

Canberra Brickworks Precinct

Conservation Management Plan

Volume One

Report prepared for Doma Group

September 2021



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Report Register

The following report register documents the development and issue of the report entitled Canberra Brickworks—Conservation Management Plan, undertaken by GML Heritage Pty Ltd in accordance with its quality management system.

Job No.	Issue No.	Notes/Description	Issue Date
17-0170	1	Draft Report	18 July 2017
17-0170	2	Second Draft Report	31 August 2017
19-0443	3	Final Draft Report	11 December 2019
19-0443	4	Final Draft Report—issued to ACT Heritage CMP Taskforce	19 February 2020
19-0443	5	Final Draft Report—Volume 1 and 2 (addressing ACT Heritage October 2020 comments)—for client review	23 December 2020
19-0443	6	Final Draft Report—Volume 1 and 2 (addressing ACT Heritage October 2020 comments)	13 January 2021
19-0443	7	Final Report—ACT Heritage Council approval	11 August 2021
19-0443	8	Final Report	14 September 2021

Quality Assurance

GML Heritage Pty Ltd operates under a quality management system which has been certified as complying with the Australian/New Zealand Standard for quality management systems AS/NZS ISO 9001:2008.

The report has been reviewed and approved for issue in accordance with the GML quality assurance policy and procedures.

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ACT Heritage Council

Notice of Approval of Conservation Management Plan under Section 61K of the *Heritage Act 2004*

The ACT Heritage Council has approved the “*Canberra Brickworks Precinct – Conservation Management Plan. Volumes One and Two*” (GML Heritage, August 2021) for the Yarralumla Brickworks and the Yarralumla Brickworks Railway Remnants on 27 August 2021.

In approving this Conservation Management Plan, the ACT Heritage Council is satisfied on reasonable grounds that the policies and actions contained therein will ensure the conservation and responsible management of the place, subject to the below conditions:

1. The CMP is approved for a maximum period of five years.
2. Implementation of conservation policies and actions described in this CMP are the responsibility of the owner/manager of the heritage place.
3. Within three months of the date of this approval, the ACT Government, as the current owner of the Precinct, is to submit a Scope of Works for essential maintenance and conservation works of the Precinct for Council approval.
4. Within six months of the date of this approval, an Interpretation Strategy for the Precinct is to be submitted to the Council for approval.
5. Within twelve months of the date of this approval, or within 30 days of Doma Group assuming management responsibility of the site, a Scope of Works for the ongoing maintenance and conservation of the Precinct is to be submitted to the Council for approval.
6. This Notice of Approval is to be inserted in front of the CMP contents page, and circulated to any user or other interested party, and also submitted to the ACT Heritage Library for public reference.

In making this decision, the ACT Heritage Council also notes that *Heritage Act 2004* provisions require the conservation and responsible management of all significant features of the place, as set out in Section 5 of the Conservation Management Plan.

Dr Kenneth Heffernan
**Chair (as delegate for),
ACT Heritage Council**

30 August 2021

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Executive Summary

The Canberra Brickworks Precinct is a significant historic site with a distinctive historic industrial character. It has recognised heritage significance through listing on the ACT Heritage Register as the ‘Yarralumla Brickworks’, and the associated ‘Yarralumla Brickworks Railway Remnants’.

Doma engaged GML Heritage Pty Ltd (GML) to prepare an updated Conservation Management Plan (CMP) for the Canberra Brickworks Precinct.

The study area referred to in the CMP is the ‘Canberra Brickworks Precinct’—Blocks 1, 7 and 20, Section 102. The Precinct includes two ACT Heritage Register places:

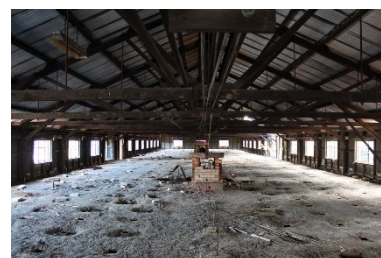
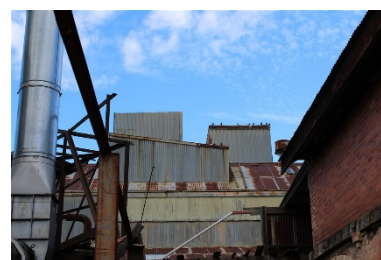
- ‘Yarralumla Brickworks’ (‘Canberra Brickworks’ or ‘Brickworks’)—located in Block 1, Section 102; and
- ‘Yarralumla Brickworks Railway Remnants’ (‘Railway Remnants’)—located in part of Block 7, Section 102) (refer to Figure 1.2).

This CMP has been prepared to revise the existing 2010 CMP and to include the associated Railway Remnants heritage place (listed on the ACT Heritage Register in 2013). The provisions of the ACT Heritage Act 2004 apply only to the registered heritage boundaries and citation of the two places within the Canberra Brickworks Precinct.

Conservation policies guide the ongoing management of the Precinct, to support strategic decision making for the future, as well as assist with legislative compliance and conservation of the site’s heritage significance.

The following principles form the basis for the conservation policies, including:

- retention, conservation, management and interpretation of the heritage significance, which is embodied in the attributes and elements of the site;
- identification of where and how change, adaptation (including identifying new appropriate uses) and new development can be undertaken on the site, that is compatible with the heritage significance and can provide for the conservation of significant elements;
- seeking professional heritage and building conservation advice for proposed works and redevelopment; and



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- exploring opportunities to interpret the heritage significance, and maintaining records in relation to proposed and/or implemented changes to the place.

An inventory of individual elements is provided at Appendix A to the CMP. The inventory provides conservation guidance for intrinsic features, that are core and supporting elements of the site's heritage significance. An inventory of Moveable Relics is provided in Appendix H.

1.0 Introduction

1.1 Background and Objectives

1.1.1 Overview

The Canberra Brickworks Precinct is a significant historic site with a distinctive industrial character. It has recognised heritage significance through its listing on the ACT Heritage Register as the ‘Yarralumla Brickworks’, and the associated ‘Yarralumla Brickworks Railway Remnants’.

Doma engaged GML Heritage Pty Ltd (“GML”) to prepare an updated Conservation Management Plan (CMP) for the ACT Heritage Register places: ‘Yarralumla Brickworks’ (“Canberra Brickworks”), and the associated ‘Yarralumla Brickworks Railway Remnants’ (“Railway Remnants”). This is referred to throughout this CMP as the “Heritage Places”, shown in Figures 1.1 and 1.2 and defined in Section 1.2.

1.1.2 Purpose of the CMP

This CMP has been prepared in accordance with the provisions of the *Heritage Act 2004 (ACT)* (“Heritage Act”). The CMP is a revision of the document prepared by Lovell Chen in 2010 (“2010 CMP”).

The 2010 CMP required updating to:

- address changes to the ACT Heritage legislation since the 2010 CMP was prepared;
- include the associated Railway Remnants heritage place (listed on the ACT Heritage Register in 2013);
- provide an update of the condition of the site and its elements, and
- understand the site in the context of proposed redevelopment to allow the ongoing use of the site.

1.2 Site Identification

1.2.1 Location and Study Area

The Canberra Brickworks Precinct is in the suburb of Yarralumla, to the west of central Canberra, shown in Figure 1.1. The site is bordered to the north and east by low density residential development, to the west by the Royal Canberra Golf Course and Westbourne Woods, and to the south by open space.

The study area for this CMP, is shown in Figure 1.2. The Heritage Act provisions only apply to the registered heritage boundaries and there are two registered places within the site of the Canberra Brickworks Precinct.

The whole study area is Canberra Brickworks Precinct – Blocks 1, 7 and 20, Section 102. The registered Heritage Places include:

- the Yarralumla Brickworks located in Block 1 Section 102 Yarralumla (“Canberra Brickworks”); and
- the Yarralumla Brickworks Railway Remnants located in a small part of Block 7 Section 102 Yarralumla (“Railway Remnants”) (refer to Figure 1.2).



Figure 1.1 Location of the Canberra Brickworks Precinct, in the broader context of Canberra. (Source: Google Earth with GML overlay, 2017)

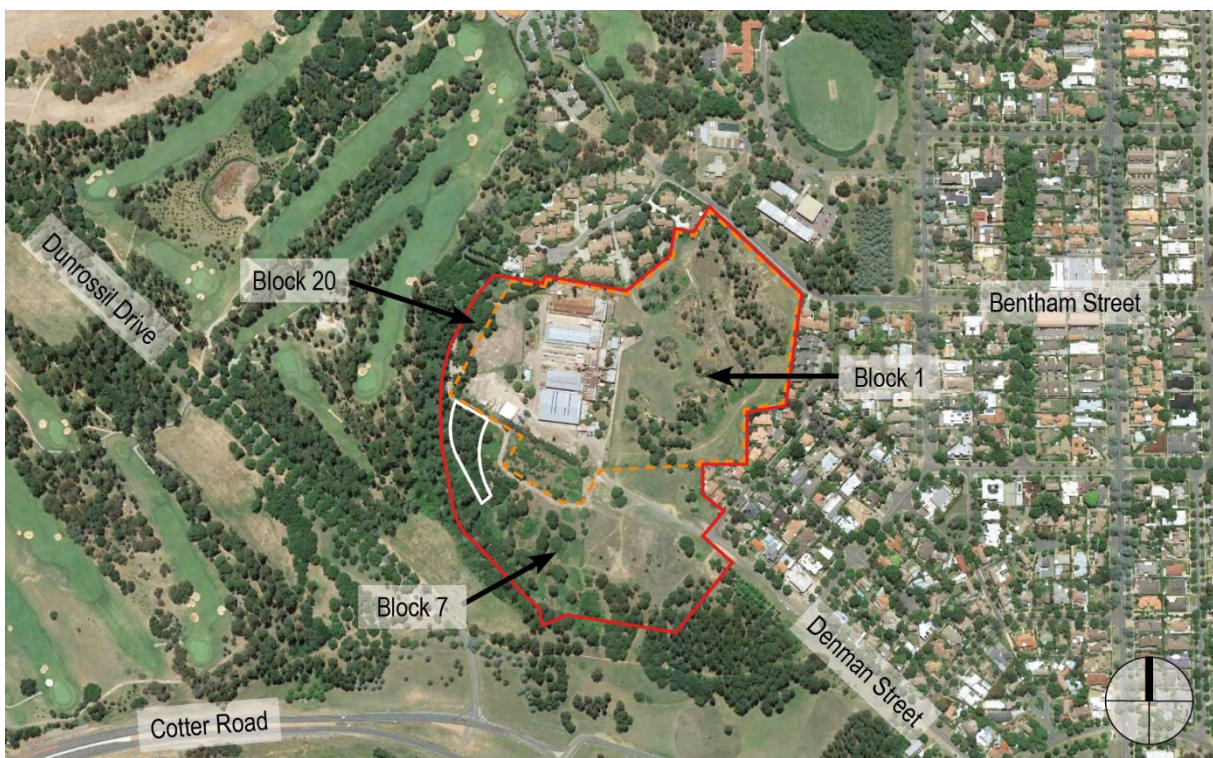


Figure 1.2 CMP study area—Canberra Brickworks Precinct—shown in the red solid boundary. The study area consists of Blocks 1, 7 and 20, Section 102 and includes the registered Heritage Places being the Canberra Brickworks (shown within the orange dashed boundary) and the Railway Remnants (shown within the white solid boundary). (Source: Google Earth with GML overlay, 2017)

1.2.2 Terminology

Terminology used in this CMP is explained here, given the site is referred to historically by many names including the Old Canberra Brickworks, Yarralumla Brickworks, Westridge Brickworks, the Commonwealth Brickworks, and the Government Brickworks.

For consistency, the following names are used in this CMP (refer also to Figure 1.3):

- **Canberra Brickworks Precinct.** This is the CMP study area comprising Blocks 1, 7 & 20 and is also referred to as “the site”.
- **‘Canberra Brickworks’,** referred to in the ACT Heritage Register citation as ‘Yarralumla Brickworks’. This is one of the two heritage-listed areas and has a specific legislative boundary that contains the historic industrial heritage elements and the former quarry. The area is referred to as the “Canberra Brickworks” in this CMP.
- **‘Railway Remnants’,** referred to in the ACT Heritage Register citation as ‘Yarralumla Brickworks Railway Remnants’. This is one of the two heritage-listed areas and has a specific legislative boundary that contains the historic railway remnants associated with the Brickworks. It is referred to as the “Railway Remnants” in this CMP.



Figure 1.3 Location and boundaries of the site—Canberra Brickworks Precinct (red boundary), Canberra Brickworks (orange dashed boundary) and Railway Remnants (white boundary). (Source: Google Earth with GML overlay, 2017)

Individual Elements—Names and Numbers

Individual elements on the site are referred to in this CMP by their name and number used by the ACT Heritage Register. Numbers 24 to 38 have been imposed on site elements identified in addition to the ones listed in the ACT Heritage Register.

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The ACT Heritage Register refers to the elements as ‘Features Intrinsic to the Heritage Significance of the Place’. Table 1.1 provides the corresponding numbers and naming from the ACT Heritage Register citations (also refer to Figure 1.5), and the location of individual elements is shown in Figure 1.4.

It is important to note the ACT Heritage Register citation for the Yarralumla Brickworks includes a grading of heritage significance—Schedule 1: Elements of ‘Exceptional Significance’, referred to as ‘core elements’ and Schedule 2: Elements of ‘Moderate Significance’, referred to as ‘supporting elements’. All graded elements are tabled in Section 4.3.4.

Table 1.1 Names and numbers of elements used in this CMP, with ACT Heritage Register nomenclature. Shading indicates the ACT Heritage Register grading—red for Schedule 1 Elements of ‘Exceptional Significance’, referred to as ‘core elements’ and blue for Schedule 2 Elements of ‘Moderate Significance’, referred to as ‘supporting elements’.

CMP Number	ACT Heritage Register Intrinsic Features: Core and Supporting	Naming used in the CMP for Individual Historic - Elements
1	Kiln – Staffordshire (1915)	Staffordshire Kiln
2	Fan House for Staffordshire Kiln (1915)	Fan House for Staffordshire Kiln
3	Kiln – Hardy-Patent (1927)	Hardy Patent Kiln 1
4	Fan House for Hardy Patent Kiln 1 (1953)	Fan House for Hardy Patent Kiln 1
5	Hardy Patent Kiln (1953)	Hardy Patent Kiln 2
6	Kilns – Downdraft a, b, c (1963)	Downdraught Kilns
7	Chimney Stacks for Staffordshire Kiln (1915)	Chimney Stack for Staffordshire Kiln
8	Chimney Stack for Hardy Patent Kiln (1927)	Chimney Stack for Hardy Patent Kiln 1
9	Chimney Stack for Hardy Patent Kiln (1953)	Chimney Stack for Hardy Patent Kiln 2
10	Chimney Stack for Downdraft Kiln (1963)	Chimney Stack for Downdraught Kilns
11	Quarry	Quarry
12	Geological features A, B, C, D	Geological features in the Quarry
13	Office (1916)	Offices
14	Power House (1915)	Power House
15	Machine Bay 1 for Staffordshire and Downdraught Kilns (1955)	Machine Bay 1 for Staffordshire Kiln and Downdraught Kilns
16	Machine Bay for Hardy-Patent (1955)	Machine Bay 2 for Hardy Patent Kiln 1
17	Machine Bay for Hardy-Patent (1955)	Machine Bay 3 for Hardy Patent Kiln 2
18	Workshop (1955)	Workshop
19	Large Crusher House (1955)	White Pan Room (Large Crusher House/Crusher House II)
20	Primary Crusher House (1955)	Primary Crusher House (Crusher House III)
21	Small Crusher House	Small Crusher House (Crusher House I)
22	Elevator Conveyor (1955)	Elevator/Conveyor
23	Remains of the Brickworks Accommodation Village	Remains of the Brickworks Accommodation Village
24	—	Concrete retaining wall
25	—	Amenities Block
26	—	Downdraught Kilns Control Room

CMP Number	ACT Heritage Register Intrinsic Features: Core and Supporting	Naming used in the CMP for Individual Historic - Elements
27	—	Toilet Block
28	—	Ancillary Storage Building
29	—	Substation/Control Room
30	—	Boiler House
31	—	Amenities Block 2
32	—	Extrusion Plant (Remnants)
33	—	Ancillary Storage Building 2
34	—	Storage Shed
35	—	Model Railway Workshop
36	—	Model Railway Storage Shed
37	—	Original brickyard (first)
38	—	Brickyard 2 (second)
1A	Yarralumla Brickworks Railway Remnants	Railway Remnants Registration Area

1.3 Heritage Status

1.3.1 ACT Heritage Register

The *Heritage Act 2004* (ACT) (Heritage Act) aims to represent and protect the rich natural and cultural heritage of the ACT. The legislation establishes a system for the recognition, registration and conservation of natural and cultural heritage places and objects, including Aboriginal places and objects.

As described previously, the ‘Yarralumla Brickworks’ and the ‘Yarralumla Brickworks Railway Remnants’ are included in the ACT Heritage Register (the two citations included at Appendix B). The provisions of the Heritage Act only apply to the registered heritage boundaries of these two places within the Canberra Brickworks Precinct. Places not listed in the citations as ‘features intrinsic’, or outside the heritage register boundaries (but inside the Canberra Brickworks Precinct study area of this CMP), are not protected by the Heritage Act.

The heritage significance of the site is explained further in Section 4.0 of this report. The management of the Heritage Register places, and of the study area, as a whole, is provided in Sections 5.0 and 6.0.

1.3.2 Non-Statutory Listings

- ‘Yarralumla Brickworks’ is listed on the Australian Institute of Architects (AIA) ACT Chapter Register of Significant Twentieth Century Architecture (RSTCA), item No. R063.
- ‘Canberra Brickworks’ was identified as a ‘Classified’ place by the National Trust of Australia (ACT) on 20 July 1981.

1.3.3 Heritage Places in the Vicinity

The site is in close proximity to four heritage places included on the ACT Heritage Register and the Commonwealth Heritage List (CHL):

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- Government House and Surrounds (CHL Place ID: 105381);
- The CSIRO Forestry Precinct (CHL Place ID: 105595);
- Westbourne Woods (ACT Heritage ID: 444); and
- Early Canberra Brickworks Housing Precinct (ACT Heritage ID: 1002).

1.4 Methodology

1.4.1 Burra Charter Principles

This CMP was prepared in accordance with *The Australia ICOMOS Charter for Places of Cultural Significance, 2013* (the Burra Charter). The Burra Charter is included at Appendix D.

Definitions

The conservation terminology used in this report is consistent with the Burra Charter. The term 'cultural significance' used in the Burra Charter is synonymous with the term 'heritage significance' or 'heritage values'. This CMP uses the term 'heritage significance'. The Burra Charter's definition of cultural significance is as follows:

Cultural significance means aesthetic historic scientific social or spiritual value for past, present and future generations. Cultural significance is embodied in the place itself, its fabric and setting, use, associations, meanings, records, related places and related objects.

1.4.2 ACT Heritage Guiding Principles for CMPs

This CMP has been written according to the Heritage Act, ACT Heritage Council's *Conservation Management Plans—Guiding Principles*, February 2015, and *Heritage Assessment Policy*, February 2015.

1.4.3 Structure of the Report

This CMP has been prepared to assist the site owners in the future management of the Brickworks. The structure of the CMP – two volumes – is outlined below with a brief description of each section and its content.

Table 1.2 Canberra Brickworks Precinct CMP Report Structure.

Volume 1	CMP Canberra Brickworks Precinct
Executive Summary	An overview of the CMP.
Section 1.0	Introduction: A background to the CMP, the location, heritage status of the Canberra Brickworks Precinct, as well as the methodology, authorship and acknowledgements.
Section 2.0	Understanding the Place—Historical Context: An overview of the historic development of the Canberra Brickworks Precinct, including a comparative analysis.
Section 3.0	Understanding the Place—Physical Context: An overview description of the Canberra Brickworks Precinct, including the setting, key views, and individual elements. The section includes a discussion of the historic archaeological potential of the site.
Section 4.0	Heritage Significance: ACT Heritage Register assessments for Yarralumla Brickworks and the Railway Remnants, including a revised assessment against the HERCON criteria. The section identifies the elements and features intrinsic to the heritage significance.

Volume 1	CMP Canberra Brickworks Precinct
Section 5.0	Conservation Policy: Constraints and opportunities associated with the conservation, management, in the context of proposed redevelopment, and interpretation of the heritage significance of the Canberra Brickworks Precinct. The Constraints and opportunities inform the conservation policies listed in this section for the future management of the site
Section 6.0	Conservation Policy Implementation Schedule: Summary of conservation policies with defined actions and timing for effective implementation, to conserve heritage significance.

Volume 2	CMP Appendices Canberra Brickworks Precinct
Appendix A	Inventory of Individual Historic Elements
Appendix B	ACT Heritage Register citations for 'Yarralumla Brickworks' (Canberra Brickworks) and the 'Yarralumla Brickworks Railway Remnants' (Railway Remnants)
Appendix C	History of the Canberra Brickworks for the CMP
Appendix D	The Australia ICOMOS Charter for Places of Cultural Significance, The Burra Charter, 2013 (Burra Charter)
Appendix E	Unanticipated Finds Protocol
Appendix F	Archaeological Assessment, Navin Officer, Draft Report, September 2016
Appendix G	Yarralumla Brickworks Inspection Report, Sellick Consultants, December 2019
Appendix H	Inventory of Moveable Relics, December 2020

1.4.4 Relevant Documentation

The following documentation has been referenced in the preparation of this report:

- Masterplan and Development Design Strategy (2017 RFT Masterplan) Doma, 2017;
- Statement of Heritage Effects (SHE), January 2017, to assess the proposed Masterplan and Development Design Strategy (2017 RFT Masterplan) prepared by GML, January 2017;
- Lovell Chen, Canberra Brickworks Conservation Management Plan, prepared for the Land Development Agency, April 2010;
- Lovell Chen, Canberra Brickworks Conservation Development Strategy, prepared for the Land Development Agency, February 2015;
- *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013* (the Burra Charter);
- ACT Heritage Register citations for the Yarralumla Brickworks and the Railway Remnants;
- ACT Civil and Administrative Tribunal Orders, No. AT13/17 Railway Remnants, 2013;
- Sellick Consultants, Yarralumla Brickworks Inspection Report, prepared for Doma, 6 December 2019;
- Navin Officer Heritage Consultants, Archaeological Assessment Canberra Brickworks and Environs, Draft Report prepared for Land Development Agency, September 2016
- Northrop, Canberra Brickworks Complex Structural Audit, prepared for MacroPlan Dimasi February 2013;

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- dsb Landscape Architects, Yarralumla Brickworks Precinct Tree Assessment, Tree Management Report, 25 November 2015;
- National Trust (ACT), Yarralumla Brickworks Adaptive Re-use, December 2015;
- the International Committee for the Conservation of Industrial Heritage (TICCIH) Charter for Industrial Heritage, 2003; and
- Joint ICOMOS–TICCIH ‘Dublin Principles’ for the Conservation of Industrial Heritage Sites, Structures, Areas and Landscapes, 2011.

1.4.5 Limitations

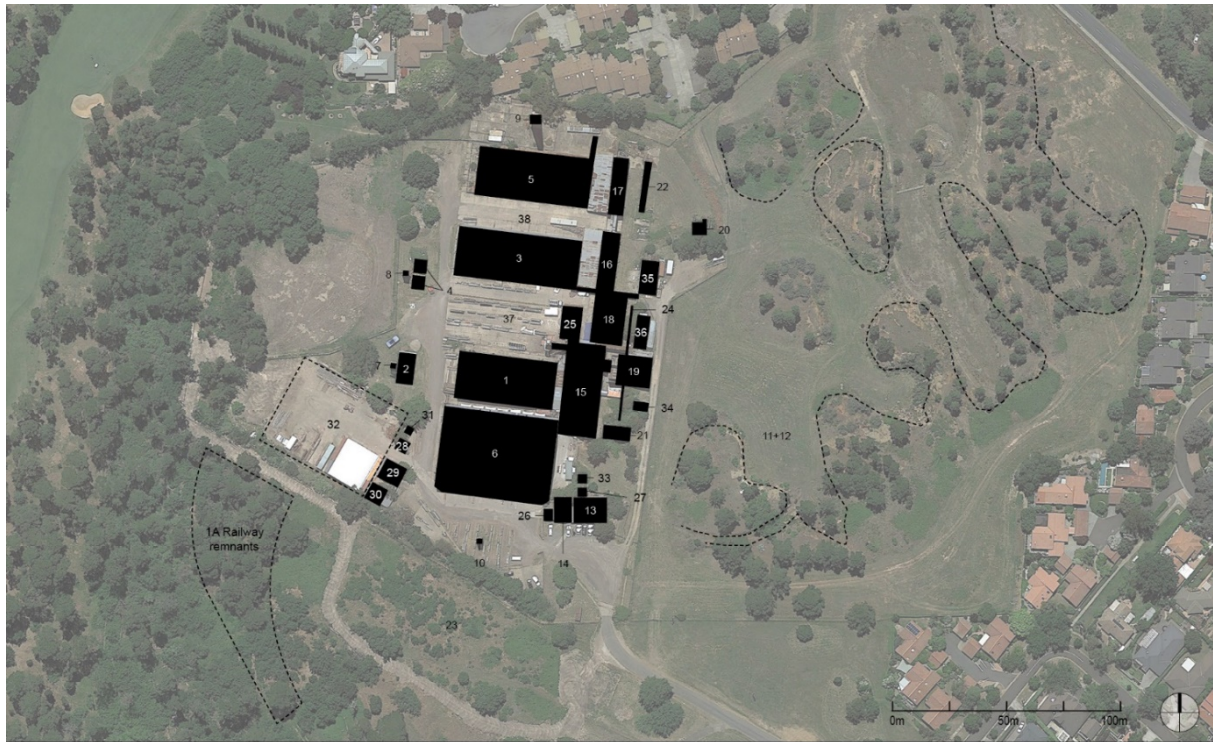
The following tasks were not undertaken as part of this CMP.

- Consultation to determine the community-held values of the site – an understanding of the community’s views on the Brickworks to inform the social and aesthetic values was drawn from the Canberra Brickworks Community Panel Parameters and Perspectives Report, March 2016.
- New detailed structural condition assessments – sufficient information on the condition of the elements was able to be drawn from the Sellick Consultants and Northrop structural inspection documents.
- Assessment of natural heritage values or research into Aboriginal heritage values or survey of Aboriginal sites.
- Archaeological assessment – information for the archaeological analysis in the CMP is drawn from the Draft Archaeological Assessment report prepared by Navin Officer in September 2016.

1.5 Authorship and Acknowledgements

This report was prepared by a team of heritage consultants and archaeologists from GML (2016–2021).

GML acknowledges the assistance of Doma, ACT Heritage and the Suburban Land Agency (SLA) (the former Land Development Agency [LDA]), for their assistance.



Legend:

1	Staffordshire Kiln (1915)	9	Chimney Stack for Hardy Patent Kiln 2 (1953)	17	Machine Bay 3 for Hardy Patent Kiln 2 (1955)	24	Concrete retaining wall	33	Ancillary Storage Building 2
2	Fan House for Staffordshire Kiln (1915)	10	Chimney Stack for Downdraught Kilns (1963)	18	Workshop (1955)	25	Amenities Block	34	Storage Shed
3	Hardy Patent Kiln 1 (1927)	11	Quarry	19	White Pan Room (Large Crusher House/Crusher House II) (1955)	26	Downdraught Kilns Control Room	35	Model Railway Workshop
4	Fan house for Hardy Patent Kiln 1 (1953)	12	Geological features	20	Primary Crusher House (Crusher House III) (1955)	27	Toilet Block	36	Model Railway Storage Shed
5	Hardy Patent Kiln 2 (1953)	13	Offices (1916)	21	Small Crusher House (Crusher House I)	28	Ancillary Storage Building	37	Original Brickyard
6	Downdraught Kilns (1963)	14	Power House (1915)	22	Elevator/Conveyor	29	Substation/Control Room	38	Brickyard 2
7	Chimney Stack for Staffordshire Kiln (1915)	15	Machine Bay 1 for Staffordshire Kiln and Downdraught Kilns (1955)	23	Remains of the Brickworks Accommodation Village	30	Boiler House	1A	Railway remnants registration area
8	Chimney stack for Hardy Patent Kiln 1 (1927)	16	Machine Bay 2 for Hardy Patent Kiln 1 (1955)			31	Amenities Block 2		Refer also to figure 3.38 Areas of Archaeological Potential
						32	Extrusion Plant (Remnants)		

Figure 1.4 Location of Canberra Brickworks Precinct, with numbering of site elements used in the ACT Heritage Register citations (also refer to Figure 1.5, and Table 1.1 for naming used in the register and throughout the CMP). (Source: GML edits on Google Earth base plan, 2017)

Figure 68a: Yarralumla Brickworks, Yarralumla: Significant Features

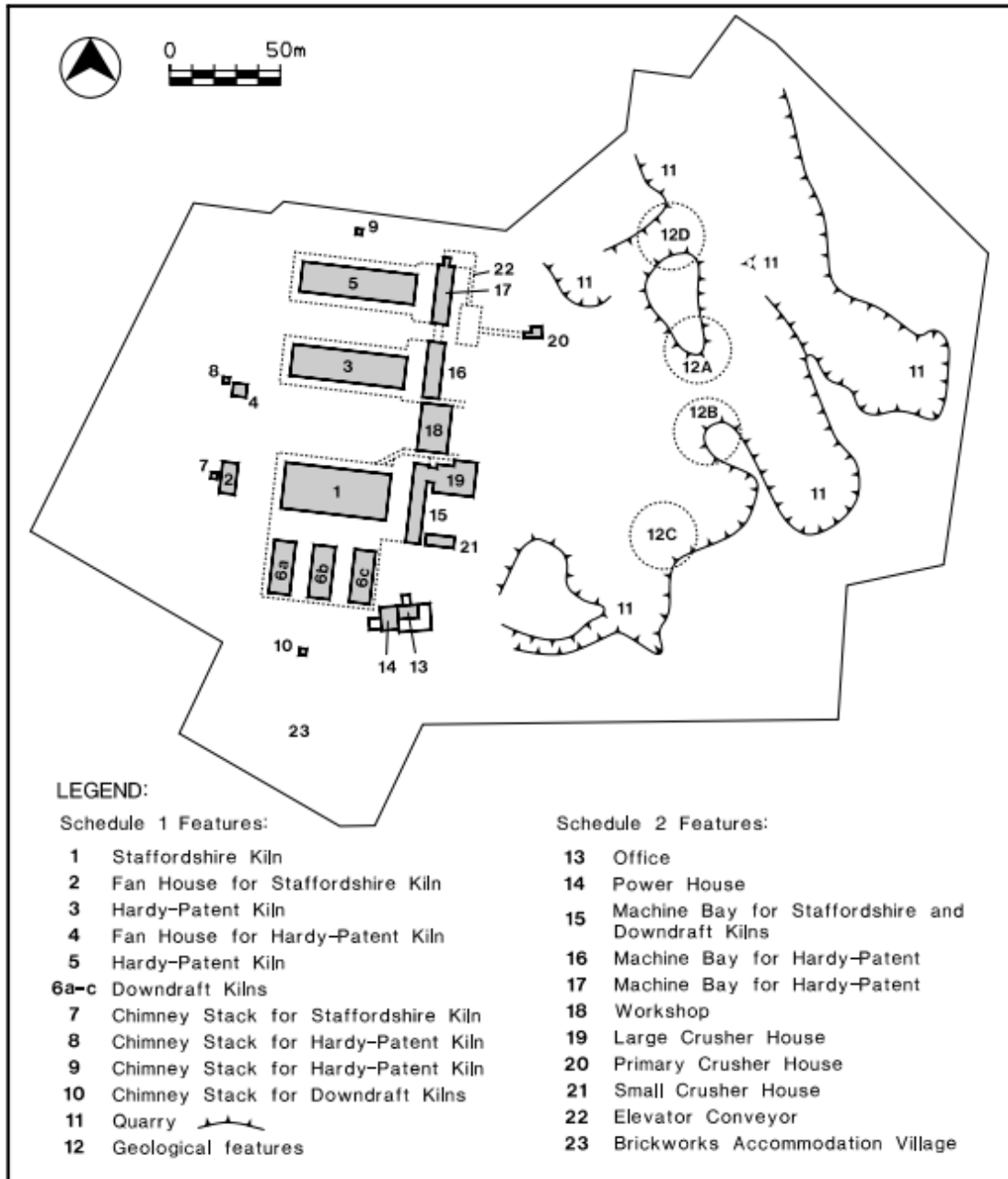


Figure 1.5 Excerpt from the ACT Heritage Register entry for the 'Yarralumla Brickworks' (Canberra Brickworks). The names and number for each element have a corresponding number used in this CMP (refer to Table 1.1 and Figure 1.4).

