

*Honouring the past
by securing the future*

Conservation Works Program

Stage 1

**for the conservation and adaptive re-use of the
Quarantine Station**

Final Draft June 2006



Prepared by Mawland Construction Pty Ltd for

QUARANTINE
STATION

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Declaration and approval

This Conservation Works Program (Stage 1) has been prepared to meet the requirements of Conditions 77 to 84 and 111 of the Conditions of Planning Approval for the North Head Quarantine Station.

In preparing and granting approval for this Conservation Works Program (Stage 1) all efforts have been made to comply with the Conditions of Planning Approval and relevant legislation. However, in the event of an inconsistency with this plan and any requirements of the Conditions of Planning Approval or relevant statutes; the Conditions of Planning Approval or the relevant statutes will prevail. Furthermore, the granting approval for this plan does not relieve the co-proponents of the obligation to obtain all other approvals from relevant authorities required under any other legislation.

This plan was prepared by:

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This plan was approved by:

Simon McArthur, General Manager Mawland Hotel Management and Project Director for Q-Station on 2006; and

Tony Fleming, Deputy Director-General, Parks and Wildlife Division on behalf of the Department of Environment and Conservation on 2006; and

Reece McDougall, Executive Director of the Heritage Office Department of Planning on2006.

A copy of the approvals is provided in Appendix A.

Relevant Conditions of Approval

Conditions of Approval	How and where the conditions are met in this Draft
77. Definition of conservation works	Section 1.3 defines conservation works and utilises the definition provided in the Condition 77.
78.a) Stage 1 CWP required for all buildings, structures, landscape elements, including but not limited to those identified in the DACMP and the asbestos sampling and replacement strategy, shall be prepared within six months of the commencement date	<p>Stage 1 CWP covers all buildings, as well as infrastructure, landscape and Aboriginal heritage. Examples of works covered are outlined in Section 1.5.</p> <p>All works contained in the DACMP and not already implemented by the DEC have been transferred into the Works Schedule in Section 7.</p> <p>The asbestos sampling and replacement strategy is located in Section 5.</p> <p>Stage 1 CWP has been prepared prior to the commencement date, and thus is within the stipulated time allocation.</p>
79.a) identification of all conservation works and priorities at a site level. This should identify urgent works (0-1 year), medium term work (1-3 years) and long term work (3-5 years)	<p>The CWP Works Schedule (Section 7) prioritises all works into Urgent, Medium or Long Term.</p> <p>A considerable volume of works are scheduled to occur earlier than the time allocations provided in this CoA, and a very small amount is scheduled to be completed just afterwards. The argument for these changes was provided to the DEC and NSW Heritage Office within a revised Staging Plan, submitted in February 2006.</p>
79.b) identification of all works relevant to ensuring public health and safety for each building or historic item (such as the removal and stabilisation of asbestos materials)	Many works improve public health and safety, such as the removal or sealing of asbestos, removal of lead-based paint as part of the painting program, repair or roads and pathways, repair of decking and windows, stabilisation of embankments, and repair or introduction of new fences, barriers and gates.
79.c) identification of any issues requiring further assessment or research, an approach for addressing this, and a timeframe where appropriate	<p>Most of the research required to implement the CWP Stage 1 was undertaken as part of the preparation of this document. Examples include research into former paint schemes for the external paint scheme (Section 6), research to support monitoring indicator benchmarks and research to support works specifications.</p> <p>Further research to assist with infrastructure and landscape works will form a part of the development / implementation of site wide plans.</p>
79.d) an outline of the methodology, materials and standards to be followed for all maintenance works	Section 3 provides specifications, standards and protocols for conservation and maintenance works.
79.e) identification of any on-going monitoring requirements	Section 2.4 presents 29 indicators proposed to be monitored under the Draft Integrated Monitoring and Adaptive Management System. The indicators address the built, Aboriginal and cultural landscape, as well as the implementation of the CWP Urgent and Medium priority works.
80. Following the approval of Stage 1 of the CWP, the co-proponents shall undertake the urgent and medium term priority conservation works in accordance with the staging plan for the activity, as amended by condition 31	Implementation of this CoA awaits commencement, and will be monitored by the IMAMS and reviewed by the first comprehensive audit.
81. All conservation works, excluding minor maintenance repairs or works (as defined), shall be conducted in accordance with the Conservation Works Program.	Implementation of this CoA awaits commencement, and will be monitored by the nominated heritage consultant, Heritage Advisor and DEC Environment Manager.
82. The co-proponents shall undertake a review of the CWP concurrent with or prior to the first comprehensive audit of the activity	Implementation of this CoA awaits the first comprehensive audit. Commitment to a review is outlined in Section 1.1, as per the CoA.
31.c) 50% ¹ of the Conservation Works Program medium term works shall be completed by the end of Stage 2	The CWP Works Schedule in Section 7 calculates the amount of Urgent and Medium works scheduled for completion per stage of the project, and demonstrates that the Program will meet the quantum of works required by the CoA as adjusted in the revised Staging Plan.
31.e) an approach to sampling and adaptation of the bathrooms in P14-16 shall be prepared during Stage 1	Table 5 of the Sampling Strategy (Section 5 of the CWP Stage 1) proposes retainment of the bathrooms (full sampling) and retention of fabric.

¹ based on 50% of the number of medium term work items listed in the Conservation Works Program.

Relevant Conditions of Approval (cont)

Conditions of Approval	How and where the conditions are met in this Draft
<p>34. The co-proponents shall not commence works associated with Stage 4 of the staging plan until DEC and the Heritage Council are satisfied that a significant proportion of the remaining Conservation Works Program medium term works have been completed during Stage 3. Compliance with this condition shall be determined as follows: [CLAUSE 16.1B]</p> <p>if Stage 4 is not scheduled to commence within 3 years of the commencement date, then 100% of all medium term works must be completed before Stage 4 works may proceed; or</p> <p>if Stage 4 is scheduled to commence within 3 years of the commencement date, then at least 75%² of the total medium term works must be completed before Stage 4 works may proceed. [CLAUSE 16.1]</p>	<p>Implementation of this CoA awaits the completion of Stage 3.</p>

² Based on 75% of the number of medium term work items listed in the Conservation Works Program.

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1. Introduction

1.1 A two-staged program

Condition of Approval 78 (CoA78) for the conservation and adaptive reuse of the Quarantine Station requires a Conservation Works Program (CWP) to be developed in two stages:

Stage 1 (this document) is required to focus on conservation works for buildings, structures and landscape elements, including but not limited to those identified in the Detailed Area Conservation Management Plans (DACMP) and the Asbestos Sampling and Replacement Strategy (**Section 5**).

Stage 2 (a revised version of this document) requires a more comprehensive coverage of all conservation works, informed by the development of Sitewide Plans that include: Interpretation Plan; Visitor Management Plan; Heritage Landscape Management Plan; Inscriptions Management Plan; Infrastructure Control Plan; Moveable Heritage and Resources Plan; Aboriginal Heritage Management Plan.

The approved CWP Stage 1 permits conservation works to be undertaken from commencement. The conservation work for buildings with no adaptation is being approved through this Conservation Works Program. The building conservation works for buildings being adapted are also documented in building submissions for buildings being adapted and requiring a Section 60 approval from the NSW Heritage Office and Construction Assessment Approval Certificate from the Department of Environment and Conservation. In both cases approved drawings always take precedence over text within documents. The landscape works have been derived from a Draft Heritage Landscape Plan that will be submitted for approval shortly after this Program.

The CWP Stage 1 comprises the following components:

General introduction and approach to conservation work on the Quarantine Station (Sections 1 – 2)

Specification notes relating to each trade and conservation activity (Section 3)

Drawings of each building listing the conservation works (Section 4)

Asbestos and Sampling Strategies (Section 5)

External Paint Scheme (Section 6)

CWP Works Schedule – prioritised specific work items for all buildings (Section 7)

The development of the CWP Stage 2 will feature conservation works from Sitewide Plans approved between the completion of CWP 1 and CWP 2. Much of these works will be long term conservation works and a wider range of maintenance tasks. It is also possible that CWP Stage 2 may include additional medium term works identified through the sitewide planning process. The timing of the revision from CWP 1 to CWP 2 is expected to commence concurrent with or prior to the first comprehensive audit (forecast to be 8 to 12 months after commencement in the latter part of Stage 2 (CoA 82). Thereafter the CWP will continue to be reviewed on an annual basis as part of the overall annual environment report (CoA 221).

The review must be undertaken in consultation with DEC and the Heritage Council, and include:

a list of conservation works implemented;

the identification of any additional conservation works required to be undertaken. This must include specific consideration of the condition of all asbestos items and actions required to ensure that public health and safety standards are met. Any works associated with asbestos removal or treatment must be carried out in accordance with the guide lines established in the waste management plan, Section 2.10 Asbestos/Hazardous Waste Management;

information on the amount spent on conservation works (including maintenance works) within the site annually, together with independent verification of expenditures provided by a quantity surveyor. The information should include a breakdown on costs and works undertaken.

Advice must be sought from the relevant Aboriginal community group/s, an appropriately qualified and experienced conservation practitioner and other specialists as required in the review process

1.2 Objectives of the Conservation Works Program

The objectives of the CWP are:

Define the nature and extent of conservation works, distinguishing it from adaptation works

Prioritise the works into urgent, medium and long term categories, and list the works in a schedule that permits the quantum of from each category to be quantified against its timed implementation

Identify works needed to address public health and safety (such as the removal and stabilisation of asbestos materials)

Describe how conservation work will be undertaken, setting standards, specifications or protocols for particular works and indicating suitable materials

Identify any monitoring requirements

Identify any issues requiring further assessment or research, as well as an approach for addressing this, and a timeframe where appropriate

The CWP is not set out as tender documents defining exact extent of work, as this would be too complex and detailed to manage. Each building or major infrastructure or landscape task, or group of common minor tasks, will be treated as a separate works packages.

Applications for adaptation work to buildings have included conservation works packages, allowing the approval authorities to gain a complete view of work to each building. The outcome of this process has been the gradual approval of conservation works outside the submission of the CWP Stage 1. The CWP nonetheless brings all of these components together in one document and will serve as an overarching approval to conduct the works as specified, excluding asbestos removal, major landscape or infrastructure construction work and any other specific item requiring separate environmental or heritage approval by the DEC or Heritage Office.

1.3 Defining conservation works

Conservation works are works essential to retain the cultural significance of a place or item, and are typically undertaken to prevent further deterioration and potential loss of significance. The requirement to undertake conservation works at the North Head Quarantine Station is driven by policies within the Conservation Management Plan (CMP) and Detailed Area Conservation Management Plans (DACMP) for the site. Conservation works are also a fundamental part of the Mawland Proposal for the Quarantine Station, are a fundamental requirement of the Conditions of Approval (see CoA 31 – 34, 68e71g,, 77 – 84, 86, 92c, 95d, 106f, 111, 217d) and are written into the lease for the property.

Conservation works are the works that are essential and necessary to retain the cultural significance of the place. They include works to:

Buildings

Infrastructure (including roads, water, power and sewer)

Landscape (including monuments, cemeteries and inscriptions)

Moveable heritage (including artefacts and archives)

Aboriginal sites (including middens, shelters and the cultural landscape)

CoA 77 provides a broader interpretation of conservation works that includes: environmental management programs (such as erosion, weed and feral animal control); a portion of works to improve visitor access within the site that are considered essential to provide equitable access and to minimise visitor impacts; and a portion of works to improve visitor understanding of the significance of the place. This broader definition will be used in determining the total expenditure on conservation works for the Quarantine Station, required under CoA 82c).

1.4 Former conservation works

As an operating Quarantine Station, the site had regular but not always systematic conservation and maintenance. Material replacements were based on pragmatic maintenance needs, such as roof replacements that removed the predominant corrugated

metal roofing with tiles and corrugated AC sheet in an attempt to minimise long-term maintenance needs. This dramatic change to the character of the place has been one of the most defining in its history and arose due to maintenance considerations.

As a heritage site managed by the Department of Environment and Conservation, a new approach to conservation and maintenance was adopted – one based on the heritage value of the place as documented in conservation management plans. Many buildings and features have had conservation work undertaken, much related to painting directed by detailed research into colour schemes. Some buildings have had no work undertaken since the 1960s and some varying approaches to the same issue. Generally maintenance has been carried out to buildings that have been occupied or which have a direct interpretation role. In the last 20 years the following works have been undertaken on the site (note that this list is not exhaustive):

- painting of timber buildings;
- replacement of some roofs and rainwater systems;
- new floor finishes through a number of buildings;
- stabilisation of the foundations of some Wharf Precinct buildings;
- new stonework to some buildings;
- selected re-pointing of brickwork;
- reconstruction of several key buildings including the autoclaves;
- major conservation of some buildings such as P27;
- general carpentry repairs across the site where elements have failed;
- periodic repairs of services;
- replacement of some verandah floors;
- some electrical upgrades;
- recently a major make safe to electrical systems;
- sewerage system upgrade;
- upgrade of accommodation buildings to accommodate conferences; and
- installation of fire systems.

Inconsistent maintenance of some parts of the Quarantine Station (such as roofs and drainage systems) has contributed to the long-term deterioration of the site more than almost any other action.

1.5 Overview of proposed works

Irrespective of future use and adaptation, all buildings receive conservation works and maintenance to bring them to a standard that will ensure their long-term preservation. The works proposed for this CWP Stage 1 are extensive and comprehensive and reflect current condition, level of significance and use. **Table 1.1** provides some examples of core conservation works for buildings, infrastructure and landscape. In addition is the establishment of monitoring of the condition of cultural and environmental conditions (see **Section 2.4**).

Table 1.1 Examples of core conservation works for buildings, infrastructure and landscape

Element	Examples of conservation work in CWP Stage 1
Buildings	<ul style="list-style-type: none"> ▪ Cleaning to remove salt, sand, grime, mould and lichen ▪ Asbestos removal or sealing ▪ Repairs to joinery, roofs, windows, locks and hardware ▪ Re-pointing of brick and stonework ▪ Works to reduce rising damp ▪ Ensuring that downpipes discharge away from buildings ▪ Cleaning below ground drainage lines ▪ Service plumbing ▪ Termite treatment ▪ Painting of timber and other painted surfaces
Infrastructure	<ul style="list-style-type: none"> ▪ Repairs to Wharf ▪ Repairs to pathways and road edges and sealing of potholes ▪ Upgrading of fire services and safety systems ▪ Repairs to electrical water and sewer reticulation systems ▪ Repairs to fences ▪ Clearing and repair of surface drains, and removing undergrowth from swales and ditches ▪ Installation of boom gates, traffic calming devices, security lighting, road and pedestrian barriers
Landscape	<ul style="list-style-type: none"> ▪ Cutting of grass and vegetation to maintain the Aviation Phase ▪ Installation of swales and replanting to reduce stormwater runoff and erosion ▪ Removal or trimming of coral trees ▪ Trimming and tree surgery for cultural plantings ▪ Cease mowing and allow natural regeneration to increase habitat of long-nosed bandicoots and Eastern Suburbs Banksia Scrub ▪ Bushland Management Program ▪ Regeneration of dunes on Quarantine Beach ▪ Installation of inscriptions barrier ▪ Removal of roots and vegetation damaging inscriptions ▪ Repainting of painted inscriptions
Aboriginal sites	<ul style="list-style-type: none"> ▪ Installation of fences between A14-17 and Cannae Point ▪ Nothing further until direction from the Aboriginal Heritage Plan is provided
Moveable heritage	<ul style="list-style-type: none"> ▪ None until direction from the Moveable Heritage Plan is provided

The conservation works approach to buildings varies depending on each building's proposed significance and use:

Buildings with a high interpretive use that are not subject to adaptation of any form tend to have an emphasis on careful repair in preference to replacement, and working with the existing finishes and fabric so they are conserved in their present form. This work requires approaches that stabilise finishes rather than refinish and generally (apart from structural and severe fabric failure) looks to carefully clean elements and retain them. This work falls under Article 15.1 of the Burra Charter, which requires doing the minimum necessary to ensure that the building or feature is secure and retains its significance³ (ICOMOS Australia 1999).

Buildings with some form of adaptation require surfaces to be refinished, elements or fabric that has failed or deteriorated to be repaired or replaced, and features that are dangerous (such as asbestos products) removed and replaced with a suitable new product.

³ "Change may be necessary to retain cultural significance, but is undesirable where it reduces cultural significance. The amount of change to a place should be guided by the cultural significance of the place and its appropriate interpretation".

1.6 Staging of works

Staging is a method of grouping works and the Mawland Staging Plan for the Quarantine Station goes beyond building works to include the preparation of Site Wide Plans, building applications, new operations and the comprehensive audit. The completion of a stage is regarded as the successful completion of pre-defined works, not the end of a time period. The use of timeframes is an indication of the maximum period of time forecast to be required to achieve successful completion. Works may be completed in a shorter period than the maximum allocated, so as to move to the next stage as soon as possible. The forecast maximum time periods for each stage are: Stage 1 – 4 months; Stage 2 – 8 months; Stage 3 – 6 months; and Stage 4 – 6 months. This equates to a two year period.

The conservation works have been staged in accordance with the Conditions of Approval (31 – 34) and a revised Staging Program was submitted to the NSW Heritage Office and Department of Environment and Conservation in January 2006. The purpose of revising the Staging Program submitted in the Preferred Activity Statement was to:

reflect the adjustments required by the Conditions of Approval 31 – 24;

clarify timing of works that may have had several completion dates within the PAS;

propose minor modifications to the PAS Staging Plan so as to advance the completion of some conservation works, meet OH&S requirements, and correlate conservation to adaptation works;

define the specific month within a stage that works are proposed to be completed; and

define substantial completion of Stages 1 – 2 works, so that a scope of works and timetable for the preparation of the Comprehensive Audit can be developed

The prioritisation of conservation works was undertaken in 2000 (CMP) and 2001 (DACMP) as urgent (0 – 1 year), medium (1 – 3 years) and long term (3 – 5 years). The long term works will be addressed in the CWP Stage 2. Some maintenance works will be introduced in CWP Stage 1, with an expansion in the CWP Stage 2.

There are a number of problems in directly transferring the DACMP priority system into the Conservation Works Program Stage 1:

The CMP and DACMP forecast urgent and medium term conservation works to be complete by 2004, but this has not occurred, with some urgent work and a substantial amount of medium work not started.

It is possible that between 2001 and 2006, some fabric may have further deteriorated without these works or follow up maintenance, or as a result of storm damage and natural wear and tear. This deterioration will continue until conservation works commence.

Some buildings are staged to have adaptation works in a later stage than the urgent and medium term timeframes. Undertaking certain building works over two periods means several intrusions, which increases the risk of impact to the fabric.

It is therefore proposed to:

undertake all urgent and medium term building works to buildings being adapted in Stages 1 – 2;

advance some urgent and medium term building works otherwise scheduled for adaptation in Stages 3 – 4; and

delay some urgent and medium term building works otherwise scheduled for adaptation in Stages 3 – 4.

To ensure that the third strategy does not cause any loss of significance to the buildings in question, the Urgent works have been separated into two categories:

Urgent Stabilisation works (a mixture of urgent, medium term and un-classified work items to prevent further deterioration of important fabric that may otherwise be lost, scheduled for 100% completion within the first 12 months)

Other Urgent Works (the remaining very small proportion of urgent works scheduled for completion by the end of Stage 2 or 3 as per the 2006 revised Staging Program)

The revised Staging Program results in an overall improvement in the quantum of conservation works per stage and at the point of substantial completion of Stage 2 works, in comparison with that forecast in the Preferred Activity Statement (Manidis Roberts Consultants 2002). This improvement is outlined in **Table 1.1**. The CWP Work Schedule (Section 7) provides sub totals for the proportion of 'urgent' and 'medium' term works programmed across the four stages.

Table 1.1 Forecast proportion of urgent and medium conservation work to be undertaken on buildings across the Staging Plan, interpreted from the Work Schedule

Category of building conservation work	End Stage 1	Prior to Audit (substantial completion)	End Stage 2	End Stage 3	End Stage 4
Urgent stabilisation					
Other Urgent	39%	74%	85%	96%	100%
Medium	24%	54%	61%	94%	100%

Figure 1.1 presents a simple depiction of urgent conservation works in Stages 1 – 4 and Figure 1.2 presents the same for Medium works, based on the Works Schedule in Section 7 (which should be used the main source of information).

Figure 1.1 Simple depiction of the implementation of Urgent conservation works to buildings across Stages 1 – 4

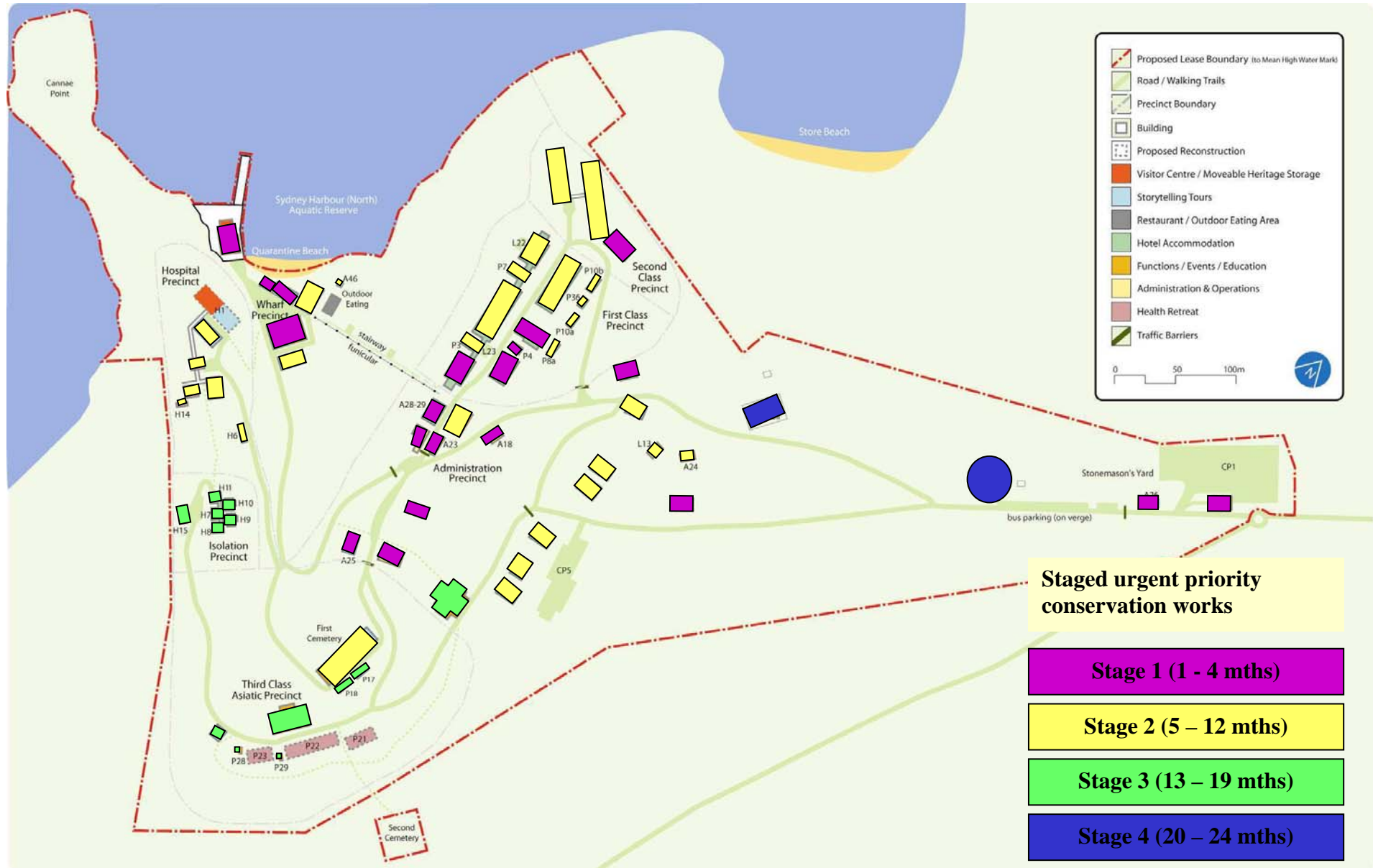
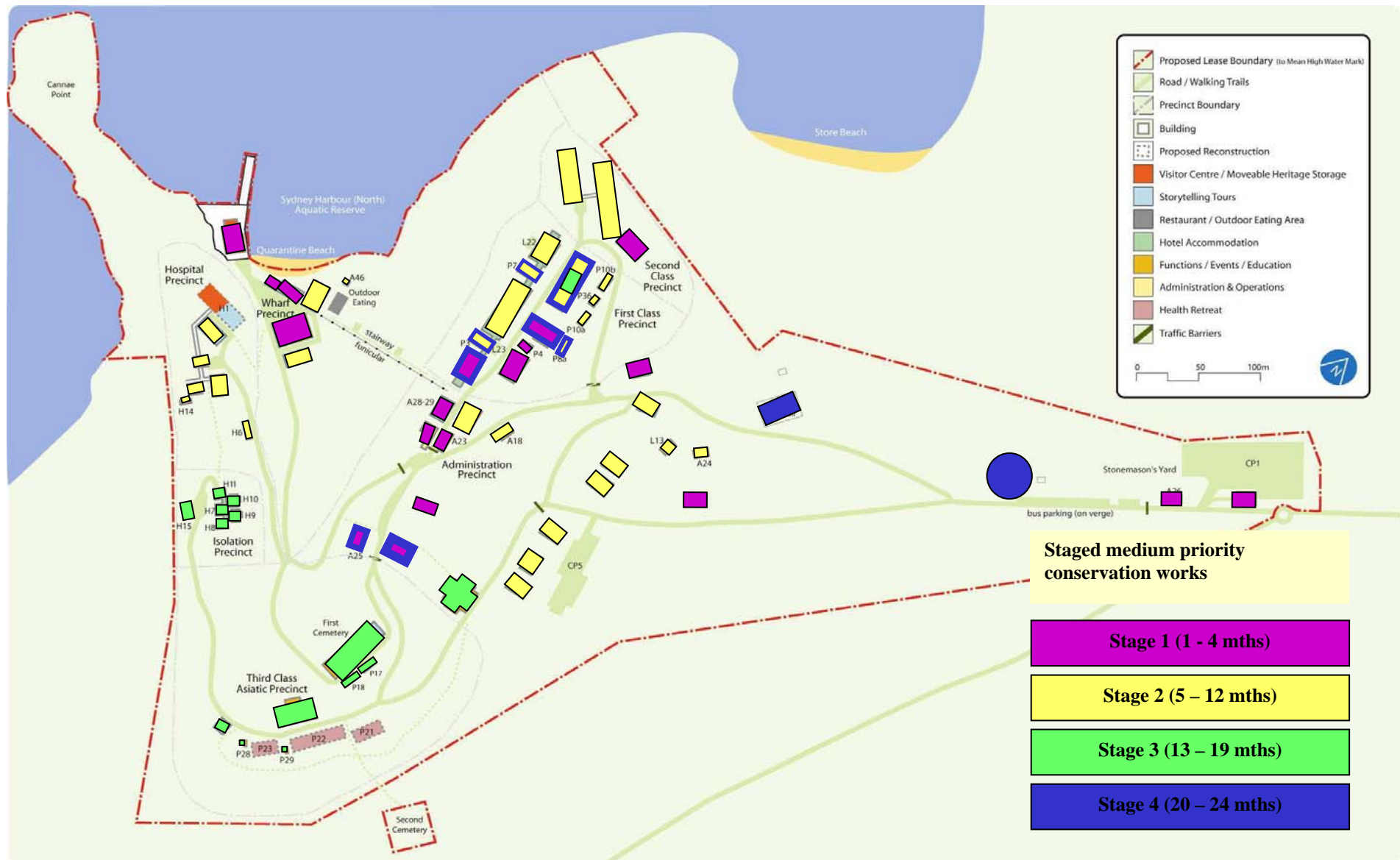


Figure 1.2 Simple depiction of the implementation of Medium conservation works to buildings across Stages 1 – 4

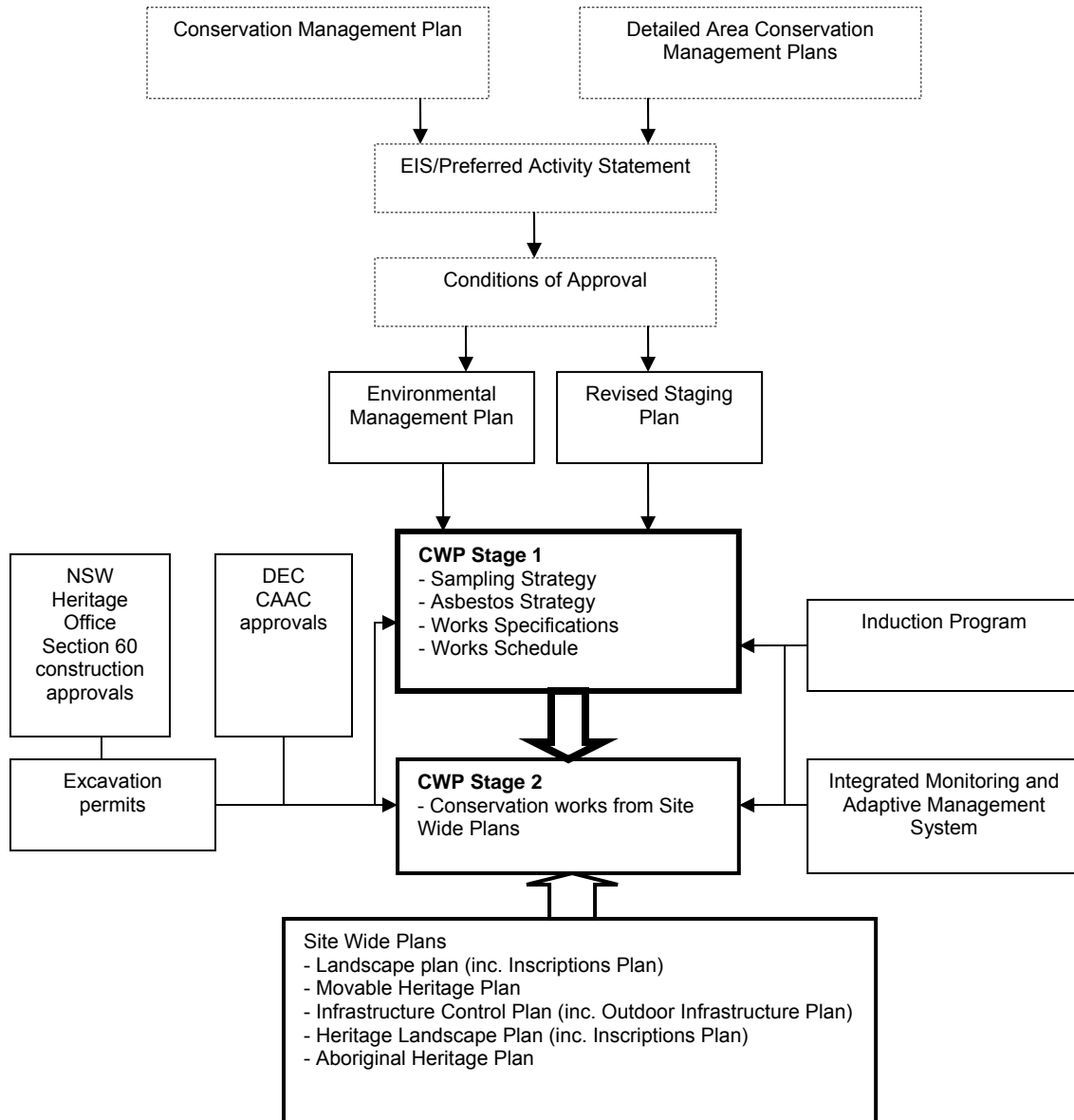


2. Implementing the Program

2.1 Relationship to other plans

The Conditions of Approval require the establishment of a range of site wide plans as well as Section 60 applications to the NSW Heritage Office and Construction Assessment and Approval Certificates (CAAC's) to the DEC. **Figure 2.1** presents these plans and the way they inter-relate with each other.

