

Mount Thorley Warkworth Historic Heritage Management Plan 2020 Compliance Audit Inspection

Report prepared for

Yancoal Australia, Mount Thorley Warkworth



January 2021

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ARROW
HERITAGE SOLUTIONS



Introduction

Yancoal Australia (Yancoal) manage the Mount Thorley Warkworth (MTW) mining complex located in the Hunter Valley, approximately 8km south-west of Singleton. Approval for the continuation & expansion of the mine was granted on 26 November 2015 under two separate project approvals: the Warkworth Continuation Project Approval (SSD-6464) & the Mount Thorley Operations Project Approval (SSD-6465).

Pursuant to Condition 46 of the Warkworth Continuation Project Approval, Yancoal have developed an MTW Historic Heritage Management Plan (HHMP) that covers the whole MTW mining complex. The MTW HHMP was approved by the Department of Planning & Environment on 11 October 2017 and sets out the principles, processes & measures through which historic heritage will be managed within the HHMP Area. This includes the commitment (Provision 19) to conduct annual HHMP compliance inspections with members of the community through the auspices of the Community Heritage Advisory Group (CHAG). The purpose of the HHMP compliance inspections is to:

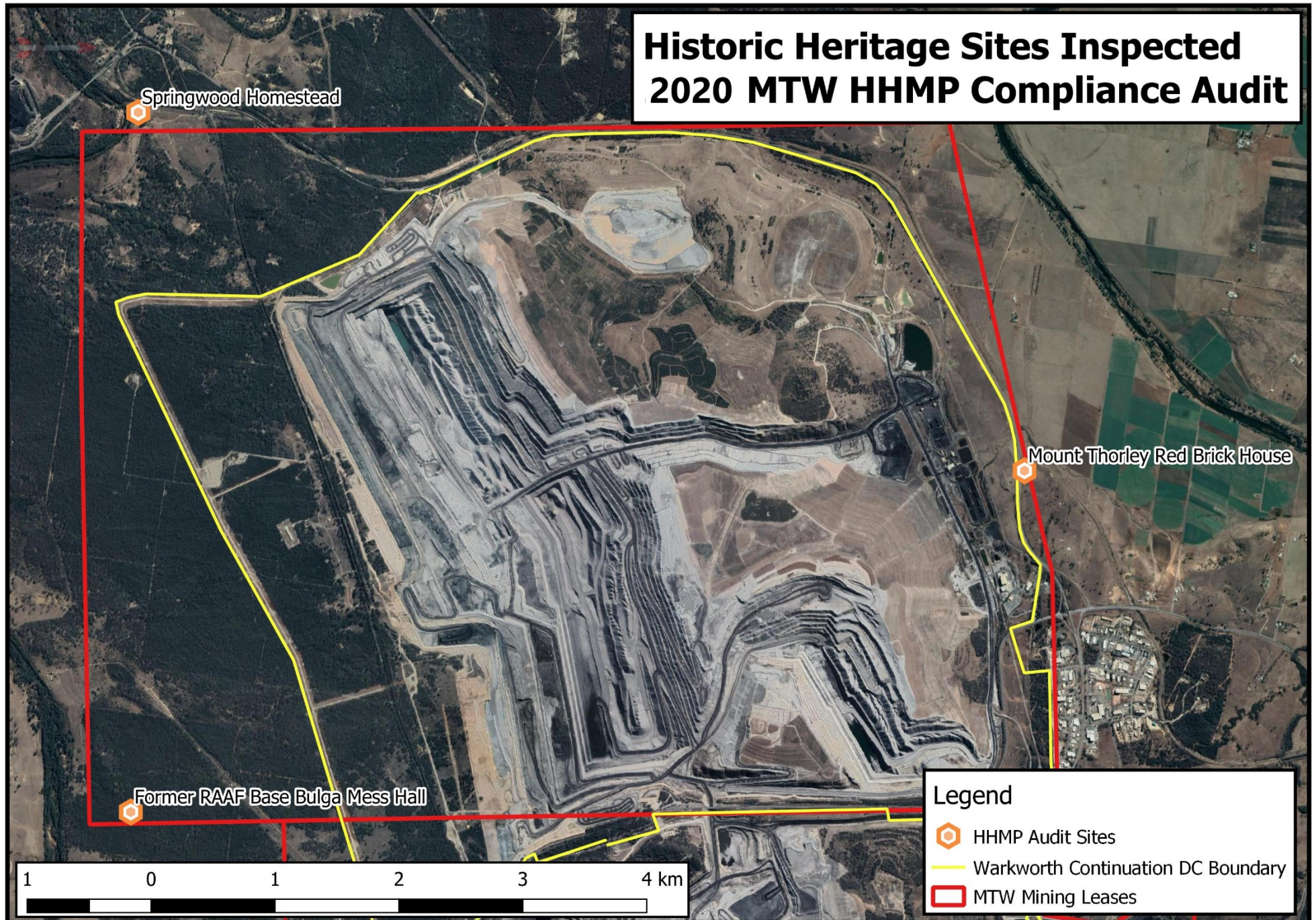
- a. inspect areas and sites to assess compliance with the provisions of the HHMP;
- b. inspect and monitor the condition and management of various sites; and
- c. review the effectiveness and performance of the HHMP provisions in the management of historic heritage at MTW.

Proposed Activity and Project Brief

The following historic sites (shown in the map below) within the MTW HHMP area were to be inspected to assess compliance with actions listed in the HHMP and specific Conservation Management Plans (CMP), and a detailed photographic record for each site was collated to add to the previous photographic data:

- Former RAAF Base Bulga Mess Hall
- Springwood Homestead
- Mount Thorley Brick Farm House

Historic Heritage Sites Inspected 2020 MTW HHMP Compliance Audit



Timing & Personnel

The 2020 MTW HHMP compliance inspection was conducted on Monday 21 December 2020.

The personnel involved in this inspection were:

Name	Position/Organisation
Joel Deacon	Archaeologist, Arrow Heritage Solutions
Alarna Bristow	Environment and Community Coordinator, MTW
Neville Hodgkinson	CHAG representative
Stewart Mitchell	CHAG representative
Wesley Warren	CHAG representative
Michael Young	CHAG representative
Lyn MacBain	CHAG representative

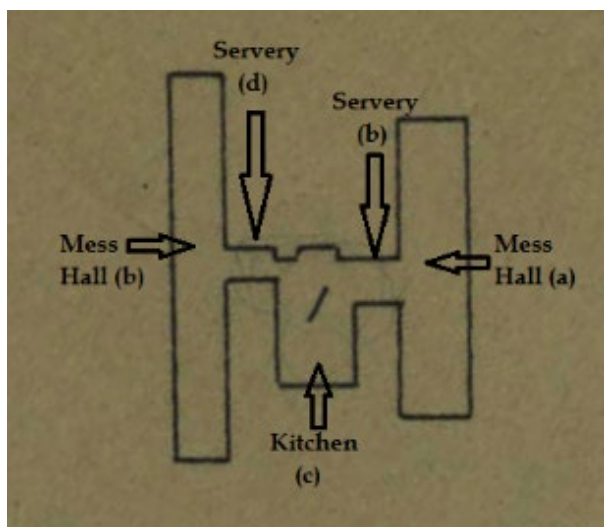
Arrow Heritage Solutions were engaged as independent heritage consultants to conduct the HHMP compliance inspection, and Joel Deacon acted as technical advisor and author of this report. MTW's Environment and Community Coordinator arranged the compliance inspection program and escorted the field team. Neville Hodgkinson, Stewart Mitchell, Lyn MacBain, Michael Young and Wesley Warren participated in the inspection as representatives of the CHAG forum.



