other resources to assist you in undertaking an audit are provided in Appendix 5.***

**Wallace's Hut, Alpine National Park** Conservation works undertaken by the Victorian High Country Huts Association and Parks Victoria at Wallace's Hut, an 1889 high plains hut, used by cattlemen, stockmen, the State Electricity Commission and boy scouts over its long history. Managed by Parks Victoria.





# APPENDIX 1 HERITAGE ASSET MANAGEMENT CHECKLIST



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## Identification

- Does your asset management system comprehensively identify property owned, occupied or managed by the department or agency?
- Does your asset management system identify property which is heritage listed or has heritage values or controls?
- Is there information on each asset's location, description, extent, legal status and past works?

## Significance Assessment

- Is the asset's heritage status known (ie. listed at a national, state or local level or non-statutory list)?
- Do you have information about the heritage significance of the asset?
- Does the asset have a statement of significance?
- Have the heritage values of the asset been identified (eg. aesthetic, archaeological, architectural, cultural, historical, scientific or social significance)?

## Management

- Does the asset receive funding (ad hoc, recurrent)?
  - Have you any information on the physical condition and structural integrity of the asset?
  - Is the condition of the heritage asset monitored and reported on?
  - Are there any likely threats to the condition of the asset or pressures which make it vulnerable?
  - Are there any risks associated with the asset? Risks could include, for example, major damage to or future loss of an asset; security; health and safety of users; conservation of the asset's significance; and reputation of department or agency as asset custodian.
  - Are there any plans for new development/additions and alterations?
  - Are there disposal strategies in place? For instance, to meet the requirement to prepare a conservation management plan for a state significant heritage place before sale.
  - Have any heritage management policies been prepared for the asset such as conservation policies, conservation management plans, environmental or heritage impact assessments, or condition reports?
  - Is the asset subject to an agreed (heritage or asset) management procedure? Is the asset management regime implemented?
  - Is regular and appropriate cyclical maintenance carried out to keep the asset in good repair?
  - Is the asset occupied? What is its current use?
  - Is any information available on the efficiency of the current management approach and its impact on the condition and significance of the asset?
  - Are the occupiers/managers of the asset aware of its heritage significance and have access to heritage advice/procedures in relation to maintenance and repair?
  - Does your department or agency have in-house heritage expertise?
  - Does your workplace have a heritage committee to guide in-house heritage management responsibilities?
- 

The Scienceworks Museum, Spotswood Arts Victoria oversees the asset management of the State's arts and cultural agencies including Museum Victoria's Scienceworks at the former Spotswood Sewerage Pumping Station.

# APPENDIX 2 INSPECTION SCHEDULE



A detailed Inspection should be undertaken on all assets before any repairs or maintenance works are undertaken. Subsequent inspections should be undertaken at the intervals given in the table, for example, every seven years or every two years.

The schedule provides an average life expectancy of materials or elements which may vary depending on the rate of deterioration. Life expectancy will need to be monitored and adjusted according to your annual inspections.

## IMMEDIATE MAINTENANCE

This list supplements the Inspection Schedule. These are typical items which may be found during the day-to-day use of an asset and should not be ignored.

These issues should be addressed immediately to avoid possible major repairs in the long term. Attention to these items also gives the appearance that the asset is actively managed and avoids public perception that it is not valued as a heritage asset.

Building element	Inspect for	When
Generally	<ul style="list-style-type: none"> <li>Blocked or broken stormwater and sewer lines that require clearing or repair.</li> <li>Clearing of blocked gutters and downpipes.</li> <li>Broken water service or leaking faucets and toilet cisterns.</li> <li>Damaged or defective light fittings and switches.</li> <li>Failed incandescent light bulbs or fluorescent tubes.</li> <li>Storm damage to grounds or building fabric.</li> <li>Vandalism or break and enter damage to windows and doors.</li> <li>Broken or defective locks and latches, replacement of keys or lock cylinders.</li> <li>Check security, fencing and fire safety systems.</li> </ul>	As they occur
<b>NOTE</b>	<ul style="list-style-type: none"> <li>Maintain regular security and cyclic maintenance regimes.</li> <li>Ensure agency staff and contractors are informed of an asset's heritage values and controls.</li> </ul>	

