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1.0 Background and brief

This Heritage Strategy for Kingston Section 49 was commissioned by the Land Development Agency (LDA), Canberra. It has been prepared to inform a masterplan for the area. Kingston Section 49 is proposed for development as an arts precinct.¹

The Heritage Strategy follows a number of heritage studies for individual buildings and the Power House precinct within Kingston Section 49 (see Section 1.3 below). These documents variously have regard for considerations of heritage setting and curtilage. However, these issues are not addressed comprehensively across Section 49, including the relationships between buildings, and there is no holistic overview of the significance of the former Kingston industrial/government services area. Primary objectives of this Heritage Strategy are to address these matters, and to provide a suite of conservation policies and development guidelines that have regard for the cultural heritage significance of the area.

Kingston Section 49 includes buildings, associated elements and soft landscape features which are included in the ACT Heritage Register pursuant to the *Heritage Act, 2004* (Part 3). These are: the 'Kingston Power Historic Precinct,' which contains the Kingston Power House, Fitters' Workshop, sections of rail track and rail embankment and landscape elements associated with the early 1920s planting of the area; and the former Transport Depot, Kingston. Section 49 also includes an operational electricity substation, areas of open space and at-grade parking that are not included in the ACT Heritage Register.

Note: Existing documents variously spell 'Power House' as one and two words. The two word spelling has been adopted for this report.

1.1 Overview of the study area

The Kingston Power House was the first permanent building constructed in Canberra following the decision to select the Limestone Plains as the setting for the national capital. The location of the Power House was not anticipated (or supported) by Walter Burley Griffin, who won the competition for the plan of the new city with his wife Marion Mahony. It was determined by proximity to water and rail: the pool created by the 1913 gauging weir provided a reliable source of water for the Power House boilers, and the parallel rail sidings (operational by 1914) enabled delivery of coal from Queanbeyan. The rail sidings became the key influence on the orientation and nature of development at Kingston, which evolved as an industrial and government services suburb, with development located on a north-west to south-east axis.

Until the 1990s Kingston retained a strong industrial character. Redevelopment since then has seen its transformation to a residential suburb. The primary remnants of 'industrial' Kingston, the Power House, Fitters' Workshop and the former Transport Depot, present as islands within a highly urbanised environment. Notwithstanding, these buildings, ancillary elements and landscaped areas have an ability to demonstrate the historic character and planning of the area.

1.2 Location

Kingston Section 49 is located approximately two kilometres east of Capital Hill, and south of Lake Burley Griffin in central Canberra (Figure 1). The site is bounded to the north and east by Eastlake Parade, to the south by new development on Giles Street and to the west by Wentworth Avenue (Figure 2). The site covers an area of approximately 5.5ha.

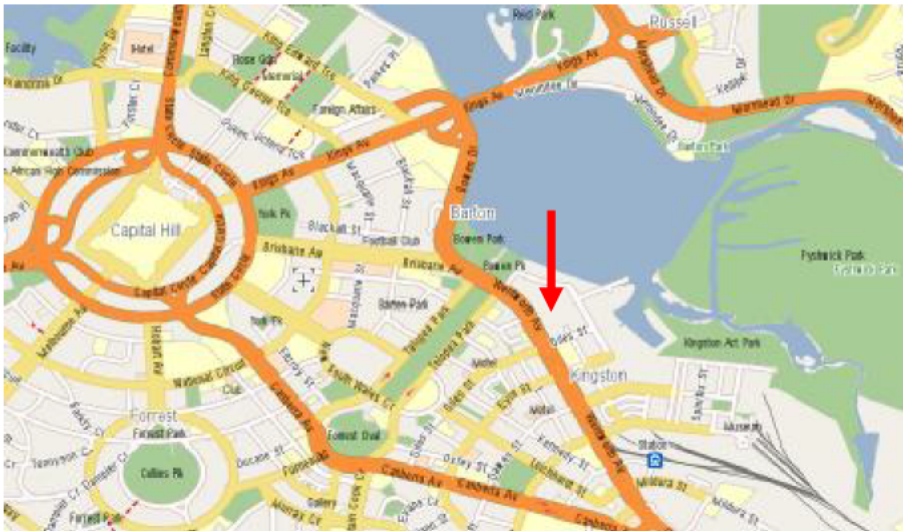


Figure 1 Map of central Canberra: Section 49 is indicated.
Source: www.street-directory.com.au



Figure 2 Recent aerial view of Section 49.
Source: Land Development Agency.

1.3 Previous heritage reports

The following Conservation Management Plans address the three principal historic buildings at Kingston Section 49:

- Kingston Power House Precinct, Conservation Management Plan Review, 2001, Peter Freeman Pty Ltd
- Fitters' Workshop, Conservation Management Plan, 2011, Duncan Marshall, Keith Baker, Nicola Hayes (Navin Officer Heritage Consultants) and Brendan O'Keefe
- Former Transport Depot, Conservation Management Plan, 2011, Power House, Philip Leeson Architects Pty Ltd

The Conservation Management Plan (CMP) Review (2001) for the Kingston Power House Precinct addresses both the Power House and the Fitters' Workshop; it does not include the Transport Depot. The Fitters' Workshop CMP (2011) was prepared to guide the adaptation of the building to accommodate the Megalo Print Studio. However, it is now proposed that Megalo will be accommodated in purpose-built accommodation elsewhere at Kingston Section 49 (see also Section 1.4 below).

1.4 Present uses of the historic buildings

In 2006-07, the Power House was adapted as the Canberra Glassworks, a publically-accessible facility for the practice of glass making (or glass art). Glassworks was formally opened on 25 May 2007. The former Switch Room to the north-west of the Power House has been adapted to provide accommodation to visiting glass artists. At the time of writing, the Fitters' Workshop was vacant, and its future use had not been resolved.

The former Transport Depot closed in 1992. Since 1998, it has been used for the Old Transport Depot Markets. The markets operate at the weekends.

1.5 Statutory planning context

The *Australian Capital Territory (Planning and Land Management) Act* 1988 established the National Capital Planning Authority, which was required to prepare a National Capital Plan (NCP). The Act also required the preparation of a Territory Plan, which was not to be inconsistent with the NCP. The Territory Plan is the document that informs and guides planning and development in the ACT, with the exception of 'Designated Areas' (an area specified in the NCP as having 'the special characteristics of the National Capital'). Kingston Section 49 is not within a Designated Area.

Special Requirements are established under the NCP for areas where it is desirable for new development to be in the interests of the National Capital.² In areas where Special Requirements apply, a development proposal is administered through the Territory Plan by the ACT Planning and Land Authority in compliance with the special requirements specified in the NCP.

Section 4.5.6 of the NCP includes Special Requirements applicable to the Kingston Foreshore. The Kingston Foreshore is defined as land bounded by Bowen Park, Wentworth Avenue (including the Avenue), Cunningham Street, the Causeway through to Jerrabomberra Creek, Jerrabomberra Creek and a line approximately seven metres behind the wall of Lake Burley Griffin (Figure 3). The overarching objective of Section 4.5.6 is to, 'ensure the Lake Burley Griffin Foreshore in East Basin continues to be developed as a major landscape feature helping to unify the National Capital's central precincts'.