2.0 Understanding the Place—Historical Context

2.1 Introduction

This section provides a summary of the historical development of the Canberra Brickworks Precinct including a background history of Canberra, a contextual history of the site, and a comparative analysis of other Australian brickworks.

A comprehensive history of the development of the site, and the process of brick production is provided at Appendix C, and specific detail of the individual elements is provided at Appendix A. The history and comparative analysis have been drawn predominantly from the 2010 CMP and revised and updated where necessary.

2.2 Background History of Canberra

2.2.1 Yarralumla Formation

The underlying geology of Canberra is made up of sedimentary and volcanic rock types formed when the landscapes were positioned on the margins of the supercontinent, Gondwana.¹ The Brickworks site lies on the Yarralumla Formation created 425 million years ago by sedimentary mudstone or siltstone deposited in a shallow sea. Evidence of fossils including brachiopods, trilobites, corals, bivalves, bryozoans and crinoids remain as evidence of this ancient landscape.² This geological composition included shale, a fine-grained sedimentary rock, ideal for brickmaking as it was both hard and porous. However, the shale varied greatly in quality and limestone and sandstone intrusions into seams of the rock made processing more expensive and some material unusable.

From the 1950s, geologists in Canberra explained in greater detail the geological significance of the Brickworks. They traced the sedimentary sequences of the Yarralumla Formation identifying in the centre of Canberra principally at the Brickworks but also at Red Hill, the outcrops in suburbs of Deakin, Hughes and west of Curtin.

2.2.2 Ngunnawal Country

The Brickworks is located on traditional lands held by the Ngunnawal group. The Ngunnawal people have occupied the land for thousands of years and their descendants continue to live in Canberra and the surrounding region. Several Indigenous groups, including the Ngunnawal and Ngambri, were recorded to have settled along the sandy banks of the Molonglo River. As an important resource, the Molonglo River corridor attracted a hunter-gatherer lifestyle and Aboriginal people set up shelter and camps throughout the area as they travelled in response to the availability of natural resources.³

The Aboriginal people were displaced from their land following European settlement of the area and their numbers dwindled dramatically, possibly associated with a smallpox epidemic in 1830, influenza and a measles epidemic in the 1860s.⁴ There are few records of Aboriginal people on the Limestone Plains after it was settled by pastoralists, perhaps because of Indigenous seasonal lifestyles, or because they retreated from settlers and their horses and moved to the hills.⁵ The new settlers may also have simply failed to record their ongoing presence in any detail.

2.2.3 Colonial History

European colonisation of the area commenced in the 1820s with small and large estates for farming and grazing. The Brickworks site was established on part of a large sheep grazing property held by Frederick Campbell, a descendant of Robert Campbell who owned the early Canberra pastoral estate 'Duntroon'.

During the late 1890s, there was much debate over the location of the seat of government for the new Commonwealth of Australia. It was eventually decided that the future capital's location would be selected by the new Parliament following Federation in 1901.⁶ On the recommendation of Commonwealth surveyor Charles Scrivener, the district of Yass–Canberra was chosen in 1908. Scrivener's specific choice was an elevated site straddling the Molonglo River with mountains and hills to the northwest, northeast and south.

2.2.4 Planning the National Capital

The Griffin Plan

In 1911, an international competition to design the new city was launched and 137 entries were received. After considerable debate, Chicago architect Walter Burley Griffin was announced as the winner of the competition in May 1912.

Griffin's 1911 plan for the national capital was based on a geometry dictated by the landscape rather than the principal points of the compass, with a water axis formed from the flow of the Molonglo River at right angles to a land axis between two hill summits. A municipal axis lay just to the north of, and parallel to, the water axis. The central land axis ran from Mount Ainslie through Camp Hill (the site of Old Parliament House) to Capital Hill (the site of New Parliament House) and then nearly 50 kilometres further inland to Mount Bimberi.⁷



Figure 2.1 The Griffin Plan of Design for the Federal Capital showing the land, water and municipal axes, 1911. (Source: National Archives of Australia [NAA] A1, 1917/7242)

The Departmental Plan

Following the announcement of the top four winning entrants to the design competition, the Minister for Home Affairs, King O'Malley, appointed a Department Board to evaluate the winning proposals and create a plan for their practical implementation.

The Departmental Plan was completed by November 1912 and officially endorsed by King O'Malley in January 1913. Hearing of the Departmental Plan, Walter Burley Griffin visited Australia in an attempt to view the site, understand the proposed amendments and deter the government from changing his vision. Of note in the Departmental Plan was the allocation of a brickworks site, which had not been included in Griffin's plan. A compromise between Griffin and the Board could not be reached and in October 1913 the incoming Minister for Home Affairs, William Kelly, dismissed the Board. Griffin was appointed as Federal Capital Director of Design and Construction to implement his original plan.⁸

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By 1918 Griffin had developed his scheme into a practical plan that could be implemented. In 1920, the Commonwealth Government established a Federal Capital Advisory Committee (FCAC) to ensure the plan's timely execution. Griffin did not approve of the Advisory Committee's appointment and this, along with other ongoing unease and tension between Griffin and other staff and governmental departments, led to him leaving Canberra in 1920 on the completion of his contract.⁹

While Griffin was no longer involved in the process, the 'Griffin Plan' for Canberra of 1925 (called the 'Statutory Plan for Canberra') was gazetted as a result of *Seat of Government (Administration) Act 1910* (Cwlth). This plan effectively set the agenda for city planning until the 1950s. The National Capital Authority refers to the 'Griffin Plan' as both the 1918 plan and the 1925 Gazetted Plan.

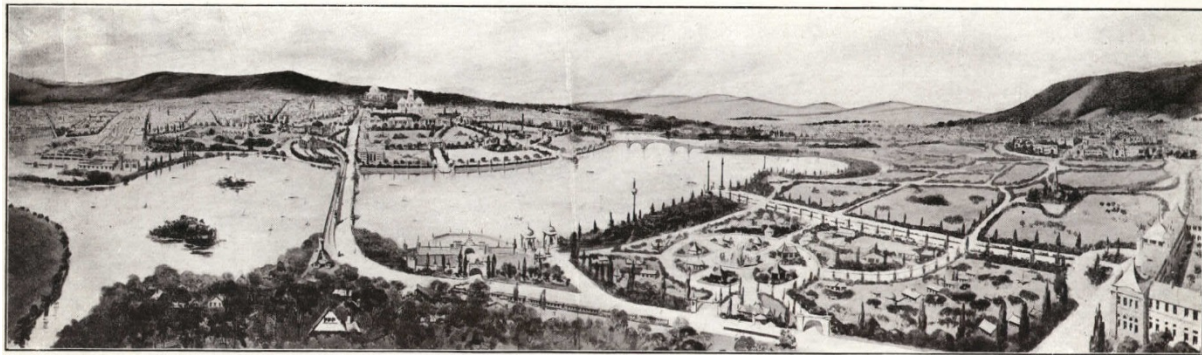


Figure 2.2 An artist's impression of the city's layout according to the Departmental Plan in Figure 2.3. (Source: NAA: M4071, 48, 1913, p70)

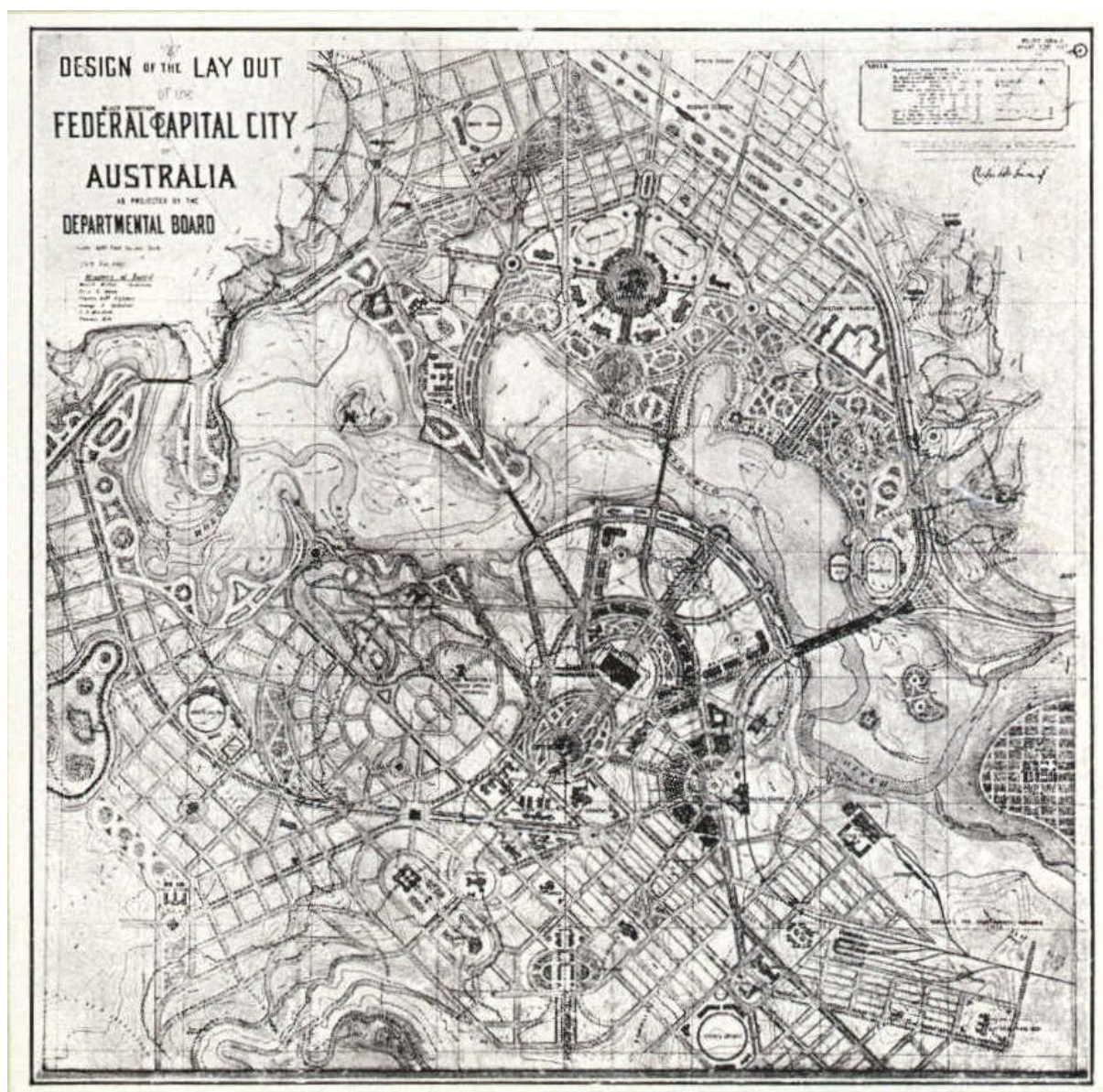


Figure 2.3 The 1913 Departmental Plan, of the Federal Capital Commission, was a combination of two of the winning designs and considered to lack the clarity and structured form of the Griffin Plan. (Source: NAA: M4071, 48, 1913, p 68)

2.3 Overview History of the Brickworks

2.3.1 Phases of Development

The Brickworks site contains evidence from each of its main phases of development: establishment, expansion, post-war, and post closure, when the site was permanently closed as a brick manufacturing facility.

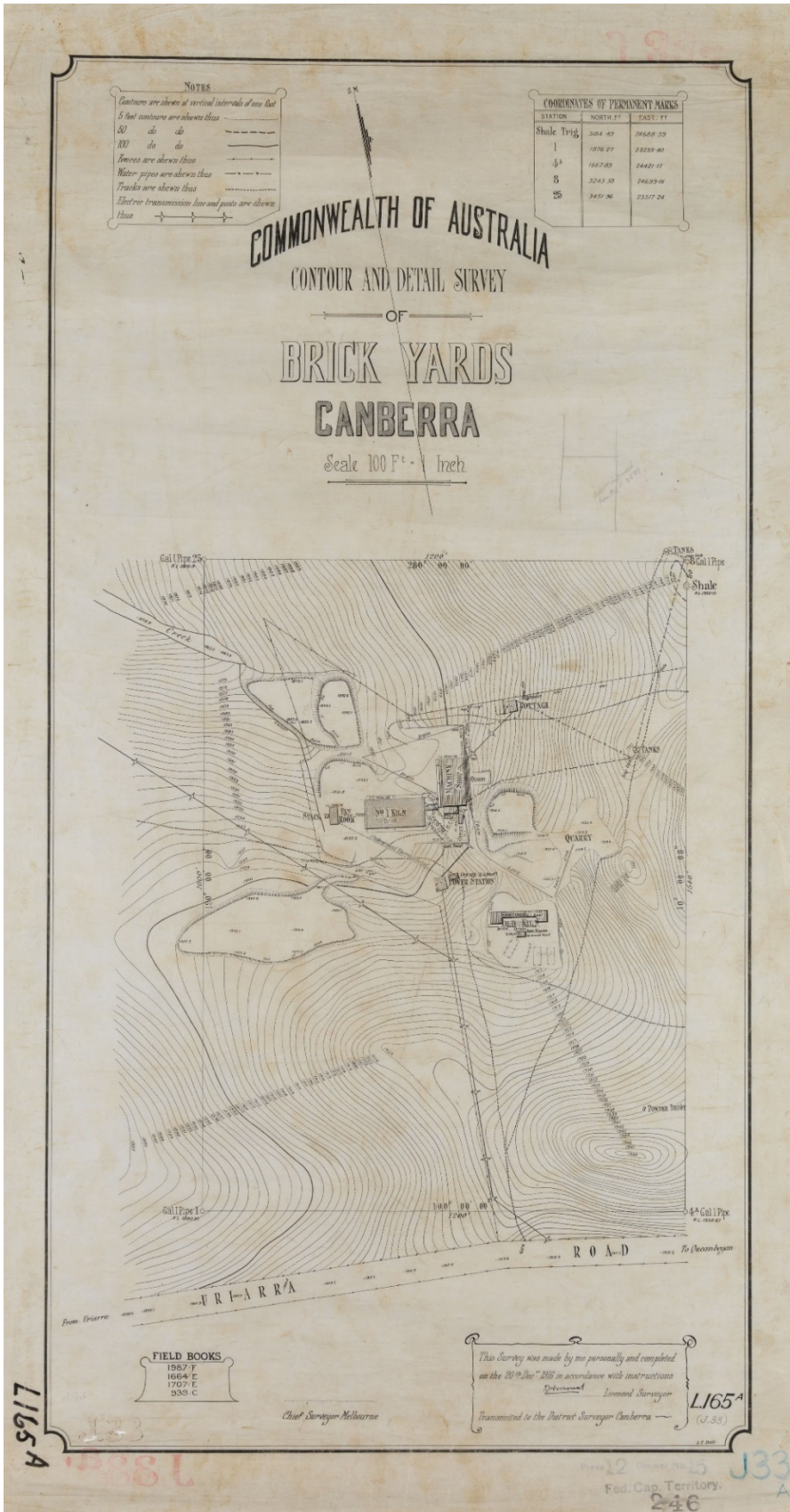


Figure 2.4 1916 contour and detail survey of the Brick Yards Canberra. Note: close-up details of this plan can be seen throughout Appendix C. (Source: NAA: A6664, L165A, 1916)

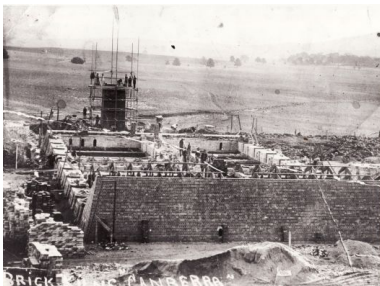


Figure 2.5 Staffordshire kiln construction at the Brickworks, c1915. (Source: Canberra District Historical Society, ID15652)



Figure 2.6 Chimney stack under construction, c1926. (Source: NAA, A3560, 2455)



Figure 2.7 Scotch kilns were in operation at the Brickworks till the mid-1920s. (Source: NAA, A3560, 1968)



Figure 2.8 Hardy patent kiln 1 under construction, c1926. (Source: NAA, A3560, 2111)

2.3.2 Establishment Phase, 1911–1920

The 0020 Brickworks was established by the Commonwealth Government in the early days of Canberra's development as the Federal Capital. Due to the costs associated with transporting bricks from outside of the Territory, it was decided that a local quarry and brickworks be established to support the construction of houses and government buildings, and the population growth in the new town.

Of the two sites investigated, 38 acres of sheep grazing land on Frederick Campbell's property 'Yarralumla Station' was selected for its potential to produce bricks of an excellent quality, equal to the best commercially produced bricks for hardness and porosity.¹⁰

Development of the Brickworks began in 1913 with initial infrastructure comprising a grinding pan, brick making machine and elevator, portable steam engine, and four open kilns. It was expected that much of this equipment would be temporary and that more permanent infrastructure would be established in 1914. A single 20-chamber Staffordshire kiln, the first to be built in Australia, was completed in 1915. The arrival of World War I led to a shift in government priorities and commitments and resulted in restrictions on the works program for Canberra. This shift, together with a coal strike, caused the first closure of the Canberra Brickworks in December 1916. A 1916 contour and detail survey identified early Brickworks infrastructure including: a 'Machine Shop', 'No.1 Kiln', 'Fan Room', 'Stack', 'Office', and 'Power Station' (see Figure 2.4).

Many workers from the Brickworks were housed in two tent camps (single and married quarters) in an area popularly known as 'Westridge', part of Griffin's planned suburb of Westlake (now part of the suburb of Yarralumla). The first permanent dwellings for workers were constructed in the 1920s.

2.3.3 Expansion Phase, 1921–1942

With the end of World War I, the government proceeded with the construction of Canberra and formally reopened the Brickworks in 1921, which had undergone machinery repairs the previous year. A tile making plant was constructed in 1922 but it was reported in 1925 that the tiles were of a poor quality and the government invested £2000 into improving the product. The 1920s saw an increase in residential construction and major civic construction projects throughout Canberra, in response to government plans to move public servants from Melbourne, and the completion of the Provisional Parliament House in 1927 was a significant achievement for the fledgling capital. To cope with the increased demand, a Hardy patent kiln and two 'temporary' Downdraught kilns and associated stack were constructed. The brick manufacturing

Machine Shop established c1916 near the quarry was expanded by two bays to accommodate brick machines and grinding pans.

During the 1920s, more permanent workers' accommodation was established in the form of timber tenements and brick cottages adjacent to the earlier accommodation camps. In 1927, additional married quarters and a single men's camp were constructed in response to the growing workforce.

To assist in the accelerated residential and civic construction of Canberra, a steam powered narrow-gauge railway was built in 1923 to improve the mass transportation of bricks. The bricks had previously been transported by steam traction engines, but this was a slow process unsuited to the capital's rapid growth and underdeveloped roads. A track leading from the Brickworks was constructed and branched out to the site of the new Hotel Canberra (now the Hyatt Hotel) and the Provisional Parliament House, and the Kingston Powerhouse. A track was originally proposed to extend over the Molonglo River into Civic, but the 1922 floods destroyed the connecting bridge. Eventually the Civic branch was established by narrowing an existing abandoned standard gauge track.¹¹ From 1927 the railway infrastructure was gradually removed and transportation continued by motor lorry.¹²

The Depression curtailed production at the Brickworks and timber was used instead of the more expensive coal to operate the kilns. With significant reduction in demand, the Brickworks closed for a second time in 1931. It reopened in 1935, but this proved to be short-lived due to the arrival of World War II. The Brickworks closed for a third time in 1942 and staff were laid off with a caretaker instituted to issue bricks for essential works only.

2.3.4 Post-World War II Phase, 1944–1976

In 1944 the Brickworks reopened on a limited scale. This soon increased to respond to the postwar housing shortage, which led to major expansion and redevelopment works at the Brickworks. Efforts were made to seek out experienced and qualified workers to meet the increased demand on the Brickworks. However, recruitment proved challenging and in an effort to attract workers, a new amenities block was constructed, as was the 'Brickworks Hostel' which was positioned south of the site and completed in 1945.

In 1952, plans and equipment for a new 'Tunnel' kiln were purchased and foundations laid, but the project was soon abandoned amid spiralling costs. A second Hardy patent 20-chamber kiln (Hardy Patent Kiln 2) was constructed c1954 on the foundations of the abandoned Tunnel kiln. It utilised natural draught for firing, as opposed to being fan-induced, which required a tall



Figure 2.9 The Brickworks quarry face with workers, c1920–30. (Source: NAA, A3650, 3315)



Figure 2.10 The Brickworks quarry and narrow gauge railway track, c1920–30. (Source: NAA, A3650, 3314)

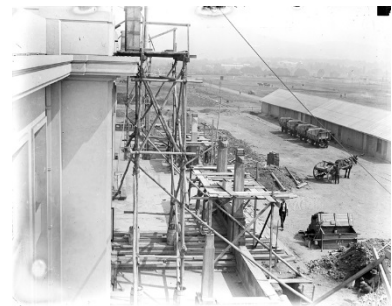


Figure 2.11 View from Old Parliament House roof with the railway and carts that delivered the bricks in the top right. (Source: NAA, A3560, 1398)

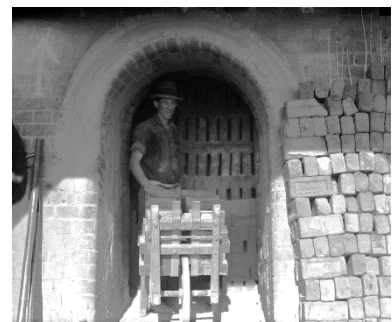


Figure 2.12 Man loading a kiln, c1926. (Source: NAA, A3560, 1973)



Figure 2.13 Canberra Brickworks, c1927.
(Source: NAA, A3560, 2696)



Figure 2.14 Brick kilns and brick stacks,
c1926. (Source: NAA, A3560, 167)



Figure 2.15 View to the kilns, c1928.
(Source: NAA, A3560, 4557)



Figure 2.16 Stone crushing and screening
plant. (Source: NAA, A3560)

chimney stack. The 1950s saw a change in the brick making process and a series of new crushers and hoppers was introduced, as well as an elevator and a series of conveyor belts. New brick press buildings and a workshop replaced the early machine shop adjacent the Staffordshire kiln. Despite extensive upgrades and works, a 1959 report on the operations, management, equipment, and economics of the Brickworks addressed concerns over low productivity at the site and the quality of bricks being produced.

In 1958, the two 1925 Downdraught kilns were demolished to allow for the construction of three new Downdraught kilns from 1960–1963. The new kilns had the capacity to hold 120,000 bricks and were reputed to be the longest in Australia. At this time, oil replaced coal as the fuel for firing the kilns.

By 1973, the Brickworks was considered in need of extensive modernisation and proposals were prepared by Commonwealth Brickworks Pty Ltd for upgrade works. These proposals were rejected by the National Capital Development Commission (NCDC) on environmental grounds and a new brickworks site was released at Mitchell in Canberra's north. The allocation of a new brickworks led to final closure of the Brickworks and the kilns were unloaded for the last time in August 1976.

2.3.5 Post Closure Phase, 1976–2017

In 1976, local developer and businessman Alan Marr (A R Marr Pty Ltd) put forward a proposal to develop the Brickworks as an integrated tourist, recreation, and retail centre with medium density housing to the east and north of the site. Marr succeeded in having the land rezoned to accommodate his vision and carried out maintenance and reconstruction works to the kilns. Landscaping of the quarry, involving land fill and the creation of the reflection lake, proceeded in 1978. The redeveloped Brickworks was opened to the public as a tourist attraction in July 1979. However, limited income opportunities and high capital costs forced Marr's business into provisional liquidation. In the early 1980s, Marr was seriously injured in a fall at the site and later died of complications. The Commonwealth accepted the surrender of Marr's company's lease in 1984 and management of the site was transferred to caretaker Bruce McDonald. While many of Marr's tenants remained at the Brickworks, concerns about the safety of some of the buildings and potential redevelopment of the site led to the tenants being asked to leave and the caretaker role being abolished. A timber recycling business, Thor's Hammer, was granted an extended period to relocate due to the considerable amount of its timber stock.

The 1988 *Canberra Brickworks South Canberra Policy Plan* suggested a range of potential uses for the site such as housing,

commercial accommodation, and office and retail space. The government adopted the plan, despite it being poorly received by the community. Hooker Projects submitted the preferred 'Expression Of Interest', which proposed a development that adapted the kilns and machine bays, and contained a sports precinct, museum, restaurant, hotel, and visitor attractions. A depressed economy led to Hookers being placed in provisional liquidation and by 1992 their proposal was defunct. It is around this time the Commonwealth handed the Brickworks site over to the ACT Government.

Further development proposals were investigated but none proceeded and during this phase the Brickworks continued to accommodate a range of tenants, including artists, designers, and manufacturers. In 2001 the Brickworks was included on the ACT Heritage Register as the 'Yarralumla Brickworks'. In 2013, the remnants of the former 1920s narrow-gauge railway were individually listed as the 'Yarralumla Brickworks Railway Remnants'.

In September 2013, the ACT Government's Land Development Agency (LDA) (now the Suburban Land Agency) released the *Canberra Brickworks and Environs Planning and Development Strategy*, which sought to promote the adaptive re-use of the site and its surrounds with respect to its heritage significance. Following revision of the strategy in 2015, the LDA called for development proposals to be submitted and in 2017 it was announced that the preferred tenderer was local Canberra developer Doma with its submission for a mixed-use residential, commercial, and retail development that utilised much of the historic Brickworks infrastructure.

2.4 The Brickmaking Process

The legibility of the brickmaking process can generally be traced across the site from east to west through key buildings and site elements; starting with the extraction of shale at the Quarry and moving west through the processing buildings, firing in the kilns and transport offsite. Later when the raw material was outsourced it was still delivered and stored at the Quarry, so the east to west movement of process was retained.¹³ The process summarised below has been based on descriptions provided in newspaper reports, Lovell Chen Old Canberra Brickworks Conservation Management Plan (2010) and Lester Firth Associates, Old Canberra Brickworks: Conservation Plan (1986):

- **Quarrying:** The first operation of the brickmaking process was the quarry of raw materials (clay and shale) from the pit. In the early phase the shale was broken down from the face of the cliffs and transported in tip trucks on the small gauge rail to the crushing and grinding machines. As the surface clay was depleted, blasting was necessary to extract deeper veins of shale. Boreholes were drilled using a sledgehammer and chisel while men broke apart the exploded shafts of shale into smaller segments. This was dangerous work with risk of eye injury as shale flew under hammer blows. After the 1930s, due to inconsistent quality, raw material was sourced elsewhere.
- **Processing:** The Grinding attendant brought the shale to the jaw crusher which reduced the material to 75mm. It was then transported by buckets attached to elevator or belt to a storage bunker, then to the grinding mill hoppers. Further refinement followed with the fine powder passed through a 'screen made of steel piano wire which allows only the finest material to fall through.'¹⁴ The high lime content meant a 'semi-plastic' pressing process was used. (Semi-plastic is ground clay, or shale, which is sufficiently damp to adhere under pressure). During the 1950s the expansion of the site saw the implementation of new crushers and pan rooms connected to a conveyor system. This included the Hazemag crusher installed in Small Crusher House (Element 21) and the White Pan Room (Element 19) also referred to as the Large Crusher House. The Primary Crusher House (Element 20) feature two hoppers, a Ross feeder and 'grissly feeder' with

rail bars to enable manual crushing. A Jacques swing jaw crusher was located under the Ross feeder.

During the 1930s there 'were six brick making units, three for each of the two large kilns, and each unit consisting of a 10ft grinding mill, a 'New Era' brick press, and pug mixer, driven by a 150hp electric motor. The output of each unit is approximately 1,500 bricks per hour.'¹⁵ During the 1950s Anderson double re-press semi plastic presses were deployed to strengthen the brick.

- **Firing:** Green bricks, refined and pressed, were transported to the kilns for firing. The fired bricks were then sorted as they were unloaded, usually into "firsts", "seconds" and "clinkers." Clinkers were misshapen or bricks stuck fast to other bricks while baking. During 1926, the timing was described as follows: 'the period which elapses from the time the green brick enters the kiln and leaves a finished product is approximately three weeks, although the actual burning process is done in six days.'¹⁶ The bricksetter would brick up to 70,000 bricks per day. Gaps between each brick in the stack allowed for hot air and flame to circulate during burning. Bricksetters would consume litres of water and salt tablets to counter the dehydration of the heat emanating from kilns (the 'Hoffman' type Hardy patent kiln was able to fire continuously at 1000 degrees Celsius).
- **Transport:** The bricks were transported from the Brickworks to Canberra city centre initially by traction engine. However, the machines were only able to complete two trips to brick loads across rough unmade roads. The construction of the light railway significantly expedited the process. The branch lines to key sites were removed before the opening of Provisional Parliament building in 1927. By the late 1920s, bricks were transported by lorry trucks.