## INSPECTION SCHEDULE

### ROOF COVERING

Building element	Inspect for	When	Life expectancy (years)
Slate Terracotta	Inspect for those that have slipped, cracked or broken or for tiles that have become porous.	Every 7 years	50+ 40+
Copper Zinc	Inspect for loose or raised fixings and sheet edges, soldered joints that have cracked or areas that have dented. Copper should not have through fixings.	Every 7 years	75+ 40+
Steel	Inspect for loose or raised fixings, sheet edges and surfaces that are deformed from being walked on. Look for rust stains around fixings, where sheets are lapped and around flashings. Check for dissimilar metals at flashings. Loose fixings can indicate batten failure.	Every 7 years	20-40
Membrane	Inspect for lifting joints, surface blisters or physical damage and cracks. Check on hot days and after rain as surface dries. Cracks can then be seen wet as the heat draws up moisture.	Every 2 years	20
Timber shingles	Inspect for those that have slipped, are cracked, decayed or badly deformed.	Every 7 years	60+
Flashings/ Cappings	Inspect for loose or raised fixings to metal cappings, cappings that have lifted, slipped or are deformed from wind damage. Check whether capping tiles have cracked or broken mortar bedding, have slipped or are missing.	Every 2 years	
Generally	Remove rubbish and leaves and check vent pipes for missing or damaged Chinaman's hat or wire basket cowls.	Every 4-12 months	
<b>AVOID</b>	Walking on brittle slate or roof tiles. Combining dissimilar materials that will react with each other. Laying, resting on or testing membranes with sharp objects that can puncture them. Replacing original roof coverings unnecessarily. Light gauge flashings that are susceptible to wind damage and lift. Cement mortar repair to over flashings inserted in masonry joints.		

Note. Frequency of inspections will be influenced by the rates of decay and deterioration, particularly to buildings recently purchased or poorly maintained.

## ROOF DRAINAGE

Building element	Inspect for	When	Life expectancy (years)
Stainless Steel	Inspect for gutters bent or squashed by ladders and for gutters that are over strapped.	Every 7 years	70+
Cast iron	Inspect for cracked or broken pipes and defective joints. Retain broken sections for repair.	Every 7 years	70+
Copper	Inspect for deformed, bent or squashed gutters from ladders and for gutters that are over strapped.	Every 7 years	70+
Steel	Inspect for rust stains around downpipe outlets, internal/ external corners, beneath tree overhangs and downpipe offsets and shoes. Ensure gutter does not collect water run-off from copper flashings or from roof above that will corrode gutter.	Every 2 years	10+
Generally	<p>Inspect gutter and downpipe joints for cracks. Are there drips to the underside? Are there loose or missing brackets to gutters and downpipes?</p> <p>Clear gutters including guards if installed, sumps and rainwater heads of leaves and rubbish each autumn, trim overhanging trees. Check if gutters are sagging and water falls to outlets. Ensure leaf guards to outlets, rain water heads and sumps sit correctly and are clear of debris.</p> <p>Growth, moss or stains surrounding downpipes can indicate blockages. Look for downpipes that are squashed or damaged and restrict water flow. Check if downpipes are connected to the stormwater system and, if so, whether joints are sound. Check that stormwater drains are not blocked.</p> <p>Check whether birds are nesting on downpipe offsets and polluting the building, or whether bird proofing, if installed, is adequate and sound.</p>	<p>Every 2 years</p> <p>Every 4-12 months</p> <p>Every 2 years</p> <p>Every 4-12 months</p>	
<b>AVOID</b>	<p>Combining dissimilar materials that will react with each other.</p> <p>Hosing leaves and debris into downpipe outlets.</p> <p>Placing ladders or leaning objects onto soft copper or stainless steel gutters.</p>		

Note. The defects identified in the seventh year inspection should be rectified prior to painting if programmed for the same year.