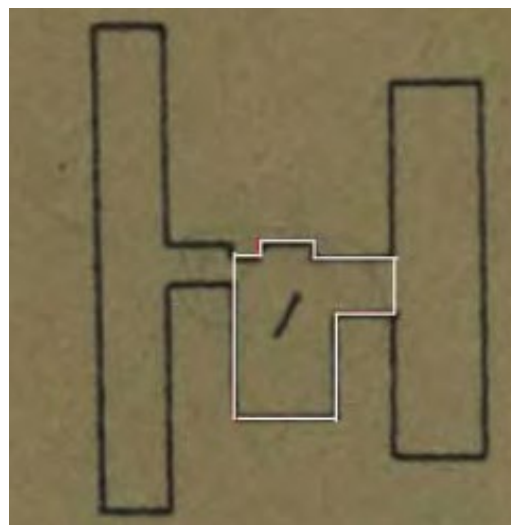
Former RAAF Base Bulga Mess Hall

Following the Japanese attack on Pearl Harbour in December 1941, plans were approved to expand existing RAAF bases and establish new ones, including a number of sites in the Hunter Valley. Bulga was identified as a potential site for an operational base and the area was officially taken over by the RAAF on 12 June 1942 for use as a relief landing strip. By July 1943 the site was completed, including the kitchen and mess hall, however, by January 1944 the use of the site was limited due to the decreasing threat of attack. A 1946 condition report noted this building as deteriorating. In January 1953, the building was noted as missing a few sheets of iron and windows.

The building sits in the former camp area west of the north-south runway. It was originally irregular in plan comprising a central kitchen area measuring 13.4 x 8.8m, with long rectangular mess halls to the east and west, connected by a servery on either side. The remnant structure today comprises the kitchen building and the foundation of one of the serveries (see below).



Original layout of building



Remaining structure

The remnant building is “L” shaped in plan with brick and concrete footings. During the original assessment conducted by ERM in November 2012 (which informed the CMP) the building was noted as being in poor condition with trees physically impacting on the building fabric, and some minor settlement issues resulting in cracking and failing brickwork. The western section of the building was the most intact part, retaining the original timber frame, corrugated asbestos cement roof sheeting and walls clad with corrugated iron sheeting.

The building is currently structurally unsound, with a large tree impacting on the roof and a number of timber elements either missing or in a deteriorated state. Corrugated asbestos roof



sheeting is also missing in some places, and damaged and in poor condition where it remains. Much of the corrugated iron sheeting is corroded. Brickwork is also cracking in a number of locations resulting in significant movement outward, loss of mortar and loss of bricks along the southern and eastern elevations.



View to mess from south-east (2012)



Remnant kitchen area (2012)

As a result, a number of structural recommendations were outlined by ERM in the CMP developed for the site in 2012. These recommendations were not intended to return the building to a serviceable state, rather they seek to do the minimum required to allow safe access to the building to prevent significant damage, and also allow safe access for asbestos removal and internal inspection of the building in the short to medium term.

CMP Requirements

Short to medium term structural recommendations included:

- a) **Remove fallen tree branch.** The tree branch impacting on the roof of the building should be removed, using an external mobile elevated platform or boom lift;
- b) **Temporary propping.** The building should be temporarily propped and supported as per Bligh Tanner plans SK 1.0 A and SK 2.0 A (contained within the CMP) to allow for safe access into the building and more detailed inspection of the structure.
- c) **Asbestos Removal.** Asbestos removal should be completed by a licensed asbestos removal specialist, include the roof sheeting, all asbestos dust and fibres, and loose fragments that are known to exist in the remaining area.
- d) **Stabilise framework and replace roof.** Any structural roof members that are destabilized once the roof sheeting is removed are to be secured as required. Side walls which lose stiffness once the roof sheeting has been removed are to be propped temporarily until the new roof has been replaced.



- e) **Archaeological clean-up.** Asbestos removal and clean-up should be supervised by a historical archaeologist to ensure any identified items of significance are retained.
- f) **Further building inspection.** A structural engineer should complete a building inspection to identify structural repairs and stability requirements with four weeks of the building being cleaned up and decontaminated from asbestos.

Following the internal inspection of the building noted in (f) above, further advice may be provided regarding medium to long term recommendations. Due to the lack of integrity of the building, recommendations are unlikely to be directed at restoration of the building, but more towards retaining the remnant structure in a safe environment and reducing further deterioration. Repair drawings have been provided in the CMP to remedy any major cracking in the brickwork or where sections of brickwork have either partially collapsed or broken away from the wall.



Photographic Comparison 2012 – 2018 – 2020 (March) – 2020 (December)

During the inspection of the Former RAAF Base Bulga Mess Hall for this report, a number of photographs were taken from the same angles and of the same features as were taken during the ERM 2012 assessment and archival recording as well as during the 2018 and March 2020 HHMP compliance inspections. These photographs provide a visual baseline condition assessment of the building, and also allow a comparative analysis of the deterioration, or maintenance, levels over the last six to eight years. These photographs are set out below, along with comments pertinent to management recommendations.

2012	2018	2020 (Mar)	2020 (Dec)
			
East elevation 2012-18: no discernible change – note fallen branch from tree on western side. 2018-20 (Mar): no discernible change – fallen branch has moved. Mar 2020 – Dec 2020: no discernible change.			
			
View to north-east elevation 2012-18: roof over open kitchen area has deteriorated, causing severe lean on far wall. 2018-20 (Mar): top of far wall now collapsed. Mar 2020 – Dec 2020: no discernible change.			

2012	2018	2020 (Mar)	2020 (Dec)
			
South-east elevation 2012-18: evidence of increased bow to southern wall. 2018-20 (Mar): bow in wall appears to have increased. Mar 2020 – Dec 2020: bow in wall continues to increase.			
			
South elevation 2012-18: evidence of increased bow to southern wall and missing panel above entry. 2018-20 (Mar): increased bow to southern wall. Mar 2020 – Dec 2020: increased bowing on southern wall.			