The following guidelines for built form and materials apply to Kingston Section 49:

Colour

The colour scheme of development is to be generally light in tone. Some highlighting with darker colours may be acceptable where these do not present [as] the dominant colour scheme when viewed from or across the Lake.

Roofs

A variety of roof forms, materials and colours should be introduced into the area.

Building Height

The overall height of buildings in the area is to be generally consistent with that of the tree canopy of mature trees in the area. This can be achieved through buildings being a maximum of 4 storeys except for some taller buildings or focal elements where these do not significantly impact on the landscape of the area or detract from the massing of the Kingston Powerhouse building.

Materials and Finishes

Materials on buildings and structures near the Lake edge are to be of a durable and low maintenance nature with a high quality in the materials used. Buildings fronting the Lake edge should generally avoid the use of highly reflective materials.

The Territory Plan (as gazetted in March 2008) includes a Structure Plan for the Kingston Foreshore, which provides for the redevelopment of the foreshore as a mixed-use area with an arts, cultural, tourism and leisure emphasis. Ten qualitative design objectives for the development of the Kingston Foreshore area include the following which have particular pertinence to the present Heritage Strategy:



Figure 3 Extent of the Kingston Foreshore subject to the provisions of Special Requirements at Section 4.5.6 of the NCP.

Source: *Consolidated National Capital Plan*, September 2009.

- (2) To ensure that the heritage significance of the site is recognised and that in particular the Power House remains a landmark building.
- (6) To achieve exemplary urban design in terms of views, vistas, containment, environmental quality, design and architecture.

'General Principles' relating to heritage provided in the Structure Plan are as follows:

- (a) Ensure that the Kingston Power House Historic Precinct is conserved and appropriately maintained consistent with its heritage significance. Strongly reflect the cultural significance of the site as the historic commercial and industrial heart of Canberra in the urban design and presentation of the development.
- (b) Encourage public appreciation of the heritage values of the site through appropriate interpretation within the Kingston Power House Historic Precinct and in neighbouring precincts.
- (c) Promote the conservation, reinstatement, consolidation and interpretation of the historic fabric and encourage its adaptive reuse.

The Structure Plan adopts a precinct-based approach for areas within the Kingston Foreshore area. The Power House precinct, including the former Transport Depot, is included within precinct 'g' (Figure 4). Principles for precinct 'g' are as follows:

- (a) Preserve and protect the heritage significant building and elements in a manner which encourages adaptive reuse.
- (b) Provide opportunities for activities and facilities to be integrated with the historic building and setting of the Power House.
- (c) Promote public access to, and experience and understanding of, the heritage significance of the place.
- (d) Respect significant views to and from the Power House



Figure 4 Kingston Foreshore Structure Plan: precincts.
Source: ACTPLA.

The 2008 Territory Plan establishes a series of land use zones, in place of the former land use policies. Section 49 is included within a CZ5 Mixed Use Zone, and is subject to a Future Urban Area (FUA) overlay for the purposes of Section 51 (2) (a) of the *Planning and Development Act 2007*. The principles and policies for the development of the land are set out in the Structure Plan for the Kingston Foreshore.

A CZ5 Mixed Use Zone provides for high density residential development in combination with non-retail commercial uses, commercial accommodation, retail, restaurants and community uses. Additional uses permitted at Section 49 include a craft workshop, tourist facility, light industry and indoor entertainment facility.

Proposals for development with a CZ5 Mixed Use Zone are subject to the provisions of the CZ5 Mixed Use Zone Development Code. Consistent with the provisions of the NCP, these development codes provide criteria for the height of built form as well as restrictions on certain land uses.

1.5.1 Development Control Plan

A Development Control Plan (DCP) providing lease and development control conditions for the Kingston Foreshore area, including Section 49, was prepared following amendments to the NCP (Amendment 29) and Territory Plan (Variation 113) in 2000.

The DCP for the Kingston Foreshore was not completed and has not been approved by the National Capital Authority, and has no statutory weight. Notwithstanding, the Land Development Agency has used the completed sections of the DCP to inform development conditions for specific sites.³

As noted in Appendix 1 of the Kingston Arts Precinct Strategy:

The Kingston Foreshore Development Control Plan was intended to be a seven part document. However only three parts were prepared:

- Part 1 Development Plan
- Part 2 Public Domain Urban Design Guidelines
- Part 3 Private Domain Urban Design Guidelines

Part 1 includes guidelines for land use, built form, private domain, public art, traffic and parking, services, ESD, and landscape and public open space. This part also includes development principles and guidelines for the Power House Heritage Precinct. These provisions provide the most detailed explanation of the development intentions for this precinct and the manner in which the Power House is to be protected as a dominant visual structure within the Foreshore area.

The recommendations included at Parts 1 and 3 of the DCP are generally consistent with the 2001 CMP Review for the Kingston Power House Precinct. The Power House and Bulk Store (Fitters' Workshop) are identified as the 'heritage-building group,' and emphasis is placed on the enduring prominence of the 'distinctive gabled tile roof of the Power House' in any future development of the area.

Building zones for new development within the Power House precinct are identified, and recommendations for their relationships with the heritage buildings, which are proposed for adaptive re-use. Extracts from the DCP Parts 1 and 3 are attached at Appendix A.

1.6 Heritage listings and controls

1.6.1 National Heritage List and Commonwealth Heritage List (*Environment Protection and Biodiversity Conservation Act*)

The Kingston Power House Historic Precinct is not included in the National Heritage List (NHL) or the Commonwealth Heritage List (CHL). The Power House, Fitters' Workshop and former Transport Depot are likewise not included in the NHL or CHL.

1.6.2 ACT Heritage Register (*ACT Heritage Act*)

The Kingston Power House Historic Precinct (Section 8, Blocks 8, 11, 14 and 24) is included in the ACT Heritage Register, maintained by the ACT Heritage Council, pursuant to the *Heritage Act, 2004* (Part 3) (Figure 5). The entry to the Heritage Register is attached at Appendix B. The precinct includes:

- a) Power House building, together with significant internal fabric identified at Schedule 1 [of the citation] and Figure 48b;
- b) Fitters' Workshop (Bulk Supply Store);
- c) original alignment of the railway and existing railway track and embankment;
- d) landscape elements: Monterey pine (*Pinus radiata* – A), White brittle gum (*Eucalyptus mannifera* – B);
- e) base of the second chimney stack;
- f) fabric and operation of the siren and whistle; and
- g) 1948 Switch Room

These elements are illustrated at Figure 6.

It is assumed that point 'c' refers to the rail siding alignment and embankment to the north-east of the Power House. However, it is noted that the original alignment of the rail sidings exists to both sides of the Power House. It is unclear what the reference to the 'existing railway track' relates to.

As noted as Section 6.2, research conducted for this heritage strategy has led to the conclusion that the 1948 Switch Room is an element that makes a contribution to the evolved nature of the Kingston Power House precinct, but is not intrinsic to the significance of the place.

The former Transport Depot (forming part of Block 13, Section 49) is included in the ACT Heritage Register, maintained by the ACT Heritage Council, pursuant to the *Heritage Act, 2004* (Part 3). The citation is included at Appendix C.