## EAVES

Building element	Inspect for	When	Life expectancy (years)
Generally	<p>Inspect for holes from old services pipes where birds can nest, and for surface stains to fascia and soffit that indicate roof or valley and gutter failure.</p> <p>Check ventilation holes.</p> <p>Inspect for paint failure and/or decay to linings. This can indicate roof covering failure</p> <p>Identify cobwebs and wasp or hornet nests for removal.</p>	<p>Annually</p> <p>Every 7 years</p> <p>Annually</p>	

Note: The defects identified in the seventh year inspection should be rectified prior to painting if programmed for the same year

## FABRIC

Building element	Inspect for	When	Life expectancy (years)
Stone	<p>Inspect for loose, fretted, broken or missing mortar joints to stones around windows, doors, along flashings and on cornices and other projections. Check if the stone is crumbling or has surface salts; this can indicate a moisture problem.</p> <p>Inspect for signs for delamination that can affect the soundness of stone. Is there rising or falling damp? Has an appropriate mortar been used to joints? Inspect for incompatible mortars where lime was originally used.</p>	Every 5 years	70+
Brickwork	<p>Inspect for loose, fretted, broken or missing mortar joints and bricks. Check if the brickwork is crumbling or has surface salts; this can indicate a moisture problem.</p> <p>Are ventilators blocked or covered over with soil? If rendered, is the render cracked or drummy? Has an appropriate mortar been used in joints? Have the original ventilators been replaced with an inappropriate type, for example, terracotta instead of cast iron?</p> <p>If inappropriate ventilators have been used to increase sub-floor ventilation, replace with an appropriate type and add additional ventilators.</p>	Every 5 years	40-75
Timber	<p>Inspect for loose or missing weatherboards, corner stops and mouldings.</p> <p>Check around window sills where boarding is in contact with ground for weathering and potential decay.</p>	Every 7 years	20+
Fibre Cement	Inspect for broken or damaged sheets, loose or missing trim and cover strips.	Every 2 years	20+
Generally	Inspect areas for grime, growth from joints, bird excretion and graffiti. Is there any sign of termite infestation?	Every 4-12 months	20+
<b>AVOID</b>	<p>Covering wall ventilators and damp-proof courses with soil or rubbish.</p> <p>Building up garden beds over damp-proof courses, planting close to walls or continual watering of walls.</p> <p>Applying anti-graffiti or protective coatings to stonework.</p> <p>Inappropriate cleaning of masonry, for example, strong water jet cleaning or detergents that can damage the masonry.</p>		

Note. The defects identified in the seventh year inspection should be rectified prior to painting if programmed for the same year.



## STRUCTURE

Building element	Inspect for	When	Life expectancy (years)
Timber	Are members secure and true?	Every 7 years	
Masonry	Are there cracks?	Every 5 years	
Steel	Is there any sign of rust? Are fixings secure?	Every 7 years	
Generally	Are verandah posts stable and sound? Are there any signs of structural distress (movement, cracking) which a structural engineer should inspect?	Every 7 years	

## JOINERY

Building element	Inspect for	When	Life expectancy (years)
Windows	Inspect for loose or damaged mouldings, architraves, decayed stiles at sill level, weathered sills, sashes that bind, noisy pulley wheels that need to be oiled, and sash cords that are decayed or broken. Check strength by raising weight by hand and dropping – if cord is sound it will carry weight at bottom of drop. Inspect for loose or decayed sash joints and broken or cracked glass or putty. Check internal faces around windows for stains that can indicate failed flashing.	Every 2 years	10-15
Doors	Inspect for loose jambs, decay at the threshold or damage from locks being forced. Is the threshold secure, decayed, excessively worn or broken? Are mouldings or stops secure and does the door operate satisfactorily? Are door joints firm, mouldings missing or damaged? Has the glass broken or cracked? Is the hardware operational – do catches catch, locks lock? Is the furniture secure or missing and defective? Check if the door requires a stop to prevent damage to the door or walls when opened.	Every 2 years	10-15
Generally	Check whether hardware operates properly, or is loose, inadequate or damaged. Do doors and windows operate satisfactorily?	Every 2 years	
<b>AVOID</b>	Restricting fire exits with storage items. Installing fans or air-conditioners in windows. Replacing with hardware not in keeping with the building. Removing original hardware. Install new adjacent.		