Brickworks Products As technological advances progressed in the Brickworks machinery the diversity of products manufactured increased. To cope with the increased demand for building the National Capital, Downdraught kilns were installed to produce face and special bricks. Then the installation of the Staffordshire kiln (cutting edge technology for its time) enabled combinations of chambers to be used allowing the simultaneous production of a range of products, bricks, tiles and pipes. In 1927, the 'Hoffman' type Hardy patent kiln was installed with a potential annual output of six million bricks. A new down draft tile kiln was also operating with an annual output of 420,000 tiles and a new Roman tile machine with a daily output of 2,000 tiles.¹⁷ By 1936 the Stock Sheet of the Department of Interior lists the range of products manufactured including:

3" common bricks, 3" Face bricks (red), 3" Black bricks common, 2" Paving bricks, 2" Face bricks (red), 3" semi-glazed Face Bricks, 3" Chocolate Face bricks, 3" Pavers, 2" Common bricks, Squints, Ovolo Double return bricks, Special Mould bricks, Ovolo Type 8, Ovolo Type 17, Splay on End 3", 3" Splay on End Flat double, Angle Bricks, Scotia, Cornice, 3" Bull Nose Bricks, Plinth single Return, Double Return, Bull nose stops – single and double, Vents, Louvres, Air Bricks, kerbs, Tiles – Marseilles, Roman, with apex, ridge, starters and stops, paving tiles, chimney pots, fluted bricks and facing tiles.¹⁸

The 'Canberra Red' was the quintessential Brickworks product. This product came to house the provisional parliament house (Old Parliament House, 4 million bricks), the engine room powering the Capital (Kingston Powerhouse), the heart of the city (Civic), governance, postal and telegraph communications (Secretariat – East Block and West Block, 813,000 bricks); the new Canberra suburbs and the roofs over, not only politician's heads (Hotel Canberra, Hotel Kurrajong, 544,00 bricks), but the brickmakers (Yarralumla Brickworks Housing) and the public servants who lived in the Hotel Acton and other 'hostel' accommodation (Gorman House). The bricks themselves had unique frogged symbols: *C'WEALTH CANBERRA* or *CANBERRA C'WEALTH* (1920s), *CANBERRA* (1930s) and following Second World War simply *CB*.¹⁹ Commentary in some of the building and design publications reported

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the shift in taste away from the red, the *Building* magazine reporting: 'the brick made at Canberra is excellent, but unfortunately it is without variety.'²⁰

White shale from the Attunga Point Quarry was used to make the Canberra Cream. This was reported as the 'result of a challenge thrown out by architects who maintained that the red brick did not tone with Canberra surroundings.'²¹ The Canberra Times described the:

*The development of new types of light-coloured bricks that have established favour with architects in Canberra is expected to lead to substantial orders for housing requirements, while experiments in tinted briquettes and glazed tiles have established further avenues for employment.*²²

However, ultimately the Brickworks was unable to keep pace with the demand for bricks with supplementary bricks purchased from the Bowral works in New South Wales during 1939.²³ The last major output recorded the annual production of 7.25 million bricks in 1940. The subsequent 1959 report by HH Macey concluded that bricks were a 'little on the coarse side' and only moderate in quality.²⁴

2.5 Chronology

The following table outlines the development phases and the construction dates of the remnant elements at the Canberra Brickworks Precinct.

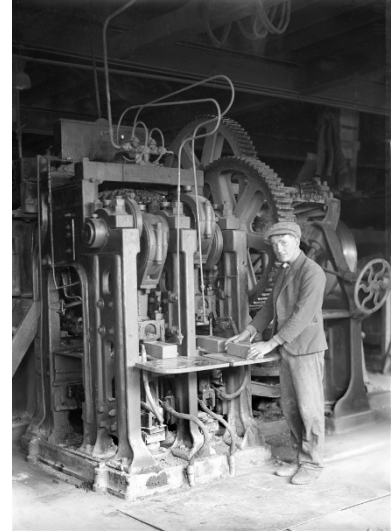


Figure 2.17 Brick pressing machine and operator, c1926. (Source: NAA, A3560, 1920)



Figure 2.18 Brick pressing machinery being installed at the Brickworks, c1925. (Source: NAA, A3560, 1210)

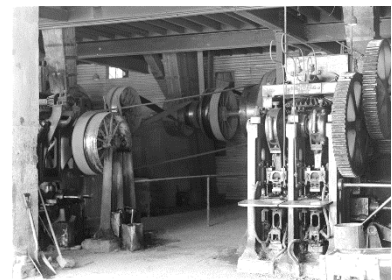


Figure 2.19 Brick presses for pressing clay bricks before firing, c1926. (Source: NAA, A3560, 159)

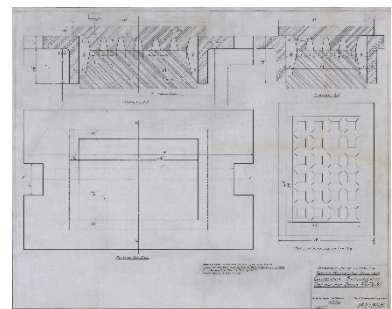


Figure 2.20 Dies for Air Brick, c1922. (Source: NAA, A2445, M2156B)

Table 2.1 Historic Development Phases of the Canberra Brickworks.

Number	Element	Date
Establishment Phase: 1911–1920		
11	Quarry	1913–1940
24	Concrete Retaining Wall	c1913
14	Power House	1915–16
1	Staffordshire Kiln	1914–15
2	Fan House for Staffordshire Kiln	1914–15
7	Chimney Stack for Staffordshire Kiln	1914–15
37	Original brickyard area between Staffordshire Kiln, Hardy Patent Kiln 1	c1915, c1926
Expansion Phase: 1921–1942		
1A	Railway Remnants—Narrow Gauge Railway	1923
13	Offices	c1925
3	Hardy Patent Kiln 1	c1926–27 (rebuilt 1955)
4	Fan House for Hardy Patent Kiln 1	c1927 (second structure c1955)
8	Chimney Stack for Hardy Patent Kiln 1	c1926–27
Post World War II Phase: 1944–1976		
24	Amenities Block	c1950, c1977
5	Hardy Patent Kiln 2	c1954
9	Chimney Stack for Hardy Patent Kiln 2	c1953, c2005
15	Machine Bay 1 for Staffordshire Kiln and Downdraught Kilns	c1955
16	Machine Bay 2 for Hardy Patent Kiln 1	c1955
17	Machine Bay 3 for Hardy Patent Kiln 2	c1955
18	Workshop	c1955
21	Small Crusher House (Crusher House I)	c1958
19	White Pan Room (Large Crusher House/Crusher House II)	c1955
20	Primary Crusher House (Crusher House III)	c1955
22	Elevator/Conveyor	c1955
6	Downdraught Kilns	c1960–63
26	Downdraught Kilns Control Room	c1961
10	Chimney Stack for Downdraught Kilns	c1961
27	Toilet Block	c1960s
28	Ancillary Storage Building	c1960s
29	Substation/Control Room	c1971

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Number	Element	Date
30	Boiler House	c1971
31	Amenities Block 2	c1971
32	Extrusion Plant (Remnants)	c1971
33	Ancillary Storage Building 2	c1960s
34	Storage Shed	c1960s
38	Brickyard 2	c1954
Post Closure Phase: 1976–2017		
35	Model Railway Workshop	c1979
36	Model Railway Storage Shed	c1979



Figure 2.21 Frogged symbols for different types of Canberra Reds included: *CANBERRA C'WEALTH* c1920s and *CANBERRA* c1930s.



Figure 2.22 'CB' frogged symbols were made following World War II.



Figure 2.23 Site plan showing the location and development phase of individual elements within the Canberra Brickworks Precinct. (Source: Google Earth with GML overlay, 2017)

2.6 Comparative Analysis

2.6.1 Late Nineteenth and Twentieth Century Urban Brickworks in Australia

Brickworks were once a common feature of Australian urban landscapes. The introduction of continuous kilns from the 1870s marked a major shift in firing technology, enabling mechanised production on an industrial scale. This led to the replacement of small-scale enterprises with larger works, such as the Canberra Brickworks. The increased speed of the brickmaking process also encouraged the mechanisation of brick preparation, and improvements in related technologies and processes, including brick presses.

Brickyards with continuous Hoffman-type kilns proliferated from the late-nineteenth century to the interwar period. These yards closed progressively from the end of World War II, with further waves of closures in the mid-1960s and in the 1980s. The majority of these sites had been demolished by the 1990s.²⁵ Today, there are no Hoffman-type or 'patent' continuous kilns in operation as originally designed in Australia (other than a single example at Bowral, which has been modified to operate as a downdraught kiln).

The following section provides an overview of brickworks complexes in major Australian cities that include, or previously included, continuous kilns. The majority of these sites are either redundant, disused or have been adapted to an alternative use. Brickworks that have been demolished in their entirety and redeveloped are not included. This analysis was undertaken as part of the 2010 CMP and has not been added to as part of the CMP update.

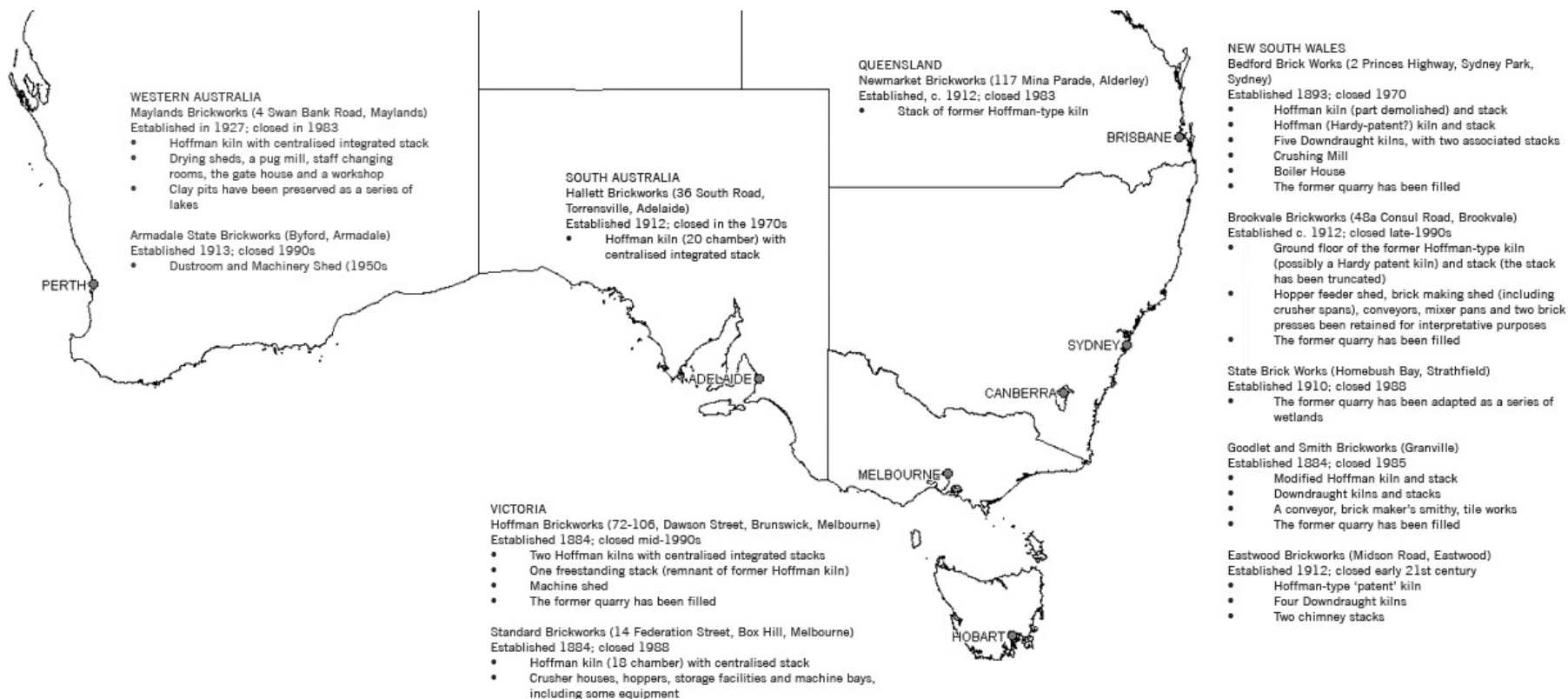


Figure 2.24 Surviving 'brickworks' in Australia with continuous kilns dating to the late 19th and early 20th century. Note: there are no sites in northern Western Australia, the Northern Territory, Tasmania and northern Queensland. (Source: Lovell Chen, 2010, Canberra Brickworks CMP, p 177)

New South Wales

*Goodlet and Smith Brickworks (fmr), Granville, Parramatta*²⁶

In 1884, hardware and building supplier Goodlet and Smith acquired the Junction Brick Company Ltd at Granville, west of Sydney. Production of building products, including bricks, finials, tiles and capping, and pottery, continued at the works until 1985.²⁷ Early development of the brickworks included a Hoffman kiln with a 45m high stack and associated technologies and support structures.²⁸ By the early twentieth century, the brickworks had evolved to become one of the largest in the Sydney region.

In 2002, infrastructure related to brick production at the site included the Hoffman kiln, by then truncated and adapted to two long downdraught kilns with an associated stack; two downdraught kilns; two stacks; a conveyor; brick maker's smithy; and ancillary buildings, including the old tile works.²⁹

These elements have been retained and integrated into the 'Brickworks Square' interpretive component of the Holroyd Gardens residential development (Delfin Lend Lease). The former quarry has been filled.



Figure 2.25 The Holroyd Gardens redevelopment at the former Goodlet and Smith Brickworks, 2008. (Source: Flickr)



Figure 2.26 Interpretive signage and industrial relics at the former Goodlet and Smith Brickworks, 2008. (Source: Flickr)

Bedford Brick Works (fmr), St Peter's, Sydney

The Bedford Brick Works (also known as the Josiah Gentle Brickworks) was among the largest in the St Peter's district, which was the centre of Sydney's brickmaking industry from the 1840s. The complex was established in 1893 and taken over by the Austral Brick Company in 1933. It closed in 1970.³⁰ At its peak in the 1930s, the Bedford Brick Works included two Hoffman kilns, one with curved ends and a centralised stack, the other with a squared end and a stack attached at the south end. The later 'Hoffman' has been described as a Hardy patent kiln.³¹ The site also included six Downdraught kilns in two clusters, brick sheds, a site office/entry building, and machine shed with a clay pit to the north (see Figure 2.25).

The site has been conserved within the public open space of Sydney Park. One of the Downdraught kilns and the west end of the Hoffman kiln with rounded ends has been demolished to accommodate a road widening scheme. The site office/entry has also been removed. The Hoffman (or Hardy patent) with squared ends, five downdraught kilns, a crushing mill and boiler house have been retained.³²

The four surviving chimney stacks at the site have a strong presence in the local streetscape (see Figure 2.26). The site is included in the *Sydney Local Environmental Plan, 2010*.

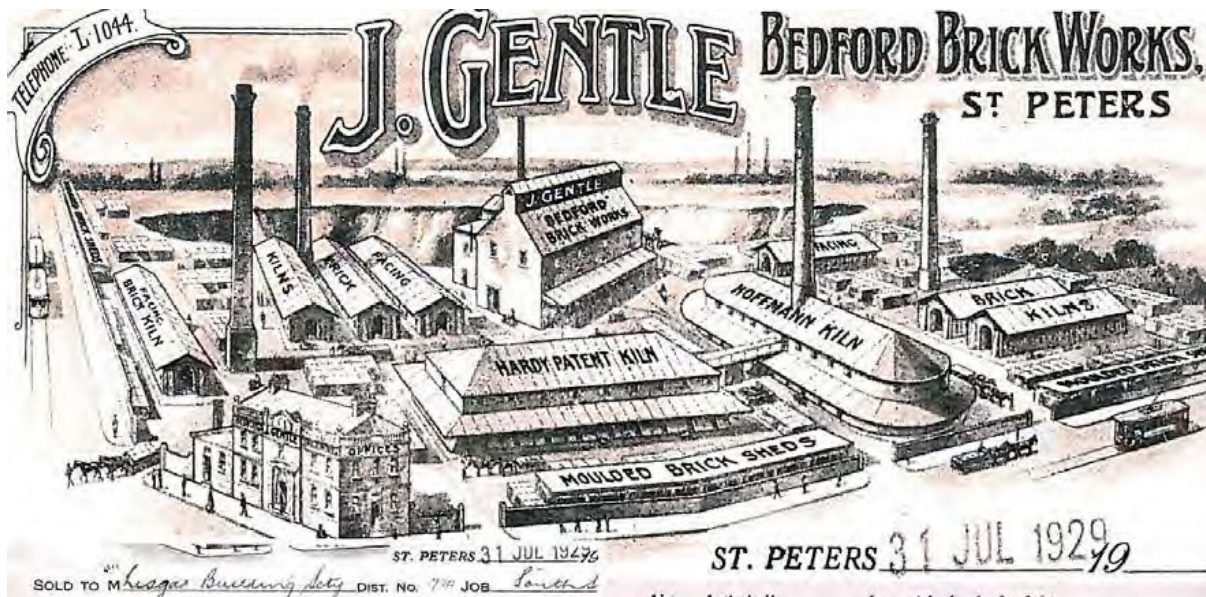


Figure 2.27 Letterhead for Bedford Brick Works, St Peters, Sydney, 1929. (Source: Ron Ringer, *The Brickmasters, 1788–2008*, p 166)



Figure 2.28 Stacks at the former Bedford Brick Works, with Sydney Park in the foreground, 2008. (Source: Flickr)

Brookvale Brickworks (fmr), Brookvale

The Manly Brick and Tile Company built the Brookvale brickworks from 1910 to 1912. The company was taken over by Brickworks Ltd in 1936. Austral managed the plant from the end of World War II to the late 1990s.³³

At its height, the Brookvale Brickworks included six Downdraught kilns located to the north and west of the site, and a large Hoffman-type kiln, with a square stack attached at one end (see Figure 2.27).³⁴ The arrangement of the Hoffman kiln is the same as the kiln at the Bedford Brickworks (fmr), which has been described as a Hardy patent kiln.

Following the closure of the brickworks in the late 1990s and preparation of a CMP by Pratten and Irving in 1996, consent was granted for the rezoning of the site³⁵ and its redevelopment as 71 townhouses and apartments. All the kilns have been demolished with the exception of the lower section of the Hoffman-

GML Heritage

type kiln and the stack, whose height has been reduced by 11m from approximately 50m (see Figure 2.28).³⁶ In addition, a hopper feeder shed, brick making shed (including crusher spans), conveyors, mixer pans and two brick presses have been retained for interpretive purposes.

The site is included in the *Warringah Local Environmental Plan, 2011*.



Figure 2.29 Brookvale Brickworks prior to redevelopment (undated). (Source: Warringah Image Library)



Figure 2.30 The adapted/redeveloped kiln and truncated stack at Brookvale Brickworks. (Source: <www.marchesepartners.com.au>)

State Brickworks (fmr), Homebush Bay, Strathfield

In 1910, Arthur Griffith, NSW Minister for Public Works, proposed the establishment of a government brickworks that could produce cheap bricks and break the monopoly of private manufacturers. A 9.5ha site was purchased at Homebush Bay (also referred to as the Enfield Brickworks) and the site was operational by the end of the following year. Three Hoffman-type kilns were constructed in the first phase of development at the State Brickworks. The site was subsequently expanded around 1920 with the acquisition of 9.2ha, and construction of five further Hoffman kilns and six open kilns. Production continued intermittently at the State Brickworks until 1988.³⁷ Clay extraction at the site ceased in the 1960s, from which point the brick pits were used as a municipal waste depot.³⁸ The former brick pits were developed as a freshwater wetland during preparations for the Sydney 2000 Olympics.



Figure 2.31 Continuous kilns at State Brickworks, Strathfield, 1957. (Source: NSW Heritage Register)



Figure 2.32 Continuous kilns at State Brickworks, Strathfield, 1957. (Source: NSW Heritage Register)

Eastwood Brickworks (fmr), Parramatta

The Great Northern Brick Co Ltd established the former Eastwood Brickworks in 1912 to produce dry press bricks using locally available shale. A brickmaking shed and Downdraught kilns (possibly two) were built soon afterward. Expansion from the 1920s saw the addition of a 'patent' kiln, an additional Downdraught kiln, three grinding pans, and four Platt, one Clayton and two Whittaker presses. A 2002 description of the site referenced five Downdraught kilns, one Hoffman-type continuous 'patent' kiln and two chimney stacks.³⁹

The Hoffman-type kiln at the former Eastwood works appears likely to have been the last operational kiln of its type in Australia, ceasing operations at the beginning of the twenty-first century (by then the site was commonly known as the Austral Brickworks).⁴⁰ The site has been developed for housing, including the filling of the former shale pit. The patent kiln and four of the Downdraught kilns have been stabilised and retained as interpretive elements. (See Figure 2.31.)

The site is included in the *Parramatta Local Environmental Plan 2011* as a Heritage item.



Figure 2.33 Aerial view of Eastwood Brickworks (fmr) c2007. (Source: Google Earth, c2007 in Lovell Chen, 2010, Canberra Brickworks CMP, p 183)

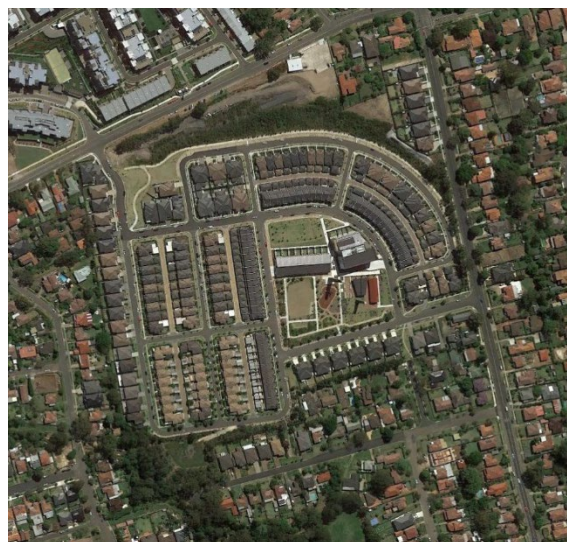


Figure 2.34 Aerial view of the former Eastwood Brickworks site, now residential development. Some elements were retained in what is called Brickyard Park. (Source: Google Earth, 2017)

Bowral Bricks, Bowral, Southern Highlands (operational)

Bowral Bricks was established in 1922,⁴¹ and expanded into the major enterprise it is today (see Figure 2.33). A Hoffman-type kiln with a centralised integrated stack was constructed at the works (date unknown), and has subsequently been converted internally to two downdraught kilns. Externally, the kiln has 22 openings to chambers.⁴²



Figure 2.35 Aerial view of Bowral Bricks. (Source: Google Earth, 2017)

Queensland

Newmarket Brickworks (fmr)

Around 1912, the Brisbane Brick and Builders Supply Co Ltd constructed a Hoffman kiln at the Newmarket brickworks, outside Brisbane. The kiln was built with a 50m high stack with a square plan, located approximately 15m from the kiln. This follows the model of the Hardy patent and Staffordshire kilns at the Canberra Brickworks.

The Newmarket Brickworks closed in the 1970s, and was redeveloped for alternative industrial uses from 1987. The stack was retained, but all other elements at the site demolished. The chimney stack is included in the Queensland Heritage Register (Place ID 601357).



Figure 2.36 Panorama of Newmarket, c1925, with brickworks chimney visible to the left. (Source: State Library of Queensland)



Figure 2.37 Hoffmann stack at the former Newmarket Brickworks. (Source: Queensland Heritage Register)

South Australia

Hallett Brickworks (fmr), Torrensville, South Australia

The Hallett Brickworks was established by Hallett Brick Industries at Torrensville in 1912. A 20-chamber Hoffman kiln with rounded ends and a centralised circular stack was built at the site later that year. It is believed to have been the first of its kind in South Australia. The kiln operated until 1975.

Since 1983, the former brickworks operates as a market ('Brickworks Market'), which is open on Fridays, Saturdays, Sundays and public holidays. The kiln has been adapted to accommodate stalls and the like over two levels.⁴³ All machine sheds and ancillary buildings have been demolished.

Hallett Brickworks is included in the South Australian State Heritage Register.



Figure 2.38 Hallett Brickworks (undated). (Source: <www.brickworksmarket.com.au>)



Figure 2.39 Brickworks Market, 2010. (Source: Lovell Chen, 2010, Canberra Brickworks CMP, p 187)



Figure 2.40 Brickworks Market, 2010. (Source: Lovell Chen, 2010, Canberra Brickworks CMP, p 187)

Victoria

Hoffman Brickworks (fmr), Brunswick, Victoria

The Hoffman Patent Brick and Tile Company was established at premises in Albert Street, Brunswick, in 1870. The company held the patent rights to import the Hoffman kiln. In 1884 the company established premises at Dawson Street in Brunswick (the Albert Street premises were subsequently vacated). Production at the Dawson Street plant ceased in the mid-1990s.

From 1884 the Hoffman Patent Brick and Tile Company built the following at its Dawson Street works: three elliptical Hoffman kilns (16, 18 and 20 chambers) with integrated stacks and associated technologies, including clay grinding sheds, brick pressing sheds, stores, and warehouses. Pottery

works and related facilities, including small circular bottle pottery kilns (demolished), were located to the east of the site. A clay pit was located to the north of site.

Land to the north of the kilns at the Hoffman Brickworks has been adapted as a residential development. As part of the adaptive re-use of the site, the northernmost Hoffman kiln has been demolished; only its stack survives. The two surviving kilns, and the former engine house, brick pressing shed and grindings sheds to the west of the site have been retained and approval has been given for their conversion for residential use. The former Hoffman Brickworks is included in the Victorian Heritage Register (H0703).



Figure 2.41 Hoffman Brickworks, 1930s. (Source: State Library of Victoria, H5596)



Figure 2.42 Former Hoffman works at Brunswick, 2010. (Source: Lovell Chen, 2010, Canberra Brickworks CMP, p 189)



Figure 2.43 Former Hoffman works at Brunswick, 2010. (Source: Lovell Chen, 2010, Canberra Brickworks CMP, p 189)

Standard Brickworks (fmr), Box Hill, Victoria

The former Standard Brickworks at 14 Federation Street, Box Hill, Victoria operated from 1884, as the Houghton Park Brick Company, until its closure in 1988. From 1913 until 1938, the site was owned and operated by the Standard Brick and Tile Company and it was during this period that the majority of existing buildings and fabric were completed.

An 18-chamber Hoffman kiln with a centralised integrated circular stack was built in approximately 1913. Four brick presses were installed at the same time.⁴⁴ As existing, the site includes crusher houses, hoppers, storage facilities and bays, including some equipment. Despite a number of proposals for adaptive re-use/development, the site remains disused and the buildings are in poor condition, having been subject to extensive vandalism and graffiti. The ground level openings to the kiln have been boarded up.

The former Standard Brickworks site is included in the Victorian Heritage Register (VHR H0720).



Figure 2.44 Hoffman kiln at the former Standard Brickworks, 2010. (Source: Lovell Chen, 2010, Canberra Brickworks CMP, p 190)



Figure 2.45 Former machinery sheds at the former Standard Brickworks, 2010. (Source: Lovell Chen, 2010, Canberra Brickworks CMP, p 190)

Western Australia

Armadale State Brickworks (fmr), Byford, Armadale

The State Brickworks at Armadale was established in 1913, following the Government Trading Concerns Act of 1912. The site operated intermittently until the 1990s. The Brickworks had been in private ownership since 1961.⁴⁵

A Hoffman kiln with integrated stack was built at the Armadale works in between 1913 and 1914. The next major phase of development was in the early post-World War II period when 'No. 2 Pressed Brickworks' and 'No. 3 Wire-Cut Brickworks' were constructed at the site. Two 'Zigzag' kilns, a form of transverse arch continuous kiln, were constructed at the site during the post-World War II period.⁴⁶ No. 2 Brickworks, which included a dustroom and machinery shed, replaced the earlier facility.

All kilns at the site have been demolished. Only the dustroom and machinery shed, built during the 1950s, survive. The machinery associated with these structures is also extant. The dustroom and Machinery Shed are included in the Heritage Council of Western Australian Register of Heritage Places (place ID 15829). The site was included in the National Trust of Australia (WA) list of endangered heritage sites for 2008.



Figure 2.46 Armadale Brickworks c1905. (Source: State Library of WA)

Maylands Brickworks (fmr), Maylands, Perth

The Maylands Brickworks was developed by Messrs Atkins and Law from 1927.

The first phase of development included a Hoffman kiln and drying sheds, pugmill and brick making extruder. The plant was expanded in 1936, with an additional Hoffman kiln, pugmill and drying sheds. As existing the site includes one Hoffman kiln with 18 chambers and centralised integrated stack (34m high). The second kiln was demolished following damage sustained during the 'Meckering' earthquake of 1968. Brick production ceased at the site in 1983.⁴⁷

The kiln, stack and some ancillary buildings have been preserved. The site is included in the Heritage Council of Western Australian Register of Heritage Places (place ID 2410), in response to a public outcry against a proposal to develop them for residential use.⁴⁸



Figure 2.47 Maylands Brickworks, 1950s. (Source: State Library of WA)



Figure 2.48 The Hoffman kiln and integrated stack at the former Maylands works. (Source: Flickr)

Midland Brick, Bassett Road, Middle Swan

Midland Brick is a major brick production company located at Middle Swan, north of Perth. It was established in 1946 by brothers Ric and Gerry New and has operated consistently since that time. The first kiln at the site was built in 1946. This may have been a Downdraught kiln, but this has not been established. The first of nine tunnel kilns at the site was constructed in 1962. The most recent (Kiln 11) was completed in 2006. The site covers an area of 100ha, and the company claims to produce approximately 60 per cent of WA's total brick output.⁴⁹

2.6.2 Conclusion

Each of the surviving complexes identified above has particular qualities and characteristics, including kiln types, dates of construction and expansion, retention of plant and other attributes, and on this basis, it is difficult to draw direct comparisons between them.

Accepting this, it is evident that the brickworks at Canberra is now one of a relatively small number of surviving sites, which can demonstrate aspects of the operation of large-scale twentieth century urban brickworks. Compared with the majority of other sites reviewed, the Canberra site retains more evidence of the brick-making processes, site layout and principal building components typically found on such sites, albeit expressed through a range of buildings of vastly different dates of construction rather than a coherent complex of elements constructed in one or more key phases. Conversely, the ability of the site to meaningfully demonstrate some of these processes has been compromised by the removal of much of the manufacturing equipment itself (crushing and pressing). While through their form and construction, the kilns themselves (together with their related structures, fan houses and stacks) are evocative of the process that occurred within them, this is not the case for the simple steel-clad machinery bays, following the removal of the brick presses and other machinery and plant they accommodated. Only remnants of the conveying systems (conveyors and hoppers) remain in these buildings in a form that can be readily understood. The crusher houses similarly have had much of their infrastructure removed.