2012	2018	2020 (Mar)	2020 (Dec)
			
West elevation 2012-18: shows deterioration of roofing members above open kitchen area and leaning north wall, and further collapse of asbestos roof due to fallen dead tree. 2018-20 (Mar): top of north wall now collapsed, further damage to roof with branch now fallen to ground. Mar 2020 – Dec 2020: no discernible change.			
			
North elevation 2012-18: no discernible change. 2018-20 (Mar): top of north wall now collapsed. Mar 2020 – Dec 2020: no discernible change.			

2012	2018	2020 (Mar)	2020 (Dec)
			
North-east elevation 2012-18: difficult to discern change. 2018-20 (Mar): difficult to discern change. Mar 2020 – Dec 2020: no discernible change.			
			
Concrete and brick foundation at east side of building 2012-18: difficult to discern change. 2018-20 (Mar): no discernible change. Mar 2020 – Dec 2020: no discernible change.			

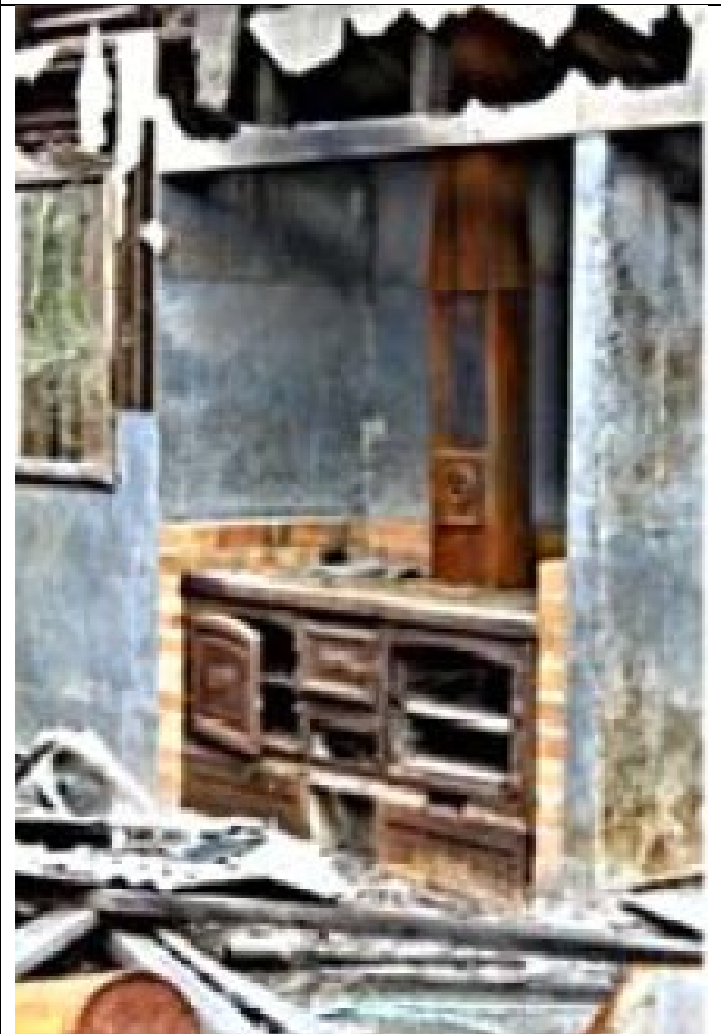
2012	2018	2020 (Mar)	2020 (Dec)
			
View to building interior from north-east 2012-18: shows collapse of remnant roofing members above open kitchen area. 2018-20 (Mar): further minor deterioration of asbestos sheeting panelling. Mar 2020 – Dec 2020: no discernible change.			
			
Grease trap at south end of building 2012-18: shows bow to south wall. 2018-20 (Mar): shows increased bow to south wall. Mar 2020 – Dec 2020: shows increasing bowing of south wall, and example of new termite monitoring system in bottom right of picture.			

2012	2018	2020 (Mar)	2020 (Dec)
			
Storage area at south end of building 2012-18: further slight collapse of storage area. 2018-20 (Mar): shows loosening of corrugated iron wall sheeting due to bowing in wall. Mar 2020 – Dec 2020: no discernible change.			
			
Windows and entry at west elevation 2012-18: shows large trunk/branch portions of tree collapsed on roof, which has destroyed roof ventilator. 2018-20 (Mar): shows majority of branches fallen from roof, leaving increased damage to sheeting. Mar 2020 – Dec 2020: no discernible change.			

2012	2018	2020 (Mar)	2020 (Dec)
			
Timber window detail, west elevation 2012-18: no discernible change. 2018-20 (Mar): no discernible change. Mar 2020 – Dec 2020: no discernible change.			
			
Showing cylindrical ventilator and damage to roof, view from west 2012-18: shows significant roof damage from fallen dead tree, including to ventilator. 2018-20 (Mar): shows increased damage to roof edge sheeting from fallen branch. Mar 2020 – Dec 2020: no discernible change.			

2012	2018	2020 (Mar)	2020 (Dec)
			
Detail of north-west elevation 2012-18: shows increased collapse over open kitchen area, as well as new damage to brick foundation at north-west corner. 2018-20 (Mar): shows fallen top of north wall plus increased (animal?) damage to brick foundation at north-western corner. Mar 2020 – Dec 2020: no discernible change.			
			
Showing interior damage at kitchen at north end of building 2012-18: shows increased collapse over and accumulation of debris within open kitchen area. Note also severe lean to north wall. 2018-20 (Mar): shows collapsed top of north wall and collapse of remaining full cross-beam. Mar 2020 – Dec 2020: no discernible change.			

2012	2018	2020 (Mar)	2020 (Dec)
			
Showing interior damage at kitchen at north end of building 2012-18: shows increased collapse over and accumulation of debris within open kitchen area. Note also severe lean to north wall. 2018-20 (Mar): shows collapsed top of north wall and collapse of remaining full cross-beam. Mar 2020 – Dec 2020: no discernible change.			
			
View to interior of south end of building, view from east 2012-18: shows increased collapse over open kitchen area. 2018-20 (Mar): shows further minor deterioration of asbestos panelling. Mar 2020 – Dec 2020: no discernible change.			

2012	2018	2020 (Mar)	2020 (Dec)
			
Showing stove at kitchen at north end 2012-18: note the remaining two stove doors have become unhinged and build up of debris from collapsed roof. 2018-20 (Mar): stove now obscured by collapsed north wall. Mar 2020 – Dec 2020: no discernible change.			

2012	2018	2020 (Mar)	2020 (Dec)
			
View to interior, showing west entry to building 2012-18: no discernible change. 2018-20 (Mar): no discernible change. Mar 2020 – Dec 2020: no discernible change.			
			
Showing west interior space 2012-18: no discernible change. 2018-20 (Mar): no discernible change. Mar 2020 – Dec 2020: no discernible change.			