Note. The defects identified in the seventh year should be rectified prior to painting if programmed for the same year.

## PAINTING

Building element	Inspect for	When	Life expectancy (years)
Window Sills	Inspect for paint deterioration and weathering.	Every 3 years	
Doors/Frames	Inspect for paint deterioration, failure or damage and grime.	Every 3 years	
Generally	Inspect timber cladding for joints cracking, putty coming away from fixings, cracking paint, blisters or fading of colours. Stains can indicate a moisture problem.	Every 7 years	7-10
<b>AVOID</b>	<p>Painting surfaces never intended for painting, such as stone or face brick.</p> <p>Inappropriate colours.</p> <p>Installing one way glass when carrying out glazing repairs.</p> <p>Excessive exposure to original lead based paint.</p>		

Note. The defects identified in the seventh year inspection should be rectified prior to painting if programmed for the same year.

## SERVICES

Building element	Inspect for	When	Life expectancy (years)
Stormwater	Inspect for dish drains and sumps blocked with rubbish, leaves or silt. Check if water lies in sumps as this can indicate a total or partial blockage or inadequate fall in line. Ensure hose taps discharge into gullies and ensure gullies and sump gratings are operable and not damaged, and sit square. Check whether stormwater drains into sewer system.	Every 4-12 months	20-25
Sewerage	Inspect sumps for damaged grates and ensure these are not draining surface water.	Every 2 years	20-25
Water	Inspect taps for drips and ease of operation. Are taps and surface-run pipes secured to walls or supports? Look for wet areas within the property grounds and gardens during dry periods – this can indicate a broken pipe.	Every 2 years	20-25
Electricity	Check if light bulbs are blown or the fittings damaged, and if fittings are well secured to walls or standards. Are light standards or poles in the parking areas stable and undamaged?	Annually	
<b>AVOID</b>	Hosing leaves and debris into stormwater pits.		

## EXTERNAL WORKS

Building element	Inspect for	When	Life expectancy (years)
Paving/ Bitumen Concrete	Inspect for broken bitumen – is it lifting or undulating from heavy vehicular traffic? Are there areas of ponding or does surface water fall to pits satisfactorily? Check for any loose or lifting paving blocks or bricks that could be hazardous to pedestrians, and for growth from the construction joints. Inspect kerbs for damage from vehicles and clear them of rubbish.	Annually  Annually	10-20  20-25
Bollards and wheel stops	Inspect for damaged or missing bollards and chains. Test bollards for stability. Check if timber bollards are decayed and whether car wheel stops are provided to prevent damage and exhaust stains to walls.	Every 2 years	
Fences/Timber Steel	Inspect for damaged, decayed, loose or missing pickets, posts and rails. Check fence alignment.  Check steel fences for damaged, rusted or missing panels.	Every 7 years  Annually	10-15 15-40
Gates	Inspect gates for soundness and damage. Have gates dropped and do they require squaring and bracing? Test gates for operation – is hardware working and sound? Do catches catch, and are hinges oiled to minimise rust and maximise ease of operation? Do gates have stops or hold open catches or are these required?	Every 7 years	10-15
<b>AVOID</b>	Planting trees near buildings.  Allowing vehicles to park adjacent to buildings and historic plantings.  Allowing timber fence posts to be concreted.		

Note. The defects identified in the seventh year inspection should be rectified prior to painting if programmed for the same year.