In considering the kiln types remaining on site, in summary, the continuous kilns (Staffordshire and Hardy patent) sit within what is now a relatively limited group of surviving kilns—predominantly of the early to mid-twentieth century, which are of the Hoffman continuous kiln or based on its typology. Within Australia there are approximately 12 surviving kilns of this type, including Hoffmans and Hardy patent. Within the typology of continuous kilns the Staffordshire kiln was a rare, if not unique, design in Australia and is the only surviving example of this design. On this basis, it is considered to be of additional interest.

Downdraught kilns of varying ages and design are found at a number of brickworks and related sites across Australia including three at the Sydney Park site and a number at the Bristle site in Perth. They are not rare as a building type.

2.7 Endnotes

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- ¹² ACT Heritage Council 2013, 'Yarralumla Brickworks Railway Remnants', viewed 4 July 2017 <http://www.environment.act.gov.au/__data/assets/pdf_file/0011/348680/249.pdf>, p 7.
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3.0 Understanding the Place—Physical Context



3.1 Introduction

This section provides a discussion of the built environment of the Canberra Brickworks Precinct, including a brief description and analysis of the elements of the site and its landscape setting, the different types of built structures, and historic archaeological potential.

The site comprises a range of built elements and industrial infrastructure constructed from various phases of the Brickworks' development and evolution. The site contains evidence from the four phases of development: establishment, expansion, postwar, and post closure, with each phase reflecting technical developments and building requirements.

The built structures at the site include kilns, chimney stacks, fan houses, workshops, crusher houses, machine bays, primary supporting buildings, and ancillary structures. Other historic features on the site include the adjacent quarry, and remnants of the former railway.

Following the closure of the site in 1976, the structures on the site have been used for ad hoc purposes and are in various states of repair.

Generally, the site's elements are in a poor to fair condition. Many of the elements retain their important features but all are in need of conservation action and maintenance due to lack of use, structural deterioration, water ingress, weather, vegetation overgrowth and vandalism.

A more detailed discussion of the individual elements including their physical condition is provided in the inventory sheets at Appendix A.

Much of the information relating to the physical context of the Brickworks has been drawn from the 2010 CMP, and revised and updated where necessary.

3.2 Landscape Context

3.2.1 Setting

Yarralumla, where the Canberra Brickworks Precinct is located, is an early suburb of Canberra to the southwest of Civic.

The site neighbours the Royal Canberra Golf Club and Westbourne Woods to the west, open parkland, and a reserve

to the south, and private residences along Lane Poole Place to the north. Bentham Street runs along the northeast of the site above the quarry.

Prior to the establishment of the Brickworks, the site was in a gently undulating landscape surrounded by grazing land and juvenile plantations of radiata pine. A gentle hill rose from the southeast sloping down to the northwest. While some sparse residential development occurred prior to the establishment of the Brickworks, the setting remained mostly unchanged until the interwar period. Most of Yarralumla's residential development took place in the latter half of the twentieth century. Because of its relatively sunken location, the Brickworks was a place concealed from view and seen only when approached over the hill that now overlooks the Brickworks quarry to the northeast of the site. From this position, the wooded areas of the Canberra Golf Course and Dunrossil Drive can be seen. As vegetation matured and development occurred, the Brickworks became an increasingly unseen place, only visible from afar by smoke from its chimney stacks, and after 1953, the landmark chimney stack of the Hardy Patent Kiln 2.

The visual setting of the area has changed over time and while the Brickworks site still exists with a treed and open grass backdrop to the west and south, expanding residential development to the north and east provides an altered context. The most distinctive aspect of the setting is that the Brickworks still retains a degree of concealment and a sense of detachment from the character of the residential city. The setting remains one of a degree of open, unkempt landscape, and wooded and plantation areas. Essentially, the Brickworks site still conveys a sense of the remoteness in which it was built.

3.2.2 Landscape Elements

The site has many trees scattered through and around the quarry, which appear to be mostly self-seeded conifers such as radiata pine. Photographs from the 1920s indicate that some tree specimens may have been consciously planted to the site's northeast. The remaining trees planted around the site are a mix of predominantly deciduous trees of varying ages. The site contains some weed infestation, such as blackberry.

The southern area of the Precinct is more densely populated with trees and plantings, presenting a more overgrown landscape.

Historically, while trees appear to have been deliberately planted, there is no evidence of a consciously designed landscape treatment implemented across the site. Trees are more likely to have been planted within the site for their amenity.

A Tree Assessment report, undertaken in 2015,¹ identified that the predominant species across the site is *Pinus radiata* (weed species), *Pinus ponderosa* and *Pinus sylvestris* and *Ulmus procera* and various tree and shrub weed species.

The report recommended that the site and surrounds would benefit from a landscape renewal plan to:

- identify the limited number of trees to be retained;
- manage removal of the poor quality and senescent trees;
- determine the replacement landscape; and
- develop an implementation and staging strategy to direct the replacement landscape installation.

3.2.3 Views

Canberra Brickworks is nestled in the Yarralumla landscape and does not offer any commanding views. However, the 1953 chimney stack (Element 9) for the Hardy Patent Kiln 2 is a landmark for the site from a distance and can be seen from several vantage points around Canberra. The Brickworks has a relatively understated presence in the surrounding area and views into the site from the surrounding suburb are incidental.

While some urban industrial complexes of comparable age were designed with a conscious and more formal presentation to one or more street frontages, this is not the case for the Brickworks. It is a site that is completely utilitarian in its physical and architectural conception.

There are interesting views within the site, included in Figure 3.0, toward historic elements, including to, and from within the quarry. There are views which are indicative of the aesthetic and industrial characteristics of the former industrial process and function of the site including the corrugated ironclad 'process' buildings along the eastern edge adjacent to the quarry, of the views to the dominant building forms of the kilns, the roofscape of the kilns, and the connecting open spaces between the kilns, brickyards, fan houses and chimney stacks.

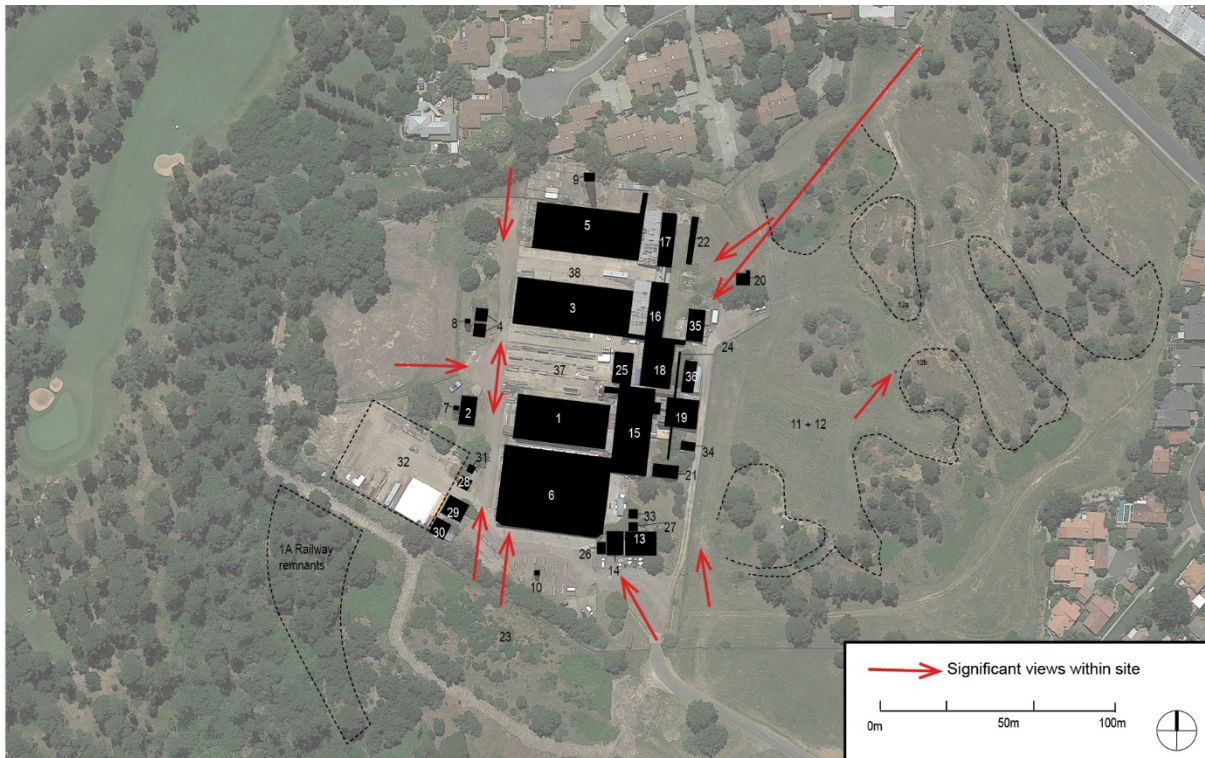


Figure 3.1 Significant views within the site to elements of heritage significance on the site.

3.3 Historic Elements

Individual historic elements of the site are shown in Figure 1.4. A brief overview of the types of elements found on site is provided below, along with their location. The individual elements are described in more detail at Appendix A: Inventory of Historic Elements.

Kilns

There are six extant kilns located at the Brickworks comprising the Staffordshire Kiln (Element 1), Hardy Patent Kiln 1 and 2 (Elements 3 and 5), and the group of three Downdraught Kilns (Element 6).

The Staffordshire Kiln is identified through its transverse arches, detached chimney stack and complex system of flues and dampers. This enabled the use of combinations of chambers at the same time for simultaneous production of goods such as bricks, tiles, and pipes. It was the first permanent, continuous kiln at the Brickworks and was considered to have leading brick burning technology at the time of its construction in 1915.

The Hardy patent was another type of continuous kiln introduced to the Brickworks in 1926. While based on the 'Hoffman' type, the Hardy patent is distinguishable by its freestanding stacks as opposed to an integrated and central stack. It was fired continually in a clockwise cycle and produced up to 150,000 bricks a week. A second Hardy patent kiln was constructed in 1954 around the time that the earlier Hardy patent kiln was substantially rebuilt following partial collapse.

The group of Downdraught Kilns were built on the site of two demolished 'temporary' Downdraught kilns and were reputed to be the longest in Australia. Grouping the kilns together enabled consistent use through rotation. The kilns had the capacity to hold 120,000 bricks each and were used almost exclusively for the production of face and special bricks. The kilns were constructed of face brick with large fire brick faced metal doors at either end and fire feedholes lining the east and west sides. Initially coal-fired, they were later converted to oil-firing.



Figure 3.2 Location of the kilns at the site, shown in red. Element 6 is a single roof over three Downdraught Kilns, Element 1: the Staffordshire Kiln, Element 3: Hardy Patent Kiln 1 and Element 5: Hardy Patent Kiln 2. (Source: Google Earth with GML overlay, 2017)



Figure 3.3 Hardy Patent Kiln 1, Staffordshire Kiln and Downdraught Kilns (Elements 3, 1 and 6). (Source: GML, 2017)



Figure 3.4 Staffordshire Kiln (Element 1). (Source: GML, 2017)



Figure 3.5 Hardy patent kiln 1 (Element 3). (Source: GML, 2017)



Figure 3.6 Brickwork and verandah detailing of Hardy patent kiln 1 (Element 3). (Source: GML, 2017)



Figure 3.7 Hardy Patent Kiln 2 (Element 5) and Chimney Stack (Element 9). (Source: GML, 2017)



Figure 3.8 Upper firing floor of Hardy Patent Kiln 2 (Element 5). (Source: GML, 2017)



Figure 3.9 Downdraught Kilns (Element 6) beneath steel Canopy. (Source: GML, 2017)



Figure 3.10 Door of a Downdraught Kiln. (Source: GML, 2017)

Chimney Stacks

There are four extant chimney stacks for each of the remaining kilns connected via an underground tunnel network. The brick chimney stacks are distinctive features of the site and important components of the former brick making process.

The Staffordshire and Hardy Patent Kiln 1 chimney stacks (Elements 7 and 8) are located about 30 metres west of their associated kilns. Though built 10 years apart, the stacks are similar in design. Both stacks are constructed of face brick and capped with several courses of corbelled brickwork, surmounted by nine rows of brickwork. The west-facing arched opening of the Staffordshire Kiln stack and the south-facing arched opening of the Hardy Patent Kiln 1 stack have been infilled. There is evidence of some rebuilding to the upper courses of the Staffordshire stack and a large crack is evident in the north elevation of Hardy Patent Kiln 1 stack, above the stepped courses.

The Hardy Patent Kiln 2 chimney stack (Element 9) is the tallest on site at 45 metres high, making it a landmark feature of the site. The stack is constructed of face brick and laid with Colonial bond courses. Two of the four entry hatches are in-filled and the east elevation entry is fitted with a wire mesh gate. Sections of the upper courses of brickwork have been re-laid with new mortar and the opening has been part-capped with steel roofing as a part of stabilisation works undertaken around 2005.

The Downdraught Kilns chimney stack (Element 10) is located at the south of the site and approximately 30 metres from its associated kilns. Constructed of red brick, the design of the stack is a simpler version of the Staffordshire Kiln and Hardy Patent Kiln stacks without the corbelled detailing. The brickwork shows signs of spalling, particularly to the north and west elevations. The large opening to the east elevation is likely to have accommodated a large duct from the fan house.



Figure 3.11 Location of the chimney stacks at the site, shown in red. (Source: Google Earth with GML overlay, 2017)

Fan Houses

The two extant fan houses remain for the Staffordshire Kiln and Hardy Patent Kiln 1. The fan houses draw the heat from the kilns via tunnels and out through the associated stacks.

Located about 20 metres from its kiln, the Staffordshire Kiln fan house (Element 2) is constructed of face red brick, laid in English bond with a Dutch gabled roof clad in corrugated steel. The fan house presents as a single-storey building but has an internal lower floor level.

The Hardy Patent Kiln 1 fan house (Element 4) is a more modest design made up of two timber framed sheds located side by side, with gabled roofs, clad and roofed in corrugated steel. One was constructed later than the other, in conjunction with the expansion of the Hardy Patent Kiln 1. Entry is from the east elevation and windows are located on the rear and side walls. There is an internal lower floor, similar to the Staffordshire fan house. The ducts connecting the fan house with the stack remain, and unlike the Staffordshire equivalent, these rise visibly out of the rear wall of the fan houses and connect to the east elevation of the stack at a height of approximately two metres.



Figure 3.12 Location of the remaining fan houses at the site, shown in red. (Source: Google Earth with GML overlay, 2017)



Figure 3.13 Fan Houses (Element 4) and Chimney Stack (Element 8) for Hardy Patent Kiln 1. (Source: GML, 2017)



Figure 3.14 Fan House (Element 2) and Chimney Stack (Element 7) for Staffordshire Kiln. (Source: GML, 2017)

Crusher Houses

Crusher houses refined raw brick making materials into manageable sizes before transferring to grinding mills and pugmills where the material was further refined, worked, and mixed. It was then fed into brick presses. The Brickworks retains the Small Crusher House (Element 21), the White Pan Room (Element 19), and the Primary Crusher House (Element 20) as processing facilities, dating from the 1950s. The buildings are steel framed and clad.

The Small Crusher House is flanked by low sloping walls of off-form concrete at the upper level, which frame the unloading bay. At the lower level, the structure presents as a two-storey building with some of the machinery platforms and framing including the hopper in place. The building was fitted with a single hopper and a 'Hazemag' rotary crusher, which ground and screened the raw material through a perforated plate. Material was then transferred by conveyor to the White Pan Room (also referred to as the Large Crusher House).

The White Pan Room has a distinctive skillion roofline in varying heights. White clay was directly unloaded into one of two hoppers at the building, which have since been removed. While the structure is retained, much of its internal machinery has been removed, exposing large holes in the concrete surrounding the former location of the hoppers. The conveyor connecting the crusher to the White Pan Room has been removed.

The Primary Crusher House is raised on steel posts with a concrete retaining wall to the east side. It processed raw material before it was transferred for further screening and grinding to the Red Pan building, which has since been demolished. The Primary Crusher House contained a 'Ross' feeder for raw shale with 32" and 18" Jaw Crusher and also a grizzly feeder. It was an integral element of the raw materials processing operations in the expansion of the Brickworks in the postwar period.



Figure 3.15 Location of the crusher houses at the site, shown in red. (Source: Google Earth with GML overlay, 2017)

Machine Bays and Workshop

The three extant Machine Bays (Elements 15, 16 and 17) and the Workshop (Element 18) were constructed in the 1950s to address postwar production increases. The material from the crushers was transferred to the lofts of the Machine Bays via a conveyor system, through the Workshop to hoppers and gravity fed through chutes into the brick presses below.

The Machine Bays are three storey steel-framed and clad structures containing a loft gallery with overhead conveyor, and hoppers and brick presses in the ‘shop floor’ below. The loft space has a concrete floor and the conveyor, housed within the roof space is accessed by steel ladder-form stairs from this level. There are several holes in the concrete floor where machinery and stairs have been removed. The brick making machinery has also been removed.

The Workshop was used for general workshop repairs and the maintenance of machinery and was built on the approximate site of the original machine shop, which was constructed in 1915 and demolished in the 1950s. The conveyor connecting the three machine bays travels through the gabled roof space within the north side of the building.



Figure 3.16 Location of the machine bays and workshop at the site, shown in red. (Source: Google Earth with GML overlay, 2017)

Elevator/Conveyor

Like the Machine Bays and Workshop, the Elevator/Conveyor (Element 22) was constructed during the postwar increase in production. The conveyor transported the crushed shale from the Primary Crusher House to the now demolished Red Pan Room to the east of Machine Bay 2 and 3. The Red Pan Room ground and screened the crushed shale, and the other section of the conveyor transported it to a distribution hopper adjoining Machine Bay 3. From this point the shale travelled vertically down to the table measures where it was then conveyed by elevator to the top of Machine Bay 3, joining the loft conveyors to be distributed to the brick presses.

The Elevator/Conveyor is a steel-framed structure, clad in corrugated galvanised steel supported on steel stanchions. Only part of the conveyor remains in situ. The section linking the demolished pan house to the distribution hopper is only partly intact and the section linking the pan house to the crusher has been demolished, leaving the entire structure isolated from its associated buildings.



Figure 3.17 Location of the elevator/conveyor (Element 22), shown in red. (Source: Google Earth with GML overlay, 2017)



Figure 3.18 Primary Crusher House (Element 20). (Source: GML, 2017)



Figure 3.19 White Pan Room (Element 19). (Source: GML, 2017)



Figure 3.20 Machine Bay 2/3 (Elements 16/17) with Elevator/Conveyor (Element 22) in foreground. (Source: GML, 2017)



Figure 3.21 Elevator/Conveyor (Element 22). (Source: GML, 2017)

Ancillary Structures

Key Structures

The Power House and Offices provided critical support to the complex operation of the Brickworks. The Power House (Element 14) was constructed around 1915 of red face brick with a terracotta tiled gable roof. With the establishment of the Kingston Power House, the high voltage supply was broken down by transformers to lower voltages and distributed across the site. This was achieved by three overhead cables connected to the purpose-built Power House. The locations of the original entry points for the cables are visible on the south elevation. Some electrical equipment remains in situ within the building, including circuit breakers, ammeters, watt meters and distribution boards.

The Offices (Element 13) were constructed about 10 years after the Power House and extended in the 1950s and 1970s. The first extension doubled the size of the original two-room building, extending the structure to the south to provide a general office, office for the manager and costing clerk, and store room. Further works in the 1970s extended the building to the east, and further altered the south elevation. The Offices are of brick construction with a tiled gable roof, located immediately east of the Power House. During the 1970s a brick addition to the east and a new verandah partially enclosed the remainder of the south elevation, abutting the Power House.

Other Structures

Other temporary and permanent ancillary structures that provided support to the operation of the Brickworks and its modern-day function include sheds, stores, amenities blocks, and substations. These structures date from the 1960s or later and are primarily of brick construction.



Figure 3.22 Location of the ancillary structures at the site, shown in red. (Source: Google Earth with GML overlay, 2017)



Figure 3.23 Control Room (Element 26), Power House (Element 14), and Office (Element 13). (Source: GML, 2017)



Figure 3.24 Amenities Block (Element 25). (Source: GML, 2017)



Figure 3.25 Ancillary Storage Building (Element 28) and Amenities Building 2 (Element 31). (Source: GML, 2017)



Figure 3.26 Boiler House (Element 30) and Substation/Control Room (Element 29). (Source: GML, 2017)



Figure 3.27 Model Railway Workshop (Element 35). (Source: GML, 2017)



Figure 3.28 Substation/Control Room (Element 29). (Source: GML, 2017)

Other Site Features

Quarry

The geological formation of the quarry demonstrates the key characteristics of the Yarralumla Formation, which was formed from deep water sediments (mudstone and siltstone) of the early Silurian age (424–423 million years ago) and comprises a very fine-grained sedimentary rock known as shale. Within the quarry there are four specific locations (A, B, C and D), which demonstrate particular aspects of the site and the Yarralumla Formation. Of these, sites A and D show excellent examples of anticline in calcareous siltstone and Site B shows a typical tuffaceous mudstone and siltstone of the Yarralumla Formation. Site C shows abundant fossils of mainly brachiopods, trilobites and crinoids preserved in a bedding plane.

Following the testing of shale samples, the Brickworks site was selected for its potential to produce bricks of a good hardness and porosity. The raw material extracted from the new quarry came from a levelled knoll to the east of the site and was a hard, yellow shale. The shale varied greatly in quality and material from the various seams had to be mixed thoroughly to secure uniform colour in the bricks. The quarried material was transported to the Brickworks by a narrow-gauge tramway, which could be relocated as the quarry face advanced.

From the mid-1930s, raw materials were brought in from offsite. Quarrying at the Brickworks was reported to be a complex process, and costlier than average due to seams of unusable material such as limestone and sandstone. Levelled areas of the quarry were subsequently used to house Brickworks-related facilities, including an open-sided roofed enclosure for clay storage.

After the closure of the Brickworks, the site development proposal prepared by A R Marr Pty Ltd proposed the construction of a narrow-gauge railway and a 'reflection pool' in the former quarry. However, the pool failed to retain water and was frequently dry. Other than these works, and a concrete dividing wall capped with stone paving which is a remnant of Marr's pool, the quarry appears to be little altered since the closure of the Brickworks in 1976. The railway has been dismantled. There are areas of grass and the quarry and its edges are lightly treed, predominantly by self-seeded conifers.



Figure 3.29 Location of Element 11 + 12—the quarry and geological features at the site—shown in red with the Heritage Register numbers A, B, C, D included. Note: outlined locations are approximate and not to scale. (Source: Google Earth with GML overlay, 2017)

Concrete Retaining Wall

The Concrete Retaining Wall (Element 24) separates the quarry and the working areas and was constructed in the early years of the Brickworks. The wall extended to the north, approximately to the concrete base of the demolished pan room, where it returned to the east. The rear of the original 'Machine Shop' abutted the retaining wall.

The cast in situ off-form concrete wall is approximately three metres high and much of the original extent of the wall remains legible. The Crusher Houses (Elements 19 and 21) and the east and north brick walls of the Model Railway Workshop (Element 35) are built on top of the wall. It also carries the pedestrian bridge or 'catwalk' that provides access to the firing floor of Hardy Patent Kiln 1 (Element 3).



Figure 3.30 Location of the retaining wall at the site, shown in red. (Source: Google Earth with GML overlay, 2017)

Railway Remnants

The Railway Remnants reflect the early history of the Brickworks when a steam-powered narrow-gauge railway was introduced to expedite the mass transportation of bricks to construction sites around Canberra. In the clean-up and extensive landscaping works prior to the opening of Parliament House in May 1927, and possibly also because it had by that stage become more economical to transport the bricks by motor lorry, the railway was removed.

Remnants of the former Brickworks railway lines are evident closest to the southwest corner of the site, converging to form a single embankment. Close to the Brickworks two of the former lines are evident as earth terraces, which go through a short cutting to become distinctive earth mounds. The third line runs approximately parallel to the western boundary of the Brickworks and is evident as an earth terrace. Along some sections of the embankment there are mature pine trees within close proximity, with other trees and shrubs growing alongside and over the former rail line.



Figure 3.31 Location of the railway remnants at the site (Element 1A), shown in red. (Source: Google Earth with GML overlay, 2017)



Figure 3.32 View east toward the quarry (Element 11 + 12) showing geological formations. (Source: GML, 2017)



Figure 3.33 View in the quarry (Element 11 + 12) of the former 'reflection pool'. (Source: GML, 2017)



Figure 3.34 Concrete retaining wall (Element 24), showing later masonry wall constructed on top. (Source: GML, 2017)



Figure 3.35 Embankments and terracing of the Railway Remnants (Element 1A). (Source: GML, 2017)

Brickyards

The brickyard, the area between the Staffordshire Kiln (Element 1) and Hardy Patent Kiln 1 (Element 3), is part of the original development/early establishment phase of the Canberra Brickworks. The space was 'enclosed' following the construction of the Hardy Patent Kiln 1 (Element 3) in 1926 to the north of the Staffordshire Kiln, which had been constructed earlier in c1915.

A second brickyard (Element 38) formed with the construction of the Hardy Kiln 2 (Element 5) c1953, to the north of Hardy Patent Kiln 1.

The brickyards, the open space 'concourse' to the west of the kilns (north-south direction) from Element 2 to Element 4, and the open space between Fan Houses (Elements 2 and 4), are noted in the Heritage Register under 'Specific Requirements' for conservation policy consideration of the site, shown in red in Figure 3.35. The ground between the kilns is covered with concrete slabs, with deep concrete drainage pits in front of the kilns. A gravel roadway separates the kilns and fan houses.

The brickyards and open spaces are supporting elements of the site.

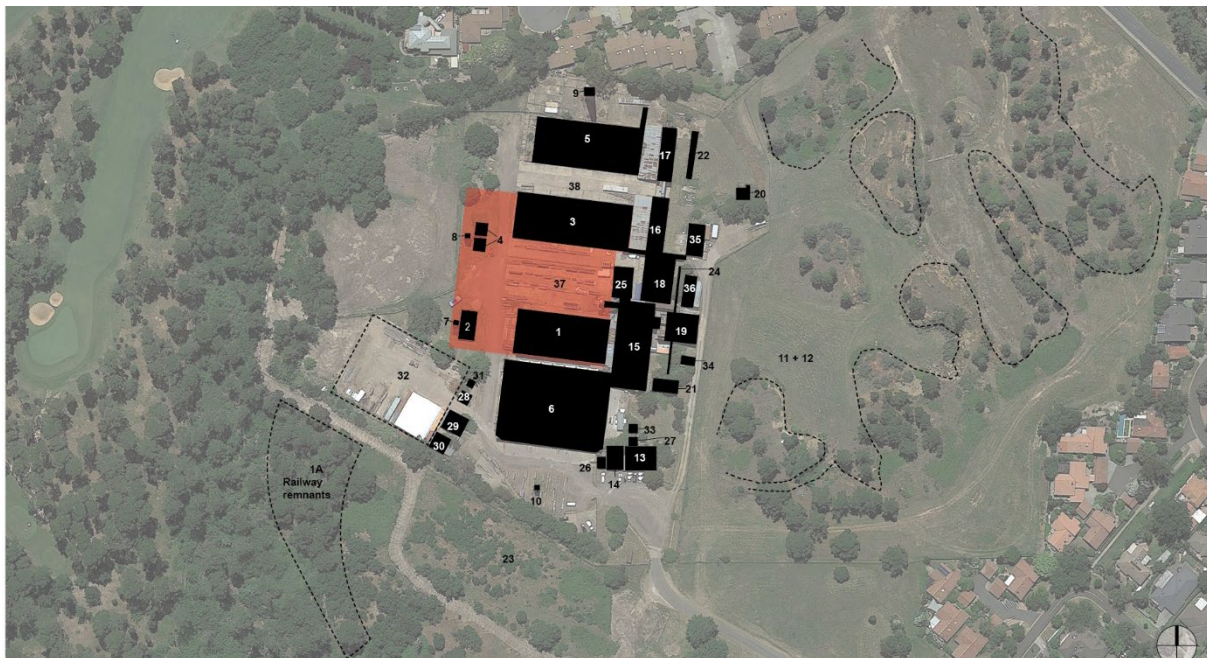


Figure 3.36 Location of the brickyards (Elements 37 and 38) and open spaces noted in the Heritage Register are shown in red. (Source: Google Earth with GML overlay, 2017)



Figure 3.37 View east over the first brickyard toward the Amenities Block (Element 25). (Source: GML, 2017)



Figure 3.38 First brickyard (Element 37), looking west. (Source: GML, 2017)


3.4 Condition of Individual Site Elements

The condition of the individual elements of the Brickworks and Railway Remnants, is based on visual inspections by GML, and Sellick Consultants Pty Ltd, Inspection Report of Canberra Brickworks, prepared in December 2019. The inspection report includes dilapidation assessments of each building of the site (the Canberra Brickworks heritage listed elements). The Railway Remnants are archaeological ruins, and a condition assessment is not provided.



Overall, the condition of the Brickworks is in poor condition as it has been unused and untenanted for several years. Individually, the structures vary in their condition, ranging from 'good', 'reasonable' to 'poor'. The lack of use or regular maintenance has led to continual degradation; generally including the brick and timber structures decaying, and roof and wall sheets becoming loose.



Table 3.1 provides a list of the Site Elements (some are features intrinsic to the heritage significance of the site), their condition as assessed in the Inspection Report, 2019. General conservation and/or 'remediation' requirements for each element are also provided in the table.

Table 3.1 Condition and conservation advice for the Individual Elements of the Site.