Figure 2.1 Relationship of approvals and plans to the CWP



2.2 Authorities and site administration

2.2.1 Introduction to major stakeholders

The implementation of this CWP will be undertaken by three distinct set of stakeholders:

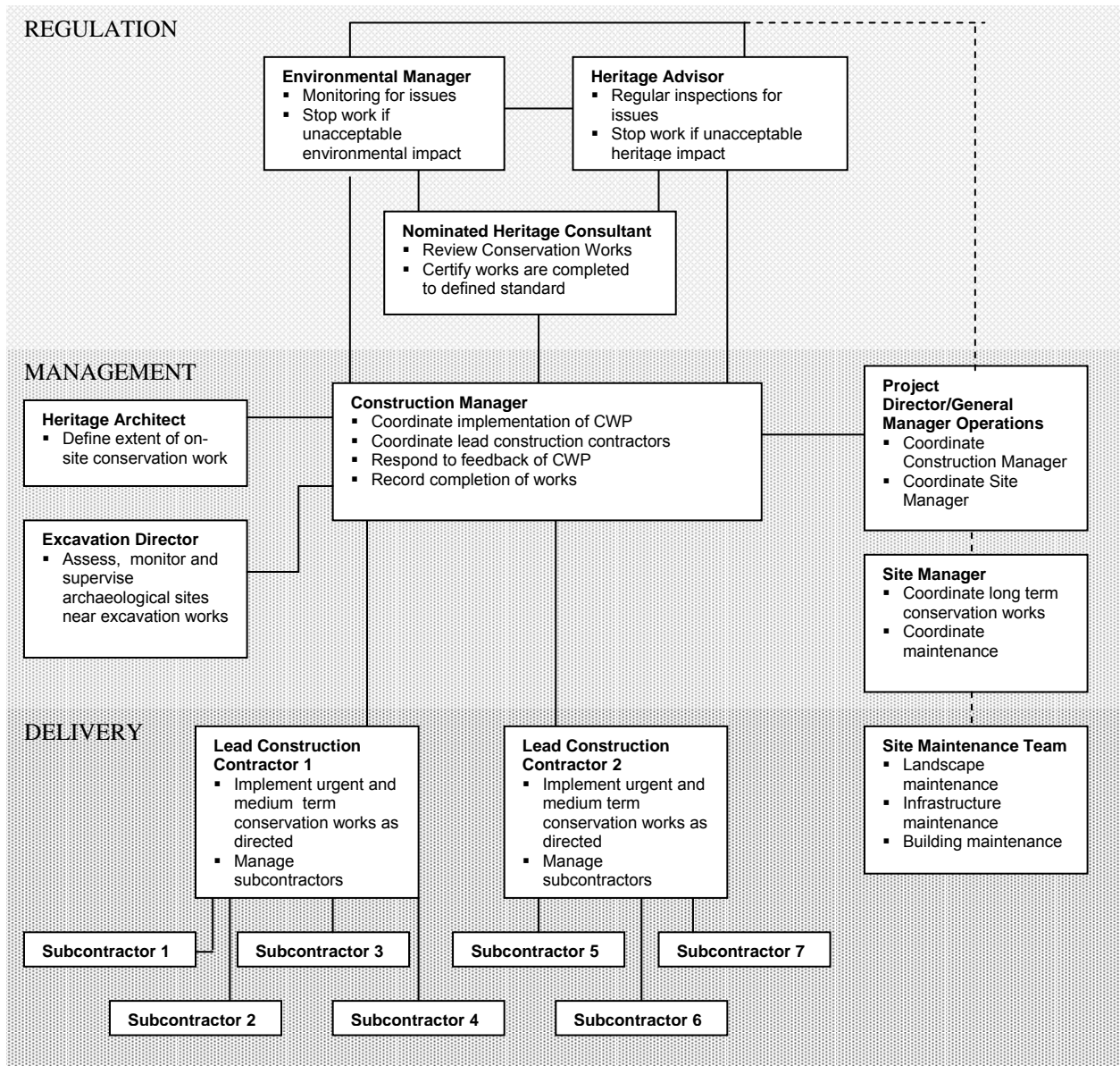
Managers, driven by the Mawland Construction Manager, and supported by the Mawland Project Director, Site Manager, Heritage Architect and Excavation Director

Deliverers, driven by two lead construction contractors and supported by various subcontractors and a site maintenance team

Regulators, driven by the DEC Environment Manager and NSW Heritage Office Heritage Advisor(s) and supported by a nominated heritage consultant

Figure 2.2 presents how each of these stakeholders report to each other and summarises the main roles of each in delivering this CWP. The remainder of this section provides further detail on each of the stakeholders.

Figure 2.2 Conservation works responsibility and reporting chart



2.2.2 Regulatory stakeholders

Environmental Manager

The Conditions of Approval 52 – 53 require an Environmental Manager for the Quarantine Station to be engaged for the duration of the Approval. The position is located within the Department of Environment and Conservation – Parks and Wildlife, one of the two consent authorities for the Conservation Works Program and conservation works. The position includes the responsibility to:

Be available on-site during construction activities;

Immediately advise the co-proponents and approval agencies of any major issues resulting from the undertaking of the activity that have not been dealt with expediently or adequately; and

Have the authority to stop work immediately if an unacceptable impact is likely to occur as a result of the undertaking of the activity, or to require other reasonable steps to be undertaken to avoid or minimise any adverse impacts.

Heritage Advisor

The Conditions of Approval 54 – 55 also require a Heritage Advisor to be appointed for an agreed period. The position is located within the NSW Heritage Office, one of the consent authorities for the Conservation Works Program and conservation works.

The Heritage Advisor shall:

assess applications for construction works with respect to heritage matters and provide advice to the NSW Heritage Council and DEC that includes ensuring that all plans and specifications submitted with applications for construction works are prepared in accordance with the conditions of approval, the requirements of any relevant site-wide plans and Precinct Plans, the QSCMP and DACMP, where applicable;

approve applications, if the NSW Heritage Council delegates this function (as they have to date)

review all site-wide plans prior to lodgement with the relevant approval body to ensure that these are generally in accordance with the QSCMP and DACMP;

undertake regular inspections of works in progress and, where appropriate or as specified by the DACMP, either directly supervise works or require the co-proponents to appoint a suitably qualified person to supervise works;

for the first three years from the commencement date, provide status reports to the Heritage Council and DEC every six months or as required which shall include, but not be limited to: applications for construction works approved and works undertaken to date the next 3-6 months schedule of works, compliance or other issues arising; and

have the authority to stop work immediately if, in the view of the Heritage Adviser, an unacceptable impact is likely to occur, or to require other reasonable steps to be taken to avoid or minimise any adverse impacts with respect to those matters for which a construction application is required or where maintenance work is being conducted.

Nominated Heritage Consultant

To reduce the work load on the Environment Manager and Heritage Advisor, a heritage consultant will be nominated to:

review conservation works at critical stages to ensure they are being undertaken as directed by the approved Conservation Works Program (to agreed workmanship and quality); and

assess completed works and certify that they have been completed to the approved standard, or advise the Construction Manager of correction works to rectify unmet standards.

To fulfil these roles the nominated heritage consultant will work closely with the Construction Manager and provide certified works completion documents to the Environmental Manager and Heritage Advisor, for final approval.

2.2.3 Management of the Conservation Works Program

Management of the Conservation Works Program will be undertaken by Mawland.

Construction Manager

The key stakeholder in this capacity will be the Construction Manager, who will:

coordinate the day to day implementation of the CWP by coordinating lead contractors to undertake the works;

respond to recommendations by the nominated heritage consultant needed to achieve compliance with agreed work standards;
and

record completion of works in the CWP Works Schedule and provide updates of the Schedule to the Environment Manager and Heritage Advisor as requested.

The Construction Manager will report to and be supported by the Project Director. Any feedback or directions from the regulators is to be directed to the Construction Manager, not the deliverers of the CWP.

Project Director

The Project Director coordinates every aspect of construction and conservation works and is ultimately responsible for the conduct of all of the management and delivery team.

Site Manager

During the implementation of the CWP, the operation will appoint a Site Manager, who will be responsible for coordinating long term conservation works (beyond Year 2) and maintaining the site's buildings, infrastructure and landscape. Until this position is appointed, maintenance will be the responsibility of the Construction Manager.

Heritage Architect

The Construction Manager will also be supported by a heritage architect, who will define the extent of conservation works on-site. This will involve transferring the specifications onto buildings, infrastructure and landscape, and advising contractors on appropriate methodology for undertaking conservation works, so that the deliverers (contractors) can be quite clear about what is required.

At the commencement of work for each building, contractors will meet with the heritage architect and the Construction Manager and jointly go over the building defining the extent of work precisely. This will be achieved by detailed marking up of drawings, marking fabric on site showing what is to be replaced or repaired, preparing any additional schedules for hardware etc setting out what will happen to each element, etc. Once the initial buildings have been scheduled a precedent will be established for all future buildings in relation to hardware and other detailed and repetitive elements.

Should additional work be required during the course of the work, the heritage architect will be advised and he/she will establish the extent of that work and whether it fits within the current approval or whether it requires a supplementary approval as new work that was not considered in the approval issued. In this instance the Construction Manager will liaise with the Environment Manager and Heritage Advisor to establish a time-efficient process for considering minor additional works that are outside the scope of approvals to. Major works would be subject to the approval processes already in place.

Excavation Director

In accordance with the Condition of Approval 99A, an Excavation Director will occasionally be required to assess, monitor and supervise archaeological sites near excavation works. This work is guided by NSW Heritage Office Guidelines and the Archaeological Management Plan for the site.

2.2.4 Delivery of the Conservation Works Program

Delivery of the Conservation Works Program will be undertaken by two lead construction contractors, reporting to the Construction Manager. Both contractors will be supported by and report to various subcontractors.

2.3 Environmental commitment and induction program

As part of their contract, contractors will be asked to sign an environmental commitment statement (CoA 61). The Statement seeks commitment to a set of principles and practices designed to minimise impact on the site and maximise responsibility and workmanship quality.

One of the commitments in the Statement is for workers to attend an induction program (CoA 65). Induction training will take place prior to commencement. **Table 2.1** presents the induction modules to be undertaken by conservation workers. The Program will be based on attendance at a training session, where powerpoints will be used to summarise each module. Attendees will be given a booklet with additional detail and asked to sign that they have read and understood its thrust. A record of attendance will be kept by the trainer and made available to the Environment Manager on request.

Table 2.1 Induction Modules required to be undertaken by conservation (construction) workers

Module	Q-Station Construction and Delivery team			
	Construction Manager	Key Building Contractors & Consultants	Construction Workers and sub-contractors	Regular Delivery Drivers
1 The 10 min. express			(<2 days)	(<2days)
1a Express introduction (operations)				
1b Express introduction (construction)	✓*	✓*	✓	✓
2a Detailed introduction (operations team)				
2b Detailed introduction (construction team)	✓*	✓*		
3. Minimal impact behaviour for operations				
4. Access and parking	✓*	✓*	✓	✓
5. Emergency and incident management	✓*	✓*		
6. Environment & heritage management	✓*			
7. Introduction into conservation & adaptation	✓*	✓*	✓	
8. Detailed conservation and adaptation	✓*	✓*		
9. Landscaping and ground works	✓*	✓*	✓	

* Construction Manager and Key Building Contractors & Consultants do all the modules in one day through Module Training pathway

2.4 Principles and pilot testing

Works preference is given to retaining existing fabric insitu where repairs are possible and indicated in the documents. If this is not possible then preference is given to reusing fabric salvaged from the site. If this is not available then new materials should be selected to be in keeping with the high quality of materials on the site and should aim to match the existing materials as closely as possible in appearance and performance.

If the documentation is unclear or if an unexpected site condition arises, no decision is to be made without consulting the Construction Manager, Architect and Environmental Manager.

Another key principle is pilot testing techniques, evaluating and improving. The adaptation of accommodation building P6 is a key pilot and needs to be approved before similar works are applied to other accommodation buildings (CoA 19). This allows both the NSWHO and the DEC to inspect in detail work methods, processes, workmanship etc and to set standards that they consider appropriate. Much of the ongoing work will be addressed through this process and will form part of the ongoing approval process.

2.5 Monitoring

The Integrated Monitoring and Adaptive Management System (IMAMS) proposes a means to monitor the condition of the site and adapt to any undesirable changes as per CoA 216 – 220. The IMAMS proposes to monitor 29 cultural indicators, as listed in **Table 2.2**.

Table 2.2 Proposed headline and specific indicators proposed to ensure cultural heritage is maintained in good condition

Headline indicators	Specific indicators
Building condition	Smoke alarm functionality Roof deterioration Asbestos cement fretting Sandstone pillars Brick mortar requiring re-pointing Moisture entry into internal buildings Functionality of doors and locks Window functionality Termite presence in timber buildings Dry rot in timber verandah posts, balustrades and decking Building exteriors showing loose or damaged sections Cracked or peeling painted wooden surfaces Interior and exterior rusting elements Incidents resulting in damage to historic heritage (accidental or malicious) Implementation of scheduled building-related Conservation Works Program (4 triggers / stages)
Infrastructure condition	Building drains Stormwater drains Ground settlement underneath roads, paths and structures Concrete steps and pathways showing cracking or spalling Road surface and edges alongside historic drains and walls showing no damage Wharf planking and steps firmly fastened and showing no signs of splits, holes or failure
Cultural landscape condition	Clearly differentiated cultural landscape representing the Aviation Phase Fencing that remains structurally stable Culturally planted trees (including coral trees) showing no signs of damage, disease or pests Painted inscriptions showing colour over the majority of painted surface Implementation of scheduled cultural landscape-related Conservation Works Program
Moveable heritage collection condition	Proportion of moveable heritage items that are allocated to high priority conservation treatment
Aboriginal sites condition	Aboriginal sites showing no sign of visitor disturbance Condition of midden in Wharf Precinct

3. Works specifications

3.1 Demolition

Any demolition or removal of fabric is to be carried out with the utmost care due to the sensitive nature of the buildings on site. Many buildings contain asbestos products including roofing, guttering, downpipes, internal wall linings and floor finishes. Refer to drawings and schedules for extent of removal and/or retention of asbestos products.

Removal of Asbestos material is to be done in accordance with Workcover NSW Occupational Health and Safety Regulations 2001. Contractors must be licensed by Workcover.

Soil in the vicinity of A18 and A6 is to be treated as contaminated and the 'Excavation Management Plan – Appendix A should be referred to prior any ground works in these areas.

Lead based paint may be present throughout the site and contractors must exercise caution and carry out works in accordance with Workcover NSW Occupational Health and Safety Regulations 2001. Contractors must be licensed by Workcover.

Demolition work is to be carried out only by hand to ensure that removable and adjacent material is not damaged. Skilled tradesmen are required to carry out the work for the specific removal of material and must give sufficient notice so that inspection may be made of services before disconnection or diversion.

Where ever a cladding material, capping piece or cover sheet is removed for the first time on a building, the works must hold for inspection by the Heritage Architect or Mawland Site Management for approval prior to continued fabric removal. This is to ensure the demolition approach is not adversely affecting any fabric to be retained.

If it is proposed to reuse demolished materials in the works site supervisors are to request site instruction from the Heritage Architect. Where possible, recover without damage materials to be salvaged. Where an item is useful as a reference for matching previous details, store on site until the items have been replicated and then dispose of the salvaged item as directed by the Architect. Allow to dispose of items already stored on site as directed.

If temporary support is required, certification for its design and installation is required from a professional structural engineer engaged by the contractor. Until permanent support is provided, provide temporary support for sections of existing buildings that are to be altered and that normally rely for support on work to be demolished.

Protect adjacent surfaces and finishes during any demolition work.

Establish areas on site to store demolished materials prior to removal, only store material in approved locations.

3.2 Stone repair

3.2.1 Background

The stonework on the buildings is found mostly in foundation walls and piers. The stone varies in condition around the site with the most damage seen in exposed piers where a combination of rising damp and wind action has caused erosion. Walls in some places have suffered from rising damp and some have been faced with cement render.

The work during the development period will be only to replace stones that are severely damaged and are likely to fail over the next few years, as directed by the Heritage Architect. Over time a regular program of stone replacement will be undertaken to address continuing deterioration. Addressing water and drainage issues on the site will assist in reducing future stone deterioration.

Stone repairs are to be carried out in accordance with AS3700: Masonry in Buildings.

Generally Stone Masonry includes all works associated with the following:

Cutting out and removal of decayed stone units for indents, inserts and units to be replaced.

Removal of existing stone units for retention and reuse.

Fixing of new stone replacement units, inserts and indents complete with all associated materials.

3.2.3 Materials

Select stone to match existing. Use only approved sections as directed by the Heritage Architect. Give notice for inspection of stone stored at the yard before delivery to site. If it is proposed to reuse sound matching stone recovered from the works for stone replacement, request site instruction by the Heritage Architect or Mawland Site Management on a stone-by-stone basis. Obtain approval before disposing of damaged stone from the site.

Stonework shall be liable to rejection if damaged or disfigured during the course of the works.

Store stone so that it's protected from the weather, clear of the ground on its natural bed, on supports which do not locally overstress it, and in conditions suitable without staining, marking or damage, and which allow room for slings to be put around units or blocks for future use or movement. Store stone in conditions where the stone will not be subjected to staining, contamination, marking or damage.

Match the mortar mix as closely as possible to the colour, texture, strength and porosity of the original. Provide testing of existing mortar and match existing proportions or follow the table below;

Lime rich mortar and pointing for all stonework	0.5:2:9 (Cement:Lime:Sand)
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Do not use hard cement mortar on stonework and do not provide a mortar mix that is stronger than the existing mix in each building.

Epoxy Repairs: Synthetic resin base and a fine aggregate consisting of washed sand, or a mixture of washed sand and crushed sieved and washed stone, selected and proportioned to match the colour of the adjacent weathered stone without the addition of colouring pigments. Batch by weight and machine mix. Existing joint lines shall be maintained unless otherwise directed. Cutting shall be carried out under supervision of a experienced stone mason.

3.2.4 Preparation and workmanship

Inspections are mandatory – the contractor shall coordinate with the Construction Manager so that stone work may be inspected in the following stages:

All stones to be cut out or removed are to be inspected prior to cutting out or dismantling, to confirm works.

Stones fixed prior to pointing.

Stonework completed.

The Contractor shall allow the Construction Manager access for the duration of the proposed works to inspect the masonry works.

Mortar joints to be repointed (refer to Mortar Joints) and stones to be replaced are indicated on drawings and will be marked on the buildings on site prior to commencement of work on each building. Cleaning out joints using either vacuum suction or compressed air jetting to remove dust and loose debris. Lightly hose out the joint, clean free of foreign material and loose stone, and leave damp for pointing or repointing. Dry joints shall not be repointed. Carry out repair work without disturbing the bed of the original stone. Provide all new joints of a width and appearance exactly matching the original existing joints. Maintain all existing joint lines. All stone is to be thoroughly wetted before pointing.

Backing rods – Provide and insert a closed cell backing rod, or approved similar material, to all vertical joints generally, and where necessary to enable firm insertion of the mix. Backing rods shall be located to provide a full repointing mortar depth of 20mm inside the joint, and shall be capable of assisting the pointing mix to be firmly inserted against it to the full depth of the open joint. Place backing rod in joint under compression.

Where the existing stone has defects that cannot be repaired by redressing or rubbing, cut out the defective stone and replace it with natural stone matching colour, finish and performance characteristics. Where required provide Grade 316 stainless steel dowels to reinforce the stone. The Heritage Architect will provide guidance as to the extent of repair and the resulting joint configuration necessary.

Provide epoxy repairs for sections of stone that cannot be repaired by indenting, or for small patching of stone surfaces as directed by Architect.

Propping and Packing - Use non-staining softwood wedges, supports and spacers or approved equal for propping and packing stone. Metal pinches shall not bear directly on worked faces or no closer than 75mm to worked arrises.

Dismantling and cutting back – Where directed cut out the existing stone and replace it with matching new natural stone units or indents to be provided by others.

3.2.5 Transportation and Refixing

Arrange each stone for handling and transportation to take its own weight without support from adjoining stones, and without damage to the stones. Keep all straps etc. free of arrises etc.

Remove stone wall units indicated in the drawings without damaging exposed faces and arrises, mark for identification and store for refixing.

3.2.6 Bedding and Fixing

Bed and fix all replacement stone units, indents and inserts. After any stone is bedded and adjusted to its correct position it shall be solidly grouted at its back and the joints. No stone shall be fixed against work surfaces which, because of an irregularity or defect may prevent the proper execution or permanency of the masons work. Each stone shall be fixed to take its own weight without support from other stones, unless otherwise specified. In the setting of the stone care shall be taken to ensure that no mortar, either from spillage or from over filling, shall come in contact with the external face of the stone. Non staining softwood wedges soaked in water or laths shall be used for fixing stone. Metal pinches shall not bear directly on stone. Clean stonework progressively as the work proceeds without using acid and without damage to the work, as necessary remove mortar smears, stains, discolouration and the like and leave stone work clean on completion. Mortar stains to be washed off the stone at the end of each days work. On completion, clean away all debris off site etc.

3.3 Mortar joints

3.3.1 Background

The stonework and brickwork to the buildings is generally pointed with lime based mortar which over time erodes under wind and damp conditions. While the buildings vary in construction date, some of the original jointing and pointing has deteriorated and requires re-pointing. The areas of worst repair are where gutters and downpipes are missing from the buildings, on corners exposed to severe wind action or where rising damp has salt affected walls and piers.

Each building has differing requirements but generally the techniques for repair are the same or similar across the site.

3.3.2 Materials

Admixtures:	To AS 3700 clause 10.4.2.4.
Masonry cement:	To AS 1316.
General purpose cement:	To AS 3972.
Sand:	To be fine aggregate with low clay content and free from efflorescing salts, selected for colour and grading.
Lime:	To be in the form of slaked lime putty, a dry hydrate of lime to AS/NZS1672.1 and water that has stood for ≥ 24 hours without drying out.
Water:	To be clean and free from any deleterious matter.
White cement:	To have iron salts content $\leq 1\%$.
Colour:	To match existing – select sand, cement and colouring to achieve colour match
Proportions:	Provide testing of existing mortar and match existing proportions or follow the table below;

Lime rich mortar and pointing for all stonework	0.5:2:9 (Cement:Lime:Sand)
Lime rich mortar and pointing for brickwork dating from pre-1920	1:3:9 (Cement:Lime:Sand)
Lime rich mortar and pointing for brickwork dating post-1920	1:1:6 (Cement:Lime:Sand)

General: Measure volumes accurately to achieve the specified proportions. Machine mix for at least six minutes. Do not provide a mortar mix that is stronger than the existing mix in each building.

3.3.3 Preparation and workmanship

Joints to be re-pointed are to be raked out, cleaned and blown out to remove loose material to a point where a sound base is achieved. Some joints are deeply eroded and removal of soft material at depth is not required.

Mortar is to be mixed immediately prior to use and not re-mixed. Where the existing mortar includes shell grit and impurities introduce sand of matching consistency for the new mortar. Prepare a sample on each building to be repaired in a discrete location to check colour and mix suitability. Leave for several days prior to inspection to ascertain the suitability of the mix prior to proceeding to undertake the work. Do not repoint until approval has been given by the Heritage Architect or Mawland Site Management for the mix to be used on each building.

The bricks should be wetted prior to pointing and the mortar worked into the joint firmly. If required mask edges to brickwork to prevent mortar overspill. On completion the brick face is to be washed and cleaned with water to remove any excess mortar material.

Joints are to be finished to match the joint finish on the particular building or specific location. Joint types across the buildings vary with a number having struck or weather struck finish with single or double lining. Areas of deep joint failure may require the use of backing rod, particularly in stonework where whole joints are missing.

Areas to be replaced are indicated on drawings and will be marked on the buildings on site prior to commencement of work on each building. Generally replace only areas of joints that require replacement. Do not rake out areas of sound joints. Do not undertake small patches across an area leaving the wall with a patchwork effect on completion.

3.4 Termite control management

3.4.1 Background

Termites can cause major destruction to a building and in some cases have caused major damage to the buildings on site. Some buildings have been damaged due to poor management and maintenance. The aim is to develop a program of management and maintenance to prevent further damage without the use of chemical barriers.

3.4.2 Preparation and workmanship

Termite control is to be undertaken with care and should be in accordance with the policies set out by DEC Parks and Wildlife.

A system of routine inspection and monitoring is to be established across the site and carried out at regular intervals. Any infestations are to be treated promptly and a record of termite activity on the site is to be maintained.

Non – chemical barriers, where appropriate to use on new works or existing buildings include:

Termite Cap and Strip Shields to AS 3660.2

Woven Stainless Steel Mesh Barriers to AS 3660.2

Graded Stone Particles Barriers to AS 3660.2

New barriers should be inserted to replace any missing or deteriorated barriers to existing buildings. Barriers should be checked regularly and maintained to ensure their effectiveness. Upon completion of any building where termite remediation work has occurred, contractors are required to seek approval from the Heritage Architect or Mawland Site Management that sufficient measures have taken place.

3.4.3 Restriction

Chemical soil barriers are not to be used on site

3.5 Carpentry and joinery repairs

3.5.1 Background

The buildings require a range of carpentry and joinery repairs externally and internally. Some areas of timberwork have failed or partially failed due to irregular painting, long-term failure of timber elements, high levels of exposure, and poor selection of timber

species for repair work. Areas requiring repair in each building are set out in general terms on the building plans and in the CWP works schedule. Site instructions will provide sufficient detail about the extent of repair in each circumstance and the requirement for approval points depending on the specific scope and nature of each work item.

The following notes are the broad guidelines for repair work. This specification note refers to all timber repairs including all framing, decking, flooring, internal lining and external cladding, windows, doors and joinery items.

3.5.2 Materials

For replacement timbers, comply with the DEC Parks and Wildlife Division's "Use of Raw Materials Policy".

Timber species sourced from unsustainable logging of foreign rainforests or from unsustainable Australian sources are not to be used in the works.

Long term sustainability is enhanced by naturally durable timbers that reduce the requirement for replacement. Timbers of high durability are thus to be preferred.

DEC policy: Due to the ecological sensitivity of the site, do not provide chemically treated timbers.

Do not provide timbers containing Lyctus susceptible sapwood.

Use seasoned timbers only in all circumstances. Use timbers appropriate to the location and exposure. All new timbers are to be of high feature grade if available for the species selected, otherwise Select Grade. Do not use plantation softwoods for structural or exposed work. Do not re-use damaged timber in repairs.