## TREES, PLANTINGS AND GARDENS

Building element	Inspect for	When	Life expectancy (years)
Generally	Inspect for general maintenance.  Identify trees and shrubs requiring pruning. Note pruning large trees, especially those of heritage significance, should only be undertaken by an arborist. Pruning should be undertaken in accordance with Australian Standards.  Check taps, sprinklers and watering systems to prevent wastage and water logging.  Check gutters, drains and pits on paths.  Check for fungal attack and tree health.	Regularly  Annually	
<b>CAUTION</b>	Ensure agency staff and contractors are informed of an asset's heritage values (including archaeology) and controls.  Permits from local council or Heritage Victoria may be required for the removal or replacement of trees.  Take care using whipper snippers to not damage edgings or plants.  Do not park cars near trees.  Retain or replace original plantings as well as the form, materials and detailing of the original landscape design.		

# APPENDIX 3

## GRADING ASSETS CONDITION AND PRIORITY ASSESSMENT RATING – EXAMPLES



## English Heritage (2009) Managing Heritage Assets

The categories recommended to grade the condition of assets are as follows:

Condition	Buildings, structures
Good	Structurally sound, weather-tight with no significant repairs needed.
Fair	Structurally sound, but in need of minor or localised repair, or showing signs of a lack of general maintenance.
Poor	Deteriorating structure, breached weather tightness or general deterioration of most elements of the fabric, or where a fire or other disaster has affected part of the asset.
Very Bad	Structural failure or clear signs of structural instability, or serious loss of weather-tightness leading to major deterioration of the interior; or where there has been a fire or other disaster affecting most of the asset.

The recommended standard priority assessment ratings for works following a condition assessment are as follows:

Priority rating	Definition	Notes
Unavoidable/Immediate	Required immediately for legal or safety reasons, or to prevent imminent danger or rapid deterioration.	Must be actioned immediately.
Essential/Urgent	Required urgently to avoid increased cost or dilapidation.	Should be actioned as soon as possible, certainly within the year.
Necessary in current cycle	Necessary within 4 years to preserve the value or utility of the asset. Will include some cyclical maintenance.	Should be planned over the next 1-4 years.
Desirable	To improve function or performance, or enhance or reinstate features.	Plan as appropriate, alongside other higher priority works, or defer to later years.
Long term	Repeat cyclical maintenance or longer term planned repairs over the span of the asset management plan.	Timescales to be identified.

This guide also recommends suggested categories for benchmarking maintenance standards:

Benchmark rating	Maintenance regime
Special – for significant heritage assets and operationally important areas	Maintained to high standards at all times, due to operational necessity, importance or heritage status.
Standard	Fully maintained for normal use and to avoid deterioration.
Stable	Maintained or managed to minimise deterioration.
Weather tight	Maintained to prevent deterioration of interior.
Demolition pending	Maintained only to safety standards if statutory consent for demolition obtained.

Flinders Street Railway Station, Melbourne. Photo Credit: Martin Zweep.



In evaluating the performance of maintenance undertaken, the guide suggests the following categories:

Adherence	Description
<b>Good</b>	Close adherence to the maintenance plan and a proactive approach to defect avoidance evident.
<b>Basic</b>	Moderate adherence to the maintenance plan and a reactive approach to reported defects demonstrated.
<b>Poor</b>	Poor adherence to the maintenance plan and evidence that regular surveys or routine maintenance tasks are not being carried out.
<b>Very Poor</b>	Non-adherence to the maintenance plan and evidence that regular surveys or routine maintenance tasks are not being carried out resulting in avoidable damage.



### Australian Government (2011) State of the Environment Reporting

Grades used in the State of the Environment process for the built environment include:

Grades	Description
Very good	Places with heritage values have been systematically and comprehensively identified and included in relevant inventories or reserves. Heritage places are in very good condition with identified values retaining a high degree of integrity.
Good	Places with heritage values have been systematically identified and included in relevant inventories or reserves. Heritage places are in good condition with identified values generally retaining their integrity.
Poor	Places with heritage values have not been systematically identified. Heritage places are in poor condition and/or their values lack integrity.
Very Poor	Places with heritage values have not been identified. Heritage places are in degraded condition and their values lack integrity.

Ballarat Railway Station, Ballarat VicTrack has revitalised a neglected building within the railway precinct now available for commercial use.