Site Element Number	Condition as @ 2019	General Remediation Works
Element 1—Staffordshire Kiln 	<p><i>External Condition:</i></p> <p>Brick veneer and structure is in reasonable condition considering age, with some cracking.</p> <p>Original wall sheeting has severe deterioration in parts. Sheet fixings noted to be loose in some areas.</p> <p>Roof sheeting appears to have been replaced more recently.</p> <p>Roof and walls sheeting are generally not weather-proof.</p> <p><i>Interior Lower level:</i></p> <p>The majority of the entry archways to 20 brick kilns have loose bricks and voids in the brickwork bedding – resulting in displacement of some arches.</p> <p>The entry arches have displaced laterally in areas which is likely due to swelling of the bricks.</p> <p>The internal areas of the kilns are generally in sound structural condition, with some loose bricks.</p> <p><i>Interior Upper Level:</i></p> <p>Chimney vents across the floor are open.</p> <p>Steelwork bracing has buckles in some areas. There are areas of bracing missing and connections loose.</p>	<p>Retain and conserve the original form and external fabric.</p> <p>Restore the brickwork veneer and ensure it is weatherproof.</p> <p>Reinstate locally displaced bricks. Structural supports may be needed.</p> <p>Replace roof sheets and fixings as required.</p> <p>Replace badly weather damaged roof framing and upgrade as required to required modern standards.</p> <p>A structural engineer should assess the need for new bracing. .</p> <p>Retain and expose the roof trusses, where possible. Assess the steel roof structure further (by structural engineer) and fix where required.</p> <p>Retain the upper level firing floor with remnants of the equipment used to fire and feed the chambers.</p> <p>Retain an area of the firing floor, or a single chamber, as an intact, single volume, so the nature and operations of the firing floors can be understood.</p> <p>Chimney vents should be covered for safety in the short term, and ensure interpretation can be implemented for future adaptive reuse opportunities.</p>




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Site Element Number	Condition as @ 2019	General Remediation Works
	<p>Timber floor structure is badly weathered, timber connections not adequate in some locations.</p> <p>Lean to roof sheets have deteriorated and sheet fixings are loose.</p> <p>Timber roof framing has weathered in some areas.</p> <p>Glazed louvre vents are broken and not weatherproof.</p>	
<p>Element 2—Fan House for Staffordshire Kiln</p> 	<p><i>Condition of the Fan House</i></p> <p>The form of the building and brick fabric are in reasonable condition.</p> <p>The roof, joinery and interior are in poor condition (due to water and vermin ingress).</p> <p>The tunnel connections with both the kiln itself and the associated chimney stack need to be investigated.</p> <p>Brickwork walls are in reasonable condition, with some cracking to lintels.</p> <p>Ceiling boards are in poor condition and partially collapsed.</p> <p>The open basement level contains debris and water. Handrails loose.</p> <p>Door and windows were broken and deteriorated.</p>	<p>Conserve and retain the original building form, fabric, openings, internal concrete platforms and 'fan' infrastructure.</p> <p>Closer inspection of tunnel connections with the kiln and the associated chimney stack is recommended.</p>
<p>Element 3—Hardy Patent Kiln I</p> 	<p><i>External Condition</i></p> <p>Roof is in reasonable condition, with the sheeting replaced more recently.</p> <p>Wall sheeting to exterior of structure in reasonable condition.</p> <p>Majority of windows are broken.</p> <p>The roof sheeting of the awnings is in reasonable condition.</p> <p>Although the timber rafters are in average condition, some of the rafters do exhibit weather damage.</p> <p>There is corrosion in areas of the steel fascia beam.</p> <p>Post connections are loose and some connections between steel fascia and posts has failed.</p> <p><i>Interior Condition</i></p> <p>The brickwork bedding of most of the entry archways has loose bricks and voids, causing a displacement of the arch.</p>	<p><i>External</i></p> <p>Replace any loose sheet fixings for both the wall cladding and roof.</p> <p>Ensure the roof is waterproof.</p> <p>Conserve and retain the Hardy Patent Kiln I, its original form and fabric, allowing for adaptive reuse options. Retain the verandah if possible.</p> <p>Retain/interpret the evidence of the former function of the firing floors of either this Kiln, or the Staffordshire Kiln.</p> <p>Retain and expose the roof trusses, where possible.</p> <p>Rafter-fascia connection of awnings needs to be upgraded and the timber rafters should be replaced where relevant.</p> <p>Steel post connection to correct as needed.</p> <p><i>Interior</i></p> <p>Reinstate loose brickwork areas. If this is not feasible, need to provide structural steelwork or other support, noting the prior use of mass concrete for this purpose.</p>



Site Element Number	Condition as @ 2019	General Remediation Works
	<p>Significant structural concrete augmentation has been installed to the east and west end connections between the main tunnels.</p> <p>Entry archways have significant cracking and displacement of the eastern and western ends.</p> <p>There are loose bricks within the internal kiln areas.</p> <p><i>Interior Upper Level:</i></p> <p>The steel trusses in the upper floor are in reasonable condition and the connections are overall, welded and in stable condition.</p> <p>Chimney holes are a trip hazard throughout within the floor.</p> <p>There are several battens loose where timber battens were installed to the underside of purlins that were potentially implemented to support ceiling lining.</p>	<p><i>Interior Upper Level</i></p> <p>Cover chimney holes and ensure the floor does not have any trip hazards.</p> <p>Timber battens can be removed if not needed.</p> <p>Should ceiling lining be installed, the battens will need to be appropriately secured.</p> <p>Retain the upper level firing floor with remnants of the equipment used to fire and feed the chambers.</p> <p>A structural engineer should further assess the steel roof structure and upgrade where relevant.</p>
<p>Element 4—Fan Houses for Hardy Patent Kiln 2</p> 	<p><i>Condition of the Hardy patent kiln fan houses</i></p> <p>Poor condition</p>	<p>The Fan House should be retained and stabilised in situ.</p> <p>Retain internal configuration as evidence of the original function of the building.</p>
<p>Element 5—Hardy Patent Kiln 2</p> 	<p><i>External Condition</i></p> <p>Wall sheeting is in poor condition and is loose in some areas.</p> <p>The windows and doors are in poor condition.</p> <p>Roof has loose sheets in certain areas, and it has deteriorated. It is in poor condition.</p> <p>The steel roof framing has weathered.</p> <p>There are areas of missing awnings.</p> <p>Some weathering of the timber rafters.</p> <p>Steel fascia beam has weathered significantly in certain areas.</p> <p>Post connections loose in areas.</p>	<p><i>External</i></p> <p>Wall sheeting needs to be replaced (or at minimum secured).</p> <p>Nailed fixings to be replaced using screw fixings.</p> <p>Replace and seal up windows where necessary.</p> <p>The timber rafters and fascia connection would be replaced as part of the awning renewal, adaptation and upgrade process.</p> <p>Steel posts to be remedied and reconnected to fascia.</p> <p>Structural steelwork to be re-purposed.</p> <p><i>Interior</i></p> <p>Locally displaced bricks should be reinstated.</p>



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Site Element Number	Condition as @ 2019	General Remediation Works
	<p>Connections between timber fascia and posts has failed in certain areas.</p> <p>The steelwork, despite surface oxidation, is in reasonable condition for age.</p> <p><i>Interior Condition</i></p> <p>The brickwork bedding of most of the entry archways has loose bricks and voids, causing a displacement of the arch.</p> <p>Although loose bricks were noted throughout the internal kiln areas, displacement of the internal arches was less common.</p> <p><i>Interior Upper Level</i></p> <p>Although roof trusses are in reasonable condition, lateral bracing of the roof structure may require upgrading.</p> <p>A trip hazard is created by chimney vents throughout the floor.</p>	<p>Cover up chimney vents and ensure floor is free of trip hazards.</p> <p>A structural engineer should further assess the steel roof structure and upgrade where required.</p> <p>Excavation of the floor and replacement with concrete slab is possible, to allow the space to be used and the original proportions of the space to be retained.</p> <p>Retain the upper level firing floor with remnants of the equipment used to fire and feed the chambers.</p>
<p>Element 6—Downdraught kilns (three kilns)</p>	<p>Steel portal framed roof over the kilns is in reasonable condition.</p> <p>External condition of the Downdraught Kilns is poor and requires further structural assessment.</p>	<p>Conserve the original building form and fabric of each Downdraught kiln.</p> <p>The kilns require further structural assessment to inform conservation/remediation works.</p> <p>The steel framed roof could be restored or removed. Removal would require that restoration and waterproofing of the kilns occur as a high priority (and should be undertaken before removing the steel roof).</p>
<p>Element 7—Chimney Stack for Staffordshire Kiln</p> 	<p><i>Condition of the chimney stack</i></p> <p>Cracking to the base of the chimney; however, it appears stable.</p> <p>The top of the chimney has severe cracking and loose bricks.</p> <p>Note: observations were made from ground level.</p>	<p>Retain and conserve the chimney stack.</p> <p>Closer inspection of upper areas of chimney recommended.</p> <p>Additional structural support may be required. Secure/reinstate loose bricks at top of chimney.</p>
<p>Element 8—Chimney Stack for Hardy Patent Kiln 1</p>	<p><i>Condition of the chimney stack</i></p> <p>Good/reasonable condition</p>	<p>Conserve and restore the chimney stack.</p> <p>Closer inspection of upper areas of chimney recommended.</p> <p>Additional structural support may be required.</p> <p>Secure/reinstate loose bricks at top of chimney.</p>

Site Element Number	Condition as @ 2019	General Remediation Works
		
<p>Element 9—Chimney Stack for Hardy Patent Kiln 2</p> 	<p>Good condition. The top of the chimney did have more severe cracking and loose bricks. Although chimney appears to be stable overall, some observations of cracking were made at the base. (Note: observations made from ground level).</p>	<p>Conserve and restore the chimney stack. Secure and reinstate loose bricks at the top of chimney. Additional structural support may be required.</p>
<p>Element 10—Chimney Stack for Downdraught Kilns</p>	<p>The Chimney Stack is in reasonable condition and appears to be stable. No significant cracking was observed (from ground level), but the upper section is in poorer condition, with loose and deteriorated bricks. There is evidence of brickwork spalling, particularly to the west and north faces.</p>	<p>Conserve the form and fabric of the structure.</p>
<p>Element 11 + 12—Quarry</p> 	<p><i>Condition of the Quarry:</i> Reasonable condition Unused Eroding Quarry face Public safety concern</p>	<p>Retain, protect and make safe the Quarry form—the identified geological features (rock outcrops). Implement landscape and interpretation opportunities that reflect the Quarry form and presentation of its origins as an excavated brick pit.</p>
<p>Element 13—Office</p>	<p><i>External condition of the office building</i> Reasonable condition.</p>	<p>Remove intrusive ad-hoc additions.</p>

GML Heritage

Site Element Number	Condition as @ 2019	General Remediation Works
	<p>Windows and doors are boarded up.</p>	<p>Reinstate the original form and fabric of the office building in association with the Power House if possible.</p>
<p>Element 14—Power House</p> 	<p><i>External Condition:</i> General external condition is good. Brickwork is in reasonable condition Windows and doors are boarded up Timber fascia weathered in areas. Roof tiles in sound condition. Roof sheets appeared to be in reasonable condition. No internal access by Sellick Consultant</p>	<p>Conserve and retain the original building form and fabric. Re-open and repair original windows and doorways. Remove intrusive external elements/structures. Consider retention of interior equipment as part of a new fitout/adaptive reuse.</p>
<p>Element 15—Machine Bay 1 for Staffordshire Kiln and Downdraught Kilns</p>	<p>Poor condition. The loose roof sheets are a safety hazard.</p>	<p>Foot traffic is not recommended on roof and public access should be restricted. The structure is to be made safe for construction workers and would not be accessible for general public access in the short term.</p>
<p>Element 16—Machine Bay 2 for Hardy Patent Kiln 1</p>	<p>Poor Condition. The loose roof sheets are a safety hazard.</p>	<p>Foot traffic is not recommended on roof and public access should be restricted. The structure is to be made safe for construction workers and would not be accessible for general public access in the short term.</p>
<p>Element 17—Machine Bay 3 for Hardy Patent Kiln 1</p>	<p>Poor condition.</p>	<p>Moderate rectification works</p>
<p>Element 18—Workshop</p>	<p><i>Lower Level</i> In some areas the wall sheeting was damaged, and some windows were broken. Roof sheeting and structural steel was generally in reasonable condition. <i>Upper Level</i> The timber structure has significant weathering.</p>	<p>Where damaged, the windows and wall sheeting are to be replaced. A structural assessment is advised, and public access should be restricted.</p>

Site Element Number	Condition as @ 2019	General Remediation Works
Element 19—Large Crusher House (White Pan Room /Crusher House II)	<p><i>External Condition</i></p> <p>There are some bracing members missing. Rectification of some steelwork connections. Weathering of sheeting by in serviceable condition. Some loose sheets present.</p> <p><i>Interior Condition</i></p> <p>Collapsed area of suspended slab on grade. There is debris scattered throughout ground floor.</p>	<p>Additional structural support may be required. A detailed structural assessment is required and any loose sheeting to be secured.</p> <p>Clean up debris and reinstate slab if required. Restrict public access until stabilised.</p>
Element 20—Primary Crusher Room (Crusher House III)	Poor condition	A structural assessment is required, and any loose sheeting should be secured.
Element 21—Small Crusher House (Crusher House I)	<p>The steelwork is in reasonable condition. Deterioration of timber floor structure and a section of the roof has been removed. (Note: access was from the ground level only).</p>	<p>The roof/wall sheeting to be secured. Where required, reinstate the roof framing. The building should be made safe and is being treated as a partial ruin. Restrict public access until stabilised.</p>
Element 22—Elevator/Conveyor	Poor condition	A structural assessment is required, and loose sheeting should be secured.
Element 24—Concrete Retaining Wall 	<p><i>Condition of the Concrete Retaining Wall:</i></p> <p>Reasonable condition Brickwork retaining wall appears to be sliding off the concrete retaining wall. Note: This element is not an intrinsic feature of the heritage significance (Refer to ACT Heritage Register citation, Appendix B).</p>	The brick retaining wall should be stabilised as required.
Element 25—Amenities Block 	<p><i>External Condition</i></p> <p>The external brickwork in reasonable condition. Roof sheets are weathered with loose fixings. Inspection of roof framing not possible due to limited access. Weathering of fascia boards. Broken glass of windows and frames weathered.</p> <p><i>Interior Condition</i></p>	<p>The structure could be adaptively reused, or demolished and replaced. Secure sheeting by replacing the sheet fixings. Recommendation to inspect internal structure before providing public access, if required.</p>

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Site Element Number	Condition as @ 2019	General Remediation Works
	Restricted access to the internal area, so from the external inspection the internal structure appears in sound condition.	
Element 26—Downdraught Kilns Control Room	This element is not an intrinsic feature of the heritage significance (Refer to ACT Heritage Register citation, Appendix B).	—
Element 27—Toilet Block	Poor condition. This element is not an intrinsic feature of the heritage significance.	—
Element 28—Ancillary Storage Building	Poor condition. This element is not an intrinsic feature of the heritage significance.	—
Element 29—Substation/Control Room	Reasonable condition. This element is not an intrinsic feature of the heritage significance.	—
Element 30—Boiler House	Good condition. This element is not an intrinsic feature of the heritage significance.	—
Element 31—Amenities Block 2	Poor condition. This element is not an intrinsic feature of the heritage significance.	—
Element 32—Brick Extrusion Plant (Remnant Slab only)	Poor condition. This element is not an intrinsic feature of the heritage significance.	—
Element 33—Ancillary Storage Building 2	Poor condition. This element is not an intrinsic feature of the heritage significance.	—
Element 34—Storage Shed	Reasonable condition. This element is not an intrinsic feature of the heritage significance.	—
Element 35—Model Railway Workshop	Reasonable condition. This element is not an intrinsic feature of the heritage significance.	—
Element 36—Model Railway Storage Shed	Reasonable condition. This element is not an intrinsic feature of the heritage significance.	—
Element 37—Brickyard	Reasonable condition Cracked paving	Remove trip hazards.
Element 38—Brickyard	Reasonable condition Cracked paving	Remove trip hazards.

Site Element Number	Condition as @ 2019	General Remediation Works
Element 1A—Railway Remnants Narrow-gauge railway (remnants)	Poor condition of the area due to weed growth and self-sown mature trees. Uneven ground levels – safety concern	Clearing and removal of weed infestation—taking care not to disturb archaeological ruins and potential archaeological evidence Regular weed management and maintenance needed prior to, and during the redevelopment.

3.5 Historic Archaeological Analysis

The history of the site (provided in more detail in Appendix C) indicates that a number of structures have been demolished as part of the evolution and development of the place. These structures may well remain represented on the site by subsurface archaeological features. The predicted archaeological resources of the site have been outlined and assessed in an Archaeological Assessment report prepared for the site in 2016 by Navin Officer (refer Appendix F).² This report identified 12 areas of archaeological potential.

Known areas of archaeological potential include:

- possible building platform and concrete features (BRW1) remains located to the south of the existing access road and gate;
- the Brickworks 'Accommodation Village' area (Element 23) located to the south of the Brickworks main operation area—the former Accommodation Village included the Brickworks Hostel, Married Quarters (Element 23/BRW2), an area of postholes and other remains (BRW3) and the former Single Men's Quarters area (BRW4);
- clay features and rubble mounds (BRW5 and BRW6) located to the west of the Brickworks kilns. The material is known to be contaminated with asbestos. These features include depressions with brick and concrete rubble in them and are interpreted as relating to a now-demolished rectangular structure located in the area;
- the quarry (Elements 11 and 12/BRW7) on the eastern side of the site;
- the old kiln and dormitories (BRW8) located to the southeast of the Brickworks main operation area. This was likely demolished by the mid-1920s;
- the cottage, stables and coal store (BRW9) located to the east of the Brickworks main operation area, and to the west of the quarry (BRW7). These structures were built in 1913 and demolished by 1947;
- the railway remnants (BRW10) and railway siding (BRW11) located to the southwest of the Brickworks main operation area. Most remnants of the track were removed in the 1920s; and
- the insitu underground flues and workings (BRW12) which connect the kilns to associated fan stacks.

These areas were identified as having varying levels of archaeological potential as follows:

- High archaeological potential:
 - the remains of the Brickworks Accommodation Village area archaeological features comprising the former location of the Brickworks Hostel, Married Quarters (Element 23/BRW2) and the associated area of postholes and other remains (BRW3);
 - the quarry (Elements 11 and 12/BRW7); and
 - the flues and subsurface workings (BRW12).
- Moderate archaeological potential:
 - possible building platform and concrete features (BRW1) remains located to the south of the existing access road and gate; and

- the railway remnants (BRW10) and railway siding (BRW11).
- Low archaeological potential:
 - the former Single Men’s Quarters area (BRW4);
 - clay features and rubble mounds (BRW5 and BRW6) located to the west of the Brickworks kilns. The material is known to be contaminated with asbestos. These features include depressions with brick and concrete rubble in them and are interpreted as relating to a now-demolished rectangular structure located in the area;
 - the old kiln and dormitories (BRW8); and
 - the cottages, stables and coal store (BRW9) located to the east of the main kiln area.

The varying levels of archaeological potential at the site are shown in Figure 3.38 below.



Figure 3.39 Areas of archaeological potential at the site. (Source: Figure 44 in the 2016 draft Archaeological Assessment, Navin Officer, Appendix F)³

3.6 Endnotes

- ¹ dsb Landscape Architects, Yarralumla Brickworks Precinct Tree Assessment, Tree Management Report, 25 November 2015 pp1–2.
- ² Navin Officer Heritage Consultants, Archaeological Assessment Canberra Brickworks and Environs, report prepared for the Land Development Agency, September 2016.
- ³ Navin Officer Heritage Consultants, Archaeological Assessment Canberra Brickworks and Environs, report prepared for the Land Development Agency, September 2016, p47.

4.0 Heritage Significance of the Site

4.1 Introduction

The heritage significance presented in this section is for the Heritage Places:

- Yarralumla Brickworks', referred to as Canberra Brickworks or the Brickworks; and
- Yarralumla Brickworks Railway Remnants, referred to as the Railway Remnants.

The ACT Heritage Register citations for the Brickworks and Railway Remnants are at Appendix B, noting that the official listings do not include assessments against criteria, only a 'statement of heritage significance' and a list of 'features intrinsic to the heritage significance of the place' are included, in addition to a description and history.

Based on the citations and the 2010 CMP, a heritage assessment for the Brickworks and Railway Remnants against the adopted ACT Heritage HERCON criteria is provided at Section 4.3, Table 4.1.

An assessment of the historical archaeological significance was undertaken by Navin Officer in 2016 and has been integrated with the assessment in Section 4.3. The draft 'Archaeological Assessment of the Canberra Brickworks and Environs' is provided at Appendix F.

4.2 Identified Heritage Significance of the Canberra Brickworks

4.2.1 Statutory Framework—ACT Heritage Act 2004

The ACT heritage legislation (*Heritage Act 2004* [the ACT Heritage Act] and the *Heritage Legislation Amendment Bill 2013*) aims to represent and protect the rich natural and cultural heritage of the ACT. The legislation establishes a system for the recognition, registration and conservation of natural and cultural heritage places and objects, including Aboriginal places and objects. Amendments made to the ACT Heritage Act, passed on 25 September 2014, formally adopted the HERCON (Heritage Convention) criteria for assessing heritage significance. Table 4.1 provides a comparison of the two sets of criteria.

Table 4.1 Comparison between the 2014 Adopted HERCON Criteria and the Previous ACT Heritage Criteria (used in the 2010 CMP).

HERCON Criteria ¹	ACT Heritage Criteria (previous/now redundant)
a) Importance to the course or pattern of the ACT's cultural or natural history	c) it is important as evidence of a distinctive way of life, taste, tradition, religion, land use, custom, process, design or function that is no longer practised, is in danger of being lost or is of exceptional interest h) it has strong or special associations with a person, group, event, development or cultural phase in local or national history i) it is significant for understanding the evolution of natural landscapes, including significant geological features, landforms, biota or natural processes k) for a place—it exhibits unusual richness, diversity or significant transitions of flora, fauna or natural landscapes and their elements l) for a place—it is a significant ecological community, habitat or locality for any of the following: <ul style="list-style-type: none"> (i) the life cycle of native species; (ii) rare, threatened or uncommon species; (iii) species at the limits of their natural range;

HERCON Criteria ¹	ACT Heritage Criteria (previous/now redundant)
	(iv) distinct occurrences of species
b) Uncommon, rare or endangered aspects of the ACT's cultural or natural history	f) it is a rare or unique example of its kind, or is rare or unique in its comparative intactness c) it is important as evidence of a distinctive way of life, taste, tradition, religion, land use, custom, process, design or function that is no longer practised, is in danger of being lost or is of exceptional interest
c) Potential to yield important information that will contribute to an understanding of the ACT's cultural or natural history	j) it has provided, or is likely to provide, information that will contribute significantly to a wider understanding of the natural or cultural history of the ACT because of its use or potential use as a research site or object, teaching site or object, type locality or benchmark site
d) Importance in demonstrating the principal characteristics of a class of cultural or natural places or environments	g) it is a notable example of a kind of place or object and demonstrates the main characteristics of that kind
e) Importance in exhibiting particular aesthetic characteristics valued by the ACT community or a cultural group in the ACT	b) it exhibits outstanding design or aesthetic qualities valued by the community or a cultural group
f) Importance in demonstrating a high degree of creative or technical achievement for a particular period	a) it demonstrates a high degree of technical or creative achievement (or both), by showing qualities of innovation, discovery, invention or an exceptionally fine level of application of existing techniques or approaches
g) Strong or special association with the ACT community or a cultural group within the ACT for social, cultural or spiritual reasons. This includes the significance of a place to Indigenous peoples as part of the continuing and developing cultural traditions	b) it exhibits outstanding design or aesthetic qualities valued by the community or a cultural group d) it is highly valued by the community or a cultural group for reasons of strong or special religious, spiritual, cultural, educational or social associations e) it is significant to the ACT because of its importance as part of local Aboriginal tradition
h) Special association with the life or works of a person, or people, important to the history of the ACT	h) it has strong or special associations with a person, group, event, development or cultural phase in local or national history

4.3 Heritage Assessment of the Brickworks and Railway Remnants

4.3.1 Assessment against the HERCON Criteria

This CMP provides an assessment of the two ACT Heritage Register places of the site, and is based on the 2010 CMP, and the HERCON criteria. It is important to note the Heritage Act provisions apply only to the registered heritage boundaries and features intrinsic to their heritage significance.

Table 4.2 Assessment against ACT Heritage HERCON Significance Criteria.

Heritage Significance Criteria	Assessment Against Criteria
a) Importance to the course or pattern of the ACT's cultural or natural history	<p>Canberra Brickworks</p> <p>The Canberra Brickworks is important to the course of the ACT's history as the first industrial manufacturing facility commissioned for and constructed in the Territory, developed specifically to facilitate the construction of the new Federal Capital.</p> <p>The Brickworks provides tangible evidence of the early establishment of the city, following the Commonwealth decision to construct a national capital in the Yass-Canberra district in October 1908.</p> <p>The Brickworks is of historic significance for its role in the history and early development of the national capital. Bricks manufactured at the site were used to construct many residential and public buildings in Canberra, including Provisional Parliament House, the Kingston</p>

Heritage Significance Criteria	Assessment Against Criteria
	<p>Powerhouse, and Hotel Canberra. Subsequent phases in the development of the Brickworks, until its closure, reflect the broader political context that determined the fluctuation of construction of the Federal Capital, with major phases of the development in the 1920s and post-World War II period.</p> <p>The Brickworks site is of scientific (geological) significance as the type locality for the Yarralumla Formation, a major sedimentary sequence dating from the Silurian Period, 424–423 million years ago. The rock units at the site provide the reference section for comparison of other outcrops within the Yarralumla Formation and, in this context, are of research and educative value. Archaeological resources at the Brickworks provide evidence of the industrial components of the operations (eg BRW7, BRW8, BRW10, and BRW11) and may provide further information into the brickwork operations and history.</p> <p><i>The Canberra Brickworks meets this criterion.</i></p> <p>Railway Remnants</p> <p>The remnants of the former Canberra Brickworks railway are important in the development of Canberra, particularly for the initial period between 1923–1927. Bricks (including those referred to colloquially as ‘Canberra Reds’) were loaded onto timber tip wagons and transported via a narrow-gauge rail line to major developments across the city including Provisional Parliament House, the Kingston Powerhouse, Hotel Canberra, buildings in Civic as well as Federal Capital Commission houses for the growing population.</p> <p>The railway enabled faster transport of the bricks than the previous use of steam traction engines that hauled heavy iron wheeled trailers on mostly unmade roads. The railway transported up to six million bricks per annum.</p> <p>The remnants of the embankment, cuttings and terraces (BRW10 and BRW11) are important as evidence of the process by which bricks used in the construction and development of the new city were transported.</p> <p><i>The Railway Remnants meets this criterion.</i></p> <hr/> <p>Features intrinsic to the significance:</p> <ul style="list-style-type: none"> • Canberra Brickworks—the remnants and physical evidence of the Brickworks which demonstrate aspects of the operation of, and working life at the site—the quarry, kilns, fan houses, chimney stacks, and other associated structures from the establishment of the Brickworks until its closure in 1976, the spatial layout demonstrating the former process of brick production, and the geological features in the quarry. • Railway Remnants—the remnants of the original earthen railway embankment, cutting and terraces.
<p>b) Uncommon, rare or endangered aspects of the ACT’s cultural or natural history</p>	<p>Canberra Brickworks</p> <p>The Canberra Brickworks is an unusually complete example of a complex demonstrating aspects of the operation of twentieth-century large-scale urban brickworks.</p> <p>The Staffordshire and Hardy patent kilns are part of a relatively small group of surviving continuous kilns in a national context.</p> <p>The Staffordshire Kiln is the only known remaining example in Australia of this particular type of continuous kiln. It is of interest for its design which through a relatively complex system of dampers and flues offered more control and flexibility than earlier types.</p> <p>The archaeological remains at the Brickworks provide evidence of the historical functional context of the Brickworks.</p> <p><i>The Canberra Brickworks meets this criterion.</i></p> <p>Railway Remnants</p> <p>The railway remnants are a rare example of the once extensive rail network in Canberra associated with the building of the national capital. The Brickworks railway remnants were fundamental for the transportation of bricks for the construction of early Canberra, and form an example of a significant industrial heritage site in the ACT.</p> <p><i>The Railway Remnants meets this criterion.</i></p>

Heritage Significance Criteria	Assessment Against Criteria
	<p>Features intrinsic to the significance:</p> <ul style="list-style-type: none"> • Canberra Brickworks—the remnants and physical evidence which demonstrate aspects of the operation and working life at the site—the quarry, kilns, fan houses, chimney stacks and other associated structures from the establishment of the Brickworks until its closure in 1976, the spatial layout demonstrating the former process of brick production, and the individual Staffordshire and Hardy patent kilns. • Railway Remnants—the remnants of the original earthen railway embankment, cutting and terraces.
<p>c) Potential to yield important information that will contribute to an understanding of the ACT's cultural or natural history</p>	<p>Canberra Brickworks</p> <p>Canberra Brickworks has research potential to further the understanding of past technology and industrial processes related to brickmaking in the ACT.</p> <p>Elements of the Brickworks have potential to yield information that may contribute to a greater understanding of the detailed operations of the site. The archaeological potential refers to subsurface features (eg BRW1, BRW5, and BRW9), quarry (BRW7) and former accommodation village area (Element 23/BRW2, BRW3, BRW4, and BRW8). It may yield information that would contribute to an understanding of the history and changing use over time of the Brickworks.</p> <p>Canberra Brickworks meets this criterion.</p> <p>Railway Remnants</p> <p>The archaeological remnants of the railway have potential to yield information about the construction, nature, and configuration of the railway, and meets this criterion. (The ACT Heritage Register for the Railway Remnants does not indicate the place meets this criterion)</p> <hr/> <p>Features intrinsic to the significance:</p> <ul style="list-style-type: none"> • Canberra Brickworks—the remnants and physical evidence which have the potential to further demonstrate aspects of the operation, history and changing use over time of the site. • Railway Remnants—the archaeological remnants of the railway have potential to yield information about the construction, nature, and configuration of the railway.
<p>d) Importance in demonstrating the principal characteristics of a class of cultural or natural places or environments</p>	<p>Canberra Brickworks</p> <p>Canberra Brickworks is an exceptional representative example of a large-scale, twentieth century urban brickworks.</p> <p>The extant buildings, structures, layout of the site and archaeological remnants demonstrate aspects of the processes and operations common to large scale, industrial brick production. Archaeological remnants at the site may demonstrate the evolution of a range of industrial processes associated with brickmaking in the twentieth century (eg BRW7, BRW10, BRW11, and BRW12).</p> <p>Canberra Brickworks retains a good range of production and ancillary buildings which also contribute to the understanding of the function of the site.</p> <p>The geological features of the former quarry are significant as a type locality for the Yarralumla Formation, a major sedimentary sequence dating from the Silurian Period, 424–423 million years ago. The rock units of the quarry provide useful reference for comparison with other outcrops of the Yarralumla Formation.</p> <p>Canberra Brickworks meets this criterion.</p> <p>Railway Remnants</p> <p>The remnants do not demonstrate the principal characteristics of a railway and do not meet this criterion.</p> <hr/> <p>Features intrinsic to the significance:</p> <ul style="list-style-type: none"> • Canberra Brickworks—Intrinsic features in the ACT Heritage Register citation specifically including: <ul style="list-style-type: none"> — historic evidence of the Brickworks which demonstrate aspects of the operation and working life at the site;