1.6.3 Register of the National Estate

The Kingston Power House (Place ID 13364) was included in the Register of the National Estate (RNE) as a 'Registered Place' in 1983. In February 2007, following amendments to the Australian Heritage Council Act 2003, the RNE was 'frozen,' meaning that no new places have been added or removed since that date. Since February 2012 the RNE has been maintained by the Australian Heritage Council as a publically-accessible archive. There are no statutory requirements relating to the Kingston Power House as a consequence of this listing.

1.6.4 National Trust of Australia (ACT)

Kingston Power House was identified as a 'classified' place by the National Trust of Australia (ACT) on 20 July 1981. The National Trust of Australia (ACT) does not maintain files or reports for classified places. There are no statutory requirements as a consequence of this classification.

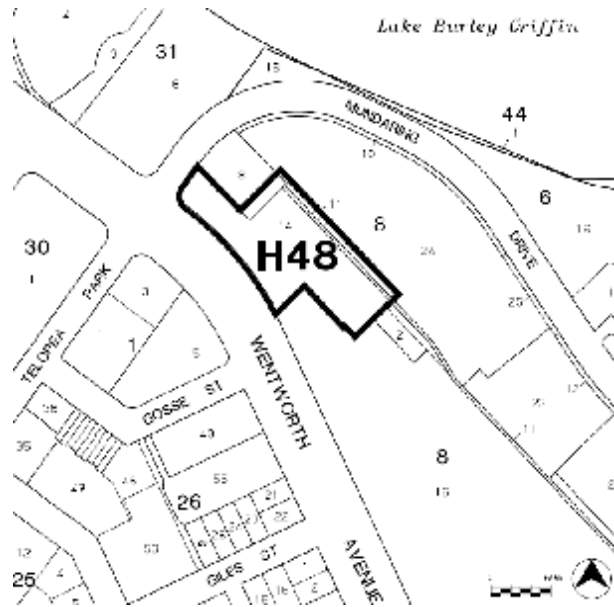


Figure 5 The Kingston Powerhouse Historic Precinct is designated H48.
Source: ACT Heritage Register.

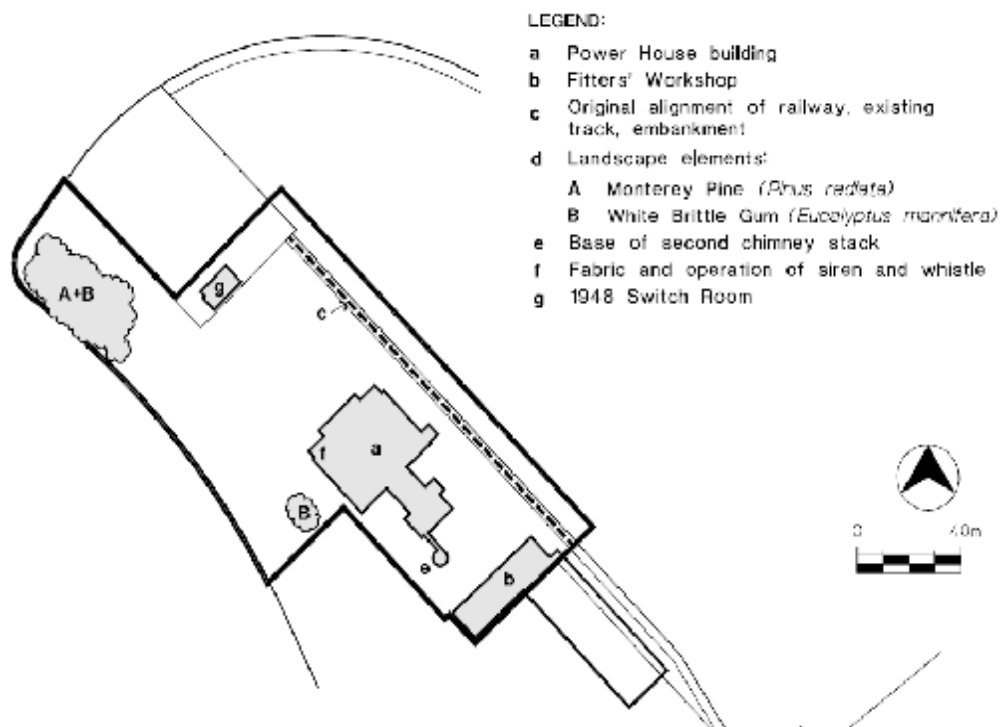


Figure 6 The Kingston Powerhouse Historic Precinct: site elements.
Source: ACT Heritage Register.

2.0 Document review

The following section provides a review of the CMPs that address the three major historic buildings at Kingston Section 49:

- Kingston Power House Precinct, Conservation Management Plan Review, 2001, Peter Freeman Pty Ltd
- Former Transport Depot, Conservation Management Plan, 2011, Philip Leeson Architects Pty Ltd
- Fitters' Workshop, Conservation Management Plan, 2011, Duncan Marshall, Keith Baker, Nicola Hayes (Navin Officer Heritage Consultants) and Brendan O'Keefe.

The emphasis of this review is on the conservation policies, with particular reference to policies relating to the broader precinct (i.e. setting, heritage curtilage, the relationships between the buildings and the potential for future development).

Heritage curtilage

Kingston Power House Precinct CMP Review (2001)

The Kingston Power House precinct, as illustrated at Chapter 4 'Physical Overview' of the CMP Review, is bounded to the north and east by Mundaring Drive (Eastlake Parade) and to the south-west by Wentworth Avenue. The southern boundary is formed by the Fitters' Workshop. It does not include the former Transport Depot.

Fitters' Workshop CMP (2011)

The heritage curtilage for the Fitters' Workshop identified in the 2011 CMP comprises open space to all sides of the building, including a large area to the south-east, previously the location for buildings associated with the Fitters' Workshop.

Former Transport Depot CMP (2011)

The curtilage of the former Transport Depot is not defined.

The external walls of the building constitute the 'study area' for the former Transport Depot CMP, as illustrated at p. 8 of the document.

The 'Enhanced Statement of Significance' for the place (CMP, pp. 46-47) notes that, 'The Depot ... plays an important part, combining with the adjoining Powerhouse and Fitters' Workshop, in augmenting the forecourt to the renewed Kingston foreshore industrial heritage precinct'.

Setting

Kingston Power House Precinct CMP Review (2001)

See comments for heritage curtilage above.

Fitters' Workshop CMP (2011)

The setting of the Fitters' Workshop as identified in the 2011 CMP includes the Power House, the large open car park to the north-east, the open area leading to modern residential development to the south-east and the former Kingston Transport Depot (CMP, p.6). Related to these elements are the railways alignments to either side of the Workshop, and the railway platform to the south-west (CMP, p. 62).

The setting of the building and its relationship (aesthetically and in terms of planning) to the Power House are identified as primary reasons for its significance (CMP, p.51).

Places with which the Fitters' Workshop is associated are the Power House, the Kingston Power House Historic Precinct and the former Transport Depot (CMP, p. 17).

The CMP includes a recommendation that the LDA maintains an appropriate setting for the Fitters' Workshop which respects the planning relationship with the former Transport Depot (CMP, p. 74).

Former Transport Depot CMP (2011)

The external walls of the building constitute the 'study area' for the former Transport Depot CMP, as illustrated at p. 8 of the CMP. The poor relationship between the Transport Depot (Lower Hall 3, 1951) and the Fitters' Workshop is noted at p. 30 of the report.

