



PART 6

MONITORING



6.A INDICATORS FOR MEASURING STATE OF CONSERVATION

All of the sites have monitoring schedules that contain indicators for measuring the state of conservation of the structures and landscapes. The baseline data on the condition of the various elements of the sites and the indicators to monitor their conservation are detailed in conservation management plans for the sites. Some of these indicators and other mechanisms for monitoring the sites are outlined below. Comprehensive monitoring measures have been in place continuously for the past 20 to 40 years for Port Arthur, Coal Mines, KAVHA, Fremantle, Old Government House, Hyde Park Barracks and Darlington.

Kingston and Arthur's Vale Historic Area (KAVHA)

An audit of the state of conservation is undertaken annually by a consultant heritage architect to assist in the identification and management of the conservation and maintenance needs of the site. This involves a thorough visual inspection of the structures from ground level. A photographic record is also taken from photo monitoring points during annual audits of the site. Cyclic maintenance schedules are undertaken for all buildings which involve inspecting the state of conservation of the heritage features. Fabric stability is monitored and measures are taken to visually inspect issues such as topsoil stability, destructive animal activity, encroachment of destructive weeds in drainage channels and the condition of the lime kiln area.

Old Government House and Domain

The state of conservation of the site is monitored by cyclic inspection and assessment inspections of the landscape and structures by a skilled field team and curator. This includes a visual inspection of walls for cracks, evidence of rising and falling damp and observation of the condition of external and internal woodwork. The performance of sacrificial renders is monitored and an annual inspection is carried out by conservation specialists including engineers, architects and conservators. Cyclic inspection for pest infestation is carried out, in addition to programmed inspection of trees and major foliage across the site for damage and potential threats to the structures and public safety. These condition reports form the basis for conservation programs. Expert consultants are engaged to provide specific advice and assessment. Special events are assessed for their overall impact and appropriate plans and restrictions are put in place to protect the site.

Hyde Park Barracks

Annual condition surveys are carried out on a number of key elements of the site in accordance with the recommendations of the *Asset management plan* (2006). They include a yearly survey undertaken by a consultant architect of the condition of all buildings and grounds to determine a works program for the following year.⁴²⁴ A range of studies of the fabric and contents of the site using consultant arborists and stonemasons have been undertaken since 1991 to establish baseline condition information. Photographic metric recording of fabric is used to monitor major wear and damage.⁴²⁵ A cyclical maintenance plan which includes a condition survey is undertaken. Staff monitor the site daily to identify urgent maintenance and conservation requirements. Staff utilise a range of monitoring tools to ensure continual awareness of temperature and relative humidity levels in the exhibition spaces. Fluctuations in these conditions are controlled by appropriate application of dehumidifiers and heating equipment.

Brickendon–Woolmers Estates

A cyclical maintenance schedule has been in place for several years with assistance from the Tasmanian Government.⁴²⁶ Grounds and maintenance staff undertake regular visual inspections of structural and fabric condition such as stabilisation issues and damage by vegetation. A photographic record documents the state of conservation. An annual repair and maintenance schedule is also conducted which includes an audit of the structures and the landscape.

Darlington Probation Station

Cyclical maintenance schedules are undertaken and all buildings are monitored by on-site staff. Policies and practices are reviewed in management plan updates and in accordance with legislation. Rangers undertake regular inspections to monitor animal and vegetation impacts.

Old Great North Road

The historical features of the site were recorded in 1988 and provided a basis for the *Old Great North Road conservation management plan* (2005). An *Addendum* (2007) to this plan provides the current state of conservation of all the features identified in the 1988 report. The *Old Great North Road maintenance plan* (2007) sets out a standardised monitoring program to regularly monitor the state of conservation of the historic fabric (which is an indicator of the heritage values). This involves: an annual desk-based review and audit of the maintenance records; and an annual report that analyses results, maintenance targets and proposed changes to maintenance activities. Monitored elements include: water entry into the backfill of retaining walls and the free draining capacity of the backfill; the natural deterioration of the sandstone; and the condition of historic graffiti and weak stonework. Qualified surveyors monitor wall bulges and buttress movement every two years.⁴²⁷

Cascades Female Factory

A comprehensive long-term monitoring program is in place. The built fabric is assessed annually. Monitoring reports include photographic and written descriptions of the condition of the fabric. There is also daily monitoring by staff and volunteers.