Heritage Significance Criteria	Assessment Against Criteria
	<ul style="list-style-type: none"> — the quarry, kilns, fan houses, chimney stacks, remains of early workers camps and accommodations and other associated structures from the establishment of the brickworks until its closure in 1976; and — the spatial layout demonstrating the former process of brick production, and the geological features in the quarry.
<p>e) Importance in exhibiting particular aesthetic characteristics valued by the ACT community or a cultural group in the ACT</p>	<p>Canberra Brickworks</p> <p>The extant building forms, structures and larger elements of equipment of the Canberra Brickworks have aesthetic significance for their industrial characteristics and, combined with the visual qualities of the quarry, contribute to a distinctive industrial landscape character.</p> <p>The aesthetic qualities are experienced from within the site, which is set low in the landscape, so as not to intrude on the Federal Capital, and the original kilns had low, fan-forced chimneys.</p> <p>The 1953 brick chimney stack (approximately 45 metres tall) is a prominent feature in the landscape and an iconic local landmark.</p> <p>The scale, location and idiosyncratic forms of the kilns and chimneys as well as dominance of red brick and corrugated iron across the site contributes to the aesthetic character of the site. Other characteristics include the brick forms and tall pitched iron clad roofs which create interesting and dramatic external massing and internal spaces, and contrast with the dark interiors of the kilns. The quarry has a particular aesthetic quality, comprising a combination of open space and the exposed rock outcrops.</p> <p>The aesthetic characteristics of the Brickworks as an industrial cultural landscape is evident and valued by the community. The local production of bricks; colloquially know as ‘Canberra Reds’, were used to build much of Canberra’s civic, institutional, and residential fabric of the National Capital. Canberra Reds, and the places associated with historical development of Canberra, continue to hold significant aesthetic value by the ACT community.</p> <p>Canberra Brickworks meets this criterion.</p> <p>Railway Remnants</p> <p>The remnants are not aesthetically distinctive and do not meet this criterion.</p> <hr/> <p>Features intrinsic to the significance:</p> <ul style="list-style-type: none"> • Canberra Brickworks—Intrinsic features in the ACT Heritage Register citation specifically including: <ul style="list-style-type: none"> — the distinctive industrial cultural landscape character (scale, form, location and materials of the structures); — the low setting of the site in the landscape, with the open spaces and rock face of the quarry; and — the structures and physical evidence of the former Brickworks including the kilns, fan houses, chimney stacks (particularly the tallest 1953 stack).
<p>f) Importance in demonstrating a high degree of creative or technical achievement for a particular period</p>	<p>Canberra Brickworks</p> <p>The process of brick production and the individual kilns at the Canberra Brickworks is important for the achievement of building the national capital with locally produced building material. Potential archaeological deposits may provide further information on the technical aspects of the Brickworks operations, brick production, how this changed over time and the reactivation of the facility in the 1920s (eg BRW7, BRW10, BRW11, and BRW12).</p> <p>However, the production process itself is not considered innovative or of a high degree of technical achievement at the time of construction, and does not meet this criterion.</p> <p>Railway Remnants</p> <p>The remnants do not display a high degree of technical achievement and do not meet this criterion.</p>
<p>g) Strong or special association with the ACT community or a cultural group within the ACT</p>	<p>Canberra Brickworks</p> <p>Canberra Brickworks holds strong associations with the local Yarralumla community as well as the ACT community more generally.</p>

Heritage Significance Criteria	Assessment Against Criteria
for social, cultural or spiritual reasons	<p>There is value and attachment by the ACT community, associated with Canberra Reds as they are sought after in contemporary design and residential builds.</p> <p>Canberra Brickworks meets this criterion.</p> <p>Railway Remnants</p> <p>The remnants do not hold a special association within the ACT community and do not (individually) meet this criterion.</p> <hr/> <p>Features intrinsic to the significance:</p> <ul style="list-style-type: none"> • Canberra Brickworks as included in the Features Intrinsic in the ACT Heritage Register citation (Appendix B1).
h) Special association with the life or works of a person, or people, important to the history of the ACT	<p>Canberra Brickworks</p> <p>Canberra Brickworks is associated with many locally employed workers during its operation, and with many arts, theatre, artisan and industrial users and groups since its closure. The associations are not considered notable at a Territory level, and does not meet this criterion.</p> <p>Railway Remnants</p> <p>The remnants do not hold a special association with significant people and do not meet this criterion.</p>

4.3.2 Summary Statement of Heritage Significance

The assessment against the ACT Heritage HERCON criteria confirms that:

- Canberra Brickworks is a place with heritage significance, against six of the eight criteria: a), b), c), d), e) and g); and
- the Railway Remnants is a place with heritage significance, against two of the eight criteria: a) and b).

4.3.3 Summary Statements of Significance

Canberra Brickworks

Canberra Brickworks is significant as the first industrial manufacturing facility commissioned for and constructed in the Territory, developed specifically to facilitate the construction of the new Federal Capital. It provides tangible evidence of the early establishment of the city, following the Commonwealth decision to construct a national capital in the Yass-Canberra district in October 1908.

Bricks, colloquially known as ‘Canberra Reds’, manufactured at the site were used to construct many residential and public buildings in Canberra, including Provisional (Old) Parliament House, the Kingston Powerhouse, and Hotel Canberra. Subsequent phases in the development of the Brickworks, until its closure, reflect the broader political context that determined the fluctuation of construction of the Federal Capital, with major phases of the development in the 1920s and post-World War II period.

The Brickworks site is of scientific (geological) significance as the type locality for the Yarralumla Formation, a major sedimentary sequence dating from the Silurian Period, 424–423 million years ago. The rock units at the site provide the reference section for comparison of other outcrops within the Yarralumla Formation and in this context are of research and educative value.

The Brickworks is an unusually complete example of a complex demonstrating aspects of the operation of twentieth-century large-scale urban brickworks, with the extant buildings, structures and layout of the site demonstrating aspects of the processes and operations common to industrial brick production. The

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Railway Remnants, and industrial production and ancillary buildings contribute to the understanding and sequence of the historic function of the Brickworks.

The Staffordshire Kiln (Element 1) is the only known remaining example in Australia of this particular type of continuous kiln.

The site has research potential to further the understanding of past technology and industrial processes related to brickmaking in the ACT. Elements of the Brickworks, and the Railway Remnants (Element 1A), have potential to yield information that may contribute to a greater understanding of the detailed operations of the site. The historical archaeological potential of the subsurface features and quarry may yield information that would contribute to an understanding of the history and changing use over time of the Brickworks.

The extant building forms and structures of the Canberra Brickworks have industrial aesthetic characteristics in the built form and, combined with the visual qualities of the quarry, a distinctive industrial landscape character. The aesthetic qualities are experienced from within the site, which is set low in the landscape, so as not to intrude on the Federal Capital, and the original kilns had low, fan-forced chimneys. The 1953 brick chimney stack (Element 9) is approximately 45 metres tall and a prominent feature in the landscape and an iconic local landmark. The scale, location and idiosyncratic forms of the kilns and chimneys as well as dominance of red brick and corrugated iron across the site contributes to the aesthetic character of the site. Other characteristics include the brick forms and tall pitched iron clad roofs which create interesting and dramatic external massing and internal spaces, and contrast with the dark interiors of the kilns. The quarry has a particular aesthetic quality, comprising a combination of open space and the exposed rock outcrops.

The Canberra Brickworks, and Canberra Reds, holds strong associations with the local Yarralumla community as well as the ACT community more generally.

Railway Remnants

The Railway Remnants are an important example of the once extensive rail network associated with the development of Canberra, initially between 1923–1927. Bricks manufactured at the Brickworks were loaded onto timber tip wagons and transported via a narrow-gauge rail line to major developments across the city such as the Provisional Parliament House, the Kingston Powerhouse, Hotel Canberra, buildings in Civic as well as homes for the growing population.

The railway enabled faster transport of the bricks than the previous use of steam traction engines that hauled heavy iron wheeled trailers on mostly unmade roads. The railway transported up to six million bricks per annum.

The remnants of the embankment, cuttings and terraces are important as evidence of the process by which bricks used in the construction and development of the new city were transported. They are rare aspects of Canberra's industrial heritage — evidence of the infrastructure that was used to build the national capital.

4.3.4 Features Intrinsic to the Heritage Significance

The features intrinsic (elements) of the Canberra Brickworks and the Railway Remnants which are intrinsic to the heritage significance, and included in the ACT Heritage Register, are provided in this section.

Canberra Brickworks

The features intrinsic to the heritage significance of the Canberra Brickworks contribute to the heritage significance of the site, to varying degrees based on their role in the history, operation and development of the place.

A distinction of the varying contribution to the heritage significance is identified in the ACT Heritage Register citation as either Schedule 1 – Elements of Exceptional Significance or Schedule 2 – Elements of Moderate Significance. The 2010 CMP categorises Schedule 1 as ‘Core’, Schedule 2 as ‘Supporting’ and other non-listed elements as ‘Incidental’, with these outlined below. The significance of individual elements, both listed and unlisted, are included in the inventory sheets at Appendix A.

Core Elements (Schedule 1 ‘Features of Exceptional Significance’)

Core elements make an exceptional contribution to the heritage significance of the Canberra Brickworks.

Core elements include surviving fabric associated with the establishment and expansion phases of development on the site. These elements are central to an understanding and appreciation of the operation and history of the site in this early period including its relationship with the early history and development of Canberra. The tall chimney stack (Element 9), though constructed from a later development phase, is significant for its aesthetic values as prominent landmark.

Table 4.3 Core Elements that make an Exceptional Contribution to the Heritage Significance of Canberra Brickworks.

ACT Heritage Register Citations: Core Elements Number, Name and Date		
CMP Number	Individual Historic Element Number and Name	Date of Construction
Establishment Phase: 1911–1920		
11	Quarry	1913–1940
12	Geological features A, B, C, D	
24	Concrete Retaining Wall	c1913
14	Power House	1915–16
1	Staffordshire Kiln	1914–15
2	Fan House for Staffordshire Kiln	1914–15
7	Chimney Stack for Staffordshire Kiln	1914–15
37	Original brickyard area between Staffordshire Kiln, Hardy Patent Kiln 1, and Fan Houses	c1915, c1926
Expansion Phase: 1921–1942		
1A	Narrow-gauge railway (remnants)	1923
3	Hardy Patent Kiln 1	c1926–27 (rebuilt 1955)
4	Fan House for Hardy Patent Kiln 1	c1927 (second structure c1955)
8	Chimney Stack for Hardy Patent Kiln 1	c1926–27
Post World War II Phase: 1944–1976		
9	Chimney Stack for Hardy Patent Kiln 2	c1953, c2005

Supporting Elements (Schedule 2 'Features of Moderate Significance')

Supporting elements make a moderate contribution to the heritage significance of the Canberra Brickworks.

Supporting elements include the key structures associated with the expansion of the manufacturing facility in the post-World War II period, which demonstrate the pattern of this expansion, the arrangement of various elements of the process across the site, and aspects of the brickmaking process. Minor non-specific processes or ancillary buildings are not included. The heavily modified earlier office building of c1925 has also been included in this group.

Table 4.4 Schedule 2 Supporting Elements—Elements of Moderate Significance.

ACT Heritage Register Citations: Supporting Elements Number, Name, Date		
CMP Number	Individual Historic Element Number and Name	Date of Construction
Expansion Phase: 1921–1942		
07	Office	c1925 (c1953 and c1970s extensions are 'Incidental', refer to Table 4.5)
23	Remains of the Brickworks Accommodation Village	c1920s (ruin)
Post World War II Phase: 1944–1976		
5	Hardy Patent Kiln 2	c1954
38	Brickyard 2	c1954
15	Machine Bay 1 for Staffordshire Kiln and Downdraught Kilns	c1955
16	Machine Bay 2 for Hardy Patent Kiln 1	c1955
17	Machine Bay 3 for Hardy Patent Kiln 2	c1955
18	Workshop	c1955
21	Small Crusher House (Crusher House I)	c1958
19	Large Crusher House/Crusher House II (White Pan Room)	c1955
20	Primary Crusher House (Crusher House III)	c1955
22	Elevator/Conveyor	c1955
6	Downdraught Kilns (under a single roof)	c1960–63
26	Downdraught Kilns Control Room	c1961
10	Chimney Stack for Downdraught Kilns	c1961

Incidental Elements

Incidental elements comprise the structures from the post-World War II period which, while related to the expansion of the complex, were originally minor in nature, reflect ancillary uses rather than key manufacturing processes and/or have been considerably altered. In addition, this group includes a small number of buildings that were constructed at the site following its closure in 1976.

Table 4.5 Incidental Elements that are Neutral to the heritage significance of the Canberra Brickworks, not specifically mentioned in the ACT Heritage Register citation.

Incidental Elements Numbers, Names and Date		
CMP Number	Individual Historic Element Number and Name	Date of Construction
Post World War II Phase: 1944–1976		
25	Amenities Block	c1950, c1977
27	Toilet Block	c1960s
28	Ancillary Storage Building	c1971
29	Substation/Control Room	c1971
30	Boiler House	c1971
31	Amenities Block 2	c1960s
32	Extrusion Plant (Remnants)	c1971
33	Ancillary Storage Building 2	c1960s
34	Storage Shed	c1960s
Post Closure Phase: 1976–2017		
35	Model Railway Workshop	c1979
36	Model Railway Storage Shed	c1979

Railway Remnants

There is little surviving physical evidence of the narrow-gauge railway which transported bricks from the site to construct buildings throughout Canberra. It is historically significant and, as a ruin/archaeological evidence, it is an element of the site's landscape.

Table 4.6 Features Intrinsic to the Heritage Significance of the Railway Remnants.

ACT Heritage Register Citations: Incidental Elements Numbers, Names and Date		
CMP Number	Individual Historic Element Number and Name	Date of Construction
1A	Remnants of the original earthen railway embankment, cutting and terraces. ²	c1923

4.4 Summary Commentary on the ACT Heritage Register citations

A review of the ACT Heritage Register citations and the 2010 CMP heritage assessment identifies that the heritage significance and intrinsic features of the Canberra Brickworks and the Railway Remnants are largely correct. They are significant places recognised in their listing on the ACT Heritage Register.

Additional detail has been required in some of the 'assessment statements' against the criteria, and due to the changes to the criteria, some of the statements should be combined.

The 2010 CMP assessed the Brickworks for potential National Heritage values; however, the site was found not to meet the threshold for listing at that time, nor in 2020, and has not been included in this CMP.

4.5 Endnotes

- ¹ ACT Heritage Council, Heritage Assessment Policy, February 2015.
- ² Yarralumla Brickworks Railway Remnants, ACT Heritage Register Listing, 7 November 2013.

5.0 Conservation Policies

5.1 Introduction

5.1.1 Constraints and Opportunities

The development of conservation policies is underpinned by the consideration of a range of constraints and opportunities affecting the future conservation, management and interpretation of the place.

The key management constraints and opportunities for the Canberra Brickworks Precinct, which derive from a combination of the site's significance, its condition, development constraints and future opportunities, are specifically:

- ensuring best practice heritage management (Section 5.2);
- the identified heritage significance which is embodied in its elements and attributes (Section 5.3);
- the physical condition of the place and requirements for conservation works and maintenance (Section 5.4);
- the responsibilities and requirements of the site managers and users, including operational considerations (Section 5.5);
- development challenges and opportunities (Section 5.6);
- requirements imposed by external factors including statutory authorities and the legal framework within which any change or development must take place (Section 5.7); and
- opportunities for interpretation initiatives (Section 5.8).

These factors—constraints and opportunities—are discussed in the text which precedes the conservation policy in Section 5.2 and provides the focus and direction for the conservation policies. The policies address the heritage significance of the place and its setting, as well as the individual elements of the Canberra Brickworks and the Railway Remnants. The policies support strategic decision making for the future of the site, legislative compliance, and the conservation of the site's heritage significance.

5.1.2 Principles of the Conservation Policy

Conservation policy is based on the need for redevelopment of the site, to allow for the conservation of the site, and the principles embodied in the Burra Charter. The Burra Charter is a set of principles and processes for best practice in heritage conservation developed by Australia ICOMOS (International Council of Monuments and Sites). The Burra Charter is the national standard for conservation planning and work by practitioners and all Australian government heritage bodies. The 2013 update of the Burra Charter includes many Practice Notes providing relevant and useful guidelines.¹ The Burra Charter is attached at Appendix D.

The following principles form the basis for the conservation policies in this section, including:

- retention, conservation, management and interpretation of the heritage significance, which is embodied in the attributes and elements of the site;

GML Heritage

- identification of where and how change, adaptation (including identifying new appropriate uses) and new development can be undertaken on the site, that is compatible with the heritage significance and can provide for the conservation of significant elements;
- seeking professional heritage conservation advice for proposed works and redevelopment opportunities – architectural, archaeological, landscape and interpretation advice; and
- exploring opportunities to understand historical background, interpret and present the heritage significance, and maintaining records in relation to proposed and/or implemented changes to the place.

The policies are numbered sequentially and accompanied by explanatory text—the constraints and opportunities as a precursor to the policies. A summary of the policies and an implementation schedule is provided in Section 6.0 and includes timing, priorities and responsibilities.

Detailed conservation guidelines for the individual elements that contribute to the site’s heritage significance are provided at Appendix A: Inventory of Individual Historic Elements.

5.2 Conservation Policies

5.2.1 General Heritage Management Processes

CMP as the Guiding Document

CMPs are developed as a best practice tool for the ongoing management of heritage places and assist managers in decision making when planning for new development or change. This CMP provides a useful framework for the management of the Canberra Brickworks Precinct – Canberra Brickworks and the Railway Remnants – and is the primary guide for the future management of the site.

Policy 1—Adopt the CMP and its conservation policies.

- 1.1 This CMP must be adopted as the principal guiding document for the future management of the heritage significance of the site—Canberra Brickworks and the Railway Remnants.
- 1.2 Refer to this CMP for all matters relating to the heritage significance, conservation and management of the site (including Appendix A for recommendations and identified issues for individual heritage elements at the site).
- 1.3 Implement the policies and actions set out in this CMP, in line with the identified priority and timing guidelines (refer to Section 6).
- 1.4 Arrange for the CMP to be approved by the ACT Heritage Council (refer also to Policy 31).
- 1.5 Ensure all site managers, staff and contractors have access to the information in this CMP (hard copy and electronically) and have suitable induction and training activities to understand its importance and intent to ensure best heritage practice.

Review and Monitoring of the CMP

This CMP has been prepared to revise the 2010 CMP for the site to address changes to the ACT Heritage legislation for assessing significance, to include the associated Railway Remnants heritage place, to provide an update of the condition of the site and its elements, and to understand the site in the context of proposed redevelopment.

Regular review and updates of the CMP ensure that the heritage significance of the site is understood and is being managed appropriately. Updates of the CMP are essential following major changes to a heritage place to ensure it remains accurate and relevant.

Policy 2—Regularly review the CMP and its policies.

- 2.1 Review and update the CMP following major changes in circumstances, including conservation works, or new development/construction.
- 2.2 Amend specific policies in light of new circumstances, such as a change in use.
- 2.3 Monitor the condition of the heritage significance and include the re-evaluation as part of a review of the CMP (noting that an update to the CMP may not be warranted).

Burra Charter Principles and Processes

The principles and process of the Burra Charter, and its Practice Notes, should be used to guide the ongoing management of the site and all future conservation works.

Policy 3—Refer to the Burra Charter and its Practice Notes.

- 3.1 Refer to the Burra Charter to guide the ongoing management of the site and all future conservation works (refer to Appendix D).

Engaging Appropriate Expertise

It is important that appropriately qualified personnel with the relevant expertise are engaged to guide the management and conservation of the heritage significance of the site.

Heritage management: Professional heritage consultants – architects, archaeologists, interpretation specialists – should be engaged to provide advice regarding heritage significance assessments, interpretation, impact assessments, and when planning or undertaking adaptation, interpretation or conservation works.

Heritage conservation: Where necessary and reasonably available, tradespeople and contractors, with skills and experience in traditional construction techniques should be engaged to ensure appropriate materials and methods are employed when carrying out physical conservation works.

Policy 4—Engage appropriately qualified personnel.

- 4.1 Ensure appropriate heritage expertise is engaged for management, assessments and conservation works, and that all involved are aware of Burra Charter principles for conservation, traditional construction techniques and developments.
- 4.2 Seek expert advice from heritage professionals for:
 - heritage significance assessment against the HERCON criteria;
 - undertaking conservation works/actions;
 - heritage management and interpretation planning advice;
 - impact assessments for proposed works and development; and
 - conservation works for the preparation of a Statement of Heritage Effects (SHE). Note: Statement of Heritage Effects (SHE) applications are made directly to the ACT Heritage Council under Section 61G of the Heritage Act and are made independently of development applications.

5.3 Understanding the Heritage Significance

5.3.1 Assessment of Heritage Significance

Section 4 provides a review and reassessment of the heritage significance of the two ACT Heritage Register places and confirms that they are significant places that meet the threshold for inclusion in the ACT Heritage Register.

Policy 5—Note the assessment against criteria in this CMP.

5.1 Acknowledge the assessment of heritage significance against the HERCON criteria in this CMP. This provides information which is consistent with the ACT Heritage Register citations for the 'Yarralumla Brickworks' and the 'Yarralumla Brickworks Railway Remnants'.

5.3.2 Management of the Heritage Significance

The heritage significance of the Canberra Brickworks Precinct – the site – gives rise to a range of management obligations and requirements, the most fundamental of which is to ensure that the intrinsic features of heritage significance are sustained and conserved for present and future generations. This will depend on how well the heritage significance, the physical fabric, the ability to interpret the historic operation and function of the site and its contribution to building the national capital, through to 1976, can be integrated with future development decisions, and how the adaptation of individual buildings, interpretation, and other legislative processes for the site are managed.

Managing the site's heritage significance will require consistent integration of heritage and development objectives as part of the redevelopment proposal. The right balance will come from a shared understanding of the heritage significance of the site being factored into development proposals early in the decision-making process.

The key obligations arising from the heritage significance of the site are to:

- conserve and protect the heritage significance of the two ACT Heritage Register places in accordance with the Heritage Act provisions;
- retain and conserve the elements which embody, and are intrinsic to, the heritage significance of the site, while also identifying future changes or new development compatible with its values;
- identify appropriate and compatible future uses for the whole site and its individual heritage elements to ensure longevity of the place for future generations to appreciate;
- ensure future development and planning for the site optimises the site's heritage significance through conservation, adaptation, interpretation and good design; and
- continue to manage the site and its heritage significance to avoid, mitigate or minimise any adverse impacts from change and development.

Policy 6—Conserve the heritage significance of the place in accordance with its assessed significance.

6.1 Conserve and manage the Canberra Brickworks and Railway Remnants in accordance with the heritage significance included in the ACT Heritage Register citation and the Heritage Act.

5.3.3 Conservation of the Features Intrinsic to the Heritage Significance

Precinct—Whole of Site Approach

Canberra Brickworks and the Railway Remnants are recognised for their heritage significance to the ACT. Together, and with the individual heritage elements of the site, they provide the physical evidence which contributes to and conveys the heritage significance of the overall site. Individually, and as a collection of elements of the place, is the physical demonstration of the former operation/historic function of the Brickworks.

Policy 7—Conserve the site: the whole of the Canberra Brickworks Precinct and its intrinsic features.

7.1 Conserve the heritage significance of the site whole, as a cohesive complex of elements with an industrial historic character.

7.2 Conserve the features/elements that are intrinsic to the heritage significance of the site, as identified in Section 4 and the ACT Heritage Register.

Individual Elements of the Site

The Heritage Register citations identify elements/features intrinsic to the heritage significance of the site (the Canberra Brickworks and Railway Remnants). The citation provides a ranking of relative significance of heritage elements to guide management decisions.

The policy objectives in this CMP provide an approach to conserving the intrinsic features and fabric of the site—these are referred to as ‘Schedule 1: Core Elements’ and ‘Schedule 2: Supporting Elements’—and ensure that works to the place are consistent with Burra Charter principles and processes. In accordance with the Heritage Act, Heritage Council approval must be obtained where removal of significant heritage elements and intrinsic features are proposed.

The policy for the conservation and management of heritage elements is outlined below. Appendix A of this CMP must be referenced for further guidance on identified heritage elements.

Policy 8—Retain and conserve elements of the site in accordance with their heritage significance.

8.1 Conserve the elements in accordance with their heritage significance, following Burra Charter principles, and processes, and further guidance in this CMP, including Appendix A.

8.2 Schedule 1: ‘Core elements’ must be retained and conserved.

8.3 Schedule 2: ‘Supporting elements’ are to be retained and conserved.

8.4 ‘Incidental elements’ are neutral to the site’s heritage significance and can be retained, altered or removed.

Plant, Machinery and Ephemera

Original brick-making plant and machinery from the Brickworks has largely been removed, including original brick presses and crushers. Remnant machinery is limited and includes conveyors and hoppers from the post-World War II period in the Machine Bays (Elements 15–17), equipment in the Power House (Element 14), and a gantry crane in the Workshop (Element 18). These items are not considered individually significant and do not relate to the process of brick making.

The Fan Houses (Elements 2 and 4) also contain some remnant ducting and the underground workings, including flue systems and connections to their corresponding kilns and chimney stacks. These must be conserved and retained, where possible, as part of understanding the former operation of the site.

The Staffordshire and Hardy patent kilns (Elements 1, 3 and 5) retain their upper level firing floors with remnants of the equipment used to fire and feed the chambers on the levels below. A representative area of the firing floor of one of the kilns must be retained to demonstrate the former function of the kilns.

Policy 9—Record, investigate and conserve remnant equipment where it relates to the former operation of the site.

- 9.1 Record and investigate remnant items of historic machinery, relic equipment and ephemera on site, and prepare an inventory of items.
- 9.2 Retain plant and equipment that contributes to the significance and/or understanding of the operation of the Brickworks for future interpretive purposes. Record the objects in situ prior to removal, if not retained (refer to Policy 29).
- 9.3 Retain all underground workings related to the kiln operations, including flue systems and connections to the fan houses and stacks, if possible.
- 9.4 Retain evidence of at least one of the firing floors to demonstrate the function of the Staffordshire and Hardy patent kilns.
- 9.5 Retain and interpret brick-making ephemera (ie etched kiln numbers).
- 9.6 Approval by the ACT Heritage Council must be obtained if removal of significant fabric – associated with historic machinery, relic equipment or ephemera — is proposed.

5.4 Physical Condition and Maintenance

5.4.1 Condition and Maintenance

The condition of the individual elements at the site varies from poor to fair. The site generally suffers from a lack of regular maintenance, given its lack of use and continued function, and is subject to vandalism. The lack of regular maintenance leads to deterioration over time, therefore finding a use for the site and its individual elements is important to ensure its longevity (refer to Section 5.6.2).

The 2013 Northrop report (validated by Sellick Consultants in 2017 and 2021) provides recommendations for remediation of the individual elements in the short term, including options depending on whether the element would require public access or not. Building adaptation and conservation works would need to be planned and undertaken as part of any future development proposal for the site, taking into consideration the heritage significance of the elements.

An ongoing cyclical inspection and maintenance program must be developed and implemented to ensure that the significant fabric for safety and maintaining water tightness and good structural condition. Regular structural and condition assessments must be undertaken by qualified professionals to ensure the buildings are stabilised and safe for access. As part of regular condition assessments, ensure vegetation growth is maintained to avoid structural damage.

Policy 10—Develop and implement a condition and maintenance program to conserve core and supporting heritage elements on site.

- 10.1 Undertake regular structural condition inspections by qualified professionals to review the physical condition of the elements. This would be undertaken in detail when documenting the conservation and remediation works for the redevelopment project.
- 10.2 Undertake conservation and remediation works as a priority to ensure the elements are stabilised and safe for access prior to works associated with the conservation, redevelopment and adaptive reuse of the site. Noting that any works not defined in this CMP may require further Council advice and approval prior to their commencement, as they will not be authorised by the CMP approval.

- 10.3 Respect the heritage significance and retain significant fabric when undertaking conservation works and maintenance for the redevelopment project, and following completion of the project.
- 10.4 Undertake maintenance in accordance with the Burra Charter and the heritage significance of the site, and the individual elements.
- 10.5 Implement an ongoing cyclical maintenance program following completion of the conservation works and redevelopment. The regularity of inspections by a structural engineer, would be determined by a certifying engineer.
- 10.6 Update and implement maintenance requirements following any major changes to the site, or to individual elements.

5.5 Site Management and Operational Requirements

5.5.1 Current Ownership and Management

At the time of preparing this CMP, the site is owned by the ACT Government, and managed by ACT Property Group. Given the current land management context, maintenance of the site and its heritage significance is the responsibility of the current landowner.

The property developers, Doma, have not been provided legal title over the site, and as such are not able to undertake any conservation or management works until they take possession of the site. At that time, Doma Group may undertake conservation works concurrently with approved redevelopment works.

If ACT Heritage Council considers that certain works are urgently required to stabilise elements on site to ensure their conservation before the legal transfer of the title, it could independently issue advice or a Heritage Direction to the ACT Property Group, as the current land manager relating to those works.

5.5.2 Future Management Responsibilities

As the future land owners Doma will have primary responsibility for implementing the conservation policies, adopting the heritage management processes and decision-making procedures of the CMP as part of the redevelopment project as it progresses.

Responsibilities include ensuring the heritage significance is retained, conserved and considered as part of strategic decisions about future development (for sustainable economic, social and cultural benefits and return) to allow the heritage significance to be conserved and maintained into the future.

In addition, future site users (tenants, managers, individuals and groups who use and occupy the various buildings or parts of the site) also have responsibility to act in accordance with the Heritage Act, identified heritage significance and policies in this CMP.

Proposed redevelopment of the site may result in changes to the management structure and responsibilities into smaller areas and elements. The heritage management of these areas should be reviewed as necessary. Where multiple parties are responsible for managing the site's heritage significance, it should be undertaken in a cohesive manner.

Policy 11—Ensure responsibility for managing the heritage significance is appropriately assigned and understood.

- 11.1 Ensure a cohesive approach to the management of the heritage significance of the site and all its elements.
- 11.2 Review management and responsibilities following any changes to ownership and/or management of individual areas or elements of the site.

11.3 Ensure ACT Heritage Council provides specific Heritage Directions to the current site manager, if there are urgent conservation or maintenance works required to stabilise elements on site to ensure their conservation, before the legal transfer of the title.

5.5.3 Operational and Planning Issues

Use and Public Access

The Brickworks has not operated for the manufacture of bricks since its closure in 1976. Its heritage significance is not dependent on the ongoing use of the site for manufacturing bricks or a related industrial purpose.