Conservation

Kingston Power House Precinct CMP Review (2001)

The CMP Review recommends that the industrial character and the form and scale of the Power House and Fitters' Workshop should be conserved, including the base of the chimney. The plantings at the corner of Eastlake Parade and Wentworth Avenue should also be conserved and, when appropriate, replanted with the same species. The alignment of the former railway and existing railway track should be retained as open space and expressed in future landscaping (this is understood to be a reference to the north rail siding). The areas immediately around the Power House, Fitters' Workshop and railway alignment should be maintained as open space, to enable an understanding of the industrial servicing and operation of the buildings.

Fitters' Workshop CMP (2011)

Conservation actions recommended in the 2011 CMP include conservation of building fabric related to the architectural style of the Workshop, its large scale and evidence of engineering use. The railway embankments to either side of the building, the railway platform wall to the south-west and the planned relationship with the Power House are also recommended for the conservation. Ground level changes associated with the railway lines should also be conserved.

(See also 'Landscaping' below)

Former Transport Depot CMP (2011)

The following significant fabric and spaces are identified at Policy 4 of the CMP:

- the fully welded rigid steel portal frames in the upper hall;
- the volume, façade detail and clock tower of the administration office;
- the interior volumes of the upper and lower halls and their inter-relationship; and
- the western and eastern exterior facades.

Additional features 'intrinsic to the heritage of the place' are included with the 'Enhanced Statement of Significance' (CMP, p. 47). This list includes:

- the orientation of the Transport Depot in relation to the former rail sidings;
- the surviving 1926 sections of the west and south facades of the upper hall;
- the west façade and gable roof line of the lower halls;
- the east façade and parapet line of the 1951 Eastern Annex;

- the 1951 first floor workshop with gantry crane, face brick and exposed timber trusses;
- the exterior volume of the 1940 administration block, including the clock tower; and
- the remaining Cypress Trees to the south and west of the upper hall.

Potential for demolition

Kingston Power House Precinct CMP Review (2001)

n/a

Fitters' Workshop CMP (2011)

n/a

Former Transport Depot CMP (2011)

Spaces and fabric with the potential for demolition are illustrated at pp. 60-61 of the CMP. They include the northern annex (1980s), internal additions dating to 1954 (spaces 2G and 3A) and ancillary spaces including toilets and stores.

New development

Kingston Power House Precinct CMP Review (2001)

Recommendations of the CMP Review with regard to future development at the Power House precinct are that the Power House should remain the dominant feature of the precinct, and development to the south-west of the Power House is to be restricted to maintain views of the principal building facades from Wentworth Avenue. A 'market square' (open space) is envisaged south-west of the Power House and north-west of the Transport Depot.

See also views and vistas below.

Fitters' Workshop CMP (2011)

The CMP anticipates new development to the south-east of the Workshop. It is recommended that new development should 'echo the footprint of one of the earlier buildings in this area'; should be sympathetic to the earlier industrial character of the area; and be of muted colours. New development should have minimal impact on the south-east elevation of the Workshop. If works are proposed to the south-east of the Workshop, an archaeological assessment of the area should be undertaken.

Former Transport Depot CMP (2011)

The CMP notes that the removal of the 1980s northern annex would create the potential for an enhanced relationship between the Transport Depot and the area to the north.

(See also 'Adaptive Re-Use' below)

Views and vistas

Kingston Power House Precinct CMP Review (2001)

A recommendation of the CMP Review is that 'significant visual links' be maintained between the Power House and the East Basin (Lake Burley Griffin) and Bowen Park, to the north-west. The roof forms of the Power House should be visible in these views. The view from Kings Avenue Bridge is also identified as a key 'vantage point'. Development to the south-west of the Power House is discouraged, implying that views from Wentworth Avenue are significant.

Fitters' Workshop CMP (2011)

The CMP identifies the space between the Power House and the Fitters' Workshop as significant for its ability to demonstrate the spatial and operational relationship between the two buildings.

Former Transport Depot CMP (2011)

Significant views and vistas are not identified.

Adaptive re-use

Kingston Power House Precinct CMP Review (2001)

Adaptive re-use of the Power House and Fitters' Workshop is encouraged in the CMP Review, where works do not adversely affect the heritage significance (architectural and cultural) of the place. This policy has been successfully enacted through the adaptation of the Power House to Canberra Glassworks.

Fitters' Workshop CMP (2011)

The CMP recommends that future uses of the Fitters' Workshop should be compatible with the industrial/engineering character of the buildings, and identified fabric and features of significance (see also Section 2.1.2).

Former Transport Depot CMP (2011)

At a broad precinct-based level, the CMP recommends that, 'The building and its functions should relate to the Kingston Industrial/ Cultural Precinct as a whole [area not defined] including the Power House, Fitters' Workshop, former railway sidings and proposed new retail/residential development' (CMP, Policy 9).

The CMP also notes that, 'The Halls should remain accessible to the public,' consistent with their use since 1998 as the Old Transport Depot Markets. Works with the potential to diminish the legibility of the internal relationship between the upper and lower halls are discouraged.

Reconstruction

Kingston Power House Precinct CMP Review (2001)

n/a

Fitters' Workshop CMP (2011)

n/a

Former Transport Depot CMP (2011)

The CMP recommends 'restoration and/or reconstruction' of the stepped parapets to the 1926 garage (east and south elevations).

Landscaping

Kingston Power House Precinct CMP Review (2001)

Policies relating to landscape considerations in the CMP Review include: the conservation of the Monterey Pines and White Brittle Gums along Wentworth Avenue, and their replacement with the same species when required; the retention of the 'former railway' (presumed to be a reference to the north siding) as a linear park; and the retention and 'appropriate' landscaping of the 'immediate spaces surrounding the Power House, Fitters' Workshop and railway alignment'. An appropriate approach to landscaping is to keep these areas free of

trees, 'to maximise the visibility of the structures'. Trees are restricted to the south boundary of the precinct.

Fitters' Workshop CMP (2011)

Policies relating to landscape considerations included in the CMP are that the areas to the north-west, north-east and south-west of the Fitters' Workshop should remain open to allow views of the Workshop, with no plantings or structures and a hard landscape finish evocative of the former industrial/ engineering character of the area. As noted above, the area to the south-east of the Workshop is considered to offer some potential for new structures.

Former Transport Depot CMP (2011)

The CMP notes that retention of Cypress Trees to the south and west of the Upper Halls is 'desirable,' consistent with their location in this area since the 1950s.

Archaeological significance

Kingston Power House Precinct CMP Review (2001)

The CMP Review notes that there is high archaeological potential throughout the area, and recommends that all excavation and landscaping works in the study area should be undertaken in accordance with approved archaeological procedures.

Fitters' Workshop CMP (2011)

The CMP notes that the area to the north-east of the Power House and Fitters' Workshop has considerable archaeological potential, and recommends that archaeological assessment should be undertaken prior to any development proposal in the immediate vicinity of the Fitters' Workshop, particularly the area to the south-east.

Former Transport Depot CMP (2011)

The CMP does not comment on the archaeological potential of the study area.