2012	2018	2020 (Mar)	2020 (Dec)
			
Damaged brick foundation at south-east corner 2012-18: no discernible increase to cracked brick foundation. 2018-20 (Mar): further cracking of foundation (to left of shot) and some slumping of corner bricks. Mar 2020 – Dec 2020: some slight potential further movement in cracked section (also note termite management system in bottom right hand corner of photograph).			
			
Detail of damaged brick foundation 2012-18: some further collapse of concrete/cement above brick foundation. 2018-20 (Mar): some slumping outwards of corner brick foundation. Mar 2020 – Dec 2020: no discernible change.			

2012	2018	2020 (Mar)	2020 (Dec)
			
View to interior of building, looking north from south entry 2012-18: no discernible change. 2018-20 (Mar): no discernible interior change, but shows collapsed north wall. Mar 2020 – Dec 2020: no discernible change.			
			
View to interior of building from entry at west 2012-18: no discernible change. 2018-20 (Mar): no discernible change. Mar 2020 – Dec 2020: no discernible change.			

2012	2018	2020 (Mar)	2020 (Dec)
			
Showing interior of building, viewed from north-west corner 2012-18: shows collapsed roofing members above open kitchen area and accumulation of debris. 2018-20 (Mar): shows collapsed north wall across stove and additional fallen roof member. Mar 2020 – Dec 2020: no discernible change.			
			
Showing interior of building, viewed from north-west corner 2012-18: shows collapsed roofing members above open kitchen area and accumulation of debris. 2018-20 (Mar): shows additional collapsed roofing member. Mar 2020 – Dec 2020: no discernible change.			

The comparative photographs above show the changes at the building over the past eight years. Although no great change was noted between the current and the last inspection, no structural maintenance has occurred either. During this time it can be expected that the underlying causes of deterioration, such as the degeneration of wooden framework and metal panelling, and animal burrowing underneath the structure has continued. Therefore, the more significant changes and priority actions identified during the last inspection remain of importance and, if anything, their need of remediation has increased in urgency. Previous recommendations remain valid and the key issues remain:

- Damaged roof sheeting and roofing members, as well as increasing structural instability of bowing southern wall;
- Due to the complete collapse of remaining roofing members over the open kitchen area the top portion of the northern wall has now failed and fallen inside the building footprint; and
- Increased damage to brick foundation in north-west corner, and new slumping of south-west foundation corner.

It should be noted, however, that a termite management regime has been implemented around the site, which is a positive action and will assist in the arrest of the deterioration of the wooden aspects of the building. In addition, aerial drone photography of the site as recommended at the previous audit has been conducted and can be added to the site records.

Recommendations

High Priority Actions

1. If not already conducted, have an asbestos expert assess and develop a clean up and disposal plan to deal with both the broken fragments and intact asbestos sheeting;
2. Remove any remaining tree branches from the roof. In addition, to prevent similar damage in the future, serious consideration should be given to removing or lopping those trees that are located close enough to the building that they may cause damage if they fall or drop large branches;

High Priority Actions to Follow Actions 1 & 2

3. Pending the results of the asbestos assessment, the building and surrounds should be thoroughly cleaned of asbestos and other rubbish material. An archaeologist should be present to collect any items of historic importance or that relate to the original fabric



of the building. These can be stored inside the building and potentially re-used during further stabilization programs;

4. Pending the results of the asbestos assessment, any parts of the building framework, such as roofing members of walls should be stabilized and propped, using the Bligh Tanner plans as a guide;
5. A structural engineer should then inspect the building before any further works are commenced to make further recommendations on stability requirements and structural repairs. These further works should aim to reduce the likelihood and extent of any further deterioration at the site rather than seek to rebuild or renovate as it is unlikely that there would be any valid or appropriate option to re-use the site; and

Ongoing

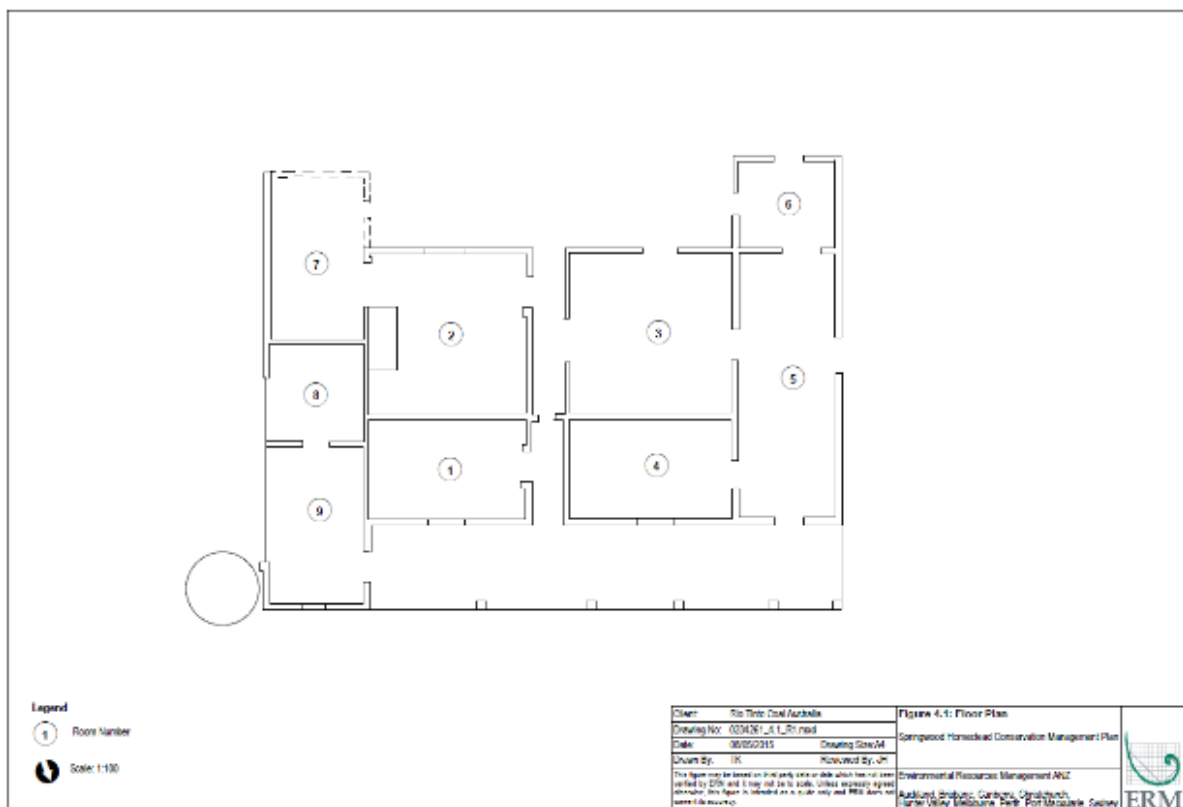
6. Continue with the recently implemented termite monitoring regime.