The heritage significance – its history, scale and the location of the Brickworks – is of interest to the local community, particularly regarding its potential future development. However, the site does not have a strong visible presence due to its relatively concealed setting, except for the 1950s chimney stack. The site is currently vacant and is fenced and locked, and not currently accessible to the public.

The southern area of the site is open and accessible and includes the Railway Remnants which are not easily accessible and are overgrown with vegetation.

Policy 12—Encourage public access to the site.

12.1 Encourage public access in the future redevelopment of the site, where appropriate (refer to Policy 15).

Circulation and Roads

Documentary evidence suggests that historically the principal road access to the site has been from the south and southwest (though not necessarily exactly following the current alignment). There is also a strong tradition of connecting roadways along the west of the kilns and, in the post-1940 period, between the processing buildings and the quarry (reflecting the delivery of raw materials onto the site following the closure of the quarry).

A 1976 aerial photograph (refer to Appendix C) shows a more complex arrangement of roads within and around the site, including routes through and around the quarry reflecting the complex nature of truck movements in and out of the site in this later phase of operations.

Policy 13—Respect the historic circulation and road layout at the Precinct.

13.1 Maintain the historic approach, to the Brickworks site from the south. Additional access routes could be introduced if required.

13.2 Reference the historic circulation and road layout of the site in any future site development, ie the roadway along the western side of the kilns.

Risks

The current risks to the site include fire and vandalism, both of which have the potential to adversely impact the heritage significance of the individual heritage elements. These issues stem from unauthorised access, although the site is locked at all times and a site security service is in place. Unauthorised access also poses a public safety risk, as many of the buildings are not structurally secure nor meet code compliance.

Following redevelopment of the Brickworks, authorisation for site access to the site will likely change and the security/vandalism risk should be reviewed at that time.

There are also site contamination issues which require management and removal (ie asbestos and hazardous waste) to make it safe for public access.

Policy 14—Identify and manage potential risks to the heritage significance of the site.

14.1 Undertake a comprehensive risk audit and prepare a strategy to manage risks to the heritage significance.

14.2 Review potential risks when redevelopment of the site commences and authorisation to the site changes.

5.6 Development Policies

5.6.1 General Approach to Site Development

Cultural, social and economic benefits are integral for sustaining the heritage significance of the site for future generations.

This will require a carefully planned approach to finding suitable new use/s, adaptation of historic structures for new uses and infill development. Planning for redevelopment should provide a wholistic sustainable approach, where the benefits for the integration of meaningful and creative interpretation of the site's heritage significance of built forms and the spaces in between contribute to the sustained economic viability for the continued conservation works.

In general, a redevelopment approach which explores the revitalisation of the site, including conservation of the heritage elements and introduction of interpretation and encourages public use would be a positive outcome.

This CMP includes overarching and detailed conservation policies to guide future development at the site. This includes conservation policies and adaptive re-use guidelines for individual elements, and demolition guidelines.

The site should continue to be managed with a clearly identified approach to the conservation of the significant elements, and a cautious approach to any new work to ensure that the significance is sustained.

Policy 15—Ensure redevelopment planning for a sustainable future of the site.

15.1 Ensure a cohesive approach to redevelopment at the site, with consideration of adaptation and the conservation and interpretation of the heritage elements.

15.2 Explore opportunities to revitalise the site through conservation, interpretation, and public access, where appropriate.

15.3 Refer to the CMP and its policies when planning redevelopment of the site.

5.6.2 Future Use

When considering redevelopment of the Brickworks, it is important to identify a compatible use to ensure the sustainable future for the whole site. A compatible use means a 'use which respects the cultural significance of a place ... such a use involves no, or minimal, impact on cultural significance'.²

While the Brickworks has significance from its historic association as a brick-making facility, it has not been in operation since 1976 and much of its original machinery has been removed from the site. Therefore, a future use for the site should not be strictly limited to a similar industrial or manufacturing facility, instead focusing on a proposed use that conserves, interprets and celebrates the heritage significance of the site.

Finding a compatible use for the Brickworks and its individual structures will require careful consideration of their heritage significance and ensuring the uses are complementary and provide opportunities for visitor engagement and interpretation.

Proposed future uses for the site must be assessed, as part of any proposal, for their feasibility and the potential impact on the identified heritage significance and significant fabric of the individual elements.

Potential future uses must be considered as part of an integrated approach to overall development of the Brickworks, which includes adaptation, new development, and interpretation.

A future use across the whole site and for individual elements which encourages public access where appropriate would assist in conveying the heritage significance of the site and offer opportunities for interpretation.

Policy 16—Explore potential compatible uses for the site.

16.2 Consider new uses, which would work well as part of overall redevelopment of the Brickworks, adaptation, new development, and interpretation.

16.3 Consider uses which allows public access to all or part of the site.

5.6.3 Adaptation—Adaptive Reuse

The approach to adaptation of the site must maintain an understanding of the historical evolution of the Brickworks and its operation, to inform the introduction of feasible new uses that will support the conservation and interpretation of the heritage significance of the place in the long term.

When planning for adaptation, reference should be made to the *New Uses for Heritage Places: Guidelines for the Adaptation of Historic Buildings and Sites* prepared by the Heritage Office, NSW Department of Planning, and the Royal Australian Institute of Architects NSW Chapter, which provides valuable guidance. It describes adaptation as follows:

Adaptation may involve the introduction of new services, or a new use, or changes to safeguard a heritage item. A good adaptation is one that is sympathetic to the existing building and its historic context, and inserts new work, or makes changes that enhance and complement the heritage values of the heritage item.³

The comparative analysis (refer to Section 2.4) identifies a number of examples of former brickworks and industrial sites which have been adapted for new uses, some of which have been done sympathetically, retaining the character of the site and evidence of significant fabric.

Adaptation, alterations or proposed change in use at the Brickworks should follow best practice guidelines. Considerations for adaptation or adaptive re-use of buildings on the site, and the site itself, should be guided by Article 21 of the Burra Charter, and associated Practice Note:

- 21.1 Adaptation is acceptable only where the adaptation has minimal impact on the cultural significance of the place.
- 21.2 Adaptation should involve minimal change to significant fabric, achieved only after considering alternatives.

Adaptation should be carefully considered as part of proposed redevelopment of the site as a whole. Specific elements pose challenges for adaptive re-use, including the chimney stacks, fan houses and some of the process buildings where remnant plant and infrastructure exists; however, many of the elements can tolerate change and are able to be adapted to suit new uses. The process of adaptation of some elements to suit an appropriate new use may result in considerable changes, such that the structure is fundamentally altered, and the heritage significance is impacted.

Therefore, to ensure a balance across the site, it is recommended that any proposals for adaptation be undertaken as an integrated approach across the site as a whole, rather than by element. This approach would ensure that key aspects of the history and operation of the site are represented, rather than focusing on any one particular element.

Proposals for adaptation of buildings at the Brickworks must ensure an appropriate balance is achieved between retention and conservation of fabric and delivery of a long-term sustainable use. A key objective is to ensure historic function of brickmaking at the site can be readily understood in the retained and reused fabric without being reliant upon complex added interpretation.

Any proposed changes should be undertaken with regard to the heritage significance of the element, the policies in this CMP, and the specific management guidelines for each element in the inventories at Appendix A.

Any proposals for adaptation of individual structures should be assessed for potential heritage impacts on the individual element (as an intrinsic feature) and on the overall site's heritage significance (and follow ACT Heritage requirements of preparing a SHE).

Policy 17—Explore opportunities for adaptation which respect the significance of the element and the Precinct as a whole.

- 17.1** Consider the site as a whole and ensure an appropriate balance between retention and conservation of fabric and delivery of a long term sustainable use with economic, social and cultural benefits.
- 17.2** Ensure that the operation of the place as a brickworks can be readily understood in the retained and reused fabric without relying on added interpretation.
- 17.3** Refer to the *New Uses for Heritage Places: Guidelines for the Adaptation of Historic Buildings and Sites* (the Heritage Office, NSW Department of Planning and the Royal Australian Institute of Architects NSW Chapter, 2008).
- 17.4** Prepare all adaptive reuse projects/adaptation proposals in accordance with best practice guidelines, the Heritage Act and policies in this CMP. Heritage Council advice and endorsement must be obtained for all development works to features of intrinsic significance to the site and registered heritage places.
- 17.5** Refer to the conservation policies and adaptation guidelines in Appendix A for specific advice on the individual heritage elements.
- 17.6** Assess all proposals for adaptation for potential impacts on the heritage significance of the site and individual elements (refer to Policy 33).

5.6.4 New Development

Ensure new development provides an overall approach to revitalising the site, with a whole-of-site appreciation for the heritage significance of the site, the core and supporting intrinsic features of the Brickworks, Railway Remnants and areas of archaeological potential.

A redevelopment project should include the conservation, adaptation, landscape development, archaeological investigations and interpretation.

New development beyond the alteration and adaptation of existing elements should complement the reading of the Brickworks as a historic, industrial 'landscape' comprising a complex of elements and distinct open space character.

Policy 18—Respect the heritage significance of the site when planning to introduce new development.

- 18.1 Ensure new development is based on a whole-of-site appreciation for the heritage significance of the site, the core and supporting intrinsic features of the Brickworks, Railway Remnants and areas of archaeological potential.
- 18.2 Respect the heritage significance of the Brickworks as a whole complex of elements in a historic industrial landscape setting with the quarry, railway remnants and areas of archaeological potential when introducing new development.

Infill Development

The publication *Design in Context: guidelines for infill development in the historic environment* produced by the Heritage Office and the RAIA (now AIA) provides detailed information on infill design and should be referred to when planning new buildings as part of the redevelopment.

To achieve successful infill development, design considerations such as character, scale, form, siting, materials and detailing, must be factored early into the planning stage. Redevelopment of the site shall be consistent with the Specific Requirements of the Heritage Register citation.

New buildings or structures should allow appropriate setbacks, building heights and landscape arrangements in the context of the original Brickworks structures.

Policy 19—Refer to the *Design in Context* guidelines when planning infill development.

- 19.1 Refer to the *Design in context: guidelines for infill development in the historic environment* (the Heritage Office and the Royal Australian Institute of Architects, NSW Chapter, 2005).
- 19.2 Infill, new structures or buildings shall be consistent with the Heritage Register citations, to consider appropriate character, scale, form, siting, materials and detailing of new buildings and their complementary relationship to the intrinsic features of the site.
- 19.3 Carefully plan infill development on the site to be complementary and appropriately set backs from the heritage elements, with appropriate screening and building heights.

Industrial Character

The Brickworks has a distinctive historic, industrial character, with the kilns, fan houses, chimney stacks, machine bays, and the associated quarry and railway remnants all contributing to its aesthetic qualities and understanding of its former operation. In planning for any new development or proposed re-use, there is a need to consider the presentation of the place as a whole, with reference to its industrial aesthetic character. This should be considered in the retention of elements that contribute to this character, to the design of any new buildings, and the adaptation of existing buildings.

Policy 20—Retain the historic industrial character of the site when planning new development.

- 20.1 Retain elements and significant fabric that contribute to, and demonstrates, the industrial character of the site.
- 20.2 Respect the industrial character of the site when designing new buildings, and adapting existing buildings.

Landscape Context

The site, including the Brickworks and Railway Remnants, has a degree of isolation from the surrounding suburban development and city, and its location still conveys a sense of its original remoteness.

New development at the Brickworks should consider the historic context — its landscape setting surrounding the site and the complex of the functional arrangement of elements and spaces that served the brick-making process.

Redevelopment of the landscape should respect the quality of the immediate surrounds of the site, including for any urban design/landscape planning undertaken for the site. The existing plantings on the site are not identified as significant; however, a coordinated landscape approach for any redevelopment of the site should be implemented to regain a cohesive aesthetic and improved quality and connections between the buildings and structures.

The quarry contains significant geological features which must be conserved, retained, protected and interpreted as part of the redevelopment of the site in accordance with the Heritage Register citations and the Heritage Act.

Policy 21—Conserve and retain the historic industrial character when redeveloping the landscape.

21.1 Conserve and retain the historic industrial character when planning the landscape for the redevelopment of the site (multiple elements: Core and Supporting).

21.2 Conserve and retain the identified rock outcrops in the quarry (Element 11 + 12) as significant geological features .

21.3 Conserve and retain the Railway Remnants (Element 1A).

Views

Views within the site: New buildings should be sited and designed to allow for significant visual connections to be maintained between the existing elements with important connections (ie between the kilns and fan houses and stacks). Refer to the 'views' diagram in Section 3.0.

The Heritage Act provisions apply only to the heritage registered place and intrinsic features.

Policy 22—Respect views within, to and from the site when planning new development.

22.1 Allow and enhance visual connections between, and to, key elements of the intrinsic features of significance of the brickworks.

22.2 Retain views to the 1950s chimney stack (Element 9) from within the site.

Spatial Layout

New development should respect the visual, physical and spatial relationships between the key heritage elements including the infrastructure between the kilns and their fan houses and chimney stacks, and the relationship between the main complex and the quarry.

There is an established history of connections and links between elements at the site, both below ground, at ground and elevated (ie underground flues and catwalks). There is an opportunity to continue patterns of connection and multiple levels of activity in future development, including scope for new buildings to link with existing buildings at varying levels to facilitate access and circulation.

New development within the historic core area of the Brickworks should generally be avoided, to retain the legibility of the historic layout and its industrial character. Any new buildings required within this area to facilitate a new use for the site should be appropriate in scale and of a complementary design and nature to the existing built forms. They should consider the surrounding elements in their massing, scale and form and respect the orthogonal layout of the existing built elements, and follow the same arrangement. The introduction of multiple domestic-scaled building forms (individual houses) should generally be avoided.

Policy 23—Respect the spatial qualities of the Precinct and the relationship between elements.

- 23.1** Respect the legibility of the site as a complex of built and landscape elements and its inherent spatial qualities.
- 23.2** Respect the existing layout and relationship between the elements, including the underground links between the kilns, fan houses and chimney stacks.
- 23.3** Explore opportunities to introduce connections between new development and existing elements at multiple levels.
- 23.4** Avoid development within the historic core area of the Brickworks that is inconsistent with the industrial character.
- 23.5** Small scale new development within this area to support new site uses would be acceptable, provided it follows best practice ‘infill design guidelines’ for heritage places.
- 23.6** Respect the massing, scale, form, and orthogonal layout of the existing heritage elements when planning new buildings in the vicinity of the Brickworks.

5.6.5 Conservation of Heritage Elements

Individual Heritage Elements

While the multiple values ascribed to individual elements at the Precinct allow for the consideration of different approaches to its conservation and adaptation, it is important that any conservation or adaptation works undertaken are in accordance with these Burra Charter principles.

Demolition of core elements is generally not supported (refer to ‘Demolition’ in this Section for further guidance); however, if adaptation is proposed, then the works must have regard for the identified heritage significance and be guided by the specific policies and recommendations included in this CMP (refer also to Appendix A).

Generally, retention of supporting elements is preferred, however these elements provide greater flexibility than core elements with regard to change and alteration, particularly internally. Where adaptation is proposed, this must be guided by the specific policies and recommendations included in this CMP (refer also to Appendix A).

Incidental elements can be retained, altered or removed; however, specific works or proposals relating to these elements, including replacement or adaptation, must also have regard for the policies and recommendations included in this CMP.

Any alterations must respect, and be undertaken in the context of, the identified heritage significance for the individual element and the Precinct as a whole.

Policy 24—Respect the heritage significance of individual elements and their context within the site.

- 24.1** Respect the heritage significance of the core and supporting elements and their context in the site when planning adaptation.
- 24.2** Refer to the detailed guidance at Appendix A when planning adaptation of individual elements.

Incremental Change

The Brickworks incrementally evolved as industrial processes changed over time. This evolution is evidenced by both core and supporting elements ranging in their construction dates between 1913 and the 1960s. Many elements of the site have been modified, including in many cases extensively, as the site evolved and expanded, reflecting changes in work practices and processes on the site. Many original

or early openings have been altered, including enlargement of openings and, in some cases, the infilling of earlier openings. There are also elements which have undergone significant rebuilding including inaccurate or conjectural reconstruction works (eg: the Staffordshire and 1927 Hardy patent kilns).

The intrinsic features of the site demonstrate the industrial process of brick making, including major changes in work practices (such as the widening of the entries to the kiln chambers to allow for the use of forklifts). However, some alterations have been made on an ad hoc basis and detract from the integrity, presentation and legibility of particular elements.

Future changes, through proposed development of the site – including internal and external works to the intrinsic features – should be considered in the context of potential impacts on the heritage significance of the site as a whole, its original fabric and features.

Policy 25—Plan for appropriate change to avoid a loss of integrity.

25.1 Avoid undertaking incremental changes which result in a loss of original fabric and intrinsic features of the site as a whole.

25.2 Ensure any proposed changes to the individual elements form part of an overall cohesive approach to the conservation and redevelopment of the site as a whole.

Restoration and Reconstruction

Restoration means returning a place to a known earlier state by removing accretions or by reassembling existing elements without the introduction of new material, whereas reconstruction means returning a place to a known earlier state, and is distinguished from restoration by the introduction of new material.⁴

Best practice guidelines including Articles 18–20 of the Burra Charter should be followed:

- *18. Restoration and reconstruction should reveal culturally significant aspects of the place.*
- *19. Restoration is appropriate only if there is sufficient evidence of an earlier state of the fabric.*
- *20.1 Reconstruction is appropriate only where a place is incomplete through damage or alteration, and only where there is sufficient evidence to reproduce an earlier state of the fabric. In some cases, reconstruction may also be appropriate as part of a use or practice that retains the cultural significance of the place.*
- *20.2 Reconstruction should be identifiable on close inspection or through additional interpretation.*

Restoration and reconstruction of individual elements at the Brickworks is possible, noting that the end use is no longer a brick-making function.

Restoration and reconstruction of fabric would be combined with adaptation for new uses. Any proposed reconstruction works involving reinstatement of original fabric must be assessed against the specific recommendations for individual elements and as part of a broader approach to adaptation at the site, and in line with a strategy for site interpretation and presentation.

For individual elements, there may be cases where unsympathetic alterations or additions could be removed to improve the presentation and legibility of the heritage significance of the element and the whole site.

The relocation of particular structures within the site would obscure an understanding of the historic layout and processes on the site and is not supported, excluding those elements that have already been moved from their historic location (e.g. Supporting Element 22 – Elevator/Conveyor). Conservation of all elements of heritage significance requires retention in historic, existing locations, and relocation would

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diminish heritage significance of the site. In addition, the majority of supporting elements on the site have heritage significance to the complex as a whole.

Policy 26—Undertake restoration and reconstruction of elements in accordance with best practice in heritage conservation.

- 26.1** Assess proposed restoration or reconstruction works for individual elements in this CMP (refer to Appendix A) and as part of a broader approach to adaptation at the site.
- 26.2** Avoid relocating existing elements which would result in a loss of context and ability to interpret the heritage significance and historic function of the site.

Demolition

The removal of heritage elements and features has the potential to impact the heritage significance of the site, through the loss of evidence of the historic operation of the Canberra Brickworks.

A Statement of Heritage Effects (SHE) must be undertaken for potential impacts on the heritage significance of the element, its relationship to other elements in its setting, and the site. A SHE must be submitted under Section 61H of the Heritage Act, and approved by the ACT Heritage Council

Demolition of intrinsic features of heritage significance—both Schedule 1 and Schedule 2 elements—would only be permitted by the ACT Heritage Council under exceptional circumstances, and where it is demonstrated with professional assessments that elements are structurally unsound as to be beyond economic repair and/or where conditions pose significant health or safety risks that are beyond economic repair.

- Demolition of the Schedule 1 **Core Elements** is generally not supported. However, demolition could be considered on the grounds of safety, i.e., where the building poses an imminent and demonstrable risk to health and safety. Demolition is not permitted unless it can be demonstrated that there is no prudent and feasible alternative.
- Demolition of the Schedule 2 **Supporting Elements**, which generally date from the mid-to-late twentieth century, would further diminish the ability of the complex to demonstrate the manufacturing processes that occurred on this site in the later phase of its history.
- **Incidental elements** are not considered to have heritage significance and can be demolished as required, without further assessment.

Conservation of all elements of heritage significance is best achieved through their retention in historic locations. Relocation has the potential to diminish heritage significance, noting that the Specific Requirements in the Heritage Register citation do allow for some elements to be relocated if certain conditions are met. The Specific Requirements also permit minor equipment to be relocated within the site for interpretative purposes and/or for protection.

Policy 27—Avoid demolition of core and supporting elements which contribute to the heritage significance of the site.

- 27.1** Explore alternatives, including adaptive re-use, prior to planning to demolish core or supporting elements.
- 27.2** Assess proposals for demolition of core or supporting elements for potential heritage impacts (refer to Policy 33).
- 27.3** Prepare a SHE in accordance with Section 61H of the Heritage Act should demolition of core or supporting elements be proposed and obtain approval from the ACT Heritage Council.

27.4 Undertake an archival recording prior to demolition in accordance with the *NSW Heritage Office Guidelines for Archival Recording* (refer to Policy 29).

27.5 Unless permitted by the Specific Requirements in the Heritage Register citation, retain all elements of heritage significance in their historic location.

5.6.6 Historic Archaeology

The potential impacts of new and future development proposals on the archaeological features of the site should be assessed against the identified archaeological values and sensitivities outlined in this CMP. When planning for development (ie excavation/earthworks) to areas identified as having high or moderate archaeological sensitivity, undertake appropriate archaeological investigation during the early planning stage, and follow any recommended mitigation measures. Any archaeological investigations conducted at the site must be in accordance with an Excavation Permit approved under Section 61F of the Heritage Act.

An Unanticipated Finds Protocol should be in place for all excavation work on the site.

Policy 28—Assess for impacts from development on areas of archaeological potential.

28.1 Refer to the historic archaeological analysis at Section 3.4 to understand areas of archaeological potential.

28.2 Assess potential development impacts based on the historic archaeological analysis at Section 3.4 of this CMP.

28.3 Seek an Excavation Permit under Section 61F of the Heritage Act if undertaking an archaeological excavation at the site.

28.4 When undertaking excavation work on the site, follow the Unanticipated Finds Protocol included in Appendix E.

5.6.7 Site Recording

The Burra Charter highlights the importance of having a record of significant places prior to any changes occurring, which includes redevelopment. Prior to undertaking any changes, including conservation works or new development, the Brickworks should be documented, and records maintained in a central location, for future use and access by the site owner/manager.

Adequate records (ie as a photographic record accompanied by a detailed description) of the existing fabric and condition of the elements, including an understanding of the layout and broader context of the overall Precinct, should be prepared. Recording of the site should be undertaken in accordance with the NSW Heritage Office Guidelines '*How to Prepared Archival Records of Heritage Items*', and '*Photographic Recording of Heritage Items Using Film or Digital Capture*' or equivalent standards. A copy of the record should be lodged with the ACT Heritage Library and could inform future interpretation opportunities.

Existing information about the Canberra Brickworks Precinct, including heritage reports, historic records, photographs and architectural drawings, are all valuable resources which should be collated and stored, to offer a comprehensive suite of documentation relating to the design, construction and history of the site. In addition to the recording of the site prior to undertaking changes, this information would serve as a useful reference tool, particularly for potential future interpretation opportunities.

Alternative methods of recording aspects of the site could also be explored, such as preparing oral histories by former workers, residents, visitors and users of the Brickworks, or digitally recording the site through video or 3D modelling. These methods are also important interpretation initiatives (refer to Section 5.8).

Policy 29—Keep adequate and accurate records.

- 29.1 Keep and maintain records of conservation and maintenance works, particularly in relation to changes made to features intrinsic to the place.
- 29.2 Undertake archival recording of the site prior to commencement of any major works/new development in accordance with the NSW Heritage Office Guidelines (or equivalent)
- 29.3 Submit archival records/reports to ACT Heritage Council for their records and provide a copy to the ACT Heritage Library.
- 29.4 Collect and conserve documents relating to the design, construction and history of the Brickworks for potential interpretative use (refer to Policy 36).

5.6.8 Development Proposal 2017-2021

The development proposal for the site by Doma includes plans for a mixed-use residential, commercial, and retail development that retains the core of the historic Brickworks, with residential apartment blocks, townhouses, and houses in the broader site setting.

The proposed 'Master Plan and Development Design Strategy', 2016 seeks to develop the entire Brickworks complex including the quarry and railway remnants, with a cohesive approach to 'whole of site' conservation, heritage management and interpretation of the site's heritage significance associated with its former function. The redevelopment proposal was assessed for its potential heritage impacts in a SHE undertaken in January 2017, which would be updated when a concept design is developed for the site in early 2021. The SHE determines the redevelopment proposal would have an overall positive impact, and that heritage advice should continue to be sought throughout the development process to ensure the heritage significance is conserved and interpreted.

Policy 30—Ensure proposed redevelopment is compliant with the CMP, Heritage Act and Burra Charter.

- 30.1 Ensure proposed redevelopment of the site is compliant with provisions of the Heritage Act including requirements set out in the two ACT Heritage Register citations, the policies and guidance outlined in this CMP and the Burra Charter principles.
- 30.2 Assess all proposals for redevelopment of the site for potential heritage impacts (refer to Policy 33), by undertaking a SHE, to be submitted under Section 61H of the Heritage Act, and approved by the ACT Heritage Council.

5.7 Legislative and Management Framework

5.7.1 ACT Legislative Requirements

The statutory obligations and legislation that govern the place are principally the Heritage Act and *Planning and Development Act 2007* (ACT) (the Planning and Development Act).

ACT Heritage Act 2004

The Canberra Brickworks and the Railway Remnants are listed on the ACT Heritage Register, established under Section 20 of the Heritage Act. Listing in the ACT Heritage Register means that a place or object:

- is of heritage significance to the people of the ACT and enriches understanding of the ACT's history and identity;
- is legally protected under the Heritage Act, including the application of heritage guidelines; and

- requires advice by the ACT Heritage Council on development issues to improve conservation outcomes.

In accordance with the Heritage Act, the CMP should be approved by the ACT Heritage Council.

Canberra Brickworks

The ACT Heritage Register citation for the Canberra Brickworks includes 'Specific Requirements', which are guidelines for addressing a range of activities and adaptation/development actions. Some of these are as follows:

*The identified heritage values and intrinsic features of the place shall be conserved whilst allowing for the integrated and sympathetic redevelopment of the place as a single entity, consistent with contemporary practices for the adaptive reuse of industrial and commercial heritage places. In conserving and developing the place its significant historical use as an industrial site for the production of bricks and clay products shall continue to be evident and accessible to the public.*⁵

The Specific Requirements are arranged under the following headings and are relatively detailed:

- Landscape Setting;
- Built Structures – including alterations and additions;
- Industrial Equipment; and
- Demolition.

Railway Remnants

Heritage guidelines applicable to the conservation of the Railway Remnants provided in the ACT Heritage Register citation state that:

*The guiding conservation objective is that the Yarralumla Brickworks Railway Remnants shall be conserved and appropriately managed in a manner respecting their heritage significance and the features intrinsic to that heritage significance, and consistent with a sympathetic and viable use or uses. Any works that have a potential impact on significant fabric shall be guided by a professionally documented assessment and conservation policy relevant to that area or component (i.e. a Statement of Heritage Effects—SHE).*⁶

Policy 31—Manage the site in accordance with the ACT Heritage Act 2004 (the Heritage Act).

31.1 Manage and implement actions at the site in accordance with the relevant legislation, regulations and codes, including the *Heritage Act*.

Planning and Development Act and the ACT Territory Plan

The Planning and Development Act provides a planning and land development framework for the ACT. It stipulates and regulates the functions of the Planning and Land Authority in the Environment, Planning and Sustainable Development Directorate.

The Planning and Land Authority is the primary authority for planning and development in the ACT, with statutory roles performed under the Planning and Development Act and the *Territory Plan 2008* (the Territory Plan). The Planning and Land Authority advises the ACT Government on land, planning and building policy. Listed heritage places and objects in the ACT, which may be impacted by planning developments, the Planning and Land Authority seeks advice from the ACT Heritage Council under the provisions of the ACT Heritage Act. It also gives development approval.

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The Territory Plan is the key statutory planning document in the ACT, providing the policy framework for the administration of planning in the ACT. The purpose of the Territory Plan is to manage land use, change and development in a manner consistent with strategic directions set by the ACT Government, legislative assembly and the community.

The Territory Plan is currently being reviewed to ensure it remains a contemporary best practice document outlining planning requirements in the ACT.⁷ The area in which the Canberra Brickworks is located is zoned in the Territory Plan as CZ6 – Leisure and Accommodation, and additionally as Residential Use in the Yarralumla Precinct Code.

Any proposed changes to the use of the site would have to comply with the current zoning and rules stated in the Territory Plan. However, this does not reflect the historic function of the site, nor does it allow for all potential compatible uses. Amendments to the Territory Plan could be considered to allow for an appropriate adaptive re-use and development on the site.

Policy 32—Manage the site in accordance with the Territory Plan.

32.1 Explore options to amend the Territory Plan to allow for consideration of a range of alternative compatible uses at the site.

Approvals Process

Changes to the site (including internal and external works to individual buildings and new building work) must consider the potential impacts on the heritage significance including from the loss of original fabric/features. Intentions to further develop the site should consider building heights and locations, form, fabric, and screening so that potential impacts are reduced, or mitigated, and the heritage significance of the site are retained.

A SHE is required under Section 61H of the Heritage Act for any proposed activity that is likely to diminish the heritage significance of a place. It is required by the ACT Heritage Council in its consideration of relevant information when assessing a development application. Potential impacts from future development would be assessed and mitigation measures addressed through the preparation of a SHE. Measures would be identified to mitigate any adverse impacts and ensure protection of heritage significance.

Policy 33—Follow the works approval process for proposed works at the site.

33.1 Seek necessary approvals for all proposed works from the relevant authorities including the ACT Government and the ACT Heritage Council for new development at the site in accordance with all planning requirements and the Heritage Act.

33.2 Assess all actions, including conservation works, for potential impacts on the heritage significance of the site.

33.3 Prepare a Statement of Heritage Effects (SHE) for any proposal or action with potential to adversely impact the heritage significance of the site. SHE applications are made to the Council in accordance with Heritage Act provisions.

33.4 Obtain professional advice to prepare a SHE, to assess potential heritage impacts, proposed actions, and provide guidance on avoiding impacts and/or recommend alternatives.

Community Consultation

The future of the Brickworks is important to the ACT Community, as demonstrated by representations from the Yarralumla Residents Association and attendance at community consultation sessions regarding potential future uses and development proposals. Recognising the strong community

attachment to the heritage significance of the site, regular liaison should continue to be undertaken on proposals affecting the future use and development of the place.

Information should also be provided to the broader community on the history and significance of the site and its status as a heritage listed place (ie through active interpretation) as part of any future redevelopment.