# APPENDIX 4 DOCUMENTING MAINTENANCE AND REPAIR WORKS TO HERITAGE BUILDINGS





## Introduction

The aim of documentation is to give those carrying out the works to a heritage building the information they need. This information is also used to prepare cost estimates and to obtain tenders from potential contractors. Documentation should be prepared by qualified specialists.

The key to good documentation is to correctly identify the problem to be solved, and hence to specify an appropriate solution. The nature and extent of the work must then be clearly conveyed to those who will do it.

## Understand the building

It is a principle of conservation that works on a significant building should be based on a proper understanding of the building and its problems.

It should be noted that buildings move, sink, bend and weather with age and may not need to be straightened or kept in 'as new' condition.

## History and significance

The history of a place with all its alterations, additions and repairs needs to be known.

The significant elements of a building must be identified so that informed decisions can be made on whether an element should be preserved, rather than replaced. For example, every effort should be made to preserve original stone carvings. A conservation plan for a building, which includes a survey of a building fabric and condition report, will answer most of these questions. Further information can be found in the Australia ICOMOS Charter for the Conservation of Cultural Significance (Burra Charter). [See Appendix 5.](#)

**Wallace's Hut, Alpine National Park**  
Conservation works undertaken by the Victorian High Country Huts Association and Parks Victoria at Wallaces Hut, an 1889 high plains hut, used by cattlemen, stockmen, the State Electricity Commission and boy scouts over its long history. Managed by Parks Victoria.

Information about the history of a building should be available to those tendering to do the work, possibly as an appendix to the specification. If the history indicates that the place is likely to contain archaeological relics, the documents will need to provide for an archaeological watching brief. This requires the contractor to notify an archaeologist when excavation works are to begin, or if items of potential archaeological significance have been uncovered.

## Construction methods

The performance of a building depends on the materials from which it is made, and the way they are put together. If a building has held together for 100 years or more, it may be unwise to instigate a whole new repair regime, such as installing a damp proof course, which can result in new problems such as excessive drying out. It is better to work with the building, doing as much as needed and as little as possible.

Often a full understanding of a building/s construction and condition will only become apparent after detailed inspection from a scaffold.

## Understand the problem

Old buildings can have all sorts of problems, such as:

- damp and drainage
- lead paint
- asbestos
- fire safety.

Having identified a problem, it is necessary not to analyse it in isolation. Consider the problem in the context (and significance) of the building as a whole. Most symptoms of building problems arise from more than one cause. If a building shows signs of damp, for example, look carefully to see that all the likely reasons or the damp have been identified. The cause of the problem should be treated, as well as repairing the damage that has resulted.

## Types of documentation

### Contract conditions

If the works are being carried out by a contractor, some form of contract will be necessary. Make sure that the contract gives you and the building adequate protection if something goes wrong.

Even if a building has been closely inspected from a scaffold, additional problems can be revealed during the project. There will always be unforeseen problems and extra works in repairs to a building. The contract should thus allow for further inspections to confirm the extent of work.

### Allowances

Lump-sum contracts may be inappropriate unless a large contingency sum is included. A more flexible form of contract, with a schedule of rates, can be better suited to conservation work.

### Drawings

Drawings are usually the most efficient way to convey what something looks like, how big it is and how it fits together. Drawings for stone repairs, for example, could range from a simple sketch or marked-up photograph to a complete set of computer drafted plans at various scales showing the location, size and shape of every stone in the building.

### Specifications

A specification is a written description of the materials and techniques to be used in the work. Most project specifications incorporate references to standard specifications such as those published by Standards Australia.

Traditional specifications are arranged in trade sections. Each section includes a brief scope of works, descriptions of the required materials and techniques to be used, and a detailed description of specific elements.

Performance specifications may not be adequate for achieving the desired standard of work on a historic building. Simply specifying functional requirements will not cover the replication of original details such as rainwater heads, or indicate how much existing fabric is to be maintained.

### Schedules

Most documents contain lists (known as schedules) of components such as windows or floor finishes. For conservation work, schedules of repairs are commonly prepared for each room or other element. Schedules are an effective way to summarise the works to be done.