Store new timber on site undercover, racked, square and flat prior to installation. Allow all timbers to acclimatise to the in-service conditions for a minimum period of two weeks with air circulation to all surfaces. Protect timber and timber products stored on site from moisture and weather. For milled, prefinished, prefabricated and similar elements which are protected in the completed structure, provide temporary weather protection until the permanent covering is in place.

Patching and repair work in timber requires the repair material to closely match the original timber properties particularly its moisture content, movement and evaporation properties. Density, strength, durability and grain matching is required for certain situations. Where the timbers are exposed to view the repair timber must be carefully selected to match the colour and characteristics of the original material.

Generally repairs should be carried out in "like for like" materials that match the species and properties. As some of the original timbers used in these buildings are either no longer available as new timbers or may no longer be available at the same quality as the original, preference should be given to using recycled timbers of close matching species where available. Where this is not available the timber selection nearest matching the required properties are to be submitted for approval by the Heritage Architect before use.

Some recovered material has been assembled following recent building fires that may prove suitable for use in patching and repair work of similar elements on other buildings around the site. This timber is well seasoned and of appropriate species and types to undertake small repairs. Base requirements for recycled and new replacement timbers as follows:

Framing and veranda decking: hardwoods – Turpentine, Tallowwood (high value uses eg, external stairs, decking) Spotted Gum, Ironbarks; softwoods - White Cypress, Radiate Pine (not CCA treated)

Floor joists and bearers: hardwoods – Blackbutt, Spotted Gum, Sydney Blue Gum, Flodded Gum; softwoods – Radiate Pine (if termites or damp not an issue); LOSP treated timbers.

External weather boards & soft linings: hardwoods – radially sawn re-growth Eucalypts, Blackbutt, Sydney Blue Gum, Messmate, Spotted Gum; softwoods – WRC (plantation), Radiata Pine, Hoop Pine.

Exterior window and door joinery: hardwoods – Alpine Ash; softwoods – WRC, Hoop Pine, Kauri Pine.

Window sills: hardwoods – Spotted Gum, recycled Tallowwood, Ironbark, and Turpentine.

Internal wall and ceiling claddings: softwoods – Pines, Radiata/Slash/Hoop (all plantation grown), Cypress.

Internal flooring: hardwoods – Blackbutt, Spotted Gum, Sydney Blue Gum, Messmate; softwoods – Cypress pine.

Repairs may need to source Baltic or Kauri pine, preferable to use second-hand, recycled or from known forest source.

3.5.3 Preparation and workmanship

Generally

All work is to be carried out to high standards of workmanship. Repairs are to be accurate, well matched, and fixed using sound methods. Repair work is to retain as much original fabric as possible while providing for sound work. Cut out and patch in preference to replacing whole sections or elements. Remove rusted elements and fixings where damage is evident and cut back any areas of damaged timber. Prime ends and concealed faces of all timber prior to fixing. Match existing profiles accurately.

Whilst modern techniques may be used in undertaking repair or replacement work to cut and prepare joints, all joints should be constructed using traditional methods including mortice and tenon connections and scribed detailing. Generally do not use silicone sealants for any purpose in timber repairs. Avoid the use of nail guns on repair work.

3.5.4 Repair techniques

Reference

The NSW Heritage Office Information Sheets 5.2 "Timber Repairs" and 5.4 "Repair of Tongue and Groove Floorboards" have been appended as additional information to be considered in any timber repair.

Small Repairs

Undertake small spot repairs by either epoxy filling or by inserting a small timber patch. Cut out the damaged section of timber to sound material on all sides. In the case of fungal damage treat the affected area with an approved anti-fungal agent such as Boracol 200RH.

If a timber patch is to be inserted cut out a neat shape, smooth and match the contact surfaces and fix a patch by gluing and/or screwing with countersunk stainless steel screws. Ensure that the grain in the patch runs in the same direction as the original. Ensure adhesives are suitable for the situation. Fit neatly and plane to shape. Sand to an even finish.

For epoxy repair after removal of damaged material (depending on the depth of the repair) fix stainless steel wire or fixings to reinforce the repair and fill using a proprietary epoxy based wood filler such as "Bostik Bog" or The Rot Doctor's "Fill-it Epoxy Filler" or Bote Cote Epoxy fillers or similar. Sand to a flush finish. Do not use epoxy repairs in areas of high water exposure and obtain structural advice before using in structural members.

Scarfig

Use galvanised or stainless steel fixings when splicing two pieces together; do not use unprotected steel fixings. Where material is to be scarfed new work should be halved or spliced depending on the location of the repair to achieve a structurally sound joint. Ensure the members are close and neat and use sloping splice cuts to create a larger surface for fixing. Use countersunk fixings and conceal with filler for painting. Fix the joint using glue or stainless steel fixings that are not exposed, as appropriate for the proposed use. Match all profiles in dimension, surface and edge finishes. Once completed the repair should not be discernable upon completion of painting.

Replacement

Where whole elements are to be replaced they should match exactly the profile, finish and form of the earlier element. Details such as arrisded edges, stop chamfers should be transferred and should match the original exactly. Other decorative elements such as beading, bases, mouldings and capitals should also match the original or existing exactly. Hand finish if required to match the existing.

3.5.6 Building elements

Verandah Floors

Many of the verandah floors have been replaced, some several times, and show evidence of damage. Much of the damage relates to lack of a suitable finish on the timber and the exposure of the edges of verandahs to water where gutters or downpipes have failed and not been repaired. A range of repairs is required around the buildings including whole and partial replacement, re-nailing and refinishing. Generally undertake the minimum amount of work necessary to achieve the repair.

In cases where the verandah is damaged along a continuous edge, cut back the boards to sound material and stagger the joints over joist lines. Replace the outer edge with boards that match the existing profiles and characteristics of the original boards.

Shape boards to match existing nosing profiles. Provide nosing fillet under boards where evidence shows this was the original configuration. Make allowances for expansion in tongue and groove decking.

In cases where individual boards are to be replaced, carefully remove the damaged sections with minimal disturbances of the sound boards adjacent. Cut out only the damaged section to the nearest joist. All repairs should span at least two joints, and adjacent joints should be staggered to the next joist. Match the existing spacing between the boards.

In cases of tongue and groove flooring extra care is necessary to protect the tongues of the boards around the damaged section. Refer to the attached Information Sheet 5.4 for details on replacing strips of flooring without removing boards in the cases of minor damage, and low impact ways of replacing damaged boards.

Renail floors as required and punch and fill nail holes. Where nails are raised punch existing nails and fill. Where verandah floors have lifted or cupped it may be necessary to remove boards and relay to alleviate selling in the boards. If required and after inspection only light sand badly cupped verandah floors prior to applying a new finish.

Finish decking as specified in floor sanding and finishing.

Bituminous coating to verandahs

Some of the verandah decks have bituminous coatings as weatherproofing. These coatings have cracked and failed with age. The bitumen coating is thermally infused into fibrous matting.

In the cases where the bituminous covering is to be repaired, trim the failed areas to provide a flat substrate for repairs. Use proprietary bituminous putty such as Adjuvate "Blakjack" to patch the failed areas and provide a smooth finish with all cracks repaired.

In the cases where removal is required, scrape off the failed bituminous coating by mechanical means using hand tools and scrapers, not using powered machinery, grinders, heating equipment, blasters or the like. Take care not to damage the boards underneath the coating during removal. Make any repairs necessary to the flooring, remove any projecting fixings, punch exposed nails below the surface and sand the decking to remove the remnants of the bitumen coating. Prepare the decking for finishes as specified in Floor Sanding and Finishing.

If the bituminous coating is to be replaced use a proprietary product such as Polyglass "Polybond" or "Elastobond" torch applied bituminous membranes. Follow manufacturer's instructions.

Internal Flooring

Repairs to internal tongue and groove flooring will require great care to protect the tongues of the boards around the damaged section. Refer to the attached Information Sheet 5.4 for details on replacing strips of flooring without removing boards in the cases of minor damage, and low impact ways of replacing damaged boards.

Floorboards should be replaced in continuous lengths to span at least two joists. They should be fixed using galvanised bullet head nails. Drill holes before nailing to prevent splitting boards. Do not glue or secret fix new boards. Where consecutive boards require replacement, stagger joints.

Prepare flooring for finishes as specified in Floor Sanding and Finishing.

External timber cladding repairs

Replace damaged external cladding to buildings using matching profile timber boarding. Traditional profiles are likely not to be available as stock items and exact profiles may require a special run. Second hand boards or boards salvaged from other buildings on the site may be available in the same profiles. Measure and order sufficient replacement boarding of each boarding type and store on the site.

Remove damaged or deteriorated boards without damaging adjacent boarding. Insert replacement boards and fix with stainless steel or galvanised nails. Replacement boards will not be able to be secret nailed and so should be punched below the surface and filled before painting. Boards should be replaced in continuous lengths to span at least two studs. Where consecutive boards require replacement, stagger joints. Apply two coats of primer to end grain and one coat of primer to the backs of boards before fixing. Seal all joints.

Provide trims around the buildings to matching profiles and material. Shape to purpose in each location. In external corners the general policy is not to reinstate original timber stop beads if a corner cover strip has been introduced.

Lightly sand and prepare substrate for finishes in accordance with the Painting Schedule and as specified in Painting.

Internal linings and soffits

The internal linings are to be treated in accordance with the external cladding repairs with the additional requirement that the internal boards are predominantly tongue and groove. As such there will be some similarities in repairing internal timber walling and tongue and groove flooring. Refer to Information Sheet 5.4 (attached) for ideas on how to minimise intervention for smaller repairs.

When replacing damaged or missing linings, match the existing in profile and dimension exactly. For example do not replace 3mm beaded boards with contemporary beaded boards that have a larger bead, and match the widths of the boards. Do not use modern sheeting that mimics boarded linings.

Lining boards should be replaced in continuous lengths to span at least two studs or rafters. They should be fixed using galvanised bullet head nails punched below the surface and filled. Drill holes before nailing to prevent splitting boards. Do not glue or secret fix new boards. Where consecutive boards require replacement, stagger joins.

External Framing

In the event that after the removal of damaged boards or decking investigation shows that the framing members are damaged the following repairs may be required.

Bearers – rectify the cause of bearer failure first, e.g. if stumps have settled, bearers may have dropped or may not be bearing directly on stumps. Restumping and levelling may be necessary before repairing bearers. Often packing can be placed under bearers to level them.

Joists – to extend the life of joists it may be possible to turn damaged ones over and fix the floorboards into the undamaged face. In the case of damage by rot, follow the repair methods described above.

Verandah posts - Many of the posts have been scarfed at their base to replace damaged timberwork. Most work is of poor quality. New work will be to either replace inappropriate work or to replace damaged original post bases. Modern timber sizes vary from those found in earlier timber, so when replacing or repairing posts timber will need to be dressed down from a larger size.

Door Repairs

Doors sticking or ill-fitting

The most common repair on site is for doors that have moved over time either in the frame, in the hinges or in the door itself and no longer close properly or stick against the frame. In these cases begin by easing the door insitu by tightening loose parts, minor adjustments and chiselling of frame or door in order to allow the door to operate.

If this will not achieve the objective then remove the door and plane the edges, repair damaged or loose fitting hinges, adjust hinge positions, pack and adjust the frame until the door can be fitted in working order.

Glass breakage

Minor cracking is not to be replaced. More severe cracking will require replacement. The door will need to be removed to enable the repair. When removing the broken pane carefully scrape back the old and hardened putty taking care not to gouge the glazing bars or door frame. Remove the glass and replace with new float glass of matching thickness. Refit with glazing putty, allow to cure and then paint. Refit door in opening.

Undercutting

Where new carpet is to be installed on a floor where the doors are flush and open inwards then the bottom of the doors will need to be undercut to open across the carpet. Do not install the underlay in the zone of the door swing so as to minimise the thickness of the carpet layer. Undercut the doors no more than 10mm. Provide a 10x40mm timber strip (matching the threshold material) located underneath the door in the closed position to operate as a draft excluder.

Loose door joints

If the framing of the door has become loose or the joints have failed but the door is otherwise intact then remove the door for repairs. Inspect the failure for damage to the tenons, splitting of the frame or failure of the mortice. Address each failure by gluing

and cramping the frame so that it regains its structural integrity. Use stainless countersunk screws, false tongues, concealed metal plates and timber wedges if necessary. Refit the door into the opening and prepare for finishes as scheduled.

Rot or other material damage

The thresholds are the most likely element to be suffering from rot. As a first response identify the source of water penetration and determine if it can be rectified. Preference should be given to epoxy repairs of thresholds in situ. If timber patching is considered ensure that the joint is designed to allow water to escape and does not encourage water to pool in the joint. Only cut out and replace timber thresholds as a last resort.

Some doors and architraves will require replacement material in the case where the timber has failed. The extent of the repair should be submitted for approval in each case. Where rot is localised the damage should be cut out for an epoxy repair or timber patch. Scarf in new material where the ends of a framing member are rotted (see above and reference to Information Sheet 5.2 attached).

Joinery is an important part of the significance of the buildings. Ensure that existing joinery profiles are matched exactly in all repairs and replacement material. All replacement joints are to be constructed using traditional methods including mortice and tenon connections and scribed detailing.

Panelled Doors

The door stiles and the sides of the door frame are the most likely elements to require scarfing. The bottom rail of the bottom sash is the most likely member to require replacement. Glazing bars in French doors may also require scarfing repairs. Ensure that the jointing technique matches the original exactly. Particular care should be taken to ensure that the glazing bar is of sufficient strength for its use after repairs are completed.

Ledged, framed and braced doors

The door stiles and the vertical battens may all suffer from damp at the base of the door. If the bottom ledge is intact then cut back the battens and replace them with matching timber battens with aligned and matching beading. Note that the battens are tongue and groove in most cases and care needs to be taken not to damage the tongues. Ensure that the joints are neatly butted and sanded smooth to avoid a horizontal line across the bottom of the door. Ledged doors are meant to have an exposed top rail and a concealed bottom ledge. Do not introduce an exposed bottom rail. Ensure that the bottom ledge / stile joint matches the existing.

If the damage extends beyond the bottom ledge then a false ledge may need to be introduced to support the joint in the battens at the point where sound material is available. In this case splicing would be required for the bracing and the stiles, and the bottom ledge would need to be replaced.

Door replacement

Door and door frame replacement is a last resort option for doors that cannot be effectively repaired. When replacing doors ensure that the construction matches the original in detail. In these cases a suitable replacement timber may be used.

Reinstalling doors and frames

Install doors so that they are plumb, level, straight and true within acceptable building tolerances, and so their frames are fixed or anchored to the building structure in conformance with the loading requirements of use. Ensure that doors will not carry any building loads including loads caused by structural deflection or shortening, and allow for thermal movement. Ensure moving parts operate freely and smoothly for their desired function, without binding or sticking and are lubricated. Where existing frames and doors are out of level or alignment, correct the deficiency only where feasible.

Install flashings, weather bars, drips, storm moulds, caulking and pointing so that water is prevented from penetrating the building between the door frame and the building structure under the prevailing service conditions, including normal structural movement of the building. Conceal fasteners and pack behind fixing points with durable full width packing. Make accurately fitted tight joints so that neither fasteners nor fixing devices such as pins, screws, adhesives and pressure indentations are visible on exposed surfaces. If priming is recommended, prime surfaces in contact with jointing materials. Prime the top and bottom of door leaves before installation.

Window Repairs

Sash cord replacement

Normal maintenance for double hung windows will require the replacement of all sash cords throughout the site, as all have not been replaced for some time. In practice this will be done on an as needs basis for the most damaged windows and can be incrementally carried out across the site. Double hung windows were designed so that the stop beads and parting beads are sacrificial and are to be replaced each time the sash cords are replaced. New beads should match the existing profiles and sizes of the existing beads.

The process of replacing sash cords begins with removing the side internal stop beads (salvaging for reuse if possible), then pin the internal sash cord so that the sash weight does not drop, and cut the internal sash cord and remove the bottom sash. Remove the sash cord from the sash. Then remove the side parting bead (which should only be wedged into the parting groove – salvage if possible) and pin the upper sash cord before cutting and removing the upper sash. Once again remove the remnant sash cord.

Check the sash pulley operation and repair if necessary. Tie string to the sash cords, unpin them and gently lower the sash weights till they are at rest. Remove the fitted pocket in the window frame to expose the sash weights. Untie the sash cords and ensure the string remains threaded through the pulley. Tie new sash cords to the sash weights and tie the new cords to the string. Pull the string back through the sash weight until the sash cord comes through the pulley. Refit the fitted pocket into the frame.

Reattach the upper sash to the sash cord and nail into the groove in the sides of the sash. Ensure that the sash is fitted plumb in the opening and that the sash cord is long enough for the sash to move the length of the opening. Fit the new or salvaged parting bead into the frame. Refit the lower sash as per the upper sash. Fit new or salvaged stop bead. Prime all new material and paint in accordance with the Paint Schedule.

Putty failure

One of the most common repairs on the site is putty failure. This repair should be done in situ unless the position of the window makes this impracticable. Scrape away the failed putty taking care not to gouge the glazing bars or sash frames. Retain any sound putty that resists being removed. Apply oil based window putty and tool to match existing. Allow to cure and then paint.

Glass breakage

Minor cracking is not to be replaced. More severe cracking will require replacement. The sash will need to be removed to enable the repair. When removing the broken pane carefully scrape back the old and hardened window putty taking care not to gouge the glazing bars or sash frame. Remove the glass and replace with new float glass of matching thickness. Refit with glazing putty, allow to cure and then paint. Refit sash in opening.

All carpentry repairs are to give priority to repair methods that do not damage intact early glass panes.

Loose sash joints

If the framing of the sash has become loose or the joints have failed but the sash is otherwise intact then remove the sash for repairs. Inspect the failure for damage to the tenons, splitting of the frame or failure of the mortice. Address each failure by gluing and cramping the frame so that it regains its structural integrity. Use stainless countersunk screws, false tongues, concealed metal plates and timber wedges if necessary. Refit the sash into the opening and prepare for finishes as scheduled.

Rot or other material damage

The sills are the most likely element to be suffering from rot in locations where the paint has failed. The sills were often a more durable species than the remainder of the window. Preference should be given to epoxy repairs of sills in situ. If timber patching is considered ensure that the joint is designed to allow water to escape and does not encourage water to pool in the joint. Ensure that any repairs do not break the sill's waterproofing integrity. If sills have split then glue and screw them and cramp them insitu. Only cut out and replace timber sills as a last resort.

Some sashes and/or their associated trims will require replacement material in the case where the timber has failed. The extent of the repair should be submitted for approval in each case. Where rot is localised the damage should be cut out for an epoxy repair or timber patch. Scarf in new material where the ends of a framing member are rotted (see above and reference to Information Sheet 5.2 attached). The sash stiles and the sides of the frame and architrave are the most likely elements to require scarfing. The bottom rail of the bottom sash is the most likely member to require replacement. Glazing bars may also require scarfing

repairs. Ensure that the jointing technique matches the original exactly. Particular care should be taken to ensure that the glazing bar is of sufficient strength for its use after repairs are completed.

Joinery is an important part of the significance of the buildings. Ensure that existing joinery profiles are matched exactly in all repairs and replacement material. Architraves and trims should be run to match existing profiles exactly. All replacement joints are to be constructed using traditional methods including mortice and tenon connections and scribed detailing. Sash weights will require rebalancing with lead washers where sashes are repaired, replaced or where there has been additional weight generated by the introduction of thicker or different types of glass.

Replacement sashes

Sash or window frame replacement is a last resort option for windows that cannot be effectively repaired. When replacing sashes ensure that the construction matches the original in detail. In these cases a suitable replacement timber may be used.

Reinstalling sashes and frames

Install windows so that the frames are plumb, level, straight and true within acceptable building tolerances, and are fixed or anchored to the building structure in conformance with the wind loading requirements. Ensure that windows will not carry any building loads including loads caused by structural deflection or shortening, and allow for thermal movement. Ensure moving parts operate freely and smoothly for their desired function, without binding or sticking, at correct tensions or operating forces and are lubricated.

Install flashings, weather bars, drips, storm moulds, caulking and pointing so that water is prevented from penetrating the building between the window frame and the building structure under the prevailing service conditions, including normal structural movement of the building. Conceal fasteners and pack behind fixing points with durable full width packing. Make accurately fitted tight joints so that neither fasteners nor fixing devices such as pins, screws, adhesives and pressure indentations are visible on exposed surfaces. If priming is recommended, prime surfaces in contact with jointing materials.

Gable Louvres

Remove damaged elements and insert new matching elements to match timber type and profile. Paint each timber section with primer and undercoat prior to installation and assembly. Follow notes above for repairs to frames.

Provide required flashings in lead where the roof is galvanised, ceramic tile or asbestos cement sheeting, or match the roofing material when the roof is zincalume / colourbond. Use galvanised or stainless steel fixings and glue fix joints. Provide a stainless steel mesh to the rear of louvre panels to prevent vermin entry.

3.6 Door and window hardware

3.6.1 Background

New hardware is applied where necessary to satisfy current standards. This is not directly in accordance with the policy as in some cases operational door hardware will be replaced with compliant latching devices. This is a BCA requirement to satisfy emergency egress provisions as stated in the Sampling Strategy CPP16.12.4. Inspect all hardware and make operable where required with the following exceptions:

Where existing hardware is redundant and not significant remove for disposal and make good surfaces and finishes, as per the Sampling Strategy.

Where hardware is redundant but significant make hardware inoperable by means of fixings, glue or by the mechanism itself. Clean the hardware item, as per the Sampling Strategy.

Where original hardware is missing or damaged beyond repair provide approved substitute to match existing examples. If original finish is unavailable provide item in satin chrome or satin stainless steel, as per the Sampling Strategy.

Where regulations require new locks or other hardware devices provide selections for approval, as per the Sampling Strategy.

Detailed hardware schedules will be prepared for each building at the commencement of works on that building in conjunction with the Heritage Architect who is required to approve the schedule prior to works taking place.

3.6.2 Materials

Provide hardware of sufficient strength and quality to perform its function, appropriate to the intended conditions of use, suitable for use with associated hardware, and fabricated with fixed parts firmly joined. All new locks are to be to AS4145.2 & 3.

Before supply, verify on site, the correct handing of hardware items.

Submit the warranties offered by the manufacturer for the hardware items provided in the works. Submit a schedule, prepared by the door hardware supplier, showing the approved door hardware selections.

Match hinges to existing types, sizes and materials. If no similar hinges are available use stainless steel hinges. Fix all hinges with slotted screws. Provide 3 hinges for leaves between 2040mm and 2340mm high, and 4 for door leaves between 2340mm and 3050mm high. Door leaves not exceeding 2040mm high and 820mm wide and 30kg mass may have 2 hinges each:

Provide lock and latch furniture suitable for use with the lock or latch to which it is installed with the corresponding level of performance.

Use strike plates provided with the locks or latches. Do not provide 'universal' strike plates.

3.6.3 Preparation and workmanship

Use fasteners compatible with the item being fixed and of sufficient strength, size and quality to perform their function. Provide a corrosion resistant finish to concealed fixings. Match exposed fixings to the material being fixed. Provide appropriate back support (for example lock stiles, blocking, wall noggings and backing plates) for hardware fixings. Ensure working parts are accurately fitted to smooth close bearings, without binding or sticking, free from rattle or excessive play, lubricated where appropriate.

Deliver hardware items, ready for installation, in individual complete sets for each window set clearly labelled to show its intended location. Ensure they are provided in a separate dust and moisture proof package including the necessary templates, fixings and fixing instructions.

Mount locks and latches so that the centreline of the door knob or lever spindle is the height above finished floor shown on the drawings. Fix door stops on the floor, skirting or wall, as appropriate, to prevent the door or door furniture striking the wall or other surface.

Leave the hardware properly adjusted with working parts in working order, and clean, undamaged, properly adjusted, and lubricated where appropriate. Immediately before practical completion, replace cylinders to which the contractor has had key access during construction with new cylinders that exclude the contractor's keys. For locks keyed to differ and locks keyed alike, verify quantities against key records, and deliver to the contract administrator at practical completion. Submit the lock manufacturer's record of the key coding system showing each lock type, number and type of key supplied, key number for re-ordering, and name of supplier.

3.7 Glazing

3.7.1 Background

Much of the glazing in the buildings is early plate glass that features irregularities, bubbles and slight shape deformities that is difficult to replicate with modern glazing manufacturing techniques. The aim of the works is to retain as much of this original fabric intact as possible. Where ever possible existing glazing will be retained for use and must be protected during the course of works to ensure maximum retention is possible. Repair works must consider methods that will not damage the glazing. Panes that have only slight cracks less than 50mm in length should be retained without repair.

3.7.2 Materials

Replacement glass is to be clear float glass of matching thickness to the repair. Where glass is required to be safety glass under AS1288 provide clear 6.38mm laminated safety glass with the required Standards Mark. Where modern glazing thickness does not conform to the existing window rebates, a standard fixing procedure is to be developed under direction from the Heritage Architect on an as needs basis.

Glazing materials (including putty, glazing compounds, sealants) are to be appropriate for the conditions of application and the required performance. Match the glazing material to the existing building. In general provide oil based window putty to secure glazing against wind load and to provide a watertight seal. Allow to cure before painting.

3.7.3 Preparation and workmanship

Install the glass so that each piece is held firmly in place by permanent means which enable it to withstand the normal loadings and ambient conditions at its location without distortion or damage to glass and glazing materials. Ensure that building movements are not transferred to the glass and that external glazing is watertight and airtight.

Use a method of temporary marking that does not harm the glass. Remove marking on completion.

Supply window assemblies and glazed doors inclusive of glazing, shop preglazed unless preglazing is impracticable.

Leave the work clean, polished, free from defects, and in good condition.

3.8 Floor sanding and finishing

3.8.1 Background

Retaining the patina of age mean that many of the floors in the buildings will only be cleaned and lightly sanded. This section covers flooring that has had either vinyl tiles or bituminous coatings removed and is to be sanded for a clear finish.

3.8.2 Materials

Filler: Non-oil based and compatible with the coating system.

Coating system for verandah decks:	Clear Intergrain DWD Exterior Decking finish on Dimension 4 pretreatment
Coating system for new internal timber floors:	Clear Feast Watson "Floor Seal" tung oil based finish or Clear Cabot Tung oil finish "Floorguard"
Coating system for existing internal timber floors:	Clear Feast Watson "Floor Seal" tung oil based finish or Clear Cabot Tung oil finish "Floorguard"

Do not combine clear finishes from different manufacturers in a coating system. Provide only the combinations of filler, stain and sealer recommended by the manufacturer of the top coats. Deliver all products to the site in the manufacturer's labelled and unopened containers.

Abrasives

Floor hardness	Basic sanding	Finish sanding		Sanding between finish coats of coating system
		Initial cuts	Final sand	
Hard	F24 to F30	F40 to F60	F80 to F120	F150 or finer
Mild	F36 to F40	F60 to F80	F100 to F120	F150 or finer
Soft	F60 to F80	F80 to F100 if necessary	F120	F150 or finer

3.8.4 Preparation and workmanship

Provide basic sanding of surfaces to an even plane that is free of irregularities and suitable for finish sanding. Provide finish sanding that will result in a suitable key for an applied coating system and a surface free of scratch marks when observed standing.

Provide a coating system of a consistent application and level of gloss across the surface. Ensure substrates are clean and free of any deposit which may impair the application of the coating system. Punch nails 3mm below the surface. Remove tacks. Fill open grained timber with materials compatible with those used in subsequent finishing operations. Select a colour to produce an average match with the final coated timber in tone, colour and texture. Fill minor cracks and stop punched nails with a putty knife. Fill deeper holes in layers > 6 mm allowing each fill to dry. Ensure cavities are filled slightly above the surface without air pockets.

Basic Sanding: First cut at 45° to the length of the boards, second cut at 90° to the first cut, and third cut parallel to the length of the boards. : Bring boundary areas to the same surface condition as the main sanded area, using disc sanding. Hand scrape inaccessible areas to produce an even, plane surface.

Finish sanding: After basic sanding, cut twice parallel to the length of the boards using increasingly fine abrasives. If hard surfaces show excessive scratching apply an initial cut at 90° to the grain direction.

After each sanding operation remove all dust by removal from cracks by hand, vacuum cleaning and tack rag cleaning.

Place "wet paint" notices conspicuously and do not remove them until the coating system has cured and hardened. Apply the coating system in accordance with the manufacturer's printed instructions. Maintain a wet edge throughout the whole area. Fine sand between coats only within the depth of the finish, and remove dust.

Vacuum clean the area and protect with fabric drop sheets. Do not use plastic sheeting.

3.9 Vinyl tile removal and floor cleaning

3.9.1 Background

Most floors within the Quarantine Station have had a vinyl tile finish applied during the 1950-1970 period. The tiles were laid directly onto the timber floors by gluing. The tiles have generally failed and deteriorated across the station and require removal. Most of the tiles appear to have an asbestos content which requires appropriate handling, protection of workers and approved disposal. Refer to OHS guidelines on the handling of asbestos for details of personnel safety and disposal techniques.

Most floors that have had vinyl tiles fixed are to receive a carpet finish. Removal of the tiles and glue layer is required to allow the new finish to be applied.