Policy 34—Undertake consultation with the Canberra community regarding the future of the site.

34.1 Keep the community informed of progress of any future development.

5.7.2 Other Statutory and Safety Requirements

National Construction Code

The National Construction Code (NCC) provides the minimum necessary requirements for safety, health, amenity and sustainability in the design and construction of new buildings (and new building work in existing buildings) throughout Australia.

With specific reference to the heritage implications of achieving code compliance in the individual heritage elements at the Brickworks, advice should be sought from heritage professionals.

Disability Discrimination Act 1992

The Commonwealth *Disability and Discrimination Act 1992* (the DDA Act) provides for equity in access for elderly people or people with a disability to sites and facilities.

The DDA Act makes it illegal to discriminate against a person on the basis of their disability. It is not specifically about buildings, however where a building's design and construction prevents access by people with a disability, the owners of those buildings are deemed to be discriminating against people on the basis of a disability.

The 'access to buildings component' of the DDA Act is applied only to buildings that are available for the general public to enter and use, as employees, patrons, customers or the general public.

Depending on the nature of any proposed future use or redevelopment at the Brickworks, DDA Act compliance is likely to be an issue.

Work Health and Safety Act 2011

The *Work Health and Safety Act 2011* (ACT) (the WHS Act) requires that the owners of the site take action to protect visitors and site users from hazards while working, including any conservation works being undertaken at the Brickworks.

Advice should be sought from heritage professionals as necessary when achieving compliance at the Brickworks.

Policy 35—Comply with the relevant legislative requirements for construction, access and safety.

35.1 Ensure any redevelopment or conservation works undertaken at the site are compliant with the relevant legislative requirements for the National Construction Code, the DDA Act and the WHS Act.

35.2 Consider the heritage significance and original fabric of the individual heritage elements when planning upgrades to meet legislative requirements (ie NCC and DDA Act compliance).

35.3 Seek advice from heritage professionals when planning redevelopment.

5.8 Opportunities for Interpretation

5.8.1 Understanding Interpretation

Interpretation is an essential part of the conservation process as defined by the Burra Charter.⁸ The term interpretation means 'all the ways of presenting the cultural significance of a place'. This includes the treatment of heritage fabric through maintenance, restoration, etc, as well as the use of a place and the introduction of explanatory material, events and activities.⁹ Successful interpretation encourages personal appreciation and enjoyment of the experience of a place; it can also be an engaging educational tool, inspiring or deepening connections between people and places.¹⁰

The active interpretation of heritage places supports community recognition, enjoyment and understanding of the site's heritage significance. Interpretation can also be a useful tool in explaining the layers of change at a heritage place.¹¹ Importantly, the maintenance and retention of the heritage fabric and elements at the Brickworks fulfils an interpretive role in itself.

5.8.2 Objectives for Future Interpretation

There is currently limited interpretation at the Precinct, partly due to the nature of the site as a former manufacturing facility and its more recent operation as a recycled timber wholesaler limiting public access.

Implementing interpretation initiatives is an essential component of heritage management and would increase public awareness of the heritage significance of the site.

Potential opportunities for interpretation should be undertaken early in any development proposal, to ensure an integrated approach to conservation, interpretation and new development.

An Interpretation Strategy is a precursor to implementing interpretations initiatives, which are included in a more detailed Interpretation Plan.

Interpretation Strategy

The development of an Interpretation Strategy would provide a clear approach to the interpretation initiatives appropriate for the site. An Interpretation Strategy could include:

- Identification of key interpretation themes and messages for the site – the interpretation messages should closely echo the heritage significance and stories of the site and the policies employed to conserve the significance.
- Determination and tailoring of interpretation to the potential audiences appropriate to the site – the key audience for interpretation at the Brickworks are the site users, visitors and the local community more broadly.
- Exploration of options for a variety of interpretative initiatives and media, not limited to signage, but also art/sculptural elements, oral histories, interactive media and off-site possibilities including online websites, digital applications and other contemporary methods.

Consistent with the ACAT Orders representing the agreement between the Heritage Council and the ACT Government regarding the Dunrossil Estate (attached at Appendix I), the alignment of the railway remnants within the Dunrossil Estate will be visually interpreted through the following elements:

- Differentiated paving and ground treatments; and

- Illustrative and/or educational signage.

Policy 36—Develop an Interpretation Strategy.

- 36.1** Prepare an Interpretation Strategy as a high priority, for the redevelopment of the site, as a means of integrating, showcasing and celebrating the heritage significance of the Brickworks for future users of the site.
- 36.2** Identify key themes and messages, potential audiences, and options for interpretive media in the Interpretation Strategy to guide future development of interpretive content.
- 36.3** Ensure interpretation is considered as part of a whole-of-site approach to revitalising the Brickworks, including conservation and new development.
- 36.4** Explore opportunities to integrate interpretation initiatives early in any future development proposal.

5.9 Conclusion

The identification of a range of constraints and opportunities gives rise to considerations for the management and redevelopment of the site. The conservation policies in this section provide the guidance and direction for conserving, managing, and interpreting the heritage significance of Canberra Brickworks and the Railway Remnants.

It is important that a cohesive approach to managing the site is employed, including when planning for conservation, interpretation and development.

The implementation of the policies in this CMP, are summarised in Section 6.0, to ensure the heritage significance of the place is conserved.

5.10 Endnotes

- ¹ The practice notes can be viewed at the following link: <<http://www.icomos.org/australia/charter.html>>.
- ² Australia ICOMOS Inc, *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance 2013*, Australia ICOMOS Inc, Burwood, VIC, 2000, Article 1.11.
- ³ Heritage Office, NSW Department of Planning and the Royal Australian Institute of Architects NSW Chapter, *New Uses for Heritage Places: Guidelines for the Adaptation of Historic Buildings and Sites*, 2008.
- ⁴ Australia ICOMOS Inc, *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance 2013*, Australia ICOMOS Inc, Burwood, VIC, 2000, Articles 1.7 and 1.8.
- ⁵ Yarralumla Brickworks, ACT Heritage Register Listing.
- ⁶ Yarralumla Brickworks Railway Remnants, ACT Heritage Register Listing, 7 November 2013.
- ⁷ ACT Government Environment, Planning and Sustainable Development Directorate—Planning, Territory Plan, viewed 19 February 2020 <http://www.planning.act.gov.au/tools_resources/legislation_plans_registers/plans/territory_plan>.
- ⁸ Australia ICOMOS Inc, *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance 2013*, Australia ICOMOS Inc, Burwood, VIC, 2000, Article 14.
- ⁹ Australia ICOMOS Inc, *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance 2013*, Australia ICOMOS Inc, Burwood, VIC, 2000, Article 1.17.
- ¹⁰ Australia ICOMOS Inc, *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance 2013*, Australia ICOMOS Inc, Burwood, VIC, 2000, Article 8.
- ¹¹ Australia ICOMOS Inc, *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance 2013*, Australia ICOMOS Inc, Burwood, VIC, 2000, Article 15.

6.0 Conservation Policy: Implementation Schedule

6.1 Introduction

The two ACT Heritage register places in the Canberra Brickworks Precinct are recognised as places of significance to the ACT and should be conserved and managed in accordance with the Heritage Act and the conservation policies outlined in this CMP.

The policies for the conservation (described in more detail in Section 5.0) define how the conservation of the site's heritage significance should be achieved. The implementation of the management, conservation and maintenance of the site's heritage significant elements and methods for understanding of its significance through documentation and interpretation, is set out in this section.

The implementation schedule outlines the policies and actions, and the priorities and timing for their implementation.

6.2 Implementation of the Conservation Policies and Actions

6.2.1 Priorities

The priorities for action are listed in three categories, each responding to a different level of risk to the heritage values:

- **High:** Actions which are essential to mitigate key risks to the heritage significance. These actions are an essential component of the CMP and without them the site's heritage significance may suffer adverse impacts.
- **Medium:** Actions that should be planned for in order to conserve the heritage significance of the site. Resources should be planned to enable implementation of these actions and ensure conservation of the heritage significance.
- **Low:** Actions that are important to the future conservation of the heritage significance, yet respond to less immediate risks. Resources should be planned in advance of the implementation of these actions.

6.2.2 Timing

Timing parameters have been established for the implementation of policies and actions in line with their priority. Note that the timing of these may be impacted by the timing of the transfer of custodianship of the land from government ownership to private ownership. Implementation should be completed:

- upon adoption of the CMP (within 12 months);
- within 24–36 months;
- within 5–10 years;
- annually;
- as required; or
- on an ongoing basis.

6.3 Responsibility

The key responsibility for implementation, review and monitoring of the CMP currently lies with Doma, nominated as the preferred tenderers for the site. Doma has primary responsibility for implementation of conservation policies, adopting the heritage management processes and decision-making procedures of the CMP. Their responsibilities include understanding the heritage significance and ensuring this significance is retained in any strategic decisions about future development.

Proposed redevelopment of the site may result in changes to the management structure and responsibilities into smaller areas and elements, and therefore the heritage management should be reviewed as necessary. Where multiple parties are responsible for managing the site's heritage significance, it is important that it is undertaken in a cohesive manner.

Future site users, who may be individuals and groups who manage or occupy the various buildings, would also have responsibilities for the ongoing heritage management at the site. Their role in the day-to-day operation of the site and undertaking regular maintenance means that they should act in accordance with the identified heritage significance and policies in this CMP, including any future updates.

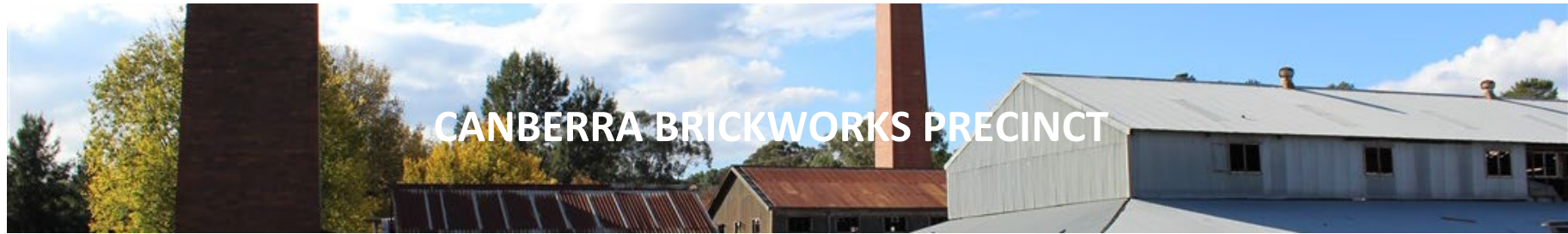
6.4 Conservation Policy: Implementation Schedule



Policies	Actions	Implementation	
		Priority	Timing
General Heritage Management Processes (Refer to Section 5.2.1)			
1.0 Adopt the CMP and its conservation policies	1.1 This CMP must be adopted as the principal guiding document for the future management of the heritage significance of the site—Canberra Brickworks and the Railway Remnants.	High	Immediately and Ongoing
	1.2 Refer to this CMP for all matters relating to the heritage significance, conservation and management of the site (including Appendix A for recommendations and identified issues for individual heritage elements at the site).	High	Ongoing
	1.3 Implement the policies and actions set out in this CMP, in line with the identified priority and timing guidelines.	High	Ongoing
	1.4 Arrange for the CMP to be approved by the ACT Heritage Council.	High	Immediately
	1.5 Ensure all site managers, staff and contractors have access to the information in this CMP (hard copy and electronically) and have suitable induction and training activities to understand its importance and intent to ensure best heritage practice.	High	Ongoing
2.0 Regularly review the CMP and its policies	2.1 Review and update the CMP following major changes in circumstances, including conservation works, or new development/construction.	Medium	As required
	2.2 Amend specific policies in light of new circumstances, such as a change in use.	Medium	As required
	2.3 Monitor the condition of the heritage significance and include the re-evaluation as part of a review of the CMP (noting that an update to the CMP may not be warranted).	Medium	As required



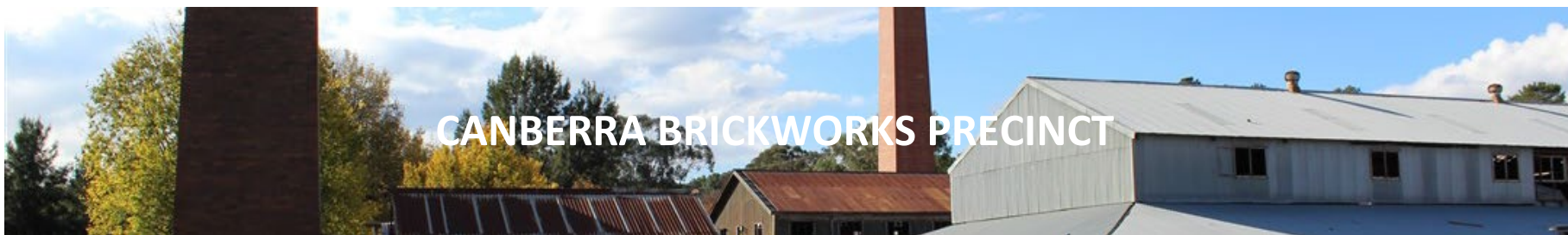
Policies	Actions	Implementation	
		Priority	Timing
3.0 Refer to the Burra Charter and its Practice Notes	3.1 Refer to the Burra Charter to guide the ongoing management of the site and all future conservation works (refer to Appendix D).	High	Ongoing
4.0 Engage appropriately qualified personnel	4.1 Ensure appropriate heritage expertise is engaged for management, assessments and conservation works, and that all involved are aware of Burra Charter principles for conservation, traditional construction techniques and developments.	High	As required
	4.2 Seek expert advice from heritage professionals for: <ul style="list-style-type: none"> - heritage significance assessment against the HERCON criteria; - undertaking conservation works/actions; - heritage management and interpretation planning advice; - impact assessments for proposed works and development; and - conservation works for the preparation of a Statement of Heritage Effects (SHE) to accompany documentation for Development Applications. Note: Statement of Heritage Effects (SHE) applications are made directly to the ACT Heritage Council under Section 61G of the Heritage Act and are made independently of development applications. 	High	As required
Understanding the Heritage Significance (Refer to Section 5.3)			
5.0 Note the assessment against criteria in this CMP	5.1 Acknowledge the assessment of heritage significance against the HERCON criteria in this CMP. This provides information which is consistent with the ACT Heritage Register citations for the 'Yarralumla Brickworks' and the 'Yarralumla Brickworks Railway Remnants'.	High	Immediately



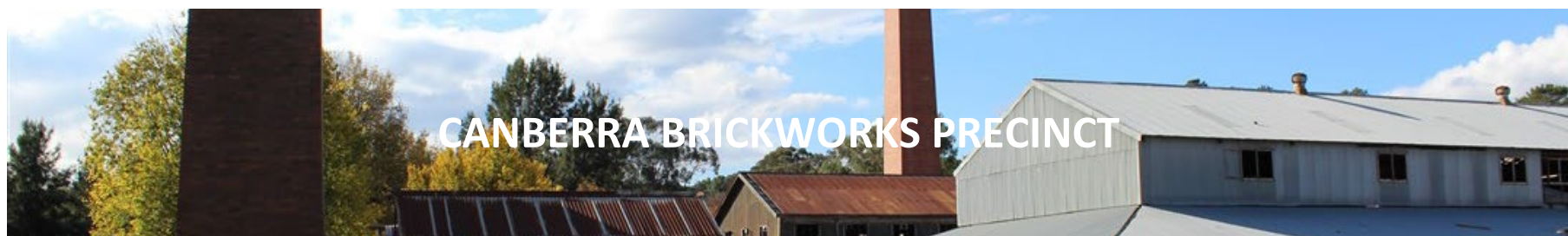
Policies	Actions	Implementation	
		Priority	Timing
6.0 Conserve the heritage values of the place in accordance with its assessed significance	6.1 Conserve and manage the Canberra Brickworks and Railway Remnants in accordance with the heritage significance included in the ACT Heritage Register citation and the Heritage Act.	High	Immediately and Ongoing
7.0 Conserve the site; the whole of the Canberra Brickworks Precinct and its intrinsic features	7.1 Conserve the heritage significance of the whole site, as a cohesive complex of elements with a historic industrial character.	High	Ongoing
	7.2 Conserve the features/elements that are intrinsic to the heritage significance of the site, as identified in Section 4.0 and the ACT Heritage Register citations.	High	Ongoing
8.0 Retain and conserve elements of the site in accordance with their heritage significance	8.1 Conserve the elements in accordance with their heritage significance, following Burra Charter principles, and processes, and further guidance in this CMP, Appendix A.	High	Ongoing
	8.2 Schedule 1: 'Core elements' must be retained and conserved.	High	Ongoing
	8.3 Schedule 2: 'Supporting elements' must be preferably be retained and conserved.	High	Ongoing
	8.4 'Incidental elements' are neutral to the site's significance, and can be retained, altered or removed.	High	Ongoing
9.0 Record, investigate and conserve remnant equipment where it relates to the former operation of the site.	9.1 Record and investigate remnant items of historic machinery, relic equipment and ephemera on site, and prepare an inventory of items.	Medium	Within 24-36 months
	9.2 Retain plant and equipment that contributes to the significance and/or understanding of the operation of the Brickworks for future interpretive purposes. Record the objects in situ prior to removal, if not retained (refer to Policy 29).	Medium	Within 24-36 months
	9.3 Retain all underground workings related to the kiln operations, including flue systems and connections to the fan houses and stacks, if possible.	High	Ongoing
	9.4 Retain evidence of at least one of the firing floors to demonstrate the function of the Staffordshire and Hardy patent kilns.	High	Ongoing



Policies	Actions	Implementation	
		Priority	Timing
	9.5 Retain and interpret brick-making ephemera (ie etched kiln numbers).	High	Ongoing
	9.6 Approval by the ACT Heritage Council must be sought if removal of significant fabric – associated with historic machinery, relic equipment or ephemera – is proposed.	Medium	As required
Understanding the Physical Condition (Refer to Section 5.4)			
10. Develop and implement a condition and maintenance program to conserve the core and supporting heritage elements on site.	10.1 Undertake structural condition inspections as required by qualified professionals to review the physical condition of the elements. This would be undertaken in detail when documenting the conservation and remediation works for the redevelopment project.	High	Ongoing
	10.2 Undertake conservation and remediation works as a priority to ensure the elements are stabilised and safe for access. Noting that any works not defined in this CMP may require further Council advice and approval prior to their commencement, as they will not be authorised by the CMP approval.	High	As required.
	10.3 Respect the heritage significance and retain significant fabric when undertaking conservation works and maintenance for the redevelopment project and following completion of the project.	High	Ongoing
	10.4 Undertake maintenance in accordance with the Burra Charter and the heritage significance of the site and the individual elements.	High	Ongoing
	10.5 Implement an ongoing cyclical maintenance program following completion of the conservation works t conservation works and redevelopment. The regularity of inspections by a structural engineer, would be determined by a certifying engineer.	Medium	Immediately and Ongoing
	10.6 Update and implement maintenance requirements following any major changes to the site, or to individual elements.	Medium	As required
Site Management and Operational Requirements (Refer to Section 5.5)			
	11.1 Ensure a cohesive approach to the management of the heritage significance of the site and all its elements.	High	Ongoing



Policies	Actions	Implementation	
		Priority	Timing
11. Ensure responsibility for managing the heritage significance is appropriately assigned and understood	11.2 Review management and responsibilities following any changes to ownership and/or management of individual areas or elements of the site.	Medium	As required
12. Encourage public access to the site	12.1 Encourage public access in the future redevelopment of the site, where appropriate (refer to Policy 15).	Medium	As required
13. Respect the historic circulation and road layout at the Precinct	13.1 Maintain the historic approach to the Brickworks site from the south. Additional access routes could be introduced if required.	High	Ongoing
	13.2 Reference the historic circulation and road layout of the site in any future site development, ie the roadway along the western side of the kilns.	High	As required
14. Identify and manage potential risks to the heritage significance of the site	14.1 Undertake a comprehensive risk audit and prepare a strategy to manage risks to the heritage significance.	Medium	Within 24-36 months
	14.2 Review potential risks when redevelopment of the site commences and authorisation to the site changes.	Medium	As required
Development Challenges and Opportunities (Refer to Section 5.6)			
15. Ensure redevelopment planning for a sustainable future of the site	15.1 Ensure a cohesive approach to redevelopment at the site, with consideration of adaptation and the conservation and interpretation of the heritage elements.	High	Immediately and as required
	15.2 Explore opportunities to revitalise the site through conservation, interpretation and public access, where appropriate.	High	Immediately
	15.3 Refer to the CMP and its policies when planning redevelopment of the site.	High	Ongoing



Policies	Actions	Implementation	
		Priority	Timing
16. Explore potential compatible future uses for the Precinct and its individual elements	16.1 Consider new uses, which would work well as part of overall redevelopment of the Brickworks, adaptation, new development, and interpretation.	High	Immediately
	16.2 Consider uses which allows public access to all or part of the site.	High	Immediately
17. Explore opportunities for adaptation which respect the significance of the element and the Precinct as a whole	17.1 Consider the site as a whole and ensure an appropriate balance between retention and conservation of fabric and delivery of a long term sustainable use with economic, social and cultural benefits.	High	Immediately
	17.2 Ensure that the operation of the place as a brickworks can be readily understood in the retained and reused fabric without relying on added interpretation.	High	Ongoing
	17.3 Refer to the <i>New Uses for Heritage Places: Guidelines for the Adaptation of Historic Buildings and Sites</i> (the Heritage Office, NSW Department of Planning and the Royal Australian Institute of Architects NSW Chapter, 2008).	High	Ongoing
	17.4 Prepare all adaptation proposals in accordance with best practice guidelines, the Heritage Act and the policies in this CMP. Early advice from the Heritage Council is encouraged for adaptation proposals.	High	Ongoing
	17.5 Refer to the conservation policies and adaptation guidelines in Appendix A for specific advice on the individual heritage elements.	High	Ongoing
	17.6 Assess all proposals for adaptation for potential impacts on the heritage significance of the site and individual elements (refer to Policy 33)	High	As required
18. Respect the heritage significance of the site when planning to introduce new development	18.1 Ensure new development is based on a whole-of-site appreciation for the heritage significance of the site, the core and supporting intrinsic features of the Brickworks, Railway Remnants and areas of archaeological potential.	High	Ongoing
	18.2 Respect the heritage significance of the Brickworks as a whole complex of elements in a landscape setting; with the quarry, railway remnants and areas of archaeological potential when introducing new development.	High	Ongoing



Policies	Actions	Implementation	
		Priority	Timing
19. Refer to the Design in Context guidelines when planning infill development	19.1 Refer to the <i>Design in context: guidelines for infill development in the historic environment</i> (the Heritage Office and the Royal Australian Institute of Architects NSW Chapter, 2005).	High	As required
	19.2 Infill, new structures or buildings shall be consistent with the Heritage Register citations, to consider appropriate character, scale, form, siting, materials and detailing of new buildings and their complementary relationship to the intrinsic features of the site.	High	Ongoing
	19.3 Carefully plan for infill development on the site, to be complementary and appropriately set back from the heritage elements, with appropriate screening and building heights.	High	Ongoing
20. Retain the historic industrial character of the site when planning new development	20.1 Retain elements and significant fabric that contribute to, and demonstrate, the industrial character of the site	High	Ongoing
	20.2 Respect the industrial character of the site when designing new buildings, and adapting existing buildings	High	Ongoing
21. Conserve and retain the historic industrial character when redeveloping the landscape	21.1 Conserve and retain the historical industrial character when planning the landscape for the redevelopment of the site (multiple elements: Core and Supporting).	High	Ongoing
	21.2 Conserve and retain the identified rock outcrops in the quarry (Element 11 + 12) as significant geological features.	High	Ongoing
	21.3 Conserve and retain the Railway Remnants (Element 1A).	High	Ongoing
22. Respect views within, to and from, the site when planning new development	22.1 Allow and enhance visual connections between, and to, key elements of the intrinsic features of significance of the brickworks.	High	Ongoing
	22.2 Retain views to the 1950s chimney stack (Element 9) from within and into the site.	High	Ongoing
	23.1 Respect the legibility of the site as a complex of built and landscape elements and its inherent spatial qualities.	High	Ongoing



Policies	Actions	Implementation	
		Priority	Timing
23. Respect the spatial qualities of the Precinct and the relationship between elements	23.2 Respect the existing layout and relationship between the elements, including the underground links between the kilns, fan houses and chimney stacks.	High	Ongoing
	23.3 Explore opportunities to introduce connections between new development and existing elements at multiple levels.	High	Ongoing
	23.4 Avoid development within the historic core area of the Brickworks that is inconsistent with the industrial character.	High	Ongoing
	23.5 Small scale new development within this area to support new site uses would be acceptable, provided it follows best practice 'infill design guidelines' for heritage places.	High	As required
	23.6 Respect the massing, scale, form, and orthogonal layout of the existing heritage elements when planning new buildings in the vicinity of the Brickworks.	High	Ongoing
24. Respect the heritage significance of individual elements and their context within the site	24.1 Respect the heritage significance of the core and supporting elements and their context in the site when planning adaptation.	High	Ongoing
	24.2 Refer to the detailed guidance at Appendix A when planning adaptation of individual elements.	High	Ongoing
25. Plan for appropriate change to avoid a loss of integrity	25.1 Avoid undertaking incremental changes which result in a loss of original fabric and intrinsic features of the site.	High	Ongoing
	25.2 Ensure any proposed changes to the individual elements form part of an overall cohesive approach to the conservation and redevelopment of the site.	High	Ongoing
26. Undertake restoration and reconstruction of elements in accordance with best practice in heritage conservation	26.1 Assess proposed restoration and reconstruction of elements works for individual elements in this CMP (refer Appendix A) and as part of a broader approach to adaptation at the site.	High	Ongoing and as required
	26.2 Avoid relocating existing elements and adding new fill development which would result in a loss of context and ability to interpret the heritage significance and historic function of the site.	High	Ongoing



Policies	Actions	Implementation	
		Priority	Timing
27. Avoid demolition of core and supporting elements which contribute to the heritage significance of the site.	27.1 Explore alternatives, including adaptive reuse, prior to planning to demolish core or supporting elements.	High	As required
	27.2 Assess proposals for demolition of core or supporting elements for potential heritage impacts (refer to Policy 33).	High	As required
	27.3 Undertake a SHE under Section 61H of the Heritage Act, should proposed demolition of core or supporting elements be required.	High	As required
	27.4 Undertake an archival recording prior to demolition in accordance with the NSW Heritage Office Guidelines for Archival Recording (refer to Policy 29).	High	As required
28. Assess for impacts from development on areas of archaeological potential	28.1 Refer to the historic archaeological analysis for the site at Section 3.4 of this CMP to understand areas of archaeological potential.	High	Immediately and ongoing
	28.2 Assess potential development impacts based on the historic archaeological analysis provided at Section 3.4 of this CMP.	High	As required
	28.3 Seek an Excavation Permit under Section 61F of the Heritage Act if undertaking an archaeological excavation at the site.	High	As required
	28.4 When undertaking excavation work on the site, follow the Unanticipated Finds Protocol included in Appendix E.	High	As required
29. Keep adequate and accurate records	29.1 Keep and maintain records of conservation and maintenance works, particularly in relation to changes made to features intrinsic to the place.	Medium	As required
	29.2 Undertake archival recording of the site prior to commencement of any major works/new development, in accordance with the NSW Heritage Office Guidelines (or equivalent)	High	As required
	29.3 Submit archival records/reports to ACT Heritage Council for their records and provide a copy to the ACT Heritage Library.	Medium	As required
	29.4 Collect and conserve documents relating to the design, construction and history of the Brickworks for potential interpretative use (refer to Policy 36).	Medium	Within 24-36 months.



Policies	Actions	Implementation	
		Priority	Timing
30. Ensure proposed redevelopment is compliant with the CMP, Heritage Act and Burra Charter	30.1 Ensure proposed redevelopment of the site is compliant with provisions of the Heritage Act including requirements set out in the two ACT Heritage Register citations, the policies and guidance outlined in this CMP and the Burra Charter principles.	High	Ongoing
	30.2 Assess all proposals for redevelopment of the site for potential heritage impacts (refer to Policy 33), by undertaking a SHE, to be submitted under Section 61H of the Heritage Act and approved by the ACT Heritage Council.	High	As required
Legislative and Management Framework (Refer to Section 5.7)			
31. Manage the site in accordance with the <i>ACT Heritage Act 2004</i> (the Heritage Act)	31.1 Manage and implement actions at the site in accordance with the relevant legislation, regulations and codes, including the <i>Heritage Act</i> .	High	As required
32. Manage the site in accordance with the Territory Plan	32.1 Explore options to amend the Territory Plan to allow for consideration of a range of alternative compatible uses at the site.	Low	As required
33. Follow the works approval process for proposed works at the site.	33.1 Seek necessary approvals for all proposed works from the ACT Heritage Council for new development at the site.	High	As required
	33.2 Assess all actions, including conservation works, for potential impacts on the heritage significance of the site.	High	As required
	33.3 Prepare a Statement of Heritage Effects (SHE) in accordance with the any proposal or action with potential to adversely impact the heritage significance of the site. SHE applications are made to the Council in accordance with Heritage Act provisions.	High	As required
	33.4 Obtain professional advice to prepare a SHE, to assess potential heritage impacts, proposed actions, and provide guidance on avoiding impacts and/or recommend alternatives.	High	As required



Policies	Actions	Implementation	
		Priority	Timing
34. Undertake consultation with the Canberra community regarding the future of the site.	34.1 Keep the community informed of progress of any future development.	Medium	As required
35. Comply with the relevant legislative requirements for construction, access and safety.	35.1 Ensure any redevelopment or conservation works undertaken at the site is compliant with the relevant legislative requirements for the National Construction Code, the DDA and the WHS Act.	High	As required
	35.2 Consider the heritage significance and original fabric of the individual heritage elements when planning upgrades to meet legislative requirements (ie NCC and DDA compliance).	High	As required
	35.3 Seek advice from heritage professionals when planning redevelopment.	High	As required
Opportunities for Interpretation (Refer to Section 5.8)			
36. Develop an Interpretation Strategy	36.1 Prepare an Interpretation Strategy as a high priority, for the redevelopment of the site as a means of integrating, showcasing and celebrating the heritage significance of the Brickworks	Medium	Immediately
	36.2 Identify key themes and messages, potential audiences, and options for interpretive media in the Interpretation Strategy to guide future development of interpretive content.	Medium	As required
	36.3 Ensure interpretation is considered as part of a whole-of-site approach to revitalising the Brickworks, including conservation and new development.	High	As required
	36.4 Explore opportunities to integrate interpretation initiatives early in any future development proposal.	High	As required