Springwood Homestead

Based on historical research, Springwood Homestead is likely to have been constructed c.1860, and displays many characteristics of late Old Colonial Georgian and Victorian Georgian architecture, including an original shingle broken-backed roof, fanlights or transom lights, panelled doors and under-roof verandahs. The homestead is low-set, constructed in vertical timber slabs and built around a four room square core, as shown in the plan below (taken from ERM's 2015 CMP).



Given that Springwood Homestead is timber framed and in direct contact with the ground, it is remarkable that it is still standing and in a generally stable condition, with most roof rafters appearing to be still in place. Although the building fabric is generally intact there are a number of areas where the level of structural damage to the roof, wall and flooring members is high. The majority of the damage has occurred from termites and fungal decay, resulting in localised collapse of outer external walls and roof structures. Recently, vandalism has also been an issue, with many vertical timber slabs having been pilfered. Within the CMP developed for the site by ERM in 2015, a number of stabilisation measures have been recommended that will assist to reduce the extent of damage, however a return to a habitable state is not planned.



Springwood Homestead in 2012

CMP Recommendations

Although many recommendations are made within the CMP, the more important management measures have been incorporated within a conservation works schedule that covers the following issues:

- Drainage and weatherproofing;
- Asbestos;
- Vegetation;
- Termites and vermin;
- Building fabric; and
- Structural capacity and wind loads.

The works schedule prioritises the required conservation works and are presented with technical specifications from a structural engineer. Those measures that attend to the buildings structural integrity are the focus of the schedule.

High Priority

- a) Remove debris from roof using a cherry picker or similar;
- b) Remove tree from eastern elevation and stabilize building in this location;
- c) Remove vine from eastern wall using combination of pruning and herbicide;



- d) Remove tree from south-west corner and stabilize building in this location;
- e) Prune all overhanging branches and maintain regular maintenance program; and
- f) Reinstall southern verandah and roof to match northern elevation.

Moderate to Low Priority

- g) Place treated plywood sheeting over door openings;
- h) Prune trees, spray weeds and slash grass;
- i) Clean up of site surrounds, overseen by archaeologist;
- j) Clean up of building interior, overseen by archaeologist;
- k) Refix loose ceiling boards, retaining evidence of fabric if unable to fix;
- l) Refix loose and dislodged slabs and plates; and
- m) Place treated plywood sheeting over openings and undertake repairs to windows.



Photographic Comparison 2014 – 2018 – 2020 (March) – 2020 (December)

During the inspection of Springwood Homestead for this report, a number of photographs were taken from the same angles and of the same features as were taken during the 2018 and March 2020 HHMP compliance inspections, and the ERM 2014 assessment that informed the 2015 CMP. These photographs provide a visual baseline condition assessment of the building, and also allow a comparative analysis of the changes over the last six to eight years. These photographs are set out below, along with comments pertinent to management recommendations.

2014	2018	2020 (Mar)	2020 (Dec)
			
Eastern elevation 2014-8: no discernible change. 2018-20 (Mar): roof slumping appears to have increased. Mar 2020-Dec 2020: heavy leaf litter on roof persists. Positively, vegetation surrounding the house is occurring regularly.			
			
Looking towards south-west corner from south-west 2014-8: no discernible change to tree impact, but note missing vertical slabs from southern wall. 2018-20 (Mar): no discernible change, but vine still growing. Mar 2020-Dec 2020: no discernible change.			

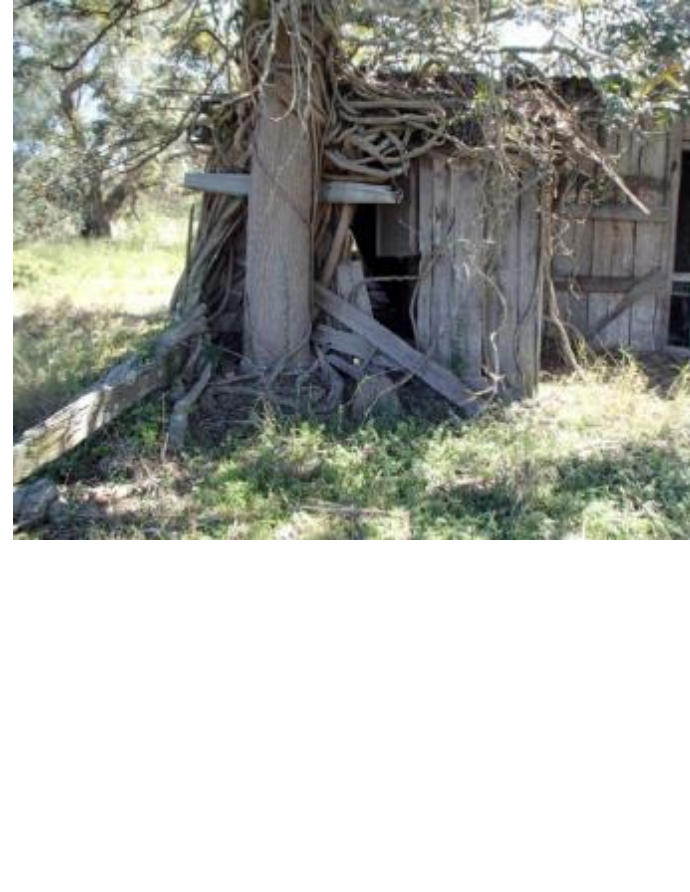
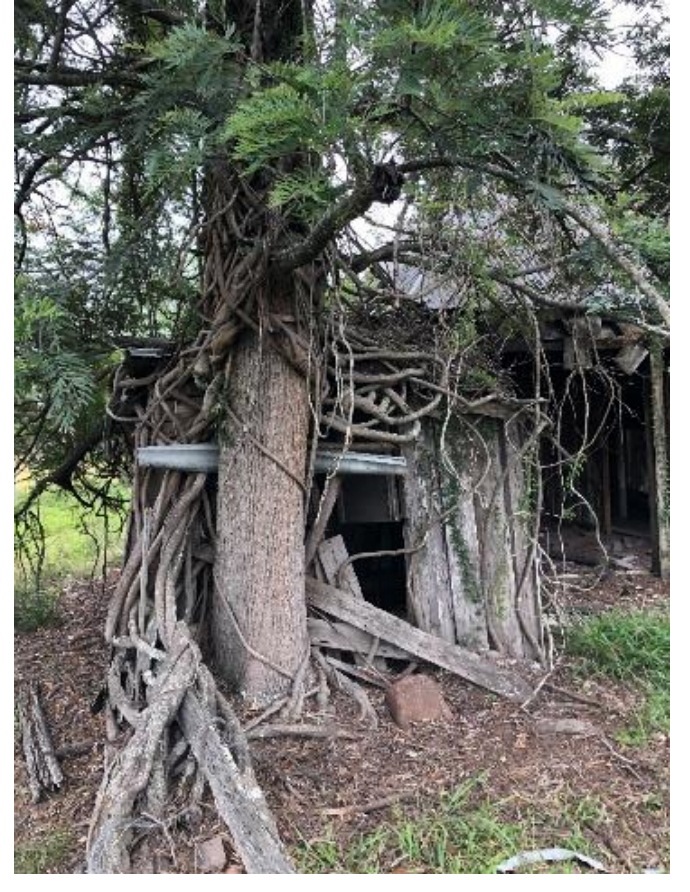
2014	2018	2020 (Mar)	2020 (Dec)
			
Southern elevation 2014-8: vertical timber slabs have been removed from southern wall. 2018-20 (Mar): possible deterioration of shingles at roof edge, and missing panels from above back door. Mar 2020-Dec 2020: no discernible change.			
			