3.9.2 Preparation and workmanship

Remove the tiles by scraping with a wide blade scraper. Remove both the tile and the glue base. Do not gouge the floor boards during the process. Scrape using the scraper on a flat angle and scrape in the directions of the floor boards, not across them. Where required use handscrapers.

Water may be used to soak the surface of the tiles prior to removal to assist in removal. Do not use solvents unless approved.

In most rooms it is not necessary to remove all trace of the earlier finish as underlay and carpet are to be fixed to the floor. Remove most of the glue layer to achieve a generally smooth and level finish on which to lay the tempered masonite underlay.

Do not sand the floors unless required for an exposed timber finish. Where sanding is required sand sufficient to remove all the glue remnants so that a new floor finish may be applied without being affected. Refer to Floor Sanding and Finishing.

Place all removed material in marked bins with double plastic wrapping for safe disposal to a licensed waste depot.

3.10 New openings in stud walls

3.10.1 Background

Part of the adaptation works to the buildings is the creation of new openings between rooms. Openings take the form of doorways or larger openings without doors. Openings are to be cut through existing finishes. Supervision by the Heritage Architect or Mawland Site management is required during the cutting of new opening to each first case of building.

3.10.2 Preparation and workmanship

New openings are to be marked onto the walls of the rooms in which they occur prior to cutting and are to be checked to ensure that they relate to stud locations. Adjust opening position in relation to layout of rooms and stud locations for optimum fit into existing structure. Carefully cut the new opening to the minimum size required protecting adjacent finishes. Save timber boarding or framing removed for re-use in repair work in the vicinity and generally. Accurately cut back skirting to correct position to allow for new architraves.

Provide new wall framing to trim openings to sides and head of opening for new frames using timber stud framing or re-using studs removed in cutting the opening. Insert batt insulation into opened up section of adjacent walls prior to trimming with new framing, refer to Insulation and Vapour Barriers specification. Insert new timber frame and if required door into opening. Provide selected architraves.

Infill the floor (where flooring does not extend under wall framing) with floor boards on framing to bridge the gap between rooms. Adjust the flooring to take up any slight variation in floor level between spaces.

Paint new work in accordance with the Paint Schedule.

3.11 Roofing and rainwater goods

3.11.1 Background

Many of the roofs on the site are to be replaced with metal deck roofs in keeping with the original roof types at the station. These roofs will be fitted to existing timber roof framing with new battens or purlins if required.

Generally provide a roofing system and associated work that remains intact and waterproof under the local or regional ambient climatic conditions. The new roofs are to protect people, property and the environment from the adverse effects of stormwater by providing a means for its effective disposal. The roofs must also provide adequate means of dealing with vapour pressure, condensation, corrosion and thermal movement.

3.11.2 Materials

All self-drilling screws are to be corrosion resistance Class 3 and compatible with the roofing material. Provide fastenings just long enough to penetrate the thickness of the batten without piercing the underside. Use purpose-made closed cell polyethylene foam fillers profiled to match the roofing profile under the capping to ridge and over flashings to eaves. Install roofing to AS1562.1.

In exposed areas such as the hospital precinct use Blue Scope Lysaght Custom Orb – Colorbond Ultra due to its increased corrosion resistance. In other areas the roofs are nominated as one of the following.

Where nominated Blue Scope Lysaght Custom Orb - Colorbond

Where nominated Blue Scope Lysaght Custom Orb - Zinalume

Where nominated Blue Scope Lysaght Custom Blue Orb - Galvanised

The colour selection of the Colorbond roofs is nominated in the Paint Schedule. If prefinishes are damaged, including damage caused by unauthorised site cutting or drilling, remove and replace the damaged item.

Provide rainwater goods appropriate to the roofing material – ensure selections are galvanically compatible to reduce potential of enhanced corrosion. Generally throughout the station use 150mm quad gutter profiles unless nominated otherwise. This gutter profile is not available from NSW sources.

Capping Flashings Valley gutters	Generally	To match roofing: Stramit rolled top ridge capping, colour to match roof sheeting.
	Lead flashing and capping	Only for asbestos, tiled and galvanised roofs
Box gutters	Generally	Stainless Steel Grade 316 or appropriate marine grade Colourbond: Stramit Quad 115, or to suit fascia depth as determined on site.
Eaves gutters	Generally	To match roofing
	Zinalume, Colorbond	Use only with Zinalume and Colorbond roofing – do not use where lead flashings or galvanised roofing are present
	Copper	Use with all forms of roofing – isolate from contact with ferrous based roofing products
	Galvanised	Use only with asbestos, tiled and galvanised roofing – do not use in conjunction with zinalume based roofing
Downpipes	Generally	To match guttering: Stramit round profile downpipes, size as determined on site.

3.11.3 Preparation and workmanship

Keep the roofing and rainwater system free of debris and loose material during construction, and leave them clean and unobstructed on completion. Repair damage to the roofing and rainwater system. If it is necessary to touch up minor damage to pre-painted metal roofing, do not overspray onto undamaged surfaces.

Provide for thermal movement in the roof installation and the structure, including movement in joints and fastenings. Align abutting ends to sheets within 2mm tolerance and the deviation along the plane of the roof to within 7mm tolerance.

Provide the flashings, cappings, gutters, rainwater heads, outlets and downpipes necessary to complete the roof system to AS/NZS3500.3. Project sheets 50mm into gutters. Provide pre-cut eaves flashing and birdproofing where necessary. Close off

ridges with purpose-made ridge fillers of closed cell polyethylene to manufacturer's instructions. Finish off along ridge and verge lines with purpose-made roll top ridge capping and barge rolls.

Prevent direct contact between incompatible metals by inserting a separation layer. Do not allow more "noble" metals to run off onto less "noble" metals in the galvanic series. Do not use green hardwood or chemically treated timber.

Metal rainwater goods: To AS/NZS 2179.1.

Flashing material: To AS/NZS 2904.

Make butt joints over a backing strip of the same material. Do not solder any steel based roofing material. Seal fasteners and mechanically fastened joints. Fill the holes of blind rivets with silicone sealant.

Flash roof junctions, upstands, abutments and projections through the roof. Preform to required shapes where possible. Notch, scribe, flute or dress down as necessary to follow the profile of adjacent surfaces. Mitre angles and lap joints 150 mm in running lengths. Provide matching expansion joints at 6 m maximum intervals. Flash projections above or through the roof with two part flashings, consisting of a base flashing and a cover flashing, with at least 100 mm vertical overlap. Provide for independent movement between the roof and the projection. Provide overflashings where roofs abut walls, stepped to the roof slope in masonry and planked cladding, otherwise raking.

Prefabricate gutters to the required shape. Form stop ends, downpipe nozzles, bends and returns. Dress downpipe nozzles into outlets. Provide overflows to prevent back-flooding. Provide waterproof plywood min 19mm on trafficable framing to support valley gutters, box gutters and sumps. Line the whole area under the gutters and sumps. Profile to suit the valley boarding. Turn back both edges 180° x 6 mm radius. Nail or screw to the valley boarding at the top end to prevent the gutter creeping downwards. Provide butted stop ends in guttering longer than 30m to prevent expansion failure.

Downpipes are to connect to existing stormwater outlets. Position to be as shown. Do not modify position without approval. Prefabricate downpipes to the required section and shape. Connect heads to gutter outlets and connect feet to rainwater drains. Provide supports and fixings for downpipes.

3.12 Insulation and vapour barriers

3.12.1 Background

Wherever possible during the works provide insulation and vapour barriers to walls and ceilings to areas that have been temporarily stripped of their linings.

3.12.2 Materials

Provide insulation suitable to its use and the installation constraints of working with existing buildings.

Where loose fill insulation is required (such as filling studwork from above) use Cellulosic fibre insulation to AS/NZS4859.1 Section 5.

Where batts may be placed in the wall use CSR Bradford R2.0 Gold Batts for walls.

If breather wall foil can be installed use Sisalation 499 Light Duty Breather Foil

Where insulation is to be installed in the roof use CSR Bradford Glasswool Commercial Grade R2.5 Anticon.

3.12.3 Preparation and workmanship

Comply with the AMWU/CFMEU/CEPU/ICANZ Industry Code of Practice for the Safe Use of Glass Wool and Rock Wool Insulation. Deliver mineral wool products to site in packaging labelled FBS-1 BIO-SOLUBLE INSULATION.

Fit batts tightly between framing members. If support is not otherwise provided, staple nylon twine to the framing and stretch tight.

Install wall vapour barrier to AS/NZS4200.1 and to manufacturer's instructions. Refer to CSR Bradford's specification "Insulation of framed walls" for instructions on installing batts.

Install thermal bulk insulation combined with sarking to the roofs where shown. Install to the whole of the roof area, except the eaves, overhangs, roof openings and roofs to outbuildings and semi-enclosed spaces such as verandahs.

3.13 Steel lintel repair

3.13.1 Background

The masonry buildings have steel lintels in various states of repair. A number have rusted and some are cracking adjacent brickwork. Some have been replaced previously and are again presenting problems of rust.

Each building has the required work scheduled for lintel replacement. Lintels are only to be replaced where they are deteriorated and causing failure to other elements. Otherwise they are to be stripped and painted as part of the maintenance work. Site instruction will be given by the Heritage Architect or Mawland Site Management concerning the extent of lintel replacement/rust treatment.

3.13.2 Preparation and workmanship

Repair

Pin brickwork above lintel. Rake out joints above lintel to the ends of the bearing and clean out the joint below the lintel at the bearing ends to a depth of 40mm. Lay drop sheets around the area to protect the ground surfaces. Clean rust from lintel with a wire brush. Apply a phosphoric acid based antirust agent such as Selleys "Ferropro Rust Converter" ensuring that none of the product is spilled onto the surroundings. After treatment paint the lintel with rust proof paint as scheduled in the Paint Schedule. Grout fill above the lintel to the structural engineer's specification. Finish pointing as specified in Mortar Joints. At the structural engineer's direction, remove props to brickwork.

Replacement

Prop the window or door head as necessary to prevent failure or cracking. Remove the damaged lintel from the wall by cutting out the supporting brickwork and any other obstruction to sliding the lintel from the wall. Clean the area to remove ferrous elements and clean any loose mortar back to base material. Provide a replacement lintel to match the shape and form of the original in Grade 316 stainless steel with minimum bearing of 100mm at each end. Insert the new lintel into the brickwork. Grout fill above the lintel to structural engineer's specification. Replace any bricks removed in the process. Point as specified in Mortar Joints. Point any cracked brickwork in the vicinity.

If the cracking of brickwork is extensive cut out failed sections and relay damaged brickwork with new mortar as specified in Mortar Joints. Consult structural engineer for extent of pinning required.

3.14 Corrugated iron repairs

3.14.1 Background

The buildings have many examples of corrugated iron and its internal lining counterpart, ripple iron, which are to be retained and repaired. The contractor doing the repairs requires an understanding of the material so that the repair does not cause further damage in the long run. The repairs will extend from dealing with rusted elements, to patching, to replacement of sections, and lastly to replacement of the elements with a matching product

Refer to the NSW Heritage Office Information Sheet 4.1 "Corrugated Roofing" for more detailed notes and methods of repairing corrugated iron sheets.

3.14.2 Materials

Whilst modern corrugated steel profiles are available in sizes similar to both corrugated iron roofing and ripple iron walling, the gauge or size of the profiles and the material of the modern equivalents are not compatible with the original. Zinalume and Colorbond products should not be used in conjunction with galvanised steel or iron products.

Where a sheet of iron has rusted but has not deteriorated to the point of having holes clean back the rust with a wire brush and treat the area with a phosphoric acid based antirust agent such as Selleys "Ferropro Rust Converter". The item can then be painted with Galmet Keytite primer and Galmet Rust paint.

Where a sheet of iron has rusted to the point of having holes, such as around fixings in a roof provide a suitable patch material for the conditions of use. Generally do not use silicone sealants to patch holes in corrugated iron. Suitable patching materials include soldered lead sheets, bituminous paste or felt, and fibreglass where the item is sheltered from the sun.

Where the sheet has rusted in a particular area and needs a very large patch, such as the base of some ripple iron sheets in bathrooms, a partial replacement will be required. Replacement of part of a sheet will need to be done with a salvaged piece of similar material (either ripple iron or corrugated iron) as the profiles are generally not available in new material.

Complete replacement of galvanised sheeting is covered under Roofing and Rainwater Goods.

3.15 Plastering

3.15.1 Background

Most of the buildings on the site that have plaster finishes have a lime rich plasterwork. This is a relatively soft and porous finish that is suitable for the soft types of bricks used in the buildings. Repairs will be limited to patching the minimal area possible for a sound finish. Do not strip back large areas of wall finishes unless approved.

3.15.2 Materials

Provide plaster finishes that is resistant to impacts expected in use, free of irregularities, consistent in texture and finish, firmly bonded to substrates for the expected life of the application and is a suitable substrate for the nominated final finish.

Exclusion: Do not use modern cement mixes

The existing brickwork, render and mortar are all soft and porous materials from the late Victorian and Federation periods. It is important to match the porosity of the existing mortar and plaster to ensure the brickwork does not break down due to moisture and salts.

Traditional accessories such as timber staff moulds may need to be repaired as part of the works. Replace these in matching materials and configurations where required. Where necessary use metal proprietary beads manufactured to be fixed to backgrounds and/or embedded in the plaster to form and protect plaster edges and junctions. A metal lath may be required to bridge irregularities or joints and cracking, use only Grade 316 stainless steel lath.

Sand: To be fine, sharp, well-graded sand with a low clay content and free from efflorescing salts.

General-purpose cement: To AS3972.

Gypsum plaster: To be a proprietary product containing calcium sulfate hemihydrate conforming to AS2592 with additives to modify setting.

Lime: To be in the form of slaked lime putty, a dry hydrate of lime to AS/NZS1672.1 and water that has stood for ≥ 24 hours without drying out.

Water: To be clean and free from any deleterious matter.

If the plaster cannot be analysed for composition then provide plaster to the following composition:

Base or scratch coat: Cement: Lime: Sand – 1:2:6

Finish Coat: Cement: Lime: Sand – 1:3:9

Provide a finishing proprietary gypsum plaster based skim coat to the whole internal area to prepare plasterwork for painted finishes. Sand smooth. Ensure successive coats are no richer in binder than the coat to which they are applied.

Measurement: Measure binders and sand by volume using buckets or boxes. Do not allow sand to bulk by absorption of water. Mix plaster by machine between 3-6 minutes.

3.15.3 Preparation and workmanship

Ensure substrates have any deposit or finish which may impair adhesion of plaster cleaned off, and that excessive projections have been hacked off and voids and hollows filled with plaster stronger than the first coat and not weaker than the background.

If suction is excessive, control it by dampening but avoid over-wetting and do not plaster backgrounds showing surface moisture. If the substrate is not sufficiently true to ensure conformity with the thickness limits for the plaster system or has excessively uneven suction resulting from variations in the composition of the background, apply additional coats without exceeding the thickness limits for the background or system. If the ambient temperature is $\leq 10^{\circ}\text{C}$ or $\geq 30^{\circ}\text{C}$ ensure that the temperature of mixes, backgrounds and reinforcement are, at the time of application, $\geq 5^{\circ}\text{C}$ or $\leq 35^{\circ}\text{C}$.

Provide a two coat plaster system that does not exceed 13mm for the base coat and 4mm for the finish coat. Scratch-comb each base coat in two directions when it has stiffened. Where joining up is required, ensure joints will be imperceptible in the finished work after painting. Press the plaster through the apertures of expanded metal lath and wings of beads. Finish the final coat by application of a wood or plastic float to an even surface. The finished coat should be flat within a tolerance of 3mm in 2m in any direction.

Prevent premature or uneven drying out and protect from the sun and wind. Keep base coats continuously moist for 2 days and allow to dry for 5 days before applying further plaster coats. Keep finish coats continuously moist for 2 days.

3.16 Painting

3.16.1 Background

Most of the buildings are constructed of timber and require regular painting as part of the ongoing maintenance. The painting specification covers the various finishes on the buildings with appropriate systems.

Generally painted finishes are to be repainted but surfaces that are unpainted must not be painted in any circumstances. Similarly sealants are not to be applied to the buildings unless specifically instructed.

Where early paint finishes survive in good condition or where they are identified to be retained without re-painting do not apply new paintwork.

3.16.2 Preparation and workmanship – existing surfaces

The preparation for painted surfaces varies from location to location and surface to surface. Generally prepare surfaces for new paintwork but do not remove evidence of earlier paint schemes and systems. Unless instructed do not strip painted surfaces to bare base material. Instead sand, scrape and remove loose and flaking material to achieve a sound surface. Do not water sand or grit blast surfaces. Do not use orbital sanders to remove paint.

On completion of scraping and sanding inspect the surface for damage and undertake repair work as specified under Carpentry and Joinery Repairs. Sand on completion to a smooth and even surface.

Wash surfaces to be painted using sugar soap or if oil or grease is present wash down using mineral turps. Ensure surface is dry prior to paint application.

Do not seal joints and cracks unless instructed. Use gap sealants only as directed to seal large cracks.

All preparation is to be inspected prior to applying paint finishes.

Ensure that surfaces are clean and dry prior to applying paint finishes and that paint is applied in moderate temperatures in accordance with manufacturer's instructions. Do not paint on high wind days or when air humidity of timber moisture content is higher than that specified by manufacturer. Sand between finish coats.

Provide adequate protection during preparation and painting. As existing paints on the buildings are likely to contain lead collect all scrapings and sanding debris and dispose of safely. Place a plastic layer on the ground around the building to prevent paint entering the ground surface.

Protect all adjacent surfaces to areas being painted. Do not allow paint onto verandah floors, brick or stonework, metalwork or other elements. Thoroughly mask glass, hardware etc prior to painting and clean on completion. Do not scratch glass with paint scrapers, only clean with razor blades.

Use only branded paint or approved manufacture. Paint is to be brought onto the site in unopened containers.

All tradesmen are to be suitably qualified and experienced in painting heritage buildings.

Flat latex: Interior (Matt acrylic)

Location: Internal ceilings

Substrate	1st Coat	2nd Coat	3rd Coat
Plasterboard (paper faced)	0172	0260/4	0260/4
Timber	0183	0260/4	0260/4

Existing paintwork (solvent-borne)	0260/4	0260/4	
Existing paintwork (latex)	0260/4	0260/4	
Fibre cement	0172	0260/4	0260/4
Set plaster	0171	0260/4	0260/4
Organic or inorganic zinc primed metal	0171	0260/4	0260/4
Hardboard, unprimed	0183	0260/4	0260/4

Low-gloss latex: Interior (Low-sheen acrylic: interior)

Location: Underside asbestos cement roofing

Substrate	1st Coat	2nd Coat	3rd Coat
Fibre cement	0172	0260/3	0260/3

Semi-gloss latex: Interior (Semi-gloss acrylic: interior)

Location: Internal walls

Substrate	1st Coat	2nd Coat	3rd Coat
Cement render	0172	0260/2	0260/2
Plasterboard (paper faced)	0172	0260/2	0260/2
Timber	0183	0260/2	0260/2
Existing paintwork (solvent-borne)	0260/2	0260/2	
Existing paintwork (latex)	0260/2	0260/2	
Fibre cement	0172	0260/2	0260/2
Masonry	0172	0260/2	0260/2
Set plaster	0171	0260/2	0260/2
Organic or inorganic zinc primed metal	0171	0260/2	0260/2

Semi-gloss latex: Exterior (Semi-gloss acrylic: exterior)

Location: External walls

Substrate	1st Coat	2nd Coat	3rd Coat
Cement render	0280/2	0280/2	
Timber	0183	0280/2	0280/2
Masonry	0280/2	0280/2	
Existing paintwork (solvent-borne)	0280/2	0280/2	
Existing paintwork (latex)	0280/2	0280/2	
Organic or inorganic zinc primed metal	0280/2	0280/2	
UPVC	0280/2	0280/2	

Gloss latex: Exterior (Gloss acrylic: exterior)

Location: External verandah joinery and new metal handrails

Substrate	1st Coat	2nd Coat	3rd Coat
Timber	0183	0280/1	0280/1
Iron and steel	0032	0280/1	0280/1
Existing paintwork (solvent-borne)	0280/1	0280/1	
Existing paintwork (latex)	0280/1	0280/1	

Full gloss, solvent-borne: Interior (Gloss enamel: interior)

Location: Internal door and window joinery

Substrate	1st Coat	2nd Coat	3rd Coat
Timber	0016/1	0015/2	0015/2

Existing paintwork (solvent-borne)	0016/1	0015/2	0015/2
Existing paintwork (latex)	0016/1	0015/2	0015/2

Full gloss, solvent-borne: Exterior (Gloss enamel: exterior)

Location: External door and window joinery

Substrate	1st Coat	2nd Coat	3rd Coat
Timber	0181	0016/1	0015/1
Existing paintwork (solvent-borne)	0016/1	0015/1	0015/1
Existing paintwork (latex)	0016/1	0015/1	0015/1

Asbestos cement encapsulation system

Location: Topside asbestos cement roofing where nominated

Substrate	1st Coat	2nd Coat	3rd Coat
Asbestos cement	1720/3	1720/3	

Rust repair and protection

Location: rusted steel linings, existing metal fixtures and handrails

Substrate	1st Coat	2nd Coat	3rd Coat
Iron or steel	Galmet Keytite primer	Galmet Rust paint	Galmet Rust paint

3.17 Excavation and archaeology

Due to the high archaeological potential of most parts of the site all excavation activities on the site are strictly controlled to minimise any potential adverse impacts. Special care must be taken in the foundations and remains of former buildings, and it should be noted that there is the potential for uncovering artefacts from the quarantine period of use of the site.

All works on this site come under the control of the NSW Heritage Council and the NSW Heritage Act. This Act requires permits for excavation and monitoring of excavation works by an archaeologist. The proposed extent of excavation set out on the drawings has been approved by the NSW Heritage Office in principle, however all excavation must be approved by the Environmental Manager before commencing on site. All contractors must comply with the strict excavation requirements to avoid possible penalties under the Heritage Act.

Condition of Approval 99A requires the following:

- a) An Excavation Permit must be obtained before the commencement on site of any works involving potential disturbance of relics. An archaeologist (Excavation Director) approved by the Heritage Council must be appointed to undertake all archaeological work.
- b) The research design outlined in the Quarantine Station Detailed Area Conservation Management Plan (QSDACMP) must form the basis for interpretation of archaeological deposits and relics.
- c) Provision must be made in a public area of the Quarantine Station site to display relics or other historical or research material relevant to the historical development of the site. This display must be integrated with the Interpretation Plan.
- d) Should substantial intact archaeological deposits or features not identified in the Archaeological Assessment be discovered, work must cease in the affected area(s) and the Heritage Office contacted for advice. Additional assessment and approval may be required prior to works continuing in the affected area(s) based on the nature of the discovery.
- e) The archaeologist must remain present during the course of all excavation works in the archaeologically sensitive areas of the proposed development.
- f) The archaeologist must be allowed access to archaeological deposits at all times during mechanical excavation and mechanical excavation must cease at the request of the archaeologist, to allow for investigation of archaeological remains.

- g) Opportunities for public visitation to the site will be provided during the program of archaeological works and, where appropriate, community and student volunteers will be invited to participate in field work.
- h) The excavation permit will be valid only while the approved excavation is being carried out under the direction of the nominated Excavation Director
- i) The Excavation Director must carry out the excavation in accordance with the approved research design and methodology. Any substantial deviations from the approved research design (including extent and techniques of excavations) must be approved by the Director, Heritage Office.
- j) The Excavation Director must take adequate steps to record relics, structures and features discovered on the site during the excavation in accordance with current best practice guidelines and the approved research design.

In general:

No excavation activities may be undertaken without approval

If excavation is to occur, a Heritage Impact Statement (HIS) prepared by the Heritage Architect is required to assess the significance of the area and identify any previous uses or structures.

Similarly an Archaeological Impact Assessment must be made by the nominated excavation director.

The NSW Heritage Office reviews the HIS and the Archaeological Impact Assessment and makes a recommendation for approval of the proposed excavation stating any requirement for Archaeological supervision and the like.

The Department of Environment and Conservation are then required to issue approval for the works based on the recommendations made by the NSW HO.

Excavation may then only occur inside the approved areas

If the area of approved excavation or the status of the approval is not clear seek advice from the Excavation director prior to undertaking work.

If any material is uncovered during excavation, work is to stop immediately. The contractor is to advise Mawland Site Management (Construction Manager) who will take appropriate action alerting the Excavation Director and if required DEC and HO. Excavation may only continue when appropriate assessment has been made and a continuation of work permit issued by the approval agencies (DEC and NSW HO).

3.18 Cleaning

3.18.1 General cleaning guidelines

Cleaning and associated maintenance are different from repairs, restoration and reconstruction as they do not involve the removal of or alteration to existing fabric, nor the introduction of new materials. Cleaning is a continuing process of protective care. The decision to clean is both a technical decision and aesthetic decision. Cleaning can reduce long term deterioration and may reveal otherwise smothered details.

Typical maintenance activity includes:

the removal of vegetation and litter from gutters and drainage systems;

resecuring and tightening fixings of loose elements of building fabric;

lubricating equipment and services which have moving parts;

the application of protective coatings such as limewash, polish, oils and waxes to surfaces which have previously had such coatings applied; and

cleaning by the removal of surface deposits using methods other than aggressive mechanical or chemical techniques such as high pressure, high temperature or strong solvents which may affect the substrate.

The removal of surface deposits, organic growths or graffiti is typically carried out using low pressure water (less than 100 psi at the surface being cleaned), neutral detergents and mild brushing or scrubbing. Traditional finishes such as oils and waxes must continue to be used for timber surfaces rather than modern alternative protective coatings such as polyurethane or acrylic which

may seal the surface and can cause damage. Surface patina (sheen) which has developed on the fabric may be an important part of the item's significance and if so needs to be preserved during maintenance and cleaning.

3.18.2 Masonry and inscriptions cleaning

Clean masonry surfaces only in order to remove harmful substances and to reveal deterioration. Use a gentle method, such as low pressure water spray and soft natural bristle brushes. Minimise water use as excess water can cause efflorescence and hasten deterioration of the stone. Don't use acid - particularly on marble or limestone.

The Inscriptions Management Plan (within the Heritage Landscape Management Plan) requires the bi-annual washing of inscriptions within the Wharf Precinct and those upon slate drain covers. When washing inscriptions, use a soft bristle brush (not plastic or nylon) and low pressure fresh water (avoid water blasting or aggressive cleaning)

3.18.3 Metal cleaning

Form or recast and replace only missing or unsound metal elements. Maintain protective coatings on ferrous metals. Do not alter the colour, texture, tone or patina of the metal by inappropriate cleaning. All metal cleaners are abrasive to some degree. Remove the cause of corrosion using the mildest cleaning agent, then a reversible sealant. Conserve foundry nameplates or stencilled trademarks. Cast iron replacement is available. Aluminium casting is acceptable but should attempt to match former profiles.

3.18.4 Gutters

Regularly inspect and clean gutters to remove leaf and other organic material build up. Remove waste from the area and do not throw onto nearby bushland as there may be weed species in the waste. Maintain gutters by repairing any failed elements as soon as is practical.

3.18.5 Paint work

Painting will be carried out through a long-term contract to maintain quality and consistency of work.

Although reconstruction (repainting to match a previous scheme) represents the most common conservation approach with paintwork, restoration (removal of subsequent layers or simply cleaning and preserving) should also be considered as an option. It is unusual to discover intact examples of historic decoration which can be conserved in situ. Usually the interesting paintwork and decoration lies buried under later schemes of paint and decoration.

Where authentic decoration survives intact, it is best cleaned with distilled water (with the addition of some alcohol) to remove harmful surface deposits and to restore the appearance. Chemical cleaning agents should not be used without professional direction. Even the water cleaning process must be handled very carefully.

3.18.6 Materials

When cleaning use:

water via a gentle spray;

neutral detergents;

soft brushes; and

isopropyl alcohol- for use on precious or valuable items such as stained glass.

When cleaning do not use acids or alkalis, high pressure water or sand blasting. Never use common domestic cleaners and mould removers, as many contain both bleach (sodium hypochlorite) and caustic soda (sodium hydroxide) which can be very damaging.

3.19 Management protocols for landscape conservation activities

3.19.1 Fences and barriers

Construction of all fences and barriers are to be carried out in accordance with the design specification and location as approved in the HLMP and any supporting Section 60 or CAAC approvals. Given that existing fences will be sampled in line with the Sampling Strategy, minor repairs and maintenance will be required to preserve and prolong the life of the sampled fence. This may require:

trimming of vegetation that is leaning on or growing through a fence (thus adversely affecting a section of fence), or removing it if it is clear that the problem will exacerbate;

strengthening or replacing failed sections by using similar or non-intrusive materials;

lubricating gates and locks on them using a rust inhibitor;

re-installing fence posts using hand tools where possible to minimise impact on any potential archaeological sites (archaeological sites requires a permit and details of the procedure can be found in Section 3.17).

When undertaking this work materials should at all times be stored neatly and in the area designated by the site manager.

Materials waste is to be removed from site by the contractor and disposed of in a licensed waste depot. Work areas must be left clean and safe to the public at the end of each working day.

3.19.2 Asphalt removal

Asphalt removal requires the specific location and extent to be provided by the Construction Manager and an approved work method statement is required prior to removal of asphalt covering funicular rails.