### Samples

In many cases, the best way to document conservation work is to require that it match existing work. Samples of workmanship, materials or components can be identified and used as a reference. Make sure that the approved samples are properly marked and retained throughout the job.

Most maintenance and repair jobs will be documented using a combination of methods. For example, plaster repair documents could include a drawing showing repair locations, a specification with standards for plaster mixes and application, and a schedule listing the works required to each wall and ceiling, with a marked area of wall plaster on site used as a sample of the finish to be achieved.

A basic rule for good documentation is that the specification describes what needs to be done and the drawing shows where. There is potential for conflict and discrepancy between the two where a note on a drawing overlaps a specification clause.

The final set of documents to be used should be appropriate for the job. More documentation is not necessarily better. The same rule applies to documentation as to the work; as much as necessary and as little as possible.

### The order of works

A number of interrelated repairs may be necessary to solve a problem and should be carried out in the appropriate order. Do not apply finishes until the repair of underlying problems such as damp is complete. You can nominate a program in the documents, or ask tenderers to submit one showing their proposed order for the works and proposed working hours.

### Preparing the documents

Two basic questions need to be answered before documents can be prepared for repair work.

*Are tradespeople available to execute the work?*

Documents need to be tailored to the known skills of the tradespeople likely to be working on the project. You must find out what trades will be required and whether these skills are currently available in the market-place. It is no good specifying tuck-pointing if tuck pointers are not available.

One solution is to ask tenderers to list recent projects, and nominate the staff who will be working on the project. Another is to ask them to do test panels as part of the selection process. If possible, discuss proposed works on site with experienced tradespeople before preparing the documents.

Some types of repair work are relatively new and there are few people skilled in doing them. In these cases, your documents should contain background information on the reasons for the repair technique, and detailed instructions on how to do it, and how it should look when finished. For example, desalination of stonework by applying a weak sacrificial plaster mix may need to be explained to tradespeople who otherwise may be reluctant to apply what appears to be a 'poor mix' that 'won't last long'.

There is no substitute for a conservation architect to supervise the work, for an experienced project manager to coordinate the works and for reliable, experienced and specialist subcontractors.

*Are materials available for the repair work?*

The materials originally used on the building may no longer be obtainable. You will need to find out about replacement materials, and their limitations and methods of application. For example, is matching stone available?

If so, the size of quarry blocks and correct methods of bedding, jointing and fixing may need to be discussed with an experienced banker mason.

If not, rather than using new stone you may choose to repair with synthetic stone (a mixture of blended sand and epoxy resin). In this case, you need to know the consequences of using non-matching materials so that the new mix does not cause future damage to the surrounding stone.

### Document with care

Poorly documented repair works could result in the work making matters worse rather than better.

Documents should include a description of site conditions such as potential noise problems, access times and work areas for the contractor and special protection of heritage fabric. Generally, the requirements of the occupants and the users of the building should be documented where they conflict with the contractor's work. Note that some work may need to be done out of work hours.

### Protecting existing fabric

Make sure the contractor is properly informed about protecting the important parts of the building, and what these are. For example, it may not be acceptable for riggers to break glass panels in order to secure scaffolding ties. The glass may have heritage significance and may be irreplaceable.

### The role of new technology

Generally, repairing a building with traditional techniques and materials is consistent with the conservation philosophy of the Australia ICOMOS Charter for the Conservation of Cultural Significance (Burra Charter). However, in some cases, new techniques can be appropriate, such as the use of synthetic stone as a means of extending the life of the original stone.

Mistakes of the recent past have shown that new materials must be introduced cautiously. For example, the use of consolidants and water-proofing coatings for Sydney sandstone has not been tested sufficiently to warrant risking heritage fabric with an application of these unproven materials. As a general rule, intervention with new materials should be reversible.

### Further information

Further assistance with documentation is available from reference books, industry associations, and heritage councils.

Heritage Victoria administers a Directory of Heritage Consultants and Contractors, and can also provide information on available courses of study for those who wish to learn more about historic buildings and their care and maintenance.