Southern elevation 2014-8: vertical timber slabs have been removed from southern wall. 2018-20 (Mar): possible deterioration of shingles at roof edge, and missing panels from above back door. Mar 2020-Dec 2020: no discernible change.			

2014	2018	2020 (Mar)	2020 (Dec)
			
Southern elevation doorway 2014-8: door has been removed. 2018-20 (Mar): no discernible change. Mar 2020-Dec 2020: no discernible change.			
			
South-eastern corner 2014-8: vertical slabs have been removed causing further collapse of roof. 2018-20 (Mar): further deterioration of eastern wall. Mar 2020-Dec 2020: heavy leaf litter on roof persists.			

2014	2018	2020 (Mar)	2020 (Dec)
			
Eastern side 2014-8: debris has been cleaned and stored and a weed removal program conducted. The house area has also been fenced. 2018-20 (Mar): further deterioration of eastern wall and regrowth of weeds. Mar 2020-Dec 2020: no discernible change.			
			
Room 2 interior 2014-8: increased debris caused by removal of southern wall. 2018-20 (Mar): no discernible change. Mar 2020-Dec 2020: no discernible change.			

2014	2018	2020 (Mar)	2020 (Dec)
    South-west corner 2014-8: shows removal of vertical slabs from southern wall. 2018-20 (Mar): no discernible change. Mar 2020-Dec 2020: no discernible change.			
    Northern elevation 2014-8: further deterioration of weatherboard panelling. 2018-20 (Mar): no discernible change, though termite activity present. Mar 2020-Dec 2020: grass/weed growth encroaching over verandah floor.			

2014	2018	2020 (Mar)	2020 (Dec)
			
South-east corner 2014-8: shows removal of vertical slabs from southern wall, and some from eastern wall, and further collapse of roof. 2018-20 (Mar): further roof slumping and deterioration of eastern wall. Mar 2020-Dec 2020: no discernible change.			
			
Eastern elevation 2014-8: possible further collapse of crossbeam and guttering. 2018-20 (Mar): tree continues to impact eastern roof line. Mar 2020-Dec 2020: increased impact on roofline by tree branches.			

2014	2018	2020 (Mar)	2020 (Dec)
			
Northern elevation 2014-8: slumping of verandah along edge beam. 2018-20 (Mar): no discernible change. Mar 2020-Dec 2020: grass/weed growth encroaching over verandah floor.			
			
View of south-west corner from south 2014-8: shows removal of vertical slabs from southern wall as well as some increase in vegetation growth. 2018-20 (Mar): no discernible change but continuing vegetation impacts. Mar 2020-Dec 2020: Apparent increased vine growth.			

The comparative photographs above show the changes at the building over the past seven years. Although no great change was noted between the current and the last inspection, no structural maintenance has occurred either. During this time it can be expected that the underlying causes of deterioration, such as the degeneration of wooden framework, impacts caused by adjacent trees and the effects of weather entering the unsealed building has continued. Therefore, the more significant changes and priority actions identified during the last inspection remain of importance and, if anything, their need of remediation has increased in urgency. Previous recommendations remain valid and the key issues remain:

- The removal of all of the vertical timber slabs from the southern wall continue to have a negative impact on the structural integrity of this side of the building, allowing weather and the associated adverse impacts into the building; and
- The continued growth of trees and vines are also having impacts on structural stability in the south-western corner and along the eastern roof line;

It should be noted, however, that a termite management regime has been implemented around the site, which is a positive action and will assist in the arrest of the deterioration of the wooden aspects of the building. Also, a vegetation management regime is in place that sees regular maintenance within the fenced compound. In addition, aerial drone photography of the site as recommended at the previous audit has been conducted and can be added to the site records.

Recommendations

Management recommendations have been prioritised as high or moderate importance, and high priority recommendations should be actioned as soon as possible, after which the conservation works schedule within the CMP can be re-evaluated and amended by a structural engineer prior to further works being commenced.

High Priority

1. Remove the trees and vines currently impacting the building at the eastern elevation and south-west corner and treat to prevent regrowth. Coincident with this removal, acrow props should be installed where appropriate, i.e. where the trees themselves have been supporting the building structure, and as per the structural engineer's instructions at Annex B of the CMP;
2. Once vegetation has been removed, clean all debris from the roof and prune (or consider the removal of) all other trees in close vicinity of the building with potential to drop leaf/branch litter on roof;



3. Clear the surroundings of the building of rubbish, overgrowth and weeds in the accompaniment of an archaeologist to ensure any items of historical relevance are salvaged and stored within the homestead; and
4. Due to the damage caused by the removal of the vertical slabs, once the items above are complete, a structural engineer should then re-inspect the building before any further works are commenced to make further recommendations on stability requirements and structural repairs.