Supervision is required by the Site/Construction Manager for any works in the vicinity of the inscriptions.

Works must minimise the impact on surrounding vegetation, flora and fauna. Noisy activities are restricted to the designated construction times and at times suited to operations. The Operations manager must be consulted regarding any planned work activities which have the potential to interrupt the existing operation.

Personal protective equipment should be worn at all times including: eye protection; hearing protection; respiratory masks; long pants; and steel capped boots.

All signs, barriers and lights needed to comply with relevant OH&S regulations and to be provided at all times.

All the removed asphalt shall be disposed of off site. No stockpiles or storage of waste is to occur in any areas.

Truck access for machinery and removal of waste is to be programmed and approved by the Construction Manager.

3.19.3 Mowing and trimming edges

The areas to be mowed and trimmed are defined in an approved map in the Heritage Landscape Management Plan. Smaller precinct maps further interpreting this detail may be provided to further clarify areas to be regenerated or equipment to be used.

Before starting work, clarify the areas to be mown, snipped and trimmed to ensure the correct equipment for each area. Factors to be considered include slope steepness, presence of inscriptions on rocks and slate pit drain covers, terrain, moisture levels and drainage, proximity to buildings, likelihood of dust and rock spray and general ground conditions.

All collected vegetation waste (eg. grass clippings, pruning of all flora) is to be removed to minimise the spread of weeds or fuel loads.

The use of "Whipper Snippers" is to be used only in areas where mower access is difficult. Care is to be taken when using in areas adjacent to buildings, inscriptions, sandstone drains and tree trunks to ensure damage is not done to these surfaces.

Before starting work advice is to be sort from the Site Manager as to the areas that should be avoided or rescheduled due to other works or customers being present and likely to be impacted by noise, dust, smells or visual disturbance.

In the event of site maintenance crews or landscape contractors coming in close proximity with customers (eg. tours passing by or functions arriving.) work should pause until the group has moved safely away. If it appears work will be suspended for a substantial period, consult the site manager to establish an alternative work area.

Personal protective equipment should be worn at all times including: eye protection; hearing protection; respiratory masks; long pants; and steel capped boots.

Accidents that cause an impact eg. wildlife injury, broken sand stone or damaged building fabric must be reported. Advise the Site Manager immediately who will implement appropriate repair and reporting procedures.

Any sighting of injured wildlife, vandalism, damage to building, natural environment or infrastructure is to be reported to the Site Manager immediately.

3.19.4 Thinning, trimming and pruning

Thinning, trimming and pruning should be done in accordance with the approved maps contained in the HLMP. Areas of bush regeneration or enhancement are not to be trimmed or thinned.

All collected vegetation (eg. cut branches, pruning of leaves) to be processed in such to minimise the risk of any weed spread and/or generation of bushfire fuel.

Before starting work advice is to be sort from the Site Manager as to the areas that should be avoided or rescheduled due to operational considerations. To minimise noise, dust, smells or visual disturbance

In the event of site maintenance crews or landscape contractors coming in contact with patrons (eg. tours passing by or functions arriving.) work should cease until the time that it is deemed appropriate to re-commence. If it appears work will be suspended for a substantial period, consult the site manager to establish an alternative work area.

Personal protective equipment should be worn at all times including: eye protection; hearing protection; respiratory masks; long pants; and steel capped boots.

Accidents that cause an impact eg. wildlife injury, broken sand stone or damaged building fabric must be reported. Advise the Site Manager immediately who will implement appropriate repair and reporting procedures.

Any sighting of injured wildlife, vandalism, damage to building, natural environment or infrastructure is to be reported to the Site Manager immediately.

The identification of any diseased or dead tree or plant should be reported to the Site Manager immediately who will begin to implement appropriate response.

3.19.5 Planting

Planting is to occur in accordance with the Heritage Landscape Management Plan or supporting detailed designs and schedules.

All ground works should be in accordance with *Ground Works* Module 9 of the Induction Manual.

Species planted are to be strictly those defined in the Heritage Landscape Management Plan.

Where excavation is required for planting all procedures must take place in accordance with the excavation management plan (see Section 3.17). Any incident must be promptly reported to the Site Manager (eg archaeological find, soil contamination).

Any excavated material during the planting process shall be dealt with in accordance with the Waste Management Plan and as more specifically directed by the Site Manager.

Personal protective equipment should be worn at all times including: eye protection; hearing protection; respiratory masks; long pants; and steel capped boots.

3.19.6 Regrading and erosion control

All ground works should be in accordance with *Ground Works* Module 9 of the Induction Manual.

Keep exposed soils covered / and / or moist to avoid generation of excessive dust.

Stock piles should be covered at all times where possible with appropriate erosion control and sediment barriers installed.

Contact should be made with the Environment Manager regarding the storage of stone and other supplies on site.

Delivery of any additional should be free of weeds, pathogens (such as phytophthora) and contaminants.

Plant species for swales are to be in accordance with the Heritage Landscape Management Plan.

Sediment barriers are to be set up prior to the start of work and maintained during the course of works.

3.20 Management protocols for infrastructure conservation activities

3.20.1 Electrical infrastructure

An approved safe work method statement is required prior to any works occurring.

Work can only be carried out by certified contractors.

Safety equipment is to be used at all times.

3.20.2 Roads infrastructure

All temporary signs, barriers and lights are to comply with relevant OH&S regulations.

Safety equipment should include: eye protection; hearing protection; respiratory masks; long pants; and steel capped boots.

Additional care is to be taken with works occurring near inscriptions.

All waste shall be taken from the site and disposed of at an appropriate waste depot. No stockpiles or storage of waste is to occur in any areas

Truck access for machinery and removal of waste is to be arranged so to suit requirements and ensure work schedule is not interrupted. Also that the work provides no disturbance to the sites patrons.

3.20.3 Security infrastructure

Security conservation works is to be undertaken in accordance with the Sampling Strategy (Paul Davies Pty Ltd, 2005, Sampling Strategy for the North Head Quarantine Station, Mawland Hotel Management) and the Security Plan (McArthur, S, 2005, Security Plan for the North Head Quarantine Station (part of Visitor Management Plan), Mawland Hotel Management).

3.20.4 Lighting infrastructure

Design as approved by Electrical contractor.

Light spill to be considered in fragile areas in accordance with the CoA's.

Work can only be carried out by certified contractors.

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4. List of building drawings for approval

The following drawings are the most updated submitted to the NSW Heritage Office and Department of Environment and Conservation, to date. If future building submissions supersede in any the CWP, they will be replaced accordingly.

The drawings are not proposed to be directly used for construction, though they will act as reference documents, in translating information to contractors. The primary purpose of these drawings is to support the Schedules and Specification Notes, while satisfying the CoA requirements of the CWP. Prior to physical work on a specific building, the drawings will be marked up and noted by the Heritage Architect. Building fabric will also be marked to ensure clear understanding of site instructions.

Table 4.1 List of building drawings for approval

Buildings	Drawing No.	Description	Issue	Future Revisions (issue)				Last updated	Future Revisions (last updated)			
A1	A01	Existing Ground Floor Plan	F					Dec. 2003				
	A02	Existing First Floor Plan	F					Dec. 2003				
	A07	Ground Floor Conservation Plan	F					Dec. 2003				
	A08	First Floor Conservation Plan	F					Dec. 2003				
A2	A01	Existing Floor Plan	H					Jan. 2004				
	A02	Demolition Plan	F					Jan. 2004				
	A04	Conservation Plan	H					Jan. 2004				
A6	A01	Existing Ground Floor Plan	J					Feb. 2005				
	A05	North Elevation	J					Feb. 2005				
	A06	East Elevation	J					Feb. 2005				
	A19	Conservation Plan	J					Dec. 2005				
A7	A01	Existing Ground Floor Plan	B					Sep.2005				
	A02	Conservation Floor Plan	B					Sep. 2005				
A8	A01	Existing Ground Floor Plan	B					Aug. 2005				
A9	A01	Existing Ground Floor Plan	B					Sep.2005				
	A02	Conservation Floor Plan	B					Sep. 2005				
A11-A12	A01	Existing Ground Floor Plan (A11)	B					Aug.2005				
	A02	Existing Ground Floor Plan (A12)	B					Aug. 2005				
	A03	Conservation Works Plan (A11)	B					Aug. 2005				
	A04	Conservation Works Plan (A12)	B					Aug. 2005				
A14-17	A01	Existing Ground Floor	K					Sep.2005				
	A04	North Elevation Conservation Works	K					Nov. 2003				
	A05	South Elevation Conservation Works	K					Nov. 2003				
A18	A01	Existing Ground Floor Plan	C					Jun. 2005				
	A02	Conservation Plan	C					Jun. 2005				
A20	A01	Existing Ground Floor Plan	B					Oct. 2005				
	A02	Conservation Floor Plan	B					Oct.2005				
A22	A01	Existing Ground Floor Plan	B					Aug.2005				
A23	A01	Existing Ground Floor Plan	C					Jan. 2004				
	A02	Conservation Plan	C					Jan. 2004				
A24	A01	Existing Ground Floor Plan	B					Sep.2005				
	A02	Conservation Plan	B					Sep. 2005				
A25	A01	Existing Ground Floor Plan	C					Jun. 2005				
	A02	Conservation Plan	C					Jun. 2005				
A26	A01	Existing Ground Floor Plan	F					Jan.2004				
	A02	Proposed Remedial Works Plan	F					Jan. 2004				

Buildings	Drawing No.	Description	Issue	Future Revisions (issue)				Last updated	Future Revisions (last updated)			
A28-A29	A01	Existing First Floor Plan	C					Jan. 2004				
	A08	Conservation Work Plan	C					Jan. 2004				
A46	A01	Existing Ground Floor Plan	B					Aug. 2005				
H2	A01	Existing Basement Plan	C					Oct. 2005				
	A02	Conservation Plan Basement Floor	C					Oct. 2005				
H3	A01	Existing Ground Floor Plan	C					Oct. 2005				
	A02	Conservation Floor Plan	C					Oct. 2005				
H4	A01	Existing Ground Floor Plan	C					Oct. 2005				
	A02	Conservation Floor Plan	C					Oct. 2005				
H5	A01	Existing Ground Floor Plan	C					Oct. 2005				
	A02	Conservation Floor Plan	C					Oct. 2005				
H6	A01	Existing Ground Floor Plan	C					Sep. 2005				
	A02	Conservation Floor Plan	C					Sep. 2005				
H7-11	A01	Existing Ground Floor Plan	C					Nov. 2004				
	A07	Conservation Works Plan	C					Nov. 2004				
H14	A01	Existing Floor Plan	C					Oct.2005				
H15	A01	Existing Ground Floor Plan	C					Oct. 2005				
	A02	Conservation Floor Plan	C					Oct. 2005				
L02b	A01	Existing Ground Floor Plan	B					Oct. 2005				
L08a	A01	Existing Ground Floor Plan	B					Oct. 2005				
L13	A01	Existing Ground Floor Plan	B					Oct. 2005				
	A02	Conservation Floor Plan	B					Oct. 2005				
P1	A01	Existing Ground Floor Plan	G					Sep. 2003				
	A05	Conservation Works Plan	G					Sep. 2003				
P2	A01	Existing Ground Floor Plan	G					Sep.2003				
	A05	Conservation Plan	G					Sep. 2003				
P3	A01	Existing Ground Floor Plan	J					Oct. 2003				
P4	A01	Conservation Works Plan	B					Jul. 2004				
P5	A01	Existing Ground Floor Plan	J					Dec. 2003				
	A02	Existing Ground Floor Plan	J					Dec. 2003				
	A09	Conservation Plan	J					Dec. 2003				
	A10	Conservation Plan	J					Dec. 2003				
	A15	Conservation Basement Plan	J					Dec. 2003				
P6	A01	Existing Ground Floor Plan	G					Nov.2003				
	A05	Conservation Plan	G					Nov. 2003				
	A12	Existing Ground Floor Plan	F					Jun. 2006				
	A13	Conservation Plan	F					Jun. 2006				
P7	A01	Existing Ground Floor Plan	J					Oct. 2003				

Buildings	Drawing No.	Description	Issue	Future Revisions (issue)				Last updated	Future Revisions (last updated)			
P8a	A01	Existing Ground Floor Plan	B					Jun. 2005				
P9	A01	Existing Ground Floor Plan	J					Oct. 2003				
	A05	Conservation Plan	J					Oct. 2003				
P10	A01	Existing Ground Floor Plan	B					Oct. 2003				
	A02	Existing Ground Floor Plan	A					Oct. 2003				
	A09	Conservation Plan	B					Oct. 2003				
	A10	Conservation Plan	B					Oct. 2003				
P10a	A01	Existing Ground Floor Plan	B					Jun. 2005				
P10b	A01	Existing Ground Floor Plan	B					Jun. 2005				
P11	A01	Existing Lower Ground Floor Plan	B					Sep. 2003				
	A02	Existing Ground Floor Plan	B					Sep. 2003				
	A09	Conservation Plan	B					Sep. 2003				
	A10	Conservation Plan	B					Sep. 2003				
P12	A01	Existing Lower Ground Floor Plan	K					Oct. 2003				
	A02	Existing Ground Floor Plan	K					Oct. 2003				
	A09	Conservation Lower Ground Floor Plan	K					Oct. 2003				
	A10	Conservation Ground Floor Plan	K					Oct. 2003				
P13	A01	Existing Ground Floor Plan	G					Sep. 2003				
	A04	Conservation Floor Plan	G					Dec. 2003				
P14,15,16	A01	Existing Ground Floor Plan (P14)	B					Sep. 2005				
	A02	Existing Ground Floor Plan (P15 + 16)	B					Sep. 2005				
	A03	Conservation Plan (P14)	B					Sep. 2005				
	A04	Conservation Plan (P15)	B					Sep. 2005				
	A05	Conservation Plan (P16)	B					Sep. 2005				
P17	A01	Existing Ground Floor Plan	B					Oct. 2005				
P18	A01	Existing Ground Floor Plan	B					Oct. 2005				
P27	A01	Existing Ground Floor Plan	B					Oct. 2005				
	A02	Existing Basement Floor Plan	B					Oct. 2005				
	A03	Conservation Ground Floor	B					Oct. 2005				
	A04	Conservation Basement Floor	B					Oct. 2005				
P28	A01	Existing Ground Floor Plan	B					Sep. 2005				
P29	A01	Existing Ground Floor Plan	B					Sep. 2005				
P33	A01	Conservation Works Plan	B					Oct. 2004				
P36	A01	Existing Ground Floor Plan	B					Jun. 2005				
S1	A01	Existing Ground Floor Plan	F					Dec. 2003				
	A05	Conservation Plan	F					Dec. 2003				
S2	A01	Existing Ground Floor Plan	F					Dec. 2003				
	A04	Conservation Floor Plan	F					Dec. 2003				

Buildings	Drawing No.	Description	Issue	Future Revisions (issue)					Last updated	Future Revisions (last updated)				
S4	A01	Conservation Works Plan	C						Jul. 2004					
S5	A01	Conservation Works Plan	B						Jul. 2004					
S6	A01	Conservation Works Plan	C						Jul. 2004					
S7	A01	Existing Ground Floor Plan	C						Jun.2005					
	A02	Conservation Plan	C						Jun. 2005					
S9	A01	Existing Ground Floor Plan	B						Sep. 2005					
	A02	Conservation Plan	B						Sep.2005					
S10	A01	Conservation Works Plan	C						Jul. 2004					
S12	A01	Conservation Works Plan	C						Jul. 2004					
S14	A01	Conservation Works Plan	B						Jul. 2004					
S15	A01	Conservation Works Plan	B						Jul. 2004					
S16	A01	Conservation Works Plan	B						Jul. 2004					

5. Sampling and Asbestos Strategy

5.1 Introduction

A key element of the conservation works program is the requirement to sample various finishes, spaces buildings and elements across the site. The sampling policy arises from two sources. The first is the requirement to remove and replace a number of failed materials from the site. These include

- products containing asbestos,
- products that have failed to a point where they cannot be conserved such as some floor finishes, some plumbing fitout, some joinery items and some electrical fitout

The second is the need to sample buildings, rooms, fitouts, features and site elements where there is to be some adaptation. This will in some cases be a whole building, a room, a feature or an element. It is also proposed where approval has been given to remove some fitout elements that they will be retained as part of the overall sampling policy and in some cases these elements will replace other identical elements that have failed but which are to be retained as part of the overall approach to the site.

Sampling is set out in schedules of whole buildings, feature groups, etc. Sampling also extends to original finishes including paint finishes and fitout items. Areas with sampling strategies are:

- asbestos
- bathroom and plumbing fitouts
- aviation phase and other fitout periods
- roofing products
- fencing
- kerbing
- telegraph poles
- fire hydrants
- paint schemes

The sampling forms a section of the Conservation Works Program and has been produced in accordance with the various policies in the approval.

Conditions 77 – 84 of the consent for the proposed works address the Conservation Works Program. The 8 conditions address:

- what is covered in the CWP (77)
- staging and submission requirements of the CWP (78 + 80)
- what is required in terms of works under the CWP (79 + 81)
- review of the CWP (82 – 84)

In addition Condition 99 (b) requires a sampling strategy to be developed related to bathroom and basin fitout, this is incorporated in the conservation works program and Condition 111 requires a strategy related to asbestos cement (AC) rainwater systems and vinyl tile floors. This is set out within the general sampling strategy for AC material across the site.

The requirements of the conditions are as set out in the following table that states the condition and how it has been responded to in this document.

Table 5.1 Response to relevant Conditions of Approval

Note: Boxes coloured yellow relate directly to the Sampling Strategy

Condition Number	Condition	Comment
77	<p>Conservation works are those works that are essential and necessary to retain the cultural significance of the place. This may include, but is not limited to:</p> <p>a) building landscape and infrastructure works to the extent that these demonstrably contribute to the physical conservation of the site</p> <p>b) curatorial work on inscriptions, archives, artefacts and movable heritage</p> <p>c) environmental management programs</p> <p>d) a portion of works to improve visitor access within the site (being basic work such as disabled access ramps).</p> <p>e) a portion of works to improve visitor understanding of the significance of the place (being basic work such as interpretive displays)</p> <p>It does not include</p> <p>a) works associated with P21, 22, 23 and H1</p> <p>b) assessment work or documentation as part of EIS or PAS</p> <p>c) assessment work or documentation to be undertaken as part of the detailed design plans for adaptation work</p> <p>d) works completed prior to commencement date with the exception of urgent works identified in the DACMP</p>	<p>The Conservation works set out in this submission are works that only conserve the fabric and significance of the place. All of the works are essential to ensure the long-term preservation of fabric.</p> <p>a) This document only addresses built fabric in both buildings and site features.. Broadscale landscape works are also included in this plan. Other reports are appended to address other areas of significance.</p> <p>b) These items are covered by separate reports and are not considered in this report.</p> <p>c) This is addressed elsewhere as a separate plan and is not included in this submission.</p> <p>d) Generally these works are included in the general plans for the place as they relate to use issues which are not addressed in the CWP in this submission.</p> <p>e) Generally these works are not included here but in other schedules.</p> <p>None of the works identified as "not included" are included in this submission.</p>
78	<p>The co-proponents shall prepare and submit a final CWP to the heritage council and the NPWS for approval as follows:</p> <p>a) Stage 1 of the CWP encompassing work required for all buildings structures and landscape elements, including but not limited to those identified in the DACMP and the asbestos sampling and replacement strategy shall be prepared within 6 months of the commencement date.</p> <p>b) Stage 2 of the CWP encompassing all works identified for Aboriginal sites, the Moveable Heritage and Resources Plan, Heritage Landscape Master plan, Inscriptions Plan, Interpretation Plan and Infrastructure Control Plan shall be prepared and incorporated into the CWP as soon as practicable..</p>	<p>a) This report is the Stage 1 report being submitted. It establishes:</p> <ul style="list-style-type: none"> - Sampling strategies for a range of areas including, buildings, rooms, site features, asbestos, plumbing, fences, hydrants, colour schemes, etc. - A rationale for the work - Schedules of work to be undertaken to each identified building or feature - Landscaping works <p>b) Stage 2 works are outside the scope of this submission and will be included as a separate submission in accordance with the timing required in the conditions of consent.</p>

Table 5.1 Response to relevant Conditions of Approval (cont)

79	<p>For all heritage items covered by 78 the CWP shall include but not be limited to:</p> <p>a) identification of all conservation works and priorities at a site level. This should identify urgent, medium term and long term work.</p> <p>b) identification of all works relevant to ensure public health and safety for each building or historic item (such as the removal and stabilisation of asbestos).</p> <p>c) identification of any issues requiring further assessment or research, an approach for addressing this and a time frame where appropriate.</p> <p>d) An outline of the methodology, materials and standards to be followed for all maintenance works.</p> <p>e) Identification of on-going monitoring requirements.</p>	<p>a) This report sets out information in three principal ways:</p> <p>1 it sets out a schedule of works for external and internal (where appropriate) works to each building or site feature.</p> <p>2 it provides drawings as necessary to identify where works are to take place</p> <p>3 it provides specification notes for each type of activity to be undertaken</p> <p>The report also provides a summary table identifying urgent, medium and long-term work.</p> <p>b) Issues of public safety are addressed related to asbestos removal, electrical safety and repairs required to overcome material or operational failures. The CWP does not address other OH and S issues or BCA issues. These matters are considered in the schedules of works which are related to building uses.</p> <p>c) There is a separate section addressing additional works</p> <p>d) A maintenance program is set out as required.</p> <p>e) This is covered in condition 81.</p>
80	<p>Following the approval of Stage 1 of the CWP the co-proponents shall undertake the urgent and medium term priority conservation works in accordance with the staging plan for the activity (as amended by condition 31).</p>	<p>A separate staging plan based on the DACMP requirements is included to determine the priority of works. This document is coloured to indicate which works are brought forward to the initial stage of works. No items are delayed from the DACMP schedules with some items brought forward.</p> <p>As required the conservation works will be undertaken in priority order.</p>
81	<p>All conservation works, excluding minor maintenance works shall be conducted in accordance with the conservation works program.</p>	<p>This document recognises this constraint.</p>

Table 5.1 Response to relevant Conditions of Approval (cont)

<p>82</p>	<p>The co-proponents shall undertake a review of the CWP concurrent with or prior to the first comprehensive audit of the activity and thereafter on an annual basis as part of the overall environmental report. An annual review is not required in the year of a comprehensive review.</p> <p>The review shall be undertaken in consultation with the Heritage Council and the NPWS and include:</p> <ul style="list-style-type: none"> a) a list of conservation works implemented b) the identification of any additional conservation works required to be undertaken. This must include specific consideration of the condition of all asbestos items and actions required to ensure that public health and safety standards are met c) information on the amount spent on conservation works with the site annually. Together with independent verification by a quantity surveyor <p>Advice must be sought from the relevant Aboriginal community groups, an appropriately qualified and experienced conservation practitioner and other specialists as required in the review process.</p>	<p>This document sets out the basis of reviews to be undertaken in accordance with this condition.</p> <p>It is noted that the intent is to provide one database containing all information related to each building or feature to allow for easy cross-checking of information and centralised management. The database will contain information on the following areas related to a place or feature:</p> <ul style="list-style-type: none"> - the DACMP requirements - the schedule of conservation works from this plan - the priority of works - a maintenance checklist for the place that can be used for the annual inspection noting condition with a section on required future works - a schedule of works and costs undertaken during the year - a schedule of reviewed works arising from annual inspections or arising during the year - provision for QS audit. <p>It is noted that this condition of consent (b) cannot be met. The retention of any asbestos products means that public safety standards cannot be satisfied. The requirement to retain asbestos means that there is a risk on the site that cannot be removed or satisfactorily addressed, no matter what actions are taken.</p> <p>Suitably qualified people will be engaged to undertake the review process.</p>
<p>83</p>	<p>The co-proponents shall undertake a regular comprehensive review of the CWP concurrent with or prior to the ongoing ((5 yearly) comprehensive audits of the activity. The review shall be undertaken in consultation with the Heritage Council and the NPWS. In addition to matters referred to above the review shall include a re-assessment of the condition of each heritage item (historic and aboriginal) and a re-assessment of conservation priorities.</p>	<p>This is proposed and would take the form of an annual inspection as set out in condition 82 with the overlay of a comprehensive review of the works undertaken in the previous period. The review would look to establish patterns or maintenance and issues to inform the ensuing period of maintenance and conservation works</p>
<p>84</p>	<p>On the basis of the comprehensive review and the outcomes of the comprehensive audit process the co-proponents shall, as necessary, prepare a revised CWP to be submitted to NPWS and the Heritage Council for approval.</p>	<p>The CWP would be upgraded as required in the condition of consent. It may also be updated to reflect any changes that have taken place arising from the annual inspections particularly if minor changes are approved to sampling or other strategies due to implementation difficulties.</p>

Table 5.1 Response to relevant Conditions of Approval (cont)

<p>99</p>	<p>b) outline an approach to sampling of bathroom and toilet fitouts across the site from the 1958-62 period, taking into account the relevant policies of the DACMP</p>	<p>A comprehensive strategy is set out on sampling of bathroom fitouts from ALL periods of use of the site, not just the 1960 phase of use. This satisfies the DACMP requirements for sampling, retention and potential for change in these areas.</p> <p>This policy only addresses existing bathroom fitouts, it does not address new bathrooms or the provision of basins and amenities in rooms.</p> <p>This schedule is required to be part of the internal fitout plan rather than the cwp plan, however it is clear that it should be in the CWP as it involves the conservation of an important element of the station. To avoid the confusion seen in the conditions of consent it is included in the CWP as well as the Internal Fitout Plan.</p>
<p>111</p>	<p>The co-proponents shall prepare and implement a sampling and replacement strategy for the AC rainwater system and AC vinyl tiles on the site in accordance with policies outlined in the DACMP. The strategy shall be reviewed by the heritage advisor and submitted to NPWS and the Heritage Council for approval.</p> <p>The strategy shall include a prioritised schedule of replacement works, to be incorporated into the CWP (condition 78).</p>	<p>The sampling and replacement strategy is set out in the overall asbestos sampling strategy as this condition only addresses a small part of the asbestos issue on the site and although noted separately for some reason these elements are of no greater importance or pose greater threats to safety than the remainder of the asbestos material on the site.</p> <p>The policy accords with the DACMP which recognises the difficulty of addressing a fundamentally dangerous and risk material with retaining some evidence of the use of the material for interpretation and sampling.</p> <p>The review process is set out and is satisfied by this submission.</p> <p>The replacement works where material is proposed to be removed is set out in the individual applications for work to each building and in the interior fitout plan.</p> <p>This plan identifies where materials are to be replaced and the nature of the replacement material.</p>

5.2 Building Sampling

5.2.1 Sampling – Complete Buildings and Buildings retained for Sampling with Minor Works

The following buildings are to be retained without any changes or adaptation except for conservation works. Buildings H1 and P22 are not considered as they are to be reconstructed. Refer to Site plan 1: Buildings retained for sampling.

Table 5.2 Complete buildings retained for sampling and buildings retained for sampling with minor works

Note: DACMP Significance 1 refers to most significant while 3 is of less significance.

Building Number	Building	Building Retained for Sampling Minor Works	Complete Retained Sampling	Building for	DACMP Significance Assessment	General outline of changes to be undertaken	
Wharf Precinct		Proposed	DACMP CARP2.6 – CARP 2.8	Proposed	DACMP CARP2.6 – CARP 2.8		
A11	BATH HOUSES	✓	✓			1	Reconstruction of damaged roof trusses, new fitout to replace missing fitout in shower area.
L5	WHARF			✓	✓	2	Retain in its current form.
A7	AUTOCLAVES			✓	✓	1	Room retained in their current form.
A8	FORMALIN CHAMBERS			✓	✓	1	Room retained in their current form.
A12	LAUNDRY			✓	✓	1	Retain in its current form.
A46	SWITCH HOUSE			✓	✓	3	Room retained in it current form, conservation works only.
Hospital/ Isolation Precinct		Proposed	DACMP CARP2.6 – CARP 2.8	Proposed	DACMP CARP2.6 – CARP 2.8		
H3	CHANGING BLOCK	✓	✓			2	Repairs and minor changes to bathrooms
H4	DOCTORS AND NURSES QUARTERS	✓	✓			2	Minor changes to accommodate approved use
H5	KITCHEN	✓	✓			2	Rooms to have change of use but no change to fitout except for minor works to existing kitchen.
H2	BRICK WARD			✓	✓	1	Retain in its current form.
H6	MORTUARY AND LABORATORY			✓	✓	1	Building to largely remain intact, scheduling of conservation works only.
H14	ASSISTANTS QUARTERS			✓	✓	2	Retain in its current form.
H14A	COVERED WALKWAYS			✓	✓	2	Retain in its current form.
1st/2nd Class Precinct		Proposed	DACMP CARP2.6 – CARP 2.8	Proposed	DACMP CARP2.6 – CARP 2.8		
P1	PASSENGER QUARTERS	✓	✓			1	Building largely retained but AC wall and ceilings linings replaced due to non-compliance and risk. Minor changes to toilet areas.
P2	PASSENGER QUARTERS	✓	✓			1	Finishes retained
P13	KITCHEN DINING RM	✓	✓			2	Minor upgrade to kitchen.
P3	MEN'S SMOKING ROOM			✓	✓	1	Room retained in its current form.
P4	MEAT HOUSE			✓	✓	1	Room retained in its current form.
P7	LADIES SITTING ROOM			✓	✓	1	Room retained in its current form.
P8A	TOILET BLOCK			✓	✓	1	All rooms retained in their current form. Minor repairs to service only and scheduled conservation works.
P10A	TOILET BLOCK			✓	✓	1	All rooms retained in their current form. Minor repair to service only and scheduled conservation works.
P10B	TOILET BLOCK			✓	✓	1	All rooms retained in their current form. Minor repair to service only and scheduled conservation works.