# APPENDIX 5

## HERITAGE LEGISLATION, POLICY AND OTHER USEFUL INFORMATION



## Heritage legislation

### Commonwealth:

*Environment Protection and Biodiversity Conservation Act 1999*

### State:

*Heritage Act 1995*

*Planning & Environment Act 1987*

## Policies and Guides

- *Asset Management Series*, Department of Treasury and Finance (1995)  
Available from: [www.dtf.vic.gov.au](http://www.dtf.vic.gov.au)

- *Australia ICOMOS, the Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013 and practice notes*  
Available from Australia ICOMOS: <http://australia.icomos.org>

- *Conservation Management Plans: Managing Heritage Places A Guide*, Heritage Council of Victoria (June 2010)  
Available from the Department of Environment, Land, Water & Planning: [www.delwp.vic.gov.au](http://www.delwp.vic.gov.au)

- *Cultural Heritage Asset Management Strategy Model*, Heritage Council of Victoria, (December 2009)  
Available from the Department of Environment, Land, Water & Planning [www.delwp.vic.gov.au](http://www.delwp.vic.gov.au)

- *Design in Context: Guidelines for Infill Development in the Historic Environment*, NSW Heritage Office (2005)  
Available from: [www.environment.nsw.gov.au/resources/heritagebranch/heritage/NewUsesforHeritagePlaces.pdf](http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/NewUsesforHeritagePlaces.pdf)

- *Framework of Historical Themes*, Heritage Council of Victoria (October 2001)

Available from the Department of Environment, Land, Water & Planning: [www.delwp.vic.gov.au](http://www.delwp.vic.gov.au)

- *Guidelines for the Implementation of the Cultural Heritage Asset Management Principles*, Heritage Victoria (December 2009)

Available from the Department of Environment, Land, Water & Planning: [www.delwp.vic.gov.au](http://www.delwp.vic.gov.au)

- *Minimum Standards of Maintenance and Repair*, NSW Heritage Office (1999)

Available from: [www.environment.nsw.gov.au/resources/heritagebranch/heritage/infominimumstandards.pdf](http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/infominimumstandards.pdf)

- *New Uses for Heritage Places, Guidelines for the Adaptation of Historic Buildings and Sites*, Heritage Office, NSW Department of Planning (2008)

Available from: [www.environment.nsw.gov.au/resources/heritagebranch/heritage/NewUsesforHeritagePlaces.pdf](http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/NewUsesforHeritagePlaces.pdf)

- *Sustaining Our Assets, Government Asset Management Policy Statement*, Department of Treasury and Finance (2000)

Available from: [www.dtf.vic.gov.au](http://www.dtf.vic.gov.au)

- *Total Asset Management, Heritage Asset Management Guideline*, New South Wales Treasury (2004)

Available from: [www.treasury.nsw.gov.au](http://www.treasury.nsw.gov.au)

- *Victorian Cultural Heritage Asset Management Principles*, Heritage Council of Victoria (December 2009)

Available from the Department of Environment, Land, Water & Planning: [www.delwp.vic.gov.au](http://www.delwp.vic.gov.au)

## Technical Guides

- *Preparing a maintenance plan*, Heritage Council of Victoria (October 2001)

Available from Heritage Victoria: [www.delwp.vic.gov.au](http://www.delwp.vic.gov.au)

- *Inspection Schedule*, Heritage Council of Victoria (December 2001) [Appendix 2]

Available from Heritage Victoria: [www.delwp.vic.gov.au](http://www.delwp.vic.gov.au)

- *Documenting Maintenance and Repair Works*, Heritage Council of Victoria (December 2001) [Appendix 4]

Available from Heritage Victoria: [www.delwp.vic.gov.au](http://www.delwp.vic.gov.au)

**Leading Lights, Port Melbourne** Maintenance works undertaken to the Leading Lights. Managed by the Port of Melbourne Corporation.



Stothert and Pitt Crane, Port Melbourne Managed by the Port of Melbourne Corporation.