Interpretation

Kingston Power House Precinct CMP Review (2001)

The CMP Review recommends a two-stage approach to the interpretation of the Power House precinct: to complete an interpretation plan for the precinct (one year); and to develop the interpretation of the precinct in parallel with the development and completion of the adaptive re-use of the buildings within the precinct (two to five years). This approach appears to have been followed in relation to the Power House, in parallel with its adaption at the Glassworks.

Fitters' Workshop CMP (2011)

The CMP recommends that an interpretation plan for the Fitters' Workshop should form part of a strategy for the broader area, including the Power House and Transport Depot.

Former Transport Depot CMP (2011)

The CMP recommends that, 'The semi-industrial character of the place as evidenced by remnant equipment and services' to be retained and interpreted (Policy 8).

2.1 Concluding comments

The following section provides comments in relation to the three CMPs including, as appropriate, recommendations for further work.

2.1.1 Kingston Power House Precinct CMP Review (2001)

Veracity of the document

There is no reason to question or find fault with the processes or conclusions of the *Kingston Power House Precinct CMP* (2001). The document is soundly-based and draws on a considerable body of knowledge of the buildings and the broader area – Freeman Collett & Partners was responsible for the *Kingston Powerhouse Precinct Conservation Management Plan*, 1993 and the *Kingston Foreshore Site, Cultural Mapping Study*, 1996.

Given its proximity to the Power House and Fitters' Workshop, and accepting the shared history of the buildings for essential services (power and transport) in the formative years of the national capital, it is interesting to note that Peter Freeman did not include the former Transport Depot in the historic precinct.

It is also commented that Freeman did not identify the south rail siding as a significant element. This may be explained by the absence of an embankment in this location. However, the alignment of the south siding is generally extant as a linear open space, and is identified as a significant element in the present Heritage Strategy.

Further work

The 2001 CMP is 12 years old, and should be updated. Considerable physical change has occurred at the Kingston Power House precinct since 2001 including: extensive demolition works; the adaptation of the Power House itself to Canberra Glassworks; and the transformation of the precinct's relationship with Lake Burley Griffin through the construction of multi-level residential developments on the foreshore. In addition, as noted, as a result of research undertaken for this report it is considered that the 1948 Switch Room is not an element intrinsic to the significance of the Kingston Power House precinct.

The CMP review should have regard for the historical content of the Fitters' Workshop CMP (2011), as well as its findings and recommendations regarding future works and adaptation.

2.1.2 Fitters' Workshop CMP (2011)

Veracity of the document

The Fitters' Workshop CMP (2011) was prepared to guide the adaptation of the building to accommodate Megalo. The ACT Department of Land and Property Services considered the CMP necessary because the recommendations of the *Kingston Power House Precinct CMP Review* (2001) provided an inadequate level of detail for such a development proposal.

There is no reason to question the methodology adopted for the Fitters' Workshop CMP (2011), or its conclusions with regard to significance (historical and aesthetic/architectural).

Footprint of new development

The CMP for the Fitters' Workshop (at Policy 22) provides a suite of recommendations for new development to the south-east of the building. The recommendations stipulate that new buildings:

... will generally echo the footprint of one of the previous historical buildings in the area. These buildings extended south-east of the Workshop in the form of wings parallel to the railway lines either side of the Workshop. The central section of the south-east elevation will be left open to view.⁴

Over time, a large number of extensions and additions have been constructed south-east of the Fitters' Workshop. It is possible that development in this area was anticipated in the original design of the building. As noted in the 2011 CMP:

[The] south-eastern side [of the Fitters' Workshop as completed in 1916] ... was provided with fewer windows possibly because at that the time Murdoch was designing it there was already an intention to erect the Blacksmith's shop and other ancillary structures close to it on that side.⁵

Historic plans indicate that the early structures (including the Blacksmith's shop) were physically separated from the Fitters' Workshop. However, later additions abutted the building, as reflected in the painted marks (or scars) evident today.

Between 1916 and the 1970s, built form in this area variously accommodated facilities for the maintenance of government and ACTEA plant and equipment. The height (one or two storeys), length and precise function of these additions varied. However, the majority of these additions were contained within the rail sidings (see aerial photography at Appendix D).

Historically, the significance of the extensions/additions relates to their ability to contribute to an understanding of the operation and uses of the area. As noted in the CMP, there is also potential for archaeological remains in the area to enhance this understanding. The planning of these additions and their physical relationship with the Fitters' Workshop was largely a matter of expediency, as opposed to being driven by program or function. On this basis it is considered that new development in this area could introduce new building footprints without detracting from the significance of the place (see also Section 6.6.1.)

Further work

The Fitters' Workshop CMP is a recent and comprehensive document. It is not considered that there is a requirement for further work.

2.1.3 Former Transport Depot CMP (2011)

Veracity of the document

The conclusions of the *Former Transport Depot CMP* regarding the significance of the place are not supported in their entirety.

The former Bus Depot was constructed in 1926-27, to house official vehicles and Canberra's bus fleet. In its original form the depot comprised an open-air turning courtyard with parking areas to three sides enclosed with skillion roofs sloping inwards (refer 'History', Section 3.2 and Figure 16). Offices, stores and toilets were provided at the corners of the building and to the north-west wall. The depot was constructed of unpainted brick, with stepped parapets to the front (north-west) and rear (south-east) elevations. The orientation of the building related to the former rail sidings; an opening in the north-east façade provided access to the south rail siding. In 1940, the depot was enclosed with a new roof comprising a fully-welded steel portal frame. Subsequent additions were completed in 1945, 1951, 1954, 1960 and the 1980s (Figure 7). The Transport Depot closed in 1992. Since 1998 it has been operated at weekends as the Transport Depot Markets (Figure 8).

The *Former Transport Depot CMP* relies, to a large extent, on the content of two documents as a basis for policy development. These documents are a Heritage Assessment of the Kingston Bus Depot prepared by Graeme Trickett in 2001 in response to a nomination of the building to the ACT Heritage (this nomination was not supported by the Heritage Council), and a subsequent nomination of the place to the ACT Heritage Register prepared by Mrs J Carnall and Graeme Trickett for the Australian Institute of Architects in 2010 (approved by the Heritage Council). These two documents are included as Appendices (ii) and (iii) in the CMP. The 2001 Heritage Assessment is not reproduced in full (plates 1-5 and pages 8, 10, 12 and 14 are missing).