Table 5.2 Complete buildings retained for sampling and buildings retained for sampling with minor works (cont)

Building Number	Building	Building Retained for Sampling Minor Works		Complete Retained Sampling	Building for	DACMP Significance Assessment	General outline of changes to be undertaken
P36	IRONING ROOM			✓	✓	2	Room retained in its current form. Minor repairs to service only and scheduled conservations works
3rd Class/ Asiatic Precinct		Proposed	DACMP CARP2.6 – CARP 2.8	Proposed	DACMP CARP2.6 – CARP 2.8		
P14-P16	3rd CLASS/ASIATIC ACCOM	✓	✓			1	All rooms retained in current form
S9	STAFF COTTAGE	✓	✓			1	Removal of damaged fit-out and recovery of earlier form of building.
P17	SHELTER SHED			✓	✓	1	Retained in its current form, conservation works scheduled only.
P18	ASIATIC KITCHEN			✓	✓	1	Retained in its current form, conservation works scheduled only.
P27	3 RD CLASS DINING ROOM			✓	✓	1	Retain in its current form.
P28	LAVATORY			✓	✓	3	Retained in its current form, conservation works scheduled only, upgrading of services only to allow the building to function.
P29	LAVATORY			✓	✓	3	Retained in its current form, conservation works scheduled only, upgrading of services only to allow the building to function.
Admin- istration Precinct		Proposed	DACMP CARP2.6 – CARP 2.8	Proposed	DACMP CARP2.6 – CARP 2.8		
A1	SUPERIN- TENDENT'S OFFICE	✓	✓			1	Refit of kitchenette
S1	STAFF COTTAGE	✓	✓			2	Kitchen refit, laundry refit with additional bathroom for staff use, reconstruct external stairs.
S2	STAFF COTTAGE	✓	✓			2	Kitchen refit Additional bathroom
S4	STAFF COTTAGE	✓	✓			3	Kitchen being upgraded and original verandahs recovered, other spaces remain unchanged.
S6	STAFF COTTAGE	✓	✓			1	All rooms conserved except minor kitchen upgrade.
S10	STAFF COTTAGE	✓	✓			3	Altering WC and pantry to form new bathroom, kitchen upgrade, other spaces remain unchanged
S12	STAFF COTTAGE	✓	✓			3	All rooms conserved except minor kitchen and bathroom upgrade. Early kitchen elements retained.
A18	LOCOMOTIVE SHED			✓	✓	2	Building to be retained in its current form, conservations works only to preserve the building
A23	CART SHED			✓	✓	2	Building to be retained in its current form, roofing material, dp's and gutters to be replaced.
A24	STABLES			✓	✓	2	Building to be retained in its current form, conservations works only to preserve the building
A25	POST OFFICE			✓	✓	2	Building to be retained in its current form, conservations works only to preserve the building
L13	GREENHOUSE			✓	✓	3	Building to be retained in its current form, conservations works only to preserve the building
S5	STAFF			✓	✓	2	Adaptive reuse, update kitchen,

	COTTAGE						bathroom, conservation works as scheduled.
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Table 5.2 Complete buildings retained for sampling and buildings retained for sampling with minor works (cont)

Building Number	Building	Building Retained for Sampling Minor Works		Complete Building Retained for Sampling		DACMP Significance Assessment	General outline of changes to be undertaken
S7	STAFF COTTAGE			✓	✓	3	Mainly conservation works to building scheduled with some minor kitchen upgrade works consistent with NPWS being carried out internally. Internal work carried out by NPWS.
S14	STAFF COTTAGE			✓	✓	3	Current spatial arrangement retained, upgrade to services to retain the functioning of amenities. Conservation works as scheduled.
S15	STAFF COTTAGE			✓	✓	3	Current spatial arrangement retained, upgrade to services to retain the functioning of amenities. Conservation works as scheduled.
S16	STAFF COTTAGE			✓	✓	3	Current spatial arrangement retained, upgrade to services to retain the functioning of amenities. Conservation works as scheduled.
L2A	PUMP HOUSE			✓	✓	3	Retain in its current form.

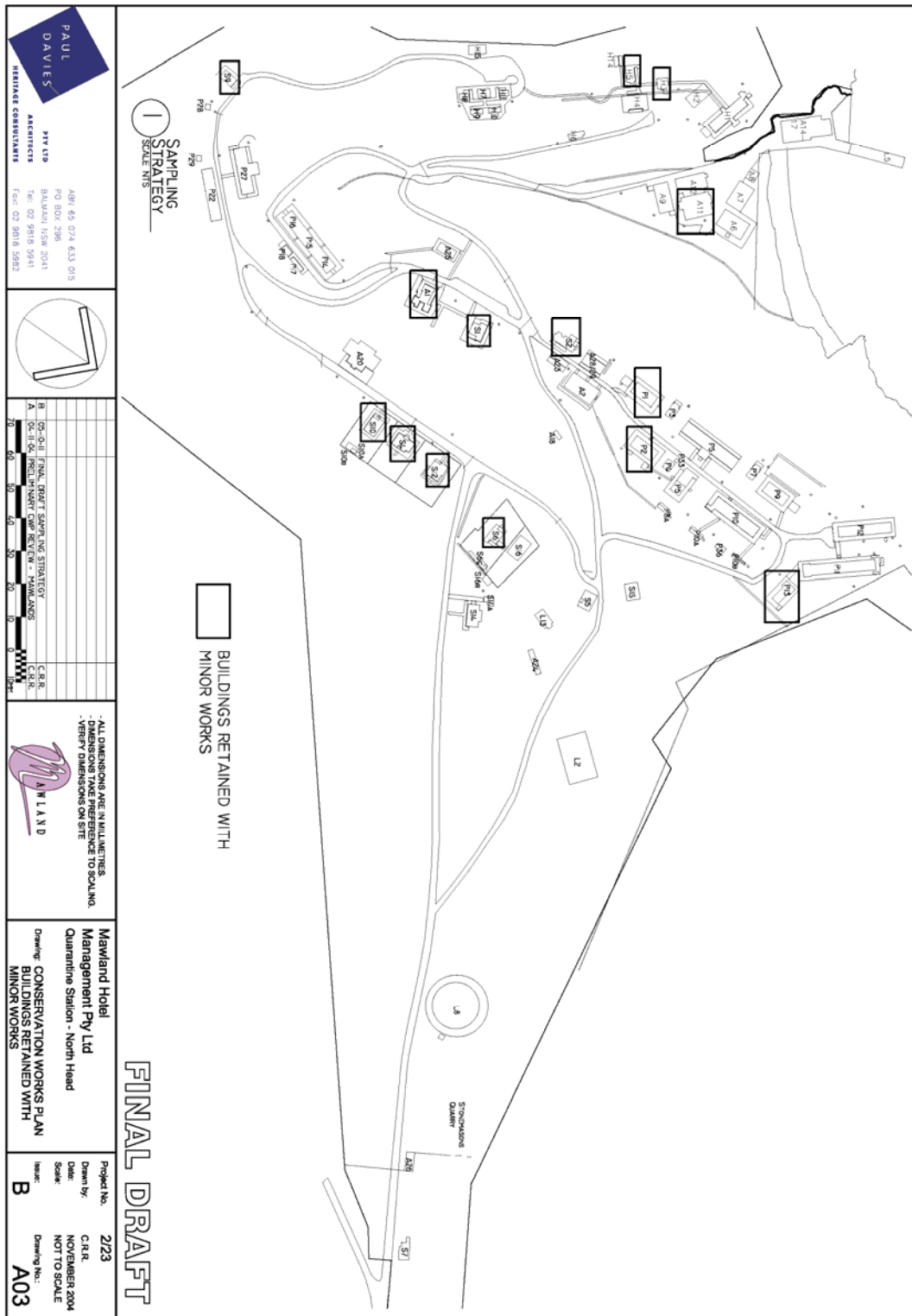


Figure 5.2 Buildings with minor works only being carried out

5.2.2 Sampling - Rooms

This category of sampling applies to buildings that are not to be sampled as a whole but where individual rooms are to be retained as samples of current fitout. Buildings H1 and P22 are not considered as they are to be reconstructed. Refer to Site plan 3: Buildings with rooms retained for sampling.

Table 5.3 Elements of buildings to be sampled

Building Number	Building	DACMP Significance Assessment	Room or space to be sampled	DACMP Policy Comment
Wharf Precinct				
A6	BOILER HOUSE	2	Boiler Room	The DACMP identified the boiler/engine room and its contents as fabric to be retained.
A14-A17	LUGGAGE SHEDS	2	Sections of each space including fit out of shelves and preservation of rails.	DACMP policy requires the fabric to be retained to clearly demonstrate not only the use of the space but the process of separation unclean and clean luggage, and the treatment of passengers on arrival.
Hospital/ Isolation Precinct				
H3	CHANGING BLOCK	2	Rooms 1, 6, 2 and 7 with minor changes to rooms 3 and 5	The proposed rooms to be sampled are in line with the DACMP policy requiring retention of the current spatial layout.
H7	KITCHEN AND COOKS QUARTERS	1	Bathroom to be retained	DACMP requires the Isolation block to be retained in its current room layout and function with no major changes to inside or to the immediate areas outside. The proposed strategy achieves this with minimal adaptation consisting only of creating a doorway to achieve better use of the facility. Full interpretation of original use will be maintained.
H8-H11	ISOLATION WARDS	1	Minor alterations to rooms by adding connecting doorway, bathroom layouts retained.	See comment above.
1st/2nd Class Precinct				
P1	PASSENGER QUARTERS	1	Retention of room layout with removal of AC wall and ceiling linings.	The DACMP suggested retention of all fabric. In consideration of the OH&S related issues with Asbestos it is reasonable to replace like with like.
P2	PASSENGER QUARTERS	1	Retention of bathrooms, lounge room and 2 sample rooms.	DACMP states retention of all fabric including bathrooms. The strategy to sample two rooms and the bathrooms is reasonable considering the proposed use of the building.
P5	PASSENGER QUARTERS, DINING RM	1	Retention of bathrooms, dining room and servery.	This in accordance with the DACMP's policy to retain the bathroom layout, lower bathrooms and access to the dinning room for interpretation purposes.
P6	KITCHEN, STEWARDS		Kitchen space Verandahs	Retain fabric in its adaptive reuse, and retain the kitchen as it is presently found.

Table 5.3 Elements of buildings to be sampled (cont)

Building Number	Building	DACMP Significance Assessment	Room or space to be sampled	DACMP Policy Comment
P9	PASSENGER QUARTERS	1	Retention of bathrooms and lounge room.	Retention of early fabric and layout of existing bathrooms to be retained. The proposed strategy is in line with these recommendations however for OH&S reasons the AC wall linings will be removed and replaced.
P10	PASSENGER QUARTERS		Retention of lounge room.	Retention of the surviving fabric through adaptation is important.
P11	PASSENGER QUARTERS	2	Retention of lounge room, existing bathrooms and (four sample rooms.)	The proposed sampling satisfies DACMP initiatives to retain elements including wall linings, joinery, existing bathrooms, basins and fire place.
P12	PASSENGER QUARTERS	2	Retention of lounge room, existing bathrooms and (four sample rooms.)	The proposed sampling satisfies DACMP initiatives to retain elements including wall linings, joinery, existing bathrooms, basins and fire place.
3rd Class/Asiatic Precinct				
P14-P16	3rd CLASS/ASIATIC ACCOM	1	Change of use of spaces but retention of fabric.	Retention of fabric in future and adaptive use.
Administration Precinct				
A20	STAFF MESS	2	Principal rooms retained, kitchen upgraded, toilets to be upgraded.	The DACMP sets aspects of the fitout deemed important for retention and these need to be acknowledged in the overall retention of the principle rooms and aspects of the kitchen and toilets.

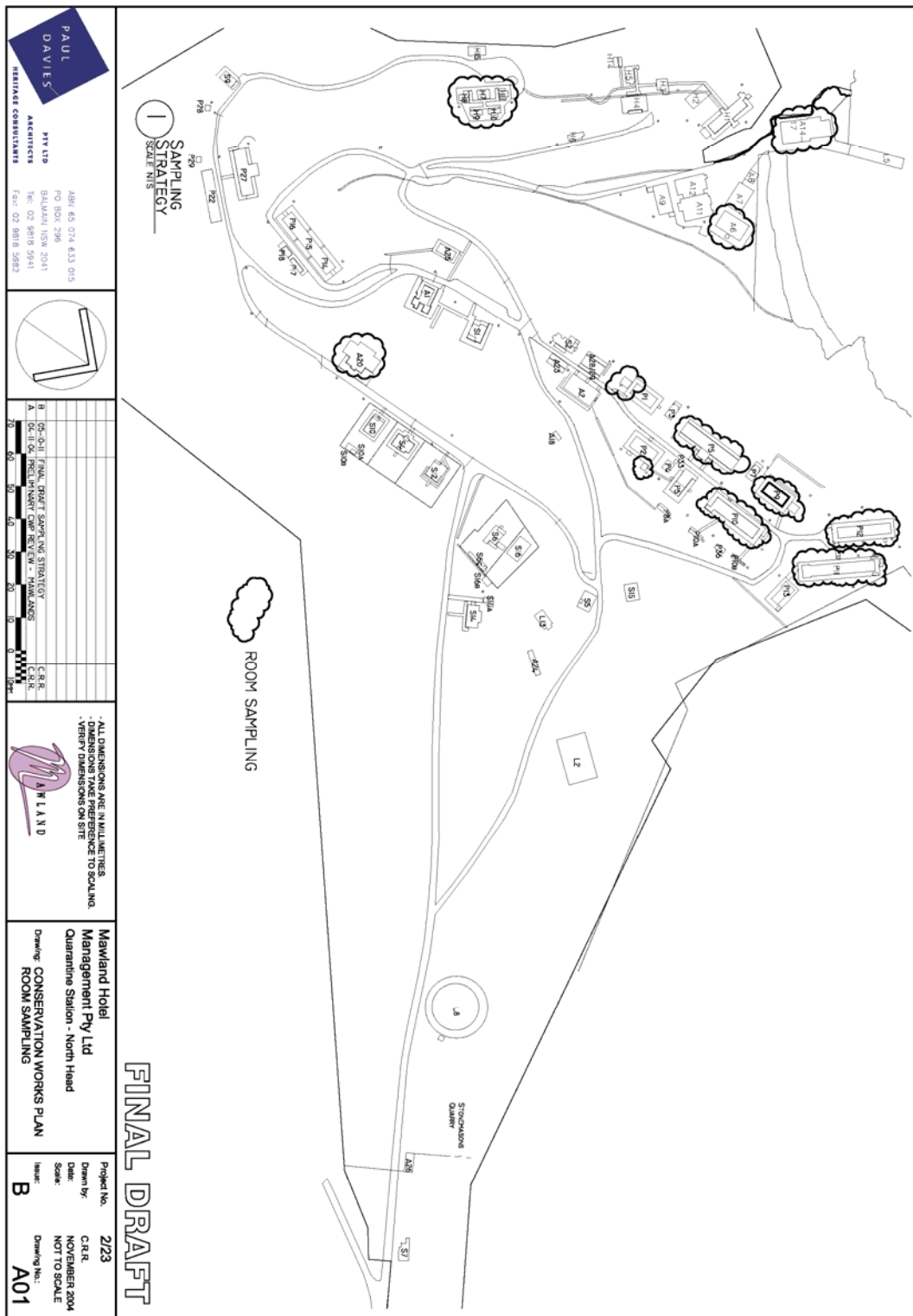


Figure 5.3 Room Sampling

5.3 Asbestos Sampling

5.3.1 Section 63 of the Heritage Act 1977; Conditions of Approval and the DACMP policies

The conditions attached to the approval for the conservation and adaptive reuse of the North Head Quarantine Station (issued pursuant to section 63 of the Heritage Act 1977) contain the following references to Asbestos and the rainwater system on the site:

Table 5.4 Conditions of Approval relevant to asbestos roofs and rainwater systems

Condition Number	Condition	Response	Section of report
111	<p>The co-proponents shall prepare and implement a sampling and replacement strategy for the AC rainwater system and AC vinyl tiles on the site in accordance with policies outlined in the DACMP. The strategy shall be reviewed by the heritage advisor and submitted to NPWS and the Heritage Council for approval.</p> <p>The strategy shall include a prioritised schedule of replacement works, to be incorporated into the CWP (condition 78).</p>	<p>The sampling and replacement strategy is set out in the overall asbestos sampling strategy as this condition only addresses a small part of the asbestos issue on the site. Although noted separately for some reason these elements are of no greater importance or pose greater threats to safety than the remainder of the asbestos material currently on the site.</p> <p>The policy accords with the DACMP which recognises the difficulty of addressing a fundamentally dangerous and high risk material with retaining some evidence of the use of the material for interpretation and sampling as part of the historic development of the site.</p> <p>The review process is set out and is satisfied by this submission.</p> <p>The detailed replacement works, where material is proposed to be removed, are set out in the individual applications for work to each building and in the interior fitout plan. These documents should also be referenced when considering the impact of asbestos on the site.</p> <p>This plan identifies where materials are to be retained and where they are to be replaced and the nature of the replacement material.</p>	3.2

The following tables set out the various DACMP policies relating to roofs and rainwater systems with a response on how each policy is addressed. It is noted that a broad range of policies is discussed to ensure that all matters related to asbestos are covered.

Table 5.6 DACMP Subsidiary policies for fixing of roofs

CPP.16.1.12	Evidence of previous roofing systems such as roof battens shall be retained where roofs are being replaced.	Roof materials which are scheduled for replacement will be replaced in accordance with the specifications and guidelines in the CWP and the DACMP. Evidence of asbestos roofing will only be retained where an asbestos roof is to be retained in situ. For health and safety reasons where asbestos roofs are removed all related asbestos material will also be removed.
CPP16.1.13	Flashings and roof finishing details shall reflect original or existing detailing as appropriate to the location.	Flashing and roof flashing that are to be replaced will be replaced with the appropriate materials and in the same location as their replacements, reflecting the detailing and as appropriate to the location. Where asbestos roofs and flashings are replaced the earlier form of flashing (usually lead or other metal) will be reinstated as appropriate to the approved roof covering.
CPP16.1.14	New roofs shall be fixed using current technology with sheet materials in long length (where possible) to maximise life span and reduce maintenance.	This is being carried and is scheduled in the CWP and attached specifications.
CPP16.1.15	Insulation may be introduced under new roofs to improve thermal performance.	This is being carried out and is detailed in the working drawings that are submitted to the DEC (NPWS) and the NSW Heritage Office.

Table 5.7 DACMP Subsidiary policies for rainwater goods

CPP16.1.16	Galvanised rainwater goods shall be matched in any replacement work. This is required to understand the various systems and variety of different materials used on the site.	This is being carried out, replacement will be with like for like material as scheduled.
CPP16.1.17	AC rainwater systems are to be replaced during the first maintenance period to remove risk of contamination from accessible areas. See CPP16.1.18. One building or area is to be retained for sampling as set out in the discussion above.	The CWP sets out the scheduling for replacement of A/C downpipes, gutters and associated fixings for replacement. Generally AC product will be replaced with galvanised iron products. In some areas the size of downpipes and gutters may be varied to accommodate the waterflow from roofs. Presently the AC system is larger than the earlier galvanised iron systems.
CPP16.1.18	New guttering systems can be either stainless steel in line with NPWS practice on the site, copper as seen on some buildings or another approved system. A rainwater system should be selected to replace the AC rainwater systems and should be used across the site. PVC material is not an appropriate material for the site. The preferred rainwater system is to be submitted with any application for work to the place with details on its installation.	The preferred rainwater system replacement was submitted with the Section 60 to NSW Heritage Office and subsequent works applications to the DEC (NPWS) for approval. These documents scheduled the replacement procedure and the materials which will replace the A/C rainwater system. Generally galvanised iron products have been adopted as the preferred replacement material on the site.

5.3.2 CPP16.2 – Asbestos Cement Products

Prior to 1958 there appears to have been relatively little use of AC products at the Quarantine Station. The major upgrade undertaken between 1958-1962 introduced this material for roofs, wall and ceiling linings, and in vinyl asbestos tiles as well as some other areas. It appears that a major reason for its introduction was the potential for reduction of maintenance given the exposed location of the site and the often rapid deterioration of metal products. Its widespread use on roofs appears to have been largely successful, providing a longer life roofing material in contrast to the corrugated iron and steel that had been subject to extreme salt attack. However asbestos roofing has a limited lifespan and much of the extant roofing is now in need of replacement.

Many rooms, particularly accommodation rooms were also relined with flat AC sheet and cover strips during the c1960 fitout phase.

AC was also introduced as a decorative treatment particularly in the form of vinyl asbestos floor tiles.

AC products are now extensively found throughout the site and form a key part of the character of the place. They are in fact now more prevalent than the earlier timber internal finishes and the corrugated iron roofs that are so evident in the 1929 aerial photographs.

Occupational Health and Safety (OH+S) regulations require that products containing asbestos be treated with extreme caution and that there are clear directives on handling and disposal of the material. Compliance with relevant regulations is required where AC products are being handled or worked on.

Some of the AC products on the site appear reasonably stable and their use can continue provided that OH+S regulations are satisfied. The area of greatest observed deterioration and problem is the AC rainwater system found on most buildings. Because the various elements are within easy reach of visitors and subject to vibration from passing vehicles they have generally deteriorated and are de-laminating. There is risk of material becoming dislodged and from direct contact with occupants. It is essential that these elements be removed under controlled and managed conditions.

The exception to this should be a sample installation in a secure area, possibly the Hospital/Isolation Precinct that is in sound condition. This will demonstrate the variety of materials used on the site. If required this sample could be sealed to prevent loss of surface material. Should a suitable example not be found, recording of the gutter system should be undertaken prior to removal.

The AC vinyl tile installations found across the site are in very poor condition and are not reusable in any locations observed. A sample area of this product should also be retained, again probably in the Hospital/Isolation Precinct, and other installations removed under controlled conditions.

Provided that wall linings are well maintained and painted, the continuing use of the material in non accommodation rooms and internal linings is recommended. It may also be possible in some locations to cover or encapsulate asbestos products.

Where asbestos is found in a free form such as lagging or insulation it should be either removed using approved methods or encapsulated.

Use and replacement of AC roofing is covered under Section CPP16.1 Roofing.

Table 5.8 DACMP Subsidiary policies for asbestos

CPP16.2.1	AC products should continue to be used where they do not pose a threat to safety. This will be determined by reference to the OH+S Act.	A/C materials that are to be retained are scheduled in this document.
CPP16.2.2	All AC rainwater goods are to be removed or covered except for a sample installation. The location of this sample is to be determined on the basis of an approved interpretation plan for the place and in an area with restricted public access.	This is being carried out and is scheduled within this document and the documents submitted to the NSW Heritage Office and the DEC (NPWS)
CPP16.2.3	All floor coverings containing AC are to be removed except for a sample area (the preferred area is in the Hospital Buildings). The sample is to be determined on the basis of an approved interpretation plan for the place and in an area with restricted public access.	This is being carried out and is scheduled within this document and the documents submitted to the NSW Heritage Office and the DEC (NPWS)
CPP16.2.4	AC roofs are generally to be retained or replaced with a similar material as set out in the roofing policy.	This is being carried out and is scheduled within this document and the documents submitted to the NSW Heritage Office and the DEC (NPWS)
CPP16.2.5	All materials containing AC scheduled for demolition or removal are to be handled in strict compliance with OHS regulations and by an approved and certified contractor.	This is being carried out and is scheduled within this document and the documents submitted to the NSW Heritage Office and the DEC (NPWS). All material containing Asbestos will be removed in accordance with Workcover NSW OHS regulations, approved by a certified contractor and licensed thru WorkCover.
CPP16.2.6	Patching of minor damage to AC goods should only take place where there is no risk of further damage or of human risk and is to be carried out in strict compliance with regulations. Generally patching of asbestos products is not permitted.	This is being carried out and is scheduled within this document and the documents submitted to the NSW Heritage Office and the DEC (NPWS)

5.3.3 Challenges in Conservation and Safe Use

The issue of asbestos on the site provides one of the most difficult issues to resolve in terms of providing a safe environment for visitors and staff, and in interpreting the history of the station, particularly through the Aviation phase where extensive use of asbestos products took place.

The DACMP was mindful of potential conflicts with asbestos products and public access (of any kind and related to any future use options for the station). Generally the intent of the DACMP policies was to remove asbestos products where they were in close contact with public and staff and to restrict their retention (required for sampling) to managed areas of the site where public access was either low, controlled or the element was not indirect contact with people. Consequently most of the recommendations for retaining asbestos products are found in the Hospital Precinct, some in the wharf and small amounts only in the accommodation areas.

The areas of greatest risk in dealing with asbestos are where the product can be touched or damaged. The proposals in this strategy address this issue and the ongoing issue of damage and replacement.

The overall intent of the sampling strategy is to retain examples of asbestos products in safe areas on the site and to remove all asbestos products where they can be touched or accessed. While this has some consequences for sampling it is submitted that health and safety issues must take precedence in relation to asbestos or the site as a whole cannot be used.

5.3.4 Key Strategies

The key strategies are:

Remove all asbestos downpipes and gutters.

Reason: The asbestos is friable, can be touched by any user of the site (including children) and cannot easily be sealed. Most of the rainwater system in asbestos is damaged and leaks and repair work is not possible.

Remove all but a select group of asbestos roofs in a planned medium to long-term program. Replace all asbestos roofs in accommodation areas.

Remove any asbestos product that is damaged.

Reason: Asbestos should not be repaired, once an item fails for whatever reason it must be replaced, by way of example a damaged roof sheet would require the whole roof to be replaced as compatible materials do not exist to undertake repairs.

Remove or cover all internal linings containing asbestos in accommodation buildings but retain it in sampled areas where interpretation is taking place.

Reason: Controlled access and appropriate sealing of asbestos products will satisfy sampling requirements and provide a reasonably safe environment.

Where asbestos products are removed such as internal linings, similar products that do not contain asbestos are to be used as a replacement material.

Due to the safety issues related to asbestos the strategy requires asbestos products to be removed where there is a real, predicted or perceived safety issue.

The following sections outline the processes of removal, sealing/painting or repair of asbestos products. The following table (Table 6) identifies where asbestos products are located on the site and which are to be retained.

5.3.5 Removal of Asbestos

Generally it is desirable to remove asbestos material where it comes not contact with users of the site. The most obvious location is downpipes, all of which are scheduled for removal and replacement with a new material. Asbestos cement sheet Roofs will also be removed on a number of buildings where there is damage or risk of contact. Over time as the asbestos roofs fail they will be removed and replaced on a needs basis. The intent of the strategy is to retain some roofs for sampling in the long-term, particularly in the hospital area and the wharf precinct, but it is possible, depending on how well they weather and to what damage they are subject that all asbestos sheet roofs could be replaced. This will be monitored in the proposed audits of the station.

The other area of asbestos removal is building interiors where wall and ceiling sheeting is found containing asbestos. Buildings P1 and P9 are lined with asbestos cement sheet to wall and ceilings. This formed part of the c1960 refit of the station. A number of buildings also have a pre-finished form of asbestos sheet known as Tilux lining bathrooms. This is found in the accommodation buildings at P1, P2, P9, P11, P12, H7-11 as well as a range of bathrooms across the site that are to be retained for sampling.

It is proposed to remove the wall sheeting in P1 and P9 for safety and to allow the installation of insulation. The process for removal and reinstatement of finishes is:

- one room will have all of its wall sheeting removed and safely disposed of
- Insulation will be installed as detailed and 13mm plasterboard sheeting fixed to the existing framing.
- The adjacent rooms to the one above will retain their wall linings will be over sheeted with 13mm plasterboard, this pattern will extend around the building until all exposed AC product is removed or covered.
- In building P1 cover strips will be reinstated to replicate the appearance of the AC sheet for interpretative purposes.
- The interior will be painted.
- The ceilings are to be retained in their present form
- The corridor in P1 will be sheeted in villaboard with cover strips, existing AC cover strips will be removed

In Buildings P1 and P2 Tilux in the accessible bathrooms will be removed and replaced with a matching product.

5.3.6 Painting or Sealing

Asbestos cement sheet roofs to be retained in the short or long term in the Admin, 1st and 2nd class and 3rd class precincts will be painted in situ. This will be undertaken from mobile scaffold using shaped rollers to avoid access onto roofs. Where access must take place it will be undertaken to appropriate OH+S requirements to ensure damage to the roofing does not occur and personnel are safe.

Roofs in the wharf and hospital precinct are to be retained in their present state as part of the sampling strategy. However, the underside of the roof sheeting where exposed in buildings will be painted (A14-17 and A11) (CPP16.1.4)

Where AC gutters are retained they will be painted to encapsulate them and prevent risk of flaking material.

Asbestos finishes will be monitored on a regular basis as part of the site audits.