Port Arthur Historic Site

Maintenance programs and annual assessment of the condition of the structures monitor threats and impacts on the site. The site is currently subject to a 10-year *Conservation capital investment program*. Some structures have been recorded using photogrammetric and photographic recording processes. There is also a detailed structural monitoring and disaster mitigation program in preparation which includes laser scanning of susceptible fabric. Conservation priorities are re-assessed based on information obtained from these monitoring procedures. Cyclical maintenance programs are undertaken to preserve the site's current state of conservation. A conservation advisory committee with members from key organisations including Australia ICOMOS and Heritage Tasmania provides advice on new conservation initiatives and projects.

Coal Mines Historic Site

The site is regularly maintained and monitored through cyclical maintenance programs and inspection in the same way as Port Arthur (see above).



Interpretive sign and entrance to Brickendon Estate.

Cockatoo Island Convict Site

A series of reports have been commissioned to record and monitor the state of conservation of the convict structures and landscape. Buildings are conserved in accordance with conservation management plans and maintained on a regular basis. Monitoring measures have been undertaken to record the condition of buildings including a stone conservation survey and a fabric analysis of the convict era buildings as part of the *Conservation management plan* (2005). Basic maintenance, infrastructure repair and decontamination works are regularly undertaken. Maintenance regimes are in place for all buildings and regular visual inspections by staff monitor their condition and ensure that any unforeseen problems are addressed.

Fremantle Prison

Regular commissioned *Building condition assessment* reports are the primary tool for monitoring the state of conservation of the buildings. These assist in identifying and managing the site's conservation and maintenance needs of the site. The comprehensive report is completed every two years by a qualified and experienced building inspector. The report identifies, quantifies, costs and prioritises the works required to maintain the building to a high standard. The report ranks the recommended works according to a five-tier condition scale and consequence codes to assist in conservation and maintenance program planning. This enables site management to develop and prioritise its conservation and maintenance programs.

6.B ADMINISTRATIVE ARRANGEMENTS FOR MONITORING

All of the sites have extensive administrative arrangements for monitoring in place. The name and contact information of the agencies responsible for the monitoring are detailed below.

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6.C RESULTS OF REPORTING

Kingston and Arthur's Vale Historic Area (KAVHA)

Many reports on KAVHA's state of conservation have been undertaken including annual conservation audits and reports and the most recent *Report on the condition of structures and the maintenance program* (2007). The reports identified issues such as topsoil stability, the need to enhance interpretation and animal and vegetation threats.⁴²⁸ Many of the recommendations in the reports have been implemented. The *KAVHA landscape management and conservation plan* (1994) identified topsoil stability and drainage issues. Measures undertaken to address these issues included using appropriate fill and endemic plant species, removing aquatic weeds from drainage channels, de-silting drainage channels and controlling aquatic weeds in the reserves. Actions undertaken to address the results of other reports include: stabilisation works; fencing to control animals; cleaning buildings; improved interpretation; and measures to protect the lime kiln area.

Old Government House and Domain

The *Parramatta Park landscape master plan* (2002) identifies significance and guides conservation of the landscape and includes landscape design principles and guidelines, interpretative intervention and management recommendations. Major reports relating to the conservation of Old Government House have been undertaken since the 1990s. The results of cyclic monitoring are compiled in condition reports and databases to determine trends and changes in the condition of the site. The results of monitoring programs are used by field services staff to assess the condition of the site and to program future works and preventative conservation action.

Hyde Park Barracks

Monitoring takes place at the site on a regular basis from daily to annual checking of the fabric as outlined in the *Total asset management strategy* (2006). The Historic Houses Trust has carried out a number of studies on the fabric and contents of the site including the *Asset management plan* (2006). These reports will be kept as records of change and to establish base-line information on condition. They are also used to target policies for ongoing conservation and monitoring including identifying any deterioration in the condition of the fabric or collections. Long or mid-term maintenance schedules are developed with property staff each year as part of the action planning process and projected over 10 years. Urgent or essential items such as repair of fabric deterioration, cleaning gutters and identifying causes of damage are undertaken as required.

Brickendon–Woolmers Estates

A number of structural, architectural and conservation reports have been prepared for the site. Conservation management reports were prepared in 1996 and 2007 and other key reports include the *Maintenance schedule* (1995 and 2000) and *Interpretation plan* (2005 and 2006).⁴²⁹ In addition, there is the *Brickendon oral history* (2007) and the *Landscape report* (2007) for Woolmers which made over 160 recommendations on the state of conservation of the cultural landscape.