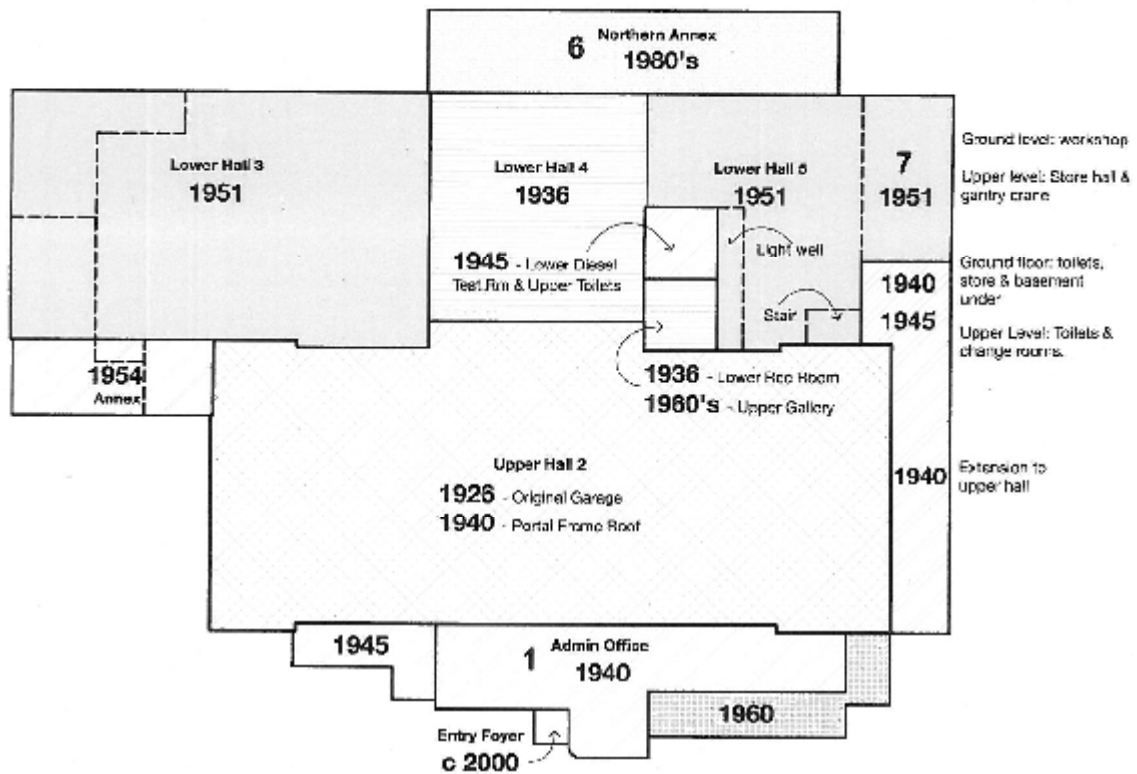


Figure 7 Sequential development plan of the former Transport Depot.
 Source: Philip Leeson Architects, *Former Transport Depot CMP*, 2011, p. 16.

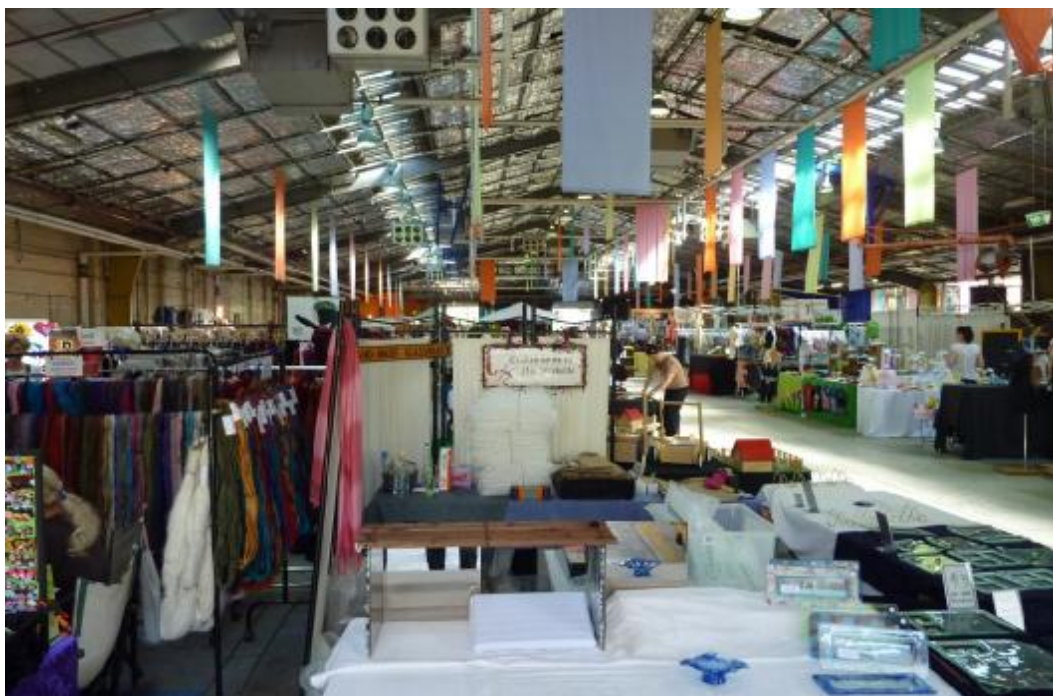


Figure 8 Transport Depot Market, Upper Hall (23 October 2011).

Appendix (i) to the CMP is the ACT Heritage Register entry for the Kingston Power House Historic Precinct. This precinct does not include the former Transport Depot. The ACT Heritage Register citation for the Former Transport Depot is included as Appendix C to the present Heritage Strategy document.

The 2001 Heritage Assessment includes a summary history of the place, analysis of the building's architectural, technical and historical values and an assessment of these values against the relevant criteria in Schedule 2 of *the Land (Planning and Environment) Act 1991*. The document concludes that the former Transport Depot is of technical, historical and architectural significance at a level warranting inclusion in the ACT Heritage Register.

In many respects, the 2010 assessment replicates and reinforces the conclusions of the 2001 document. It also identifies the building as having social significance to former bus depot employees and broader Canberra community, the latter in relation to the operation of the Bus Depot Markets at the site since 1998.

An 'Enhanced Statement of Significance' for the former Transport Depot included in the 2011 CMP is based on the content of the 2010 assessment of the building for nomination to the ACT Heritage Register. The expanded statement of significance was prepared because the consultants considered that the statement of significance in the ACT Heritage Register documentation was 'too general to support formulation of comprehensive conservation policies'.

The ACT Heritage Register documentation considers that features 'intrinsic to the heritage significance of the place' are:

- a) fully welded rigid steel portal frames;
- b) the presence of former Transport Depot buildings with open spaces defined by the portal frames; and
- c) the orientation of the building in relation to the former railway siding and Wentworth Avenue.

In its 'Enhanced Statement of Significance' for the Transport Depot, Philip Leeson Architects (PLA) concludes that the building is of social, historical, technical and architectural significance. PLA's statement of significance for the place is as follows:

The Former Transport Depot has a number of heritage values. These include: its social value to the Canberra community, particularly the people who worked there, historic value in its illustration of the development of a public transport system in the mid twentieth century, technical innovation and engineering creativity with the use of the fully welded portal frames and architectural value as a high quality and rare industrial example of the Inter War Functionalist style of architecture.

The Depot is important for its historic association with the development of Canberra from the 1920s to the 1970s, with the industrial precinct of Kingston and particularly the development of motor vehicle transport. It reflects the decision made early in Canberra's history for the government to own and operate a public transport system and the subsequent expansion of that system to serve the general public, government workers, construction workers and parliamentarians. The group of buildings demonstrate an identifiable sequence of development and a representative sample of changing services and equipment.

The Depot has deep significance for the people who worked there and their families, embodying memories of shared experiences and activities,

be they work, social, sporting or community service. The wider community recognizes the Depot as a part of Canberra's semi industrial history and the relatively rare industrial spaces. It has latterly become valued by the local community as the home of the "Old Transport Depot Markets". This helps to reinforce and interpret its historical significance.

The engineering and construction of the 1940-41 fully welded rigid portal frame exhibits a high degree of technical achievement and design quality, demonstrating new invention and application in Australia at the time. The design of the fully welded rigid portal frame is of exceptional interest as the earliest notable example of a steel fully welded rigid portal frame in Australia. There were two fully welded steel structures prior to this in Australia, though these were bridges rather than portal frames.

The 1940 administrative office facing Wentworth Ave demonstrates the main characteristics of the Inter-War Functionalist Style of architecture in an industrial building, which is rare in the ACT. Free from historical influences, the style emphasises clean lines and a streamlined aesthetic – fitting for the intended image and function of the Depot. Many of Canberra's innovative buildings of this period and industrial buildings generally have been lost or have been significantly altered.

The Former Transport Depot is one of the last remnants of the early industrial / services complex at Kingston; the first intended permanent location for such uses in the development of Canberra. The Depot is accessible to the public uses plays an important part, combining with the adjoining Powerhouse and Fitters Workshop, in augmenting the forecourt to the renewed Kingston foreshore industrial heritage precinct.

Features intrinsic to the heritage of the place include:

- i) The fully welded rigid steel portal frames in the upper hall
- ii) The spatial qualities of the upper & lower halls as defined by floor, wall and roof planes, including skylights
- iii) The open relationship of the upper and lower halls
- iv) The industrial character of the halls exemplified in their structure and remnant services
- v) The orientation of the buildings indicating their early relationship to the former railway siding, Powerhouse and Fitters' Workshop
- vi) The surviving 1926 west & south façade sections of the upper hall
- vii) The west facade and gable roof line of the lower halls
- viii) The east façade and parapet line of the 1951 Eastern Annex
- ix) The 1951 first floor workshop with gantry crane, face brick and exposed timber trusses
- x) The exterior volume of the 1940 administration block, including the clock tower.
- xi) The remaining Cypress Trees to the south and west of the upper hall

The revised statement of significance prepared by PLA and the statement included in the ACT Heritage Register (Appendix C) concur that the former Transport Depot's fully welded rigid

portal frame is technically significant as an early example in Australia. The two statements also acknowledge the historical significance of the building in demonstrating a phase of transport history in Canberra, and for its association with the Kingston industrial/government services area.

Key points of difference in the PLA statement are its emphasis on the social value of the place. PLA note that the building is valued by the Canberra community, as well as former transport depot employees. As noted, this broader social value relates to the operation of the Old Transport Depot Markets at the building since 1998.

Commentary: Places of work have the potential to evoke memories, associations and a sense of attachment for employees, former employees and their families. While the oral histories/recollections included with the 2010 assessment of the building's heritage values (also included with the ACT Heritage Register citations, see Appendix C) enhance an appreciation of the history and operation of the place, it is not considered that they demonstrate that these associations are distinctive or unique to this place and accordingly do not add greatly to consideration of its heritage significance. The social significance of the place to the broader community is of recent origin, a consequence of the operation of the Bus Depot Markets since 1998. This is not at a level indicative of meeting the threshold for inclusion in the ACT Heritage Register.

Based on the above, fabric, elements and areas that are considered to be of primary significance to the former Transport Depot are:

- The upper hall, to the extent of its original fabric as constructed in 1926
- The orientation of the 1926 upper hall, being subordinate to the Power House rail sidings
- The portal frame added to the upper hall in 1940
- The administration building (1940, 1945, 1960 and c. 2000)

Reconstruction

The CMP includes a recommendation for the 'restoration and/or reconstruction' of the stepped parapets to the 1926 garage (north-west and south-east elevations). The reason for or date of the removal of these parapets has not been established. The former Transport Depot is a utilitarian structure that has been extensively modified and extended over time. It has evolved considerably since from its original (1926-27) form as a rectangular garage with stepped brick parapets to the front and rear elevations and an open-air turning courtyard and skillion-roofed areas providing parking enclosures. It is commented that the recommendation for the reconstruction of the parapets is selective. The case for the reconstruction of these original elements over other components of the original building has not been made.

Further work

Notwithstanding the difference of opinion in relation to the significance of the place, the ***Former Transport Depot CMP*** appears generally to be soundly-based.

3.0 Summary history

The three historic buildings within Kingston Section 49 are oriented at an angle to true north. This angle follows the alignment of the rail sidings which were constructed to either side of the Power House and Fitters' Workshop by 1914. The Wentworth Avenue-facing elevation of the Power House (now Canberra Glassworks) is described in the following as the south-west elevation.

3.1 Introduction

The following section provides a summary history of Kingston Section 49, and adjacent sites/land.

Key sources include:

- *Kingston Foreshore Site, Cultural Mapping Study* prepared by Freeman Collett & Partners, June 1996
- *Kingston Power House Precinct Conservation Management Plan Review*, Peter Freeman Pty Ltd, 2001
- *Fitters' Workshop, Conservation Management Plan*, Duncan Marshall, Keith Baker, Nicola Hayes (Navin Officer Heritage Consultants) and Brendan O'Keefe, 2011
- The ACT Heritage Register citation for the Former Transport Depot (Appendix C)

This history should be read in conjunction with the sequential development drawings at Section 3.3. The drawings are based on material included in the *Kingston Foreshore Site, Cultural Mapping Study* (1996) prepared by Freeman Collett & Partners. See also aerial photography from 1950 to 1990 at Appendix D.

3.2 History

1908	On 8 October 1908, the Limestone Plains at Yass-Canberra was selected as the site of the National Capital by parliamentary ballot. The 1909 <i>Seat of Government Surrender Act</i> (NSW) and the 1909 <i>Seat of Government Acceptance Act</i> (Commonwealth) officially named Yass-Canberra as the site of the federal capital. The area subsequently surveyed by District Surveyor Charles Scrivener included the present Kingston Section 49 (Kingston was then known as 'Eastlake').
1911, February	Approval to construct a gauging weir across the Molonglo River, close to the intersection with the Jerrabomberra Creek, was granted on 3 February 1911. ⁶ The weir was required to measure the river flow.
1911, April	The competition for the design of the Federal Capital was announced in April 1911. The deadline for receipt of entries was 31 January 1912 (extended to 28 February 1912), in Melbourne. In the interim, the government was concerned to progress the establishment of the city's foundations, including the provision of a power supply. However, senior government officials decided that no permanent structure could be erected before the competition was decided. ⁷

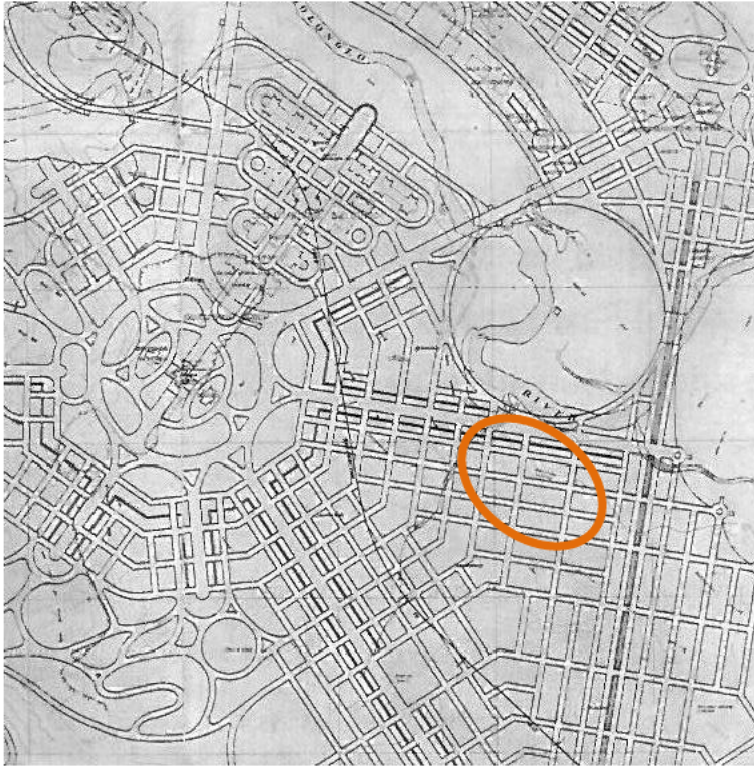


Figure 9 Walter Burley Griffin's competition entry (1911), with the area occupied by the Power House (indicated) shown as residential development.
Source: Paul Reid, *Canberra following Griffin* (2002), p. 93.