5.3.7 Repair of Asbestos Products

Generally repair of asbestos is not desirable due to risks, however minor repairs will need to be undertaken to fix small holes or minor cracks. This work will be undertaken with care and using appropriate safety measures for personnel.

Small holes and cracks will be locally filled with a sealant prior to painting. It is not intended to replace whole sheets due to the consequential difficulties of avoiding damage to adjacent material.

Gutters will require realignment, sealing of joints as many currently leak and refinishing to provide a watertight installation. Gutter brackets will also require repair, straightening in some instances and painting.

The intent of undertaking repairs is to lengthen the life of elements and to improve user safety. Where elements are difficult to repair replacement will be considered. This will be determined when access is available to each building for detailed inspection.

The intent of the policy is to provide a safe environment while trying to comply with the conditions of consent related to sampling. The process of working on or removing asbestos will be undertaken to stringent safety guidelines by qualified tradespeople. It is proposed to address asbestos issues on each building separately to other work so that there is no risk to other tradespeople on the site. Buildings H1 and P22 are not considered as they are to be reconstructed.

Table 5.9 Buildings with asbestos

(note Items marked with a cross indicate elements of each building containing asbestos, and shaded elements are features to be retained)

Wharf Precinct

Building Number	Building	DACMP Significance Assessment	AC elements of building	Roof	Gutter	DP's	Wall or Ceiling Lining	Floor
L5	WHARF	2	NA	-	-	-	-	-
A6	BOILER HOUSE	2	NA	-	-	-	-	-
A7	AUTOCLAVES	1	No action	-	-	-	-	-
A8	FORMALIN CHAMBERS	1	No action	-	-	-	-	-
A9	LAUNDRY	1	No action	-	-	-	-	-
A11-A12	BATH HOUSES	1	Retain AC roofs, replace downpipes and gutters	X	X	X	-	-
A14-A17	LUGGAGE SHEDS	2	Retain AC roofs replace downpipes, seal underside of sheeting	X	X		X ceiling	-
A46	SWITCH ROOM	3	NA	-	-	-	-	-

Table 5.9 Buildings with asbestos (cont)

Hospital Precinct

Building Number	Building	DACMP Significance Assessment	AC elements of building	Roof	Gutter	DP's	Wall or Ceiling Lining	Floor
H2	BRICK WARD	1	NA	X	X	X	X	-
H3	CHANGING BLOCK	2	Remove AC gutters and Downpipes Replace gutters downpipes and roof with metal	X	X	X	X	-
H4	DOCTORS AND NURSES QUARTERS	2	Retain AC gutters Replace downpipes with metal	X	X	X	X	-
H5	KITCHEN	2	Retain AC gutters Replace downpipes with metal Partial replacement of floor finish	X	X	X	X	X
H6	MORTUARY + LABORATORY	1	Remove gutters Replace downpipes with metal Remove AC fascias	X	X	X	X	-
H7	KITCHEN AND COOKS QUARTERS	1	Replace AC roof with metal roofing Replace gutters and downpipes with metal	X	X	X	X	X
H8-H11	ISOLATION WARDS	1	Replace AC roof with metal roofing Replace gutters and downpipes with metal unit	X	X	X	X	X
H14	ASSISTANTS QUARTERS	2	Retain AC gutters Replace downpipes with metal	X	X	X	-	X
H15	BUNK HUT	2	Replace roof sheeting Retain AC gutters Replace downpipes	X	X	X	X	-
Building Number	Building	DACMP Significance Assessment	AC elements of building	Roof	Gutter	DP's	Wall or Ceiling Lining	Floor
H14a	COVERED WALKWAYS	2	Replace roof sheeting Retain AC gutters Replace downpipes with metal	X	X	X	-	-

Table 5.9 Buildings with asbestos (cont)

First and Second Class Precinct

Building Number	Building	DACMP Significance Assessment	AC elements of building	Roof	Gutter	DP's	Wall or Ceiling Lining	Floor
P1	PASSENGER QUARTERS	1	Remove AC gutters and downpipes, replace with metal. Paint existing main AC roof and bathroom roof Retain and paint AC ceilings in bathrooms Remove Tilux sheeting and replace with prefinished FC sheet Remove AC wall sheeting to alternate rooms, replace with plasterboard Oversheet other AC walls with plasterboard	X	X	X	X	X
P2	PASSENGER QUARTERS	1	Remove AC gutters Replace downpipes with metal Paint existing AC roof and verandah roof Retain and paint AC ceilings in bathrooms Remove Tilux sheeting and replace with prefinished FC sheet	X	X	X	X	X
P3	MEN'S SMOKING ROOM	1	Remove AC gutters Replace downpipes with metal	-	X	X	-	-
P4	MEAT HOUSE	1	Remove AC gutters Replace downpipes with metal	-	X	X	-	-
P5	PASSENGER QUARTERS, DINING ROOM	1	Remove AC gutters Replace downpipes with metal Remove vinyl asbestos floor tiles Retain AC ceilings to bathrooms	-	X	X	X	X
P6	KITCHEN, STEWARDS		Remove gutters and downpipes replace Remove floor tiles	-	X	X	-	X
P7	LADIES SITTING ROOM		Retain AC gutters Replace downpipes with metal	-	X	X	-	-
P8a	TOILET BLOCK	1	Remove AC gutters Replace downpipes with metal Paint existing AC roof	X	X	X	-	-
Building Number	Building	DACMP Significance Assessment	AC elements of building	Roof	Gutter	DP's	Wall or Ceiling Lining	Floor
P9	PASSENGER QUARTERS	1	Retain AC gutters Replace downpipes with metal Remove AC sheeting to alternate rooms and replace with FC sheet	-	X	X	X	-

			Oversheet remaining AC sheet Remove Tilux wall sheeting and replace with FC sheet					
P10	PASSENGER QUARTERS		Remove AC gutters Replace downpipes with metal	-	X	X	-	-
P10a	TOILET BLOCK		Remove AC gutters Replace downpipes with metal Paint existing AC roof	X	X	X	-	-
P10b	TOILET BLOCK		Remove AC gutters Replace downpipes with metal Paint existing AC roof	X	X	X	-	-
P11	PASSENGER QUARTERS	2	Retain AC gutters Replace downpipes with metal Retain Tilux sheeting	-	X	X	X	-
P12	PASSENGER QUARTERS	2	Retain AC gutters Replace downpipes with metal Retain Tilux sheeting	-	X	X	X	-
P13	KITCHEN DINING ROOM	2	Remove AC gutters Replace downpipes with metal	-	X	X	-	-
P36	IRONING ROOM	2	Retain AC gutters Replace downpipes with metal Paint existing AC roof	X	X	X	-	-

Table 5.9 Buildings with asbestos (cont)

Third Class Precinct

Building Number	Building	DACMP Significance Assessment	AC elements of building	Roof	Gutter	DP's	Wall or Ceiling Lining	Floor
P14-P16	3rd CLASS/ASIATIC	1	NA	-	-	-	-	-
P17	SHELTER SHED	1	Remove AC gutters and downpipes, replace with metal Replace rear wall sheeting with FC sheeting	X	X	X	X	-
P18	ASIATIC KITCHEN	1	Remove AC roofing Remove AC base to downpipes	X	-	X	-	-
P27	3rd CLASS DINING ROOM	1	NA	-	-	-	-	-
P28	LAVATORY	3	Retain AC ceiling lining	-	-	-	X	-
Building Number	Building	DACMP Significance Assessment	AC elements of building	Roof	Gutter	DP's	Wall or Ceiling Lining	Floor
P29	LAVATORY	3	Retain AC ceiling lining	-	-	-	X	-
S9	STAFF COTTAGE	1	Remove AC roofing to rear addition, retain on main roof Retain AC sheeting to front verandah	X	-	-	X	-
A1	SUPERINTENDENT'S OFFICE	1	Retain section of AC roof Remove AC sheeting in foyer	X	-	-	X	-
A2	GENERAL STORE	1	Retain AC roof sheeting Remove AC gutters and downpipes Retain and paint AC sheet ceiling	X	X	X	X	-
A18	LOCOMOTIVE SHED	2	Remove AC gutters and downpipes Retain infill panel over roller door and paint	-	X	X	X	-
A20	STAFF MESS	2	Remove gutters	-	X	-	-	X
A23	CART SHED	2	Remove AC roof sheeting and flashings Remove AC gutter and downpipes	X	X	X	-	-
A24	STABLES	2	NA	-	-	-	-	-
A25	POST OFFICE	2	Remove AC gutters and downpipes Retain internal wall sheeting and floor tiles	-	X	X	X	X
A26	RECEIVING SHED	3	Remove AC wall cladding	-	-	-	X	-
A28-A29	STORE	2	Remove where new windows are being provided. Retain external wall cladding	X	X	-	X	-
L13	GREENHOUSE	3	NA	-	-	-	-	-
S1	STAFF COTTAGE	2	Remove AC wall linings in kitchen	-	-	-	X	-
S2	STAFF COTTAGE	2	Remove AC gutters and downpipes Remove verandah infills, kitchen panels, floor tiles	-	X	X	X	X
S4	STAFF COTTAGE	3	Remove verandah infills	-	-	-	X	X
S5	STAFF COTTAGE	2	NA	-	-	-	-	-

S6	STAFF COTTAGE	1	Retain AC roof Retain internal wall linings	X	-	-	X	-
S7	STAFF COTTAGE	3	Remove AC roof Remove AC linings and floor tiles	X	-	-	X	X
S10	STAFF COTTAGE	3	Remove floor tiles	-	-	-	-	X
S12	STAFF COTTAGE	3	Remove AC roof Remove wall linings,tiles	X	-	-	X	X
Building Number	Building	DACMP Significance Assessment	AC elements of building	Roof	Gutter	DP's	Wall or Ceiling Lining	Floor
S14	STAFF COTTAGE	3	Remove AC roof Remove gutters and downpipes	X	X	X	-	-
S15	STAFF COTTAGE	3	Remove AC roof Remove gutters Remove linings and floor tiles	X	X	-	X	X
S16	STAFF COTTAGE	3	Remove AC roof Remove wall linings	X	-	-	X	-
L2a	PUMP HOUSE	3	NA	-	-	-	-	-
A22	KEROSINE ST		NA	-	-	-	-	-

5.4 Bathroom Sampling

Most of the buildings contain bathrooms, basins, kitchens or other plumbing fitout. Some elements are of high significance and some are more recent or have elements of lesser significance. Condition 99 (b) requires development and implementation of a strategy related to retention of aviation phase bathrooms, based on the policies set out in the DACMP. Table 5 comments on the policy initiatives set forth in the DACMP, and below this Table 6 outline the strategy.

Buildings H1 and P22 are not considered as they are to be reconstructed.

Table 5.10 Bathroom Sampling Compliance

Policy No.	Policy	Comments and Strategy
CPP16.12.1	<i>Bathroom and WC fitouts should not be altered unless there is a health issue related to ongoing use, or failure of fitout or finishes that makes the bathrooms nonfunctioning.</i>	All sampled bathrooms will use existing facilities and will undergo minor repair works as required to make the system operable.
CPP16.12.2	Adaptation of bathrooms that must be retained should be limited to removing failed fitout elements such as the vinyl sheeting and bath surrounds. Wherever possible the existing fitout is to be used with new finishes applied as <i>required to provide functional bathrooms.</i>	The strategy applied involves a minimal removal of fabric seeking where possible to utilise existing fabric.
CPP16.12.3	No material surviving from early or original construction of bathrooms is to be removed. This applies to early fittings (generally nominated on building data sheets), wall and ceiling finishes, room layouts where they survive, doors and joinery details and evidence of early fitout including ventilators, wastes, lead floors etc.	The importance of this clause will be respected on all sampled bathrooms.
CPP16.12.4	New bathroom locks and furniture may be installed only when the significant existing furniture is not functional (as set out in CPP16.7) or when existing furniture is not safely operable.	New hardware is applied where necessary to satisfy current standards. This is not directly in accordance with the policy as in some cases operational door hardware will be replaced with compliant latching devices. This is a BCA requirement to satisfy emergency egress provisions.
CPP16.12.5	<i>Tiling of bathrooms and WCs is not appropriate. Floor finishes should remain concrete or vinyl sheeting where currently in place. Repainting of concrete floors to provide a sealed surface is acceptable. Repair of cracks should form part of this work.</i>	No tiling is proposed, new BCA compliant vinyl will be installed to replace AC tiles and old vinyl. Concrete floor finishes will remain as is.
CPP16.12.6	<i>A bathroom may be returned to its original fitout for interpretation purposes only where sufficient evidence of the form survives to allow this to be undertaken accurately. An appropriate interpretation strategy is required.</i>	Bathrooms retained in their original layout follow detailed investigations as set out in the DACMP building data sheets.

Table 5.11 Sampling of bathrooms and kitchens

Note: Buildings coloured yellow in the table retain their original plumbing layout, where coloured light blue retain their c1960 refitted bathroom layout. Buildings coloured light grey have no bathroom fitouts.

Building Number	Building	DACMP Significance Assessment	Period of Fitout	Comment
Wharf Precinct				
L5	WHARF	2		NA
A6	BOILER HOUSE	2	1915	The existing plumbing fitout to the boilers is to be retained for interpretation; it is not to be active.
A7	AUTOCLAVES	1	1915	The existing plumbing fitout is to be retained for interpretation; it is not to be active.
A8	FORMALIN CHAMBERS	1		NA
A9	LAUNDRY	1	1915	The existing plumbing fitout is to be retained for interpretation; it is not to be active.
A11	BATH HOUSE	2	1915	The plumbing fitout has been removed except for several toilets that remain working. These are to be retained.
A12	BATH HOUSE	1	1915	The existing plumbing fitout is to be retained for interpretation; it is not to be active.
A14-A17	LUGGAGE SHEDS	2	c1960	The existing bathrooms from the aviation phase fitout are to be refitted to provide the major public toilets of the wharf area. All plumbing and drainage will be replaced.
A46	SWITCH ROOM	3		NA
Hospital/Isolation Precinct				
H2	BRICK WARD	1	1912 c1960	The existing plumbing and bathroom fitouts are to be retained for use (one set of toilets) and interpretation)
H3	CHANGING BLOCK	2	1912 c1960	The existing plumbing fitout is to be retained, some additional plumbing is to be added.
H4	DOCTORS AND NURSES QUARTERS	2	c1960	The existing plumbing fitout is to be retained and continue in use.
H5	KITCHEN	2	c1960	Retain plumbing with minor upgrade to post 1980s kitchen fitout.
H6	MORTUARY AND LABORATORY	1	1915	The existing plumbing fitout is to be retained and used for interpretation.
H7	KITCHEN AND COOKS QUARTERS	1	c1960	Upgrade of plumbing fitout to kitchen area.
H8-H11	ISOLATION WARDS	1	1916 c1960	Bathroom fitouts are to be retained with some upgrade to make workable.
H14	ASSISTANTS QUARTERS	2	c1960	The existing plumbing fitout is to be retained and continue in use.
Building Number				
H15	BUNK HUT	2	-	NA
H14a	COVERED WALKWAYS	2	-	NA
1st/2nd Class Precinct				
P1	PASSENGER QUARTERS	1	1880	Existing bathrooms are to be retained with

			c1960	minor upgrade work to plumbing and fitout.
P2	PASSENGER QUARTERS	1	1880 c1960	Existing bathrooms are to be retained with minor upgrade work to plumbing and fitout.
P3	MEN'S SMOKING RM	1	-	NA
P4	MEAT HOUSE	1	-	NA
P5	PASSENGER QUARTERS, DINING ROOM	1	1898	The existing plumbing fitout is to be retained and continue in use. New services are to be added for en-suite bathrooms.
P6	KITCHEN, STEWARDS	1	1914	The existing plumbing fitout is to be retained and continue in use. New services are to be added for en-suite bathrooms.
P7	LADIES SITTING ROOM	1		NA
P8a	TOILET BLOCK	1	1884	The existing plumbing fitout is to be retained and continue in use.
P9	PASSENGER QUARTERS	1	1900 c1960	The existing plumbing fitout is to be retained and continue in use. New services are to be added for en-suite bathrooms.
P10	PASSENGER QUARTERS	1	-	New services are to be added for en-suite bathrooms.
P10a	TOILET BLOCK	1	c1900	The existing plumbing fitout is to be retained and continue in use.
P10b	TOILET BLOCK	1	c1900	The existing plumbing fitout is to be retained and continue in use.
P11	PASSENGER QUARTERS	2	c1960	The existing plumbing fitout is to be retained and continue in use. New services are to be added for en-suite bathrooms.
P12	PASSENGER QUARTERS	2	c1960	The existing plumbing fitout is to be retained and continue in use. New services are to be added for en-suite bathrooms.
P13	KITCHEN DINING ROOM	2	c1960	Toilet fitout to be retain in current form. Kitchen to have minor upgrade to recent fitout items
P36	IRONING ROOM	2	c1935	The existing plumbing fitout is to be retained and continue in use.
3rd Class/Asiatic Precinct				
P14-P16	3rd CLASS/ASIATIC ACCOM	1	1880 c1925	Bathrooms to be retained.
P17	SHELTER SHED	1	-	NA
Building Number	Building	DACMP Significance Assessment	Period of Fitout	Comment
P18	ASIATIC KITCHEN	1	-	NA
P27	3rd CLASS DINING ROOM	1	1912	The existing fitout is to be retained and continue in use and be used for interpretation.
P28	LAVATORY	3	1918 c1960	The existing plumbing fitout is to be retained and continue in use.
P29	LAVATORY	3	1918 c1960	The existing plumbing fitout is to be retained and continue in use.
S9	STAFF COTTAGE	1	c1950	The present plumbing and bathroom fitout is inoperable and will require repair and upgrade to allow future use.

Administration Precinct				
A1	SUPERINTENDENT'S OFFICE	1	1912 c1960	The present fitout is to be retained with minor upgrade to kitchenette area.
A2	GENERAL STORE	1	1921	The bathroom is to be restored. One sink unit is to be disconnected but retained.
A18	LOCOMOTIVE SHED	2	-	NA
A20	STAFF MESS	2	1920 c1960	The toilets are to be upgraded (they have been refitted on a number occasions). The kitchen area is to be refitted due to loss of equipment and fitout and new use.
A23	CART SHED	2	-	NA
A24	STABLES	2	-	NA
A25	POST OFFICE	2	c1960	The existing plumbing fitout is to be retained and continue in use.
A26	RECEIVING SHED	2	-	NA
A28-A29	STORE	2	-	NA
L13	GREENHOUSE	3	-	NA
S1	STAFF COTTAGE	2	c1960	The existing plumbing fitout is to be retained and continue in use. The laundry is to be converted to an additional staff bathroom. The kitchen is to be upgraded, present kitchen is not significant.
S2	STAFF COTTAGE	2	c1960	The existing plumbing fitout is to be retained and continue in use. The kitchen is to be upgraded, present kitchen is not significant.
S4	STAFF COTTAGE	3	c1960	Minor repairs to bathroom and kitchen only (to fitout items of low significance only).
S5	STAFF COTTAGE	2	c1945	Minor repairs to bathroom and kitchen only (to fitout items of low significance only).
S6	STAFF COTTAGE	1	c1930	Minor repairs to bathroom and kitchen only (to fitout items of low significance only).
S7	STAFF COTTAGE	3	c1960	Minor repairs to bathroom and kitchen only (to fitout items of low significance only).
S10	STAFF COTTAGE	3	c1960	Minor repairs to bathroom and kitchen only (to fitout items of low significance only).
S12	STAFF COTTAGE	3	c1913	Minor repairs to bathroom and kitchen only (to fitout items of low significance only).
S14	STAFF COTTAGE	3	c1938	Minor repairs to bathroom and kitchen only (to fitout items of low significance only).
S15	STAFF COTTAGE	3	c1937	Minor repairs to bathroom and kitchen only (to fitout items of low significance only).
S16	STAFF COTTAGE	3	c1937	Minor repairs to bathroom and kitchen only (to fitout items of low significance only). An additional bathroom is to be created with new plumbing and fitout.
L2a	PUMP HOUSE	3	-	The present fit out although inoperative is to be retained for interpretation.

5.5 Roofing Sampling

The roofs fall into three main material categories, corrugated asbestos sheeting from the aviation phase, concrete tiles from the aviation phase and metal corrugated sheeting from pre-aviation phase, aviation phase and NPWS occupation.

The sampling policy is to retain examples of each roofing type through the site recognising that:

- the AC sheet roofs have inherent maintenance and health problems that will involve the short medium and long-term replacement of those roofs
- the tile roofs are also subject to deterioration and will in the longer term require replacement
- metal roofs have a limited life and will require ongoing maintenance and replacement.

The pattern of roof replacement over the life of the station has been a pragmatic one replacing older roof forms with new materials to try and improve the life of the roofs. Clearly iron roofs were replaced with corrugated asbestos and then tiles to reduce maintenance. Extensive work was undertaken to some buildings to strengthen roof structures to accommodate the tiles, however some of the tiles proved to have a short life span and were replaced very quickly.

The sampling strategy is to:

Retain the majority of existing roofs while practicable. Accommodation buildings with AC roofing will be replaced. Roofs that can be repaired, painted and retained will be.

Where roofs are badly deteriorated they will be replaced, generally with colorbond metal roofs using the high resistance finish for exposed conditions.

Retain AC roofs in areas that can be managed such as the hospital precinct and the wharf area but replace them elsewhere because of their inherent danger.

When AC roofs become damaged they will be replaced as it is not possible to work on them safely.

Adopt standard colours and finishes across the site that reflects this layer of work to the place.

Remove all asbestos products where they are accessible to visitors or staff and have potential to cause problems of touching and delaminating.

Retain examples of each roof material in the long-term, however where AC roofs fail they will be replaced.

The following table sets out the current roof materials and identifies by shading those roofs that are to be replaced in the initial stages of work. All roofs to be replaced are being replaced with colorbond corrugated metal sheeting in long lengths to obtain maximum material life.

Refer to Site plan 4 and 5: Current Roof Configuration and Proposed Roof Sampling

Below are the related DACMP subsidiary policies and comments on the proposed sampling strategy.

Table 5.12 Roofs Sampling Compliance

Policy No.	Policy	Comments and Strategy
CPP16.1.2	<i>Roofs clad in corrugated AC sheet are to be retained until they require repair, at which point they are to be replaced with a compatible product of the same profile, such as reinforced glass fibre sheeting (GRC sheeting manufactured by Mascot Engineering Group) with similar flashings and trims.</i>	A/C roof sheeting will be replaced as set out in this document. All A/C sheeting scheduled for replacement will be replaced with a similar profile material, each building change in material will be assessed based on the distance from the salt water and public viewing and the material will be adapted to suit these and other requirements as set out in the DACMP and the CWP.
CPP16.1.3	<i>In buildings without ceilings that are roofed in corrugated AC sheet the roof cladding should either have: a) The underside of the sheeting sealed to prevent roofing material dislodging or, if this is not possible, b) The existing roof sheeting removed and matching GRC sheet cladding reinstated c) A schedule of replacement or treatment is to accompany any application for work to the place</i>	Buildings with exposed underside of A/C sheeting will be treated as specified for example in building A14-17. a) Similar products are not longer available; consequently the strategy is to replace the A/C roof sheeting with continuous Custom Orb profile sheeting. b) A schedule of replacement or treatment will be scheduled and submitted with the works application to the NSW Heritage Office and the DEC (NPWS).
CPP16.1.11	<i>Roofs should only be replaced progressively through the site to allow the present character of the site to be retained. Roof replacement should if possible be a scheduled maintenance work and not a one-off across the site item.</i>	The AC roof replacement to occur in bulk groups of buildings for OH&S reasons. This is contradictory to policy 16.1.11. The amendments are an initiative to remove more asbestos from the site than what was originally envisaged in the DACMP. The policy is to replace roofs where overnight accommodation will occur excluding the sampling of P1 & P2. Maintaining sampling of roofs on buildings intended for interpretation and day use only. The CWP has set out each area in which roof materials will be retained, repaired or replaced as required to protect the overall fabric of the building.
CPP.16.1.12	<i>Evidence of previous roofing systems such as roof battens shall be retained where roofs are being replaced.</i>	All roof framing will be retained when roof replacement is required unless structurally insufficient where a like with like replacement will be instigated.
CPP16.1.13	<i>Flashings and roof finishing details shall reflect original or existing detailing as appropriate to the location.</i>	Flashing and roof flashing which are to be replaced, will be replaced with the appropriate materials and in the same location as their replacements, reflecting the detailing and as appropriate to the location.

Table 5.13 Rainwater Goods Sampling Compliance

Policy No.	Policy	Comments and Strategy
CPP16.1.17	AC rainwater systems are to be replaced during the first maintenance period to remove risk of contamination from accessible areas. See CPP16.1.18. One building or area is to be retained for sampling as set out in the discussion above.	The CWP sets out the scheduling for replacement of A/C downpipes, gutters and associated fixings for replacement, which is contradictory to Policy 16.1.17
CPP16.1.18	New guttering systems can be either stainless steel in line with NPWS practice on the site, copper as seen on some buildings or another approved system. A rainwater system should be selected to replace the AC rainwater systems and should be used across the site. PVC material is not an appropriate material for the site. The preferred rainwater system is to be submitted with any application for work to the place with details on its installation.	The preferred rainwater system replacement is colourbond guttering.

Table 14 sets out the proposed roof sampling. All roofs marked for replacement will be replaced with a corrugated iron roof.

Table 5.14 Sampling of rooves

Note: Elements shaded in the table are to be replaced as part of the conservation works program.