Darlington Probation Station

Many reports and plans have been prepared on the condition of the site.⁴³⁰ The Department of Tourism, Arts and the Environment houses most reports prepared for Maria Island which date back to the 1960s. There are over 100 reports, project files and plans that are archived in the department. Some of the reports identified conservation and stabilisation works for the Commissariat Store and archaeological work on part of the wall of the separate apartments.⁴³¹

Old Great North Road

An extensive range of reports have been prepared on the state of conservation of the site.⁴³² The most recent report is the *Addendum* (2007) to the *Old Great North Road Conservation management plan* (2005). The management plan recommended measures to conserve the masonry elements of the site such as vegetation management, management of historic graffiti and cleaning/disguising modern graffiti. The *Archaeological and conservation assessment of the graffiti and timber guardrails on the Old Great North Road* (May 2000) recommended removal of items for conservation and *in situ* conservation of timber items. The *Old Great North Road maintenance plan* (2007) includes a maintenance program to reduce the incidence of failure of elements of the road to conserve road surfaces, gutters, drains and culverts.

Cascades Female Factory

The *Conservation plan* (1992) and the *Cascades Female Factory conservation management plan* (2000 and 2007) provide indicators of the state of conservation of the site and maintenance schedules. Many other technical reports and surveys have been produced including a *Conditions assessment report* (2007), *Archaeological zoning plan* (2007), *Engineering assessment report* (2007) and *Cultural landscape assessment report* (2007).⁴³³

Port Arthur Historic Site

A number of reports have made recommendations on the conservation of historic features at the site. Following the recommendations of the report entitled *To conserve Port Arthur: report on the conservation of building fabric at Port Arthur* (1979), further reports and projects were commissioned, such as the 1980s *Port Arthur conservation and development project*. The *Port Arthur Historic Site management authority conservation plan* (2000) has provided indicators and analysis of the site's state of conservation and these have been incorporated in the *Port Arthur Historic Sites statutory management plan* (2008). A number of structural engineering reports were also prepared in the 1990s. An archaeological survey of Point Puer was undertaken in 1998. The *Conservation capital investment program* (2000–10) is implementing the recommendations from these previous reports and plans. A program of structural assessments was undertaken by conservation engineers between 1994 and 1999. An asset management system is recording all maintenance, capital works, historic records and images, conservation works and cyclical maintenance programming and will provide information for future capital works and funding requirements.

Coal Mines Historic Site

A wide range of reports including an archaeological survey in 1985 have been prepared to provide indicators of the site's state of conservation.⁴³⁴ The conservation management plan for the site has recently been reviewed and conservation recommendations implemented. Conservation capital works program were implemented in 1990 and 2000 to address adverse visitor impacts such as an intrusive road system, car parks too close to heritage features and walking tracks that were eroding the landscape. An asset management system will record all maintenance, capital works, historic records and images, conservation works and cyclical maintenance programming and will provide information for future capital works and funding requirements.

Cockatoo Island Convict Site

Reports on the site's state of conservation of the property include the *Cockatoo Island conservation policy and assessment of buildings* (1988), *Condition of buildings docks plant and equipment* (1992) and *Stone conservation study* (2003). The *Heritage strategy* (2005) identifies mechanisms to ensure the conservation and protection of the heritage values as required under the *Sydney Harbour Federation Trust Act 2001*. As a result of monitoring, a maintenance program is currently being set up as part of a Heritage Inventory Database designed under the terms of the *Environment Protection and Biodiversity Conservation Act 1999*. This will include all relevant heritage data for every building together with results of maintenance and inspection programs undertaken by staff and rangers. Other measures to address conservation issues include regular maintenance and the *Work program 2007–08*.⁴³⁵

Conservation works on convict buildings will commence in 2008 and be largely completed by 2011.

Fremantle Prison

Many reports have been prepared on the conservation of the site. Key reports include the *Building condition assessment* (2001 and 2006) and the *Fremantle Prison heritage precinct master plan* (2003).⁴³⁶ The *Master plan* identifies necessary conservation works and several have been completed such as restoration of the Gatehouse and re-roofing of the south-east section of the Gatehouse.⁴³⁷ The current conservation works program will continue to improve the site's overall condition. The condition of the site is monitored daily by Fremantle Prison management and employees. Urgent repairs and minor works are undertaken as required. Regular building condition assessments are undertaken by qualified building surveyors every two years. The assessments also inform the development of maintenance programs and the preparation of budget requests. They assessment identify the level of priority and estimated value of works necessary to meet the requirements of the conservation policies.



Painting the portico at Old Government House in the 1970s.

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