Moderate Priority

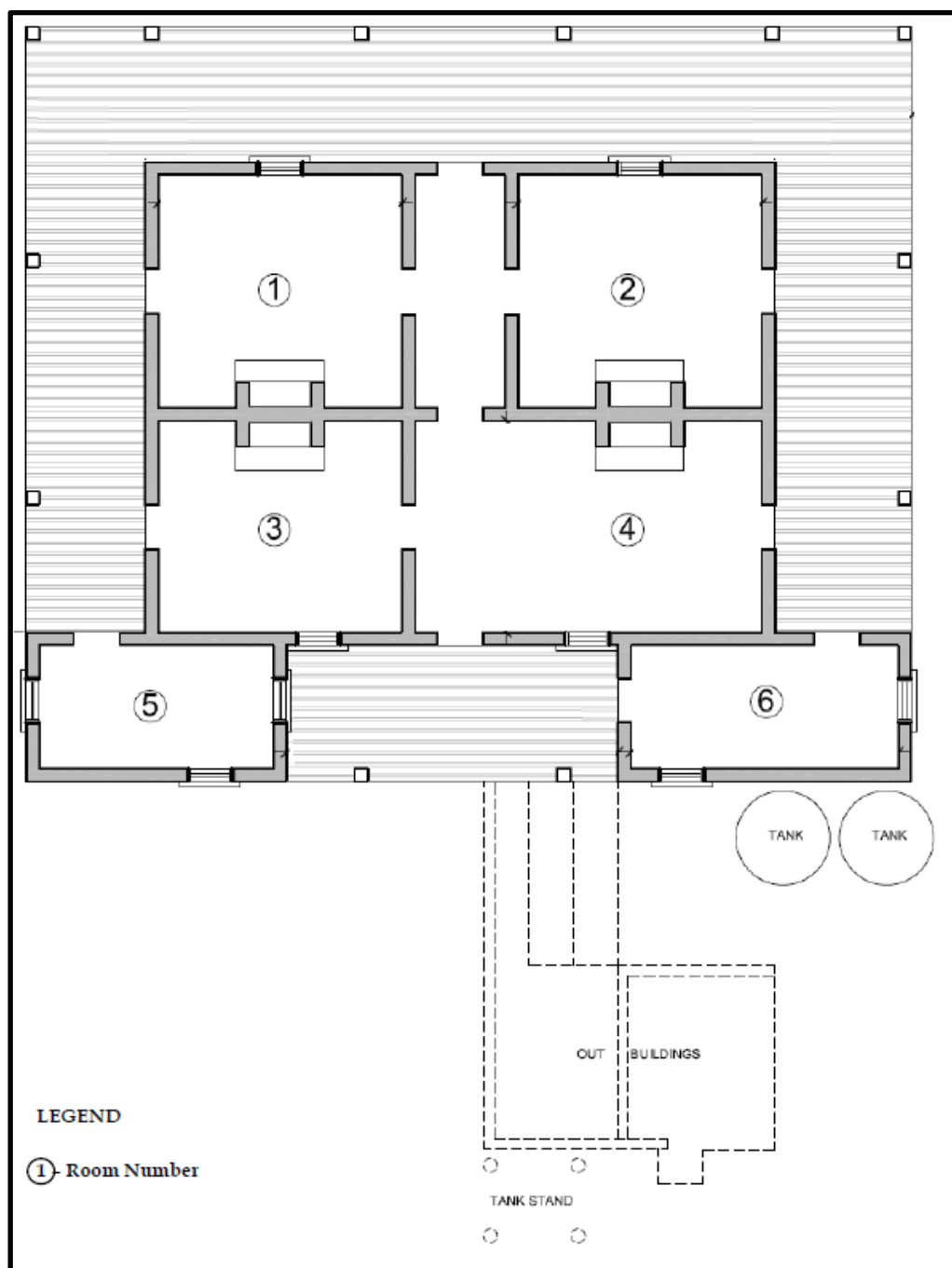
Once the high priority recommendations have been attended to, the structural engineer may recommend different or additional measures than originally put forward. Notwithstanding these, the following moderate priority measures are recommended to attain compliance with the CMP and enhance the condition of the homestead:

1. Due to their propensity to harbour termites and transfer infestation to the building, remove all peppercorn trees from around the building;
2. Future condition inspections should photograph the building using the photograph views and locations presented above so that any changes to the building can be documented in subsequent inspections;
3. Maintain the regular vegetation maintenance program;
4. Pending structural engineer's advice, reinstate southern wall, verandah and roof to match northern elevation.
5. Pending reconstruction of southern wall, place treated plywood sheeting over door and window openings;
6. Clean up of building interior, overseen by archaeologist;
7. Pending structural engineer's advice, refix loose ceiling boards and loose and dislodged wall slabs and plates, retaining evidence of fabric if unable to fix;
8. Ensure the minor recommendations and 'policies' listed throughout Section 7 of the CMP are considered in the future management of the homestead; and
9. Give consideration to an archaeological excavation and research program at the site, with possible community involvement, to explore the areas of archaeological potential identified in the CMP.
10. Maintain the termite and pest control regime at the building.



Mount Thorley Brick Farm House

The Mount Thorley Brick Farm House is located off the Golden Highway opposite the MTW coal handling and preparation plant, c.10km south-west of Singleton. The portion of land on which the house sits was purchased by Eliza Glass in 1870 and the physical attributes of the house, which display characteristics of Victorian Georgian architecture, suggest that it was constructed during the following decade. The building is roughly square in plan, with four principal rooms flanking a central hallway.



Floor plan of Mount Thorley Brick Farm House, north up (from ERM 2015 CMP)



The masonry structure of the building is sound, however, it was noted as being in poor physical condition in 2015 (when a CMP was developed for the site by ERM), with a collapsed verandah roof, missing or loose roof sheeting, missing or collapsed verandah posts, and floorboards and areas affected by termites. The conservation works schedule within the CMP considered the following issues at Mount Thorley Brick Farm House:

- Drainage and weather-proofing;
- Asbestos;
- Vegetation;
- Termites and vermin;
- Building fabric; and
- Structural capacity and wind loads.

Recommendations were made within the CMP's conservation works schedule to address the elements above, a number of which have completed by the proponent. These works included:

- Removal and safe storage of verandah;
- Initial vegetation clearing;
- Sheeting and sealing of all window and door openings;
- Clean up of scattered debris surrounding building; and
- Repair of loose roof sheeting and patching of holes.

Monitoring and maintenance of these repaired items is an ongoing requirement to ensure they provide continual protection to the building.



Mount Thorley Brick Farm House (2012)

Photographic Comparison 2015 – 2018 – 2020 (March) – 2020 (December)

During the inspection of the Mount Thorley Brick Farm House for this report, a number of photographs were taken from the same angles and of the same features as were taken during previous HHMP compliance inspections as well as the ERM 2015 assessment that informed the CMP. These photographs provide a visual baseline condition assessment of the building, and also allow a comparative analysis of the changes over the last five years. These photographs are set out below, along with comments pertinent to management recommendations.

2015	2018	2020 (Mar)	2020 (Dec)
			
View of north-west side 2015-8: verandah removed and stored inside building, vegetation has been managed 2018-20 (Mar): vegetation has regrown around building Mar 2020-Dec 2020: vegetation again under control, panel above boarded door requires refixing.			
			
View of north-west roof corner (focus on damaged roof) 2015-8: roofing sheets have been replaced and holes patched 2018-20 (Mar): some minor roof holes and lifted sheeting noted Mar 2020-Dec 2020: some verandah flashing fallen, panel above door requires refixing.			