Building Number	Building	Corrugated iron	Tile	AC sheet	Other
Wharf Precinct					
A6	BOILER HOUSE	X			
A7	AUTOCLAVES	X			
A8	FORMALIN CHAMBERS	X			
A9	LAUNDRY	X			
A11	BATH HOUSE			X	
A12	BATH HOUSE			X	
A14-A17	LUGGAGE SHEDS			X	
A46	SWITCH ROOM				concrete
Hospital/Isolation Precinct					
H2	BRICK WARD			X	
H3	CHANGING BLOCK			X	
H4	DOCTORS + NURSES			X	
H5	KITCHEN			X	
H6	MORTUARY AND LABORATORY			X	
H7	KITCHEN AND COOKS QUARTERS			X	
H8-H11	ISOLATION WARDS			X	
H14	ASSISTANTS QUARTERS			X	
H15	BUNK HUT			X	
H14a	COVERED WALKWAYS			X	
3rd Class/Asiatic Precinct					
P14-P16	3rd CLASS/ASIATIC		X		
P17	SHELTER SHED			X	
P18	ASIATIC KITCHEN			X	
P27	3rd CLASS DINING ROOM	X			
P28	LAVATORY		X		

P29	LAVATORY		X		
S9	STAFF COTTAGE			X	

Table 5.14 Sampling of rooves (cont)

Building Number	Building	Corrugated iron	Tile	AC sheet	Other
1st/2nd Class Precinct					
P1	PASSENGER QUARTERS	X		X	
P2	PASSENGER QUARTERS	X		X	
P3	LADIES SMOKING RM		X		
P4	MEAT HOUSE		X		
P5	PASSENGER QUARTERS, DINING ROOM	X	X		
P6	KITCHEN, STEWARDS		X		
P7	MENS SITTING ROOM		X		
P8a	TOILET BLOCK			X	
P9	PASSENGER QUARTERS		X		
P10	PASSENGER QUARTERS		X		
P10a	TOILET BLOCK			X	
P10b	TOILET BLOCK			X	
P11	PASSENGER QUARTERS		X		
P12	PASSENGER QUARTERS		X		
P13	KITCHEN DINING RM		X		
P33	TELEPHONE ROOM		X		
P36	IRONING ROOM			X	
Administration Precinct					
A1	SUPERINTENDENT'S OFFICE		X	X	
A2	GENERAL STORE			X	
A18	LOCOMOTIVE SHED		X		
A20	STAFF MESS		X		
A23	CART SHED			X	
A24	STABLES	X			
A25	POST OFFICE		X		
A26	RECEIVING SHED	X			
A28-A29	STORE			X	
L13	GREENHOUSE				
Building Number	Building	Corrugated iron	Tile	AC sheet	Other
S1	STAFF COTTAGE	X			
S2	STAFF COTTAGE		X		
S4	STAFF COTTAGE		X		
S5	STAFF COTTAGE	X			
S6	STAFF COTTAGE			X	
S7	STAFF COTTAGE			X	
S10	STAFF COTTAGE	X			
S12	STAFF COTTAGE			X	
S14	STAFF COTTAGE			X	
S15	STAFF COTTAGE			X	
S16	STAFF COTTAGE			X	
L2a	PUMP HOUSE	X			

Figure 5.4 Current roofing materials at Quarantine Station

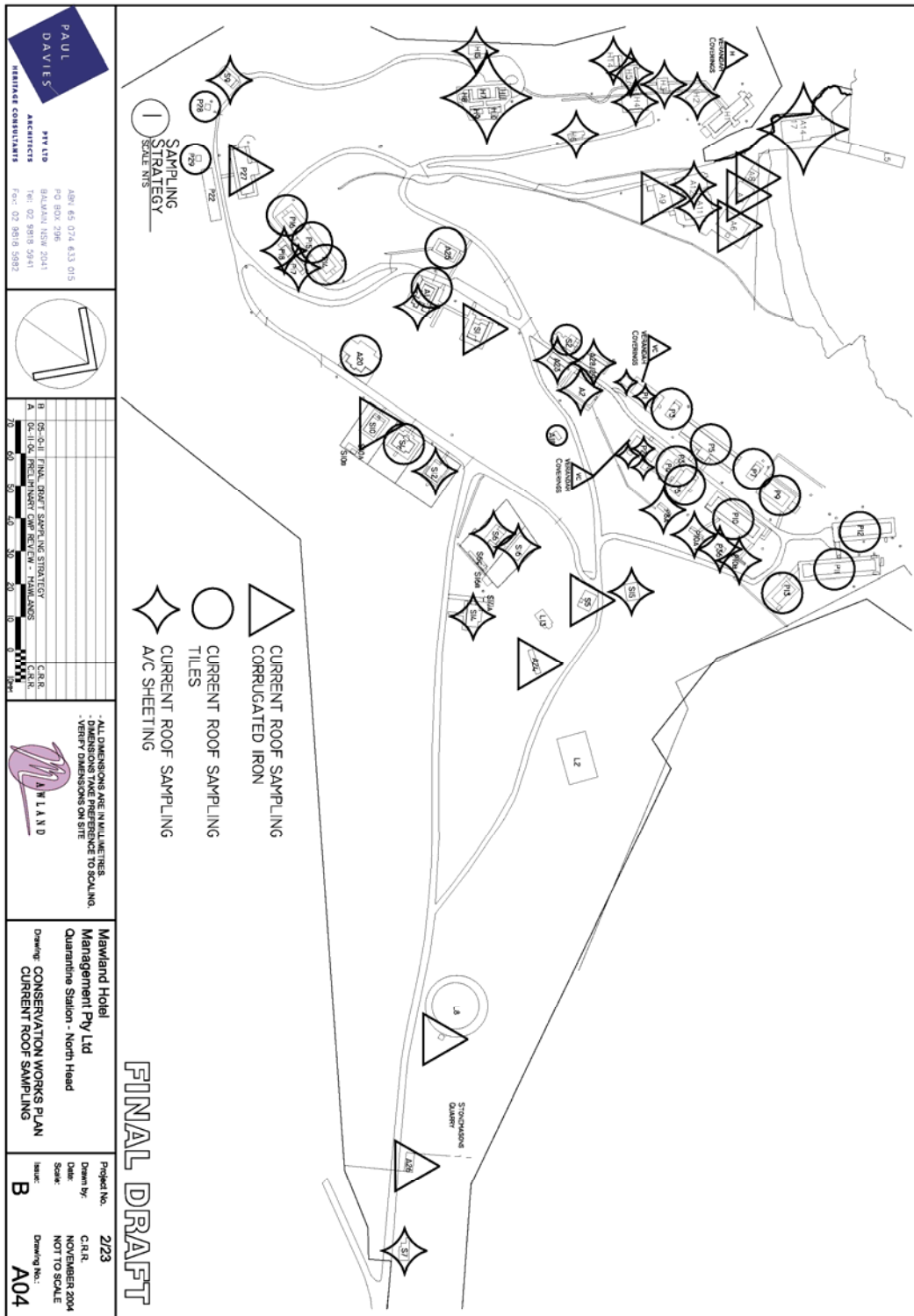
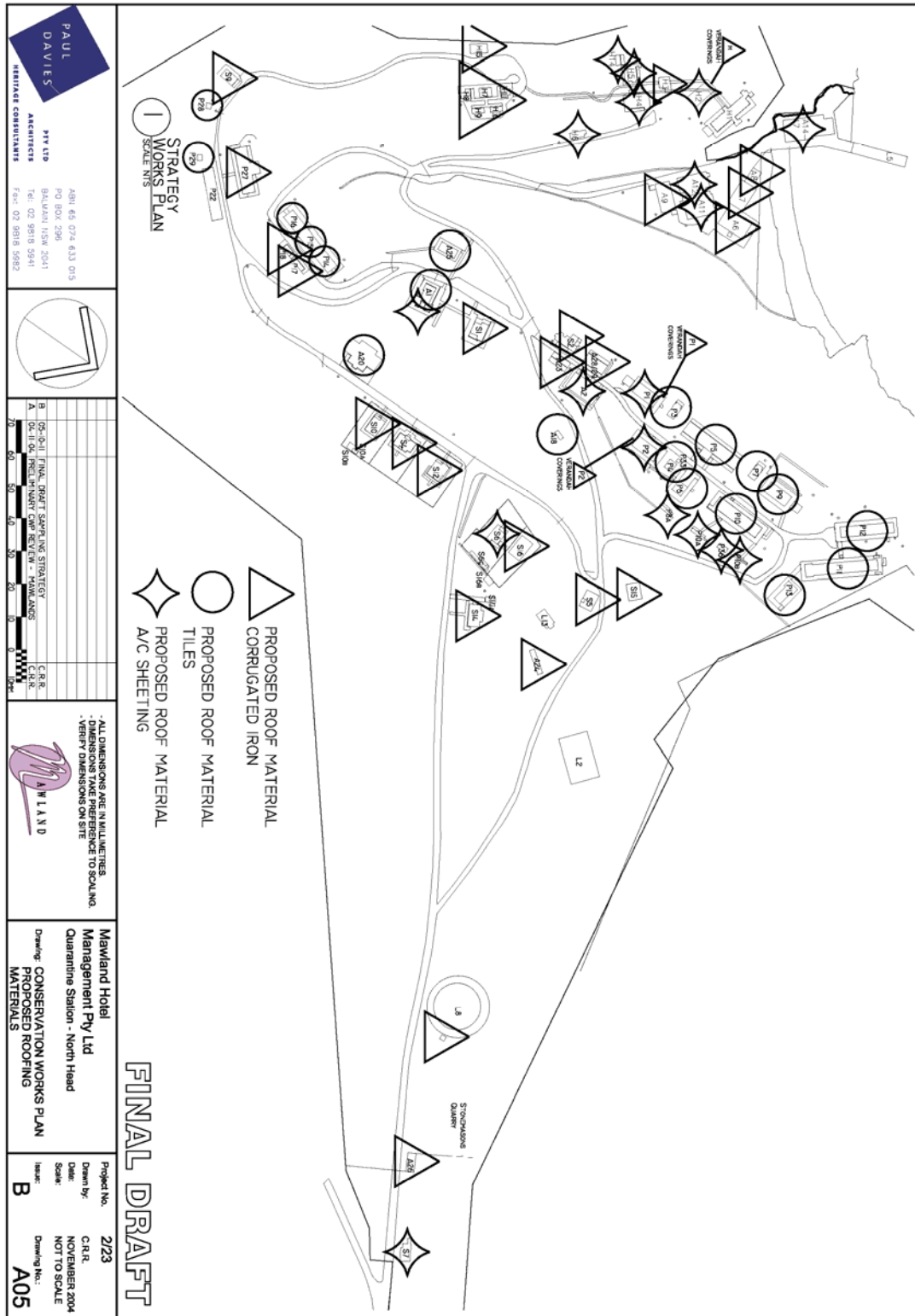


Figure 5.5 Proposed roofing materials at Quarantine Station at completion of works



5.6 Plumbing (Non-Bathroom) Fitout Sampling

In addition to the bathrooms and toilet facilities located in the various buildings, which remain in either original or upgraded condition, a number of the accommodation buildings were upgraded during the Aviation Phase with the provision of basins, hot water heaters, mirrors and shelf units to the bedrooms. A small number of sink units were also added to lounge rooms.

The DACMP and the conditions of consent require a sampling of rooms with these facilities.

The intent of the sampling policy is to retain the Aviation Phase fit out in rooms that are retained with remote bathrooms, but to remove the fit out from rooms with en-suites (as approved in the approval conditions) as the basins and associated elements are redundant.

It is also part of the strategy that hot water heaters will not be active and that hot water will be supplied from a new centralised hot water system. This is required as the units do not satisfy current code requirements and cannot be upgraded. It is also undesirable to have individual units in bedrooms where there could be risk of failure, burning, etc.

As a number of rooms will have their fitout removed it is also part of the strategy that damaged or defective elements in rooms to be retained will be replaced with material removed from other rooms to provide the best installed examples of each unit. Other units will be retained in storage for replacement units (should damage occur in the future) and as a record of site features.

The following table sets out the buildings containing the basin fitout, the number of units in each building and which are to be retained. This relates to the DACMP policies in the comments column. It is noted that there is some variation from the DACMP detailed policies but that the overall policy of retention of fitout is achieved in this sampling policy.

It is noted that this sampling strategy only addresses the c1960 provision of basins and associated fitout to accommodation rooms, other buildings are not indicated. Buildings coloured yellow indicate fitout to be retained, those coloured blue indicate partial fitout to be retained.

Table 5.15 Sampling of basins and associated fitout within the First and Second Class Precinct

Building Number	Building	DACMP Significance Assessment	Period of Fitout	Basins	Hot water heaters	Shelf unit, mirror	Comment on DACMP Policy
P2	PASSENGER QUARTERS	1	c1960	8	8	8	DACMP requires these units to be retained. Basins retained but relocated, HWU's relocated but disconnected. Shelf units to be refurbished and refitted. Sink unit in lounge to be removed.
P5	PASSENGER QUARTERS, DINING ROOM	1	1898	-	-	-	The rooms in this building did not have basins provided.
P6	KITCHEN, STEWARDS	1	1914	-	-	-	Basins were not provided to these rooms in the c1960 fitout.
P9	PASSENGER QUARTERS	1	c1960	10	10	10	DACMP allows to remove fitout provided other examples remain. All fittings to be removed.
P10	PASSENGER QUARTERS	1	c1960	17	17	17	DACMP allows to remove fitout provided other examples remain. All fittings to be removed.
P11	PASSENGER QUARTERS	2	c1960	22 (4 kept)	22 (4 kept)	22 (4 kept)	Basins are required to be retained in the DACMP however this is not consistent with the addition of en-suites in the approval. Four rooms are to retain their basin and associated fitout; this is consistent with DACMP recommendations for the building. Basins elsewhere have been retained.
P12	PASSENGER QUARTERS	2	c1960	14 (2 kept)	14 (2 kept)	14 (2 kept)	Basins are required to be retained in the DACMP however this is not consistent with the addition of en-suites in the approval. Two rooms are to retain their basin and associated fitout. Basins elsewhere have been retained.

5.7 Fencing Sampling

The Quarantine Station contains a range of fencing types from a range of periods. The most prevalent fencing material is mesh wire on galvanised steel posts with steel framed gates. This fencing defines sections of the site boundary, the waterfront, separates the entry at the receiving shed, surrounds the water reservoirs and separates the hospital and isolation wards from the remainder of the site.

Other fencing types are timber paling fences, low metal circular tube fences, several types of picket fence and wire fences. Most of the early fence types identified in photographs have been removed including those separating the classes of accommodation.

The major role of fences on the site today, reflecting the aviation period of use is:

- defining the site boundary
- separating the hospital and isolation precincts
- defining yards for the residences on the site
- securing dangerous site features such as reservoirs and embankments

marking the separation of public and internees as seen at the receiving shed.

Table 5.16 Boundary Structures Sampling Compliance

Policy No.	Policy	Comments and Strategy
GCP13.3.50	<i>The remaining boundary structures should be conserved and maintained. New site boundaries that may be developed for future uses should allow previous boundaries to be understood. It may not be appropriate to fence new boundaries where that adversely impacts on site interpretation.</i>	All existing boundary fences are to be maintained, repaired and/or replaced as required.
GCP13.3.51	The interpretation of boundary and dividing structures is particularly important to an understanding of the site. Interpretation needs to be implemented consistently across the site.	Interpretation is achieved through the preservation of existing boundary, dividing structures and precinct markers.
GCP13.3.52	<i>Any new fencing should be designed to clearly appear recent and should not re-establish the segregation of areas evident in the Station's history. For further background on the appropriate approach to the design of new fencing, refer to the discussion in Section 4.3, New Design Interventions.</i>	Any new fencing will display a clear and distinctive layer to that of the existing fabric.
GCP13.3.53	<i>Fencing required in previously existing locations and for similar purposes, such as fencing for protection from rabbits, may take an historic form but must be consistent with the overall interpretation of these elements.</i>	The fence sampling strategy considers all existing fences and seeks to interpret the area with respect to the historic form.

The strategy on sampling fences is to retain most if not all of the existing fences in situ, to maintain them as required by repair or replacement with matching elements.

New fences are proposed in the Heritage Landscape Management Plan to assist interpretation, visitor management and environmental protection. Refer to Site Plan 8: Fences.

Table 5.17 Sampling of fences

Location	Fence Type	Function	Condition and recommendation
North boundary	Chain wire on galvanised steel uprights	Boundary security	Fair to poor condition, the fence requires repair and in the medium term is likely to require replacement with a matching fence.
A26	Steel framed chain wire fences	2 fences creating a separation zone between public and quarantine, one section of fence missing. New boom gate for traffic entry.	Fair condition requires maintenance and reinstatement of missing fences and gates to recreate separation of entry zone for interpretation. Boom gate is not significant may be retained, moved or removed.
Upper reservoir	Chain wire on galvanised steel uprights	Security for water feature.	Retain and repair and maintain as required.
Lower reservoir	Chain wire on galvanised steel uprights	Security for water feature.	Retain and repair and maintain as required.
Isolation and Hospital boundary	Chain wire on galvanised steel uprights	Boundary definition and security to cliff top and isolation area.	Very poor condition, requires replacement with matching fencing.
Isolation and Hospital internal precinct boundary	Chain wire on galvanised steel	Separation of precincts from remainder of station,	Varies in condition from fair to poor, repair and replace as required to match.

fences	uprights	protection of cliff top area.	
Beachfront fence	Chain wire on galvanised steel uprights	Separation of beach from publically accessible beach	Varies in condition from fair to poor, repair and replace as required either to match or as approved in landscape plan for new fencing.

Table 5.17 Sampling of fences (cont)

Location	Fence Type	Function	Condition and recommendation
S4	Timber paling fence to three sides. Pipe rail fence to front.	Definition of residence yard.	Timber fence varies in condition from fair to poor, repair and replace as required. Pipe rail fence is in poor condition and is addressed in the Heritage Landscape Management Plan
S5	Timber paling fence to three sides.	Definition of residence yard.	Timber fence varies in condition from fair to poor, repair and replace as required.
S6	Timber paling fence to three sides. Modern picket fence to front.	Definition of residence yard.	Timber fence varies in condition from fair to poor, repair and replace as required. New paling fence to replace existing damaged fence to earlier detail.
S10	Timber paling fence to three sides. Pipe rail fence to front.	Definition of residence yard.	Timber fence varies in condition from fair to poor, repair and replace as required. Pipe rail fence in poor condition, and is to be replaced with white picket fence as detailed in the Heritage Landscape Management Plan.
S12	Timber paling fence to three sides. Pipe rail fence to front.	Definition of residence yard.	Timber fence varies in condition from fair to poor, repair and replace as required. Pipe rail fence in poor condition, and is to be replaced with white picket fence as detailed in the Heritage Landscape Management Plan.
S14	Timber paling fence to two sides. Pipe rail fence to front and side.	Definition of residence yard.	Timber fence varies in condition from fair to poor, repair and replace as required. Pipe rail fence in poor condition, and is to be replaced with white picket fence as detailed in the Heritage Landscape Management Plan.
S15	Timber paling fence to three sides. Pipe rail fence to front.	Definition of residence yard.	Timber fence varies in condition from fair to poor, repair and replace as required. Pipe rail fence in poor condition, and is to be replaced with white picket fence as detailed in the Heritage Landscape Management Plan.
S16	Timber paling fence to three sides. Pipe rail fence to front.	Definition of residence yard.	Timber fence varies in condition from fair to poor, repair and replace as required. New paling fence to replace existing damaged fence to earlier known detail.
P2	Pipe rail fence to embankment	Safety fence.	Fair condition, paint and maintain.

5.8 Kerbing and Road Finishes Sampling

At a number of locations around the site kerbing is used of several designs to collect water and define the edge of the pavement. While the road locations in most cases date back a considerable time the kerbing and road surfaces across the site mostly date from the aviation phase. Exceptions to this are some stone edging that appears to be of early date.

Road surfaces are generally bitumen or asphalt seal over earlier surfaces.

Kerbing comprises, cut and laid stone, concrete standard kerbing and stone culverts. Other sections of road do not have a kerb or defined edge.

Table 5.18 Kerbing / Road Compliance

Policy No.	Policy	Comments and Strategy
CPP3.1	<i>Existing services are to be retained in use for as long as feasibly possible.</i>	This strategy has been adopted with all roads being maintained in their current configuration.
CPP3.2	<i>Where existing services require replacement or upgrading, the DACMP sets forth a hierarchy of actions.</i>	All work is to follow the guidelines set forth.
CPP3.3	<i>CPP3.3 Where new service lines and routes are required for the ongoing operation of the place the DACMP sets forth the guidelines.</i>	All work is to follow the guidelines set forth.

Kerbing and road finishes will largely be dealt with in the Infrastructure Control Plan, and to some extent in the Heritage Landscape Management Plan. The strategy towards retaining and sampling kerbing is to:

Retain all stone kerbing in situ and maintain in operational form.

Retain all evidence of stone pavements across the site and conserve and incorporate as appropriate into any works.

Generally retain other kerbing as set out in the following table.

The strategy towards retaining and sampling roadworks generally is:

Retain the existing road surface treatments generally across the site, though surface areas with major pedestrian use known to heat up in summer may be top dressed with a form of fine gravel or sand (addressed in HLMP)

Repair and resurface sealed roads as required.

Retain sections of road without kerbing in their current form.

Table 5.19 Sampling of roads and kerbing

Location	Feature Type	Action
Entry road near upper reservoir	Asphalt sealed, partially edged with concrete kerb	Maintain the present road finish, repair holes or damage, protect road edges by addition of graded material to edge of formation to prevent ridges and deterioration of finish. Retain the concrete edging and kerbing to one side, repair as required.
Entry road near lower reservoir	Asphalt sealed partially edged with stone kerb and gutter	Maintain the present road finish, repair holes or damage, protect road edges by addition of graded material to edge of formation to prevent ridges and deterioration of finish. Retain stone edging, point and repair as required.
Road near S12, 4 and 10	Asphalt sealed partially edged with concrete and stone faced walling	Reconstruct stone facing wall where deteriorated to ensure stability, retain other kerbing and edging retain pavement finish, stabilise lower edge against erosion.
Road near S6 and S16	Asphalt sealed partially edged with kerbing	Maintain the present road finish, repair holes or damage, protect road edges by addition of graded material to edge of formation to prevent ridges and deterioration of finish.
Road through first class precinct	Asphalt sealed partially edged with concrete kerb and gutter to one side	Retain in current form with combination of various edging treatments, repair as required.
Road above first class precinct	Asphalt sealed partially edged with kerbing	Maintain the present road finish, repair holes or damage, protect road edges by addition of graded material to edge of formation to prevent ridges and deterioration of finish.
Road through	Asphalt sealed partially	Retain in current form with combination of various edging treatments,

admin precinct	edged with concrete kerb and gutter, stone and natural cut	repair as required.
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Table 5.19 Sampling of roads and kerbing (cont)

Road at isolation blocks	Asphalt sealed not edged	Maintain the present road finish, repair holes or damage, protect road edges by addition of graded material to edge of formation to prevent ridges and deterioration of finish. Reduce extent of sealed surface around buildings and define edge of asphalt
Road at hospital	Asphalt sealed not edged	Repair road and reseal with asphalt to match existing road finishes
Road below P14-16	Asphalt sealed not edged	A narrow formation of road with severe edge erosion and former bank stabilisation. Road to be reconstructed to prevent ongoing failure.

5.9 Power Poles

The Quarantine Station contains a number of telegraph poles holding wiring related to electrical and telephone supply. The poles are of various dates but all relate to the period of use related to quarantine.

Table 5.20 Power Pole Sampling Compliance

Policy No.	Policy	Comments and Strategy
CPP3.1	<i>Existing services are to be retained in use for as long as feasibly possible.</i>	This strategy has been adopted with all services being maintained in their current configuration excluding power poles in the wharf precinct which will be retained in their current location however a new configuration may be installed due to the increased load requirements of this area. Unused wires between poles may be removed for safety reasons.
CPP3.2	<i>Where existing services require replacement or upgrading, the DACMP sets forth a hierarchy of actions.</i>	All work is to follow the guidelines set forth.
CPP3.3	<i>CPP3.3 Where new service lines and routes are required for the ongoing operation of the place the DACMP sets forth the guidelines.</i>	All work is to follow the guidelines set forth.

The sampling strategy is to retain the majority of poles in situ and in use and to replace existing poles over time on a needs basis. Poles will be replaced with a similar pole of the same height and approximate diameter. Existing poles will be replaced and maintained, excluding the Wharf Precinct where current poles will be retained and a new pole configuration may have to be installed and maintained to satisfy the requirement for larger low voltage cabling due to the increased loads in this precinct.

Cabling to non-used poles may be removed to minimise safety risks.

Lighting on the poles required for enhanced visitor safety or reduced light spill may be replaced.

5.10 Fire Hydrants

A system of hydrant stands, some with hoses, exists around the site linked to a ring main. The system was installed in the 1960 period and extends to most parts of the site. The system works in part but not all hydrants are active. The DACMP recognises the importance of achieving compliance with fire services including fire hydrants. An assessment of the existing system will be undertaken to allow the provision of external fire equipment such as hydrants and hose reels. DACMP Policy is as follows - CPP16.5.1 Compliance with the BCA, should involve the least possible intervention to the fabric of the place. Where alternative solutions exist the least intrusive alternative should be selected. The strategy is to retain a compliant number of operational hydrants and boxes with their distinctive red finish but to remove or clearly distinguish failed and non-complying hydrants, as per requirements of the fire authorities. This satisfies the requirement to sample and retain elements from each phase of the infrastructure fitout while making clear those hydrants which are not part of the operational fire system on the site.

6. External Paint Scheme

See attached a separate PDF file titled External Paint Scheme

7. CWP Works Schedule

The Detailed Area Conservation Management Plans generated 315 conservation works tasks made up of:

212 Urgent tasks

103 Medium Tasks

This Conservation Works Schedule has generated 3,086 conservation works tasks, made up of:

500 Urgent tasks

418 Medium Tasks

The Conservation Works Schedule lists all of the individual conservation works items proposed to be undertaken during Stages 1 to 4, (up to two years duration). As mentioned in **Section 1.1**, some additional works may be added once sitewide plans are completed. The Schedule will be the key tool for monitoring the undertaking of conservation works and reporting progress in the Comprehensive Audit and Annual Environment Report.

The Schedule has been produced in Excel so that the quantum of works can be added up for any given month or stage. Subtotals have been provided for the end of each stage and the substantial completion of Stage 1 and 2 works, scheduled for the end of Month 7.

The Schedule can also be used to report the works according to precinct, building or stage in the Staging Program.

At the top of each page is a summary of the implementation of urgent and medium building conservation work. The key results from the Schedule are shown in Table 7.1.

Table 7.1 Summary of the implementation of conservation works by Stage.

Priority of works	Stage 1 proportion 1 – 4 Months	Stage 2 proportion (5 – 12 Months)	Stage 3 proportion (13 – 18 Months)	Stage 4 proportion (19 – 24 Months)
Urgent	58%	87%	100%	100%
Medium	32%	77%	88%	100%

The Works Schedule will be updated with the production of the Stage 2 CWP, and then revert to a Maintenance Schedule.

A full copy of the Works schedule was submitted to the DEC Heritage Office for their approval.

Appendix A Copy of Approvals



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File: H04/00060
Our Ref: HRL36989

Mawland
PO Box 905
CROWS NEST
NSW 2065

Attention: Kristian Butcher, Construction Manager

Dear Kristian

Conditional Endorsement of Quarantine Station Sampling Strategy including Asbestos Sampling

Thank you for submitting the final draft Quarantine Station Sampling Strategy including Asbestos Sampling dated October, 2005 which was received by the Heritage Office on 13 October, 2005.

The Sampling Strategies are prepared and submitted for review in accordance with the following conditions of the Minister's Conditions of Approval for the conservation and adaptive reuse of North Head Quarantine Station:

- Condition 86(d), fabric sampling guidelines;
- Condition 111, sampling for asbestos and rainwater systems; and
- Condition 99(b), bathroom fixtures.

In accordance with the above conditions the Heritage Advisor for the Quarantine Station reviewed the strategies in light of their compliance with the Conditions of Approval and the Detailed Areas Conservation Management Plans 2000 (DACMP). It is noted that the strategies will ultimately be included in and support the Conservation Works Program and have been prepared with that in mind.

The Quarantine Station Community Committee reviewed and commented on the strategies at its meetings on 23 June, 2005 and 21 July, 2005 in accordance with the conditions of approval.

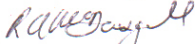
During the review, it was evident that the Asbestos Sampling Strategy proposes greater amount of asbestos removal than recommended in the DACMP. This rationale and its justification are supported by the Quarantine Station Heritage Advisor as the condition of the material has deteriorated in many of its applications in the last 5 years since the preparation of the DACMP. In addition, awareness of the material's potential hazards and its impact on health and safety of the users and visitors to the site has increased. The impact of the asbestos remediation following the damage to the hospital building, H1 has informed acceptance of removal of the material where it poses a health risk.

The Quarantine Station Heritage Advisor recommends that the remaining strategies are considered to be appropriate and meet the relevant DACMP policies. The strategies will ensure that the site's wide range of spaces, materials and elements will be retained and presented to support the cultural significance of the site. Therefore, the Quarantine Station Sampling Strategy including Asbestos Sampling dated October, 2005 are suitable to be approved by the NSW Heritage Council under delegation. However, as the strategies are to form part of the Conservation Works Program (Conditions 77 to 84), they are conditionally endorsed subject to approval of the Conservation Works Program in accordance with the

conditions of approval given under the overarching approval of the conservation and adaptive reuse of North Head Quarantine Station under s60 of the Heritage Act. -

I trust that the information is of use. If you have any queries please call Ed Beebe, Senior Heritage Officer, on 9873 8588.

Yours sincerely



REECE MCDUGALL

Director

14/12/06

CC Environmental Manager, Quarantine Station

12 MAY 2006



Mr Max Player
Principal
Mawland Hotel Management Pty Ltd
45 Hume St
CROWS NEST NSW 2065

DOC06/07604

**NSW
NATIONAL
PARKS AND
WILDLIFE
SERVICE**

Attn: Mr Simon McArthur

NPWS is part of
the Department of
Environment and
Conservation

Dear Mr Player

ABN 30 841 387 271

Re: Approval of the Conservation Works Program

I am please to advise you that I, on behalf of the Department of Environment and Conservation, have approved the Conservation Works Program for the North Head Quarantine Station Conservation and Adaptive Reuse Project.

Please provide the Department with two additional copies of the program for our active use, documentary records and the publicly-accessible library collection.

Yours sincerely

**DR TONY FLEMING
Head, National Parks and Wildlife
Deputy Director-General
Department of Environment and Conservation**

12/05/06

cc Mr Can Ercan
Heritage Advisor
Dept of Planning, Heritage Office
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can.ercan@heritage.nsw.gov.au
File: H04/00060/4
Our Ref: HRL40385

Mawland
PO Box 905
CROWS NEST
NSW 2065

Attention: Kristian Butcher, Construction Manager

Dear Kristian,

Re: Conditional Endorsement of Quarantine Station Conservation Works Program (Stage 1)

Thank you for submitting the third draft of Quarantine Station Conservation Works Program-Stage 1 (CWP) dated 22 March 2006 which was received by the Heritage Office on the same day. The CWP is being prepared and submitted for review in accordance with Clauses 77 to 84 of the Minister's Conditions of Approval for the conservation and adaptive reuse of North Head Quarantine Station. Clause 78 states:

The co-proponents shall prepare and submit a final Conservation Works Program (CWP) to the Heritage Council and the DEC for approval as follows:

a) Stage 1 of the CWP encompassing works required for all buildings, structures and landscape elements, including but not limited to those identified in the DACMP and the asbestos sampling and replacement strategy (condition 111), shall be prepared within six months of the commencement date; and

b) Stage 2 of the CWP encompassing all works identified for Aboriginal sites (condition 70), the Moveable Heritage and Resources Plan (condition 85), Heritage Landscape Master Plan (condition 91), Inscriptions Plan (Condition 95), Interpretation Plan (condition 100) and Infrastructure Control Plan (as relevant – condition 105) shall be prepared and incorporated into the CWP as soon as practicable.

In accordance with the above clause, the Heritage Office reviewed the Plan in March 2006 to address its compliance with the conditions of Approval and the Detailed Areas Conservation Management Plans 2000 (DACMP) and returned comments accordingly. These comments were successfully addressed in the Third Draft.

You are advised that the Director has endorsed the Plan subject to condition that the second part of the Plan is prepared and submitted to Heritage Office for approval. It is reiterated that this approach is reasonable as long as the complete plan is finalised and endorsed in accordance with the conditions of approval being within six months of the commencement date.

I hope that this information is of assistance. If you have any further enquiries about this matter, please do not hesitate to contact Mr Can Ercan on 9873 8521.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Vincent Sicari", followed by the date "1/06/06".

Vincent SICARI
Manager, Conservation Team

CC. Sian Waythe – QS Environmental Manager