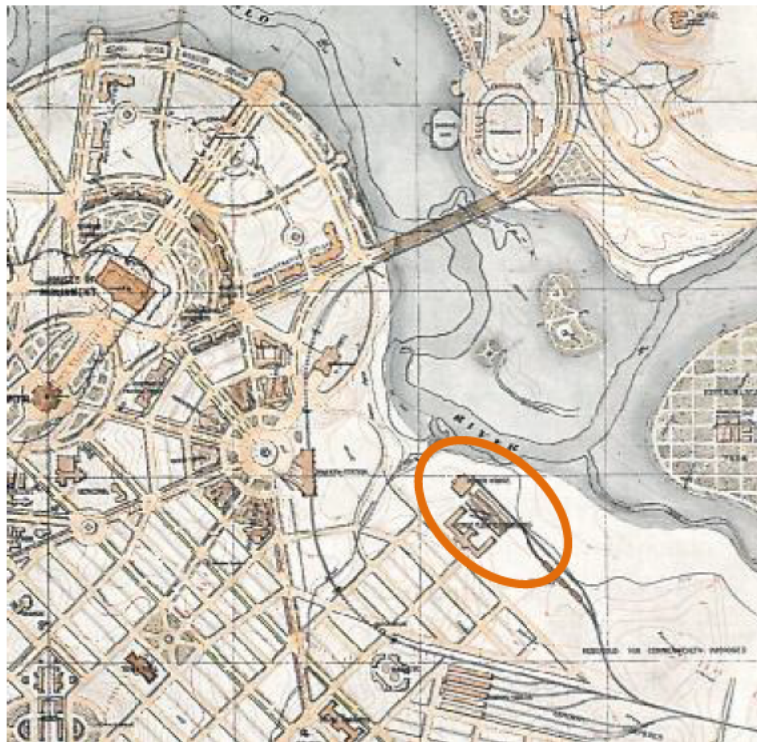


Figure 10 The Departmental Board plan of November 1912, showing a Power House in the location of the present structure.
Source: Paul Reid, *Canberra following Griffin* (2002), p. 99.

- 1911, July In July 1911 a site of approximately 8ha (20 acres) for a temporary power station was selected on the south bank of the Molonglo River, near the Jerrabomberra Creek (refer 1911 sequential development plan, Figure 28). The site was close to the gauging weir which, it was hoped, would create a pool immediately down river to provide a reliable water supply for the power station's boilers. It was also close to the future rail line from Queanbeyan.
- 1911, August The decision to construct a rail line from Queanbeyan to Canberra was taken in August 1911.⁸ Sidings from the rail line were to extend to the Power House, to enable delivery of coal. Grading works were required to be carried out at the Power House site to compensate for the natural slope of the ground down to the river. The rail sidings at had a significant bearing on the development of Kingston as an industrial area.
- 1912 On 23 May 1912, an entry by Walter Burley Griffin and his wife Marion Mahony was announced as the winner of the competition for the design of the Federal Capital. The scheme envisaged residential development at the present Kingston foreshore (Figure 9). Griffin's scheme, as well as other highly-placed entries, was revised and adapted by the Departmental Board charged with implementing the city structure. In November 1912 the Departmental Board presented its plan with a power station at the site selected in 1911 – i.e. by November 1912, the 'temporary' site had effectively become 'permanent'. The Federal Cabinet formally ratified the Departmental Board's plan for the city in February 1913.
- 1912 Chief architect of the Department of Works and Railways John Smith Murdoch began design work for the Power House in 1912. Rather than guessing how long the facility (then 'temporary') would be operational, Murdoch took the view that the Power House should be large enough to accommodate the majority of the equipment specified by F W Clements, Chief Engineer and General Manager of the Melbourne Electric Supply Company in his report to Colonel Percy Owen, Commonwealth Director-General of Works, in July 1911.⁹
- 1913-14 By 1913 construction of the steel frame of the Power House was underway (Figure 11), and the Brickworks light railway had reached the site. The Power House was originally to be clad in corrugated sheet steel. The decision to use bricks may have related to confirmation of the permanent nature of the site. However, the bricks from the Yarralumla brickworks site were of poor quality, resulting in the decision to enclose the steel frame with unreinforced concrete panels.¹⁰ The brickworks track entered the site from the north, close to the present intersection of Eastlake Parade and Wentworth Avenue.
- Walter and Marion Burley Griffin arrived in Australia in August 1913, and disapproved of the location of the Power House.¹¹
- 1914, May The rail line from Queanbeyan was operational from May 1914. The first goods train pulled into the Power House sidings on 25 May 1914. To compensate for the sloping site the land to the south-west of the Power House was levelled to accommodate the rail lines,¹² and an

embankment was introduced to the north-east (Figure 12 and Figure 13).

- 1914 Ancillary structures under construction by 1914 included a large engineer's workshop to the south-east of the Power House, to the rear of which were three other galvanised iron sheds, a blacksmith's shop, electrical store and joiner's shop, stables, stores and accommodation for workers, there being little available in Canberra. A temporary saw mill, St Paul's Church and single men's camp had been constructed by 1915.
- 1915-16 Construction of the Power House and Fitters' Workshop was complete by 1915 (Figure 14), and the machinery was acceptance tested on 2 July 1915. By early 1916, the Power House was supplying a number of sites included the Royal Military College at Duntroon, the hospital, Commonwealth Bank and Post Office. Power lines led from a raised timber platform to the north-west of the Power House (Figure 18).
- 1919 From 1919 a wind break was planted along Interlake (Wentworth) Avenue and Dawes Street at the direction of Thomas Weston, officer in charge of afforestation at the National Capital between 1913 and 1926 (Figure 15). The windbreak consisted of outer rows of acacias, an inner row of eucalypts and four rows of *Radiata pines*.¹³ The depth of the plantings suggests that the windbreak was also intended to provide a visual barrier between the Power House and the emerging residential development to the south-west. However, the twin gables of the Power House were prominent in longer views (Figure 17).



Figure 11 The Power House under construction, c. 1913-14: viewed from the south-west. Note rail line at right.
Source: National Library of Australia.



Figure 12 The Power House and Fitters' Workshop viewed from the north-west (undated, but c. 1920).
Source: ACT Heritage Library.