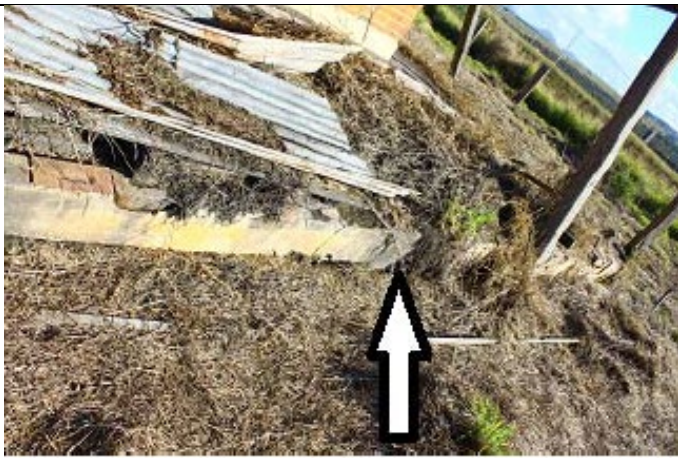
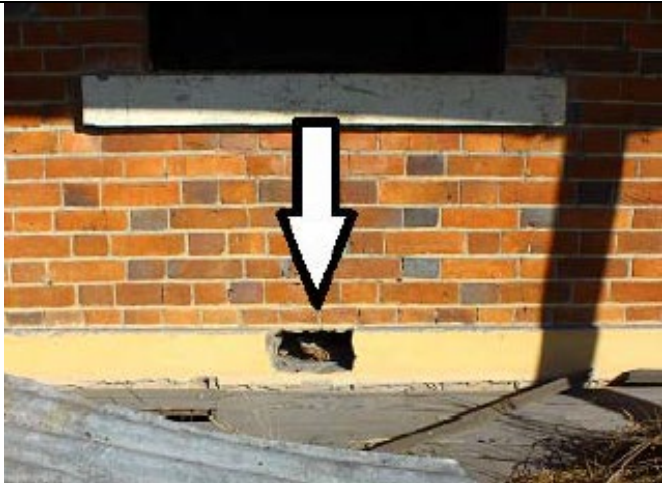
2015	2018	2020 (Mar)	2020 (Dec)
			
			
View of door and window panelling 2015-8: sheeting installed on all openings, however some repair required 2018-20 (Mar): some repair of panelling required Mar 2020-Dec 2020: Front door panel requires reinstallation. Broken panel remains unrepaired			
			
View of rear of building (view south) 2015-8: debris has been cleared and stacked 2018-20 (Mar): vegetation has regrown around building and stacked debris Mar 2020-Dec 2020: vegetation cleared and debris restacked			

2015	2018	2020 (Mar)	2020 (Dec)
			
View of rear of building (view north) 2015-8: debris has been cleared and stacked 2018-20 (Mar): vegetation has regrown around building and stacked debris Mar 2020-Dec 2020: vegetation cleared and debris restacked			
2015	2018	2020 (Mar)	2020 (Dec)
			
			
View of eastern verandah (focus on verandah floor) 2015-8: posts and sheeting removed, damaged boards remain exposed 2018-20 (Mar): damaged boards remain and vegetation growth throughout Mar 2020-Dec 2020: damaged boards remain and vegetation growth throughout			



2015	2018	2020 (Mar)	2020 (Dec)
			
View of rear of building (focus on roof) 2015-8: skillion roof, guttering and rafters have collapsed; main roof holes repaired 2018-20 (Mar): no discernible change Mar 2020-Dec 2020: some minor holes in roofing require repair			
			
View of north-east of building 2015-8: wall element has collapsed (bricks stacked under window); roof framing, sheeting and guttering has collapsed 2018-20 (Mar): no discernible change Mar 2020-Dec 2020: no discernible change			

2015	2018	2020 (Mar)	2020 (Dec)
			
View of north-east corner of building (focus wall below window) 2015-8: bricks from roof above stacked in front of required repointing, window sheeting removed 2018-20 (Mar): no discernible change Mar 2020-Dec 2020: repointing requirements remain			
			
View of south-east of building (focus on top of wall) 2015-8: no discernible change 2018-20 (Mar): no discernible change Mar 2020-Dec 2020: no discernible change			

2015	2018	2020 (Mar)	2020 (Dec)
			
View of eastern verandah (focus on dwarf wall wall) 2015-8: debris cleared from verandah, no change to dwarf wall 2018-20 (Mar): no discernible change Mar 2020-Dec 2020: cracking to wall evident			
			
View of ventilation grilles 2015-8: grilles not replaced 2018-20 (Mar): no discernible change Mar 2020-Dec 2020: grilles remain open			

2015	2018	2020 (Mar)	2020 (Dec)
			
View of southern chimney 2015-8: no discernible change 2018-20 (Mar): no discernible change Mar 2020-Dec 2020: no discernible change			

Recommendations

The comparative photographs above show the changes at the building over the past six years. As with the other two buildings, although no great change was noted between the current and the last inspection, no structural maintenance has occurred either. During this time it can be expected that the underlying causes of deterioration, such as the degeneration of wooden framework and the effects of weather entering through unsealed sections has continued. Therefore, the more significant changes and priority actions identified during the last inspection remain of importance and, if anything, their need of remediation has increased in urgency. Previous recommendations remain valid and the key issues remain:

- Considerable damage and exposure to the rear of the building;
- Loose, damaged and removed window and door sheeting; and
- Some new roof holes and loose sheeting.

It should be noted, however, that, like Springwood Homestead, a termite management regime has been implemented around the site, which is a positive action and will assist in the arrest of the deterioration of the wooden aspects of the building. Also, a vegetation management regime is in place that sees regular maintenance around the building. In addition, aerial drone photography of the site as recommended at the previous audit has been conducted and can be added to the site records.

While many of the high and moderate priority recommended actions within the CMP conservation works schedule have been completed in the past, the 2020 inspection has identified that some items need renewed attention. The recommendations outlined below are required to minimise the risk of further deterioration in the building structure.

High Priority

1. Replace any damaged plywood door/window coverings and ensure all coverings are tightly attached;
2. Patch fix any new damage to roofing sheets;
3. If any asbestos or fibrous cement sheeting remains at the property, engage an asbestos removalist to remove as required;



Moderate Priority

4. Check that all debris surrounding the house has been removed. If this has not occurred, remove all debris, ensuring an archaeologist is on hand to identify and catalogue any early architectural fittings or rare pieces of joinery that should be retained for future restoration purposes;
5. Reinstall verandah, including verandah decking and northern brick dwarf wall, re-using original material where possible, as per recommendations M5, M6 and L1 in the CMP conservation works schedule;
6. As the roof above Room 6 has collapsed, salvage any reusable masonry or timber and set aside within room. Engage a structural engineer to advise on feasibility of reconstructing the roof. (NB. Recommendation M9 in the CMP conservation works schedule erroneously refers to Room 5 rather than Room 6 as shown in the photograph);
7. Replace gutters around the house to match existing materials and ogee profile. Install new down-pipes and ensure they are discharging away from the building.
8. Repoint mortar joints with lime based mortar on brickwork below Room 6 eastern elevation window sill, on northern wall of room 5 and all chimneys;
9. Install new ventilation grilles to existing ground level openings; and
10. Maintain the termite and pest control regime at the building.
11. Maintain the vegetation management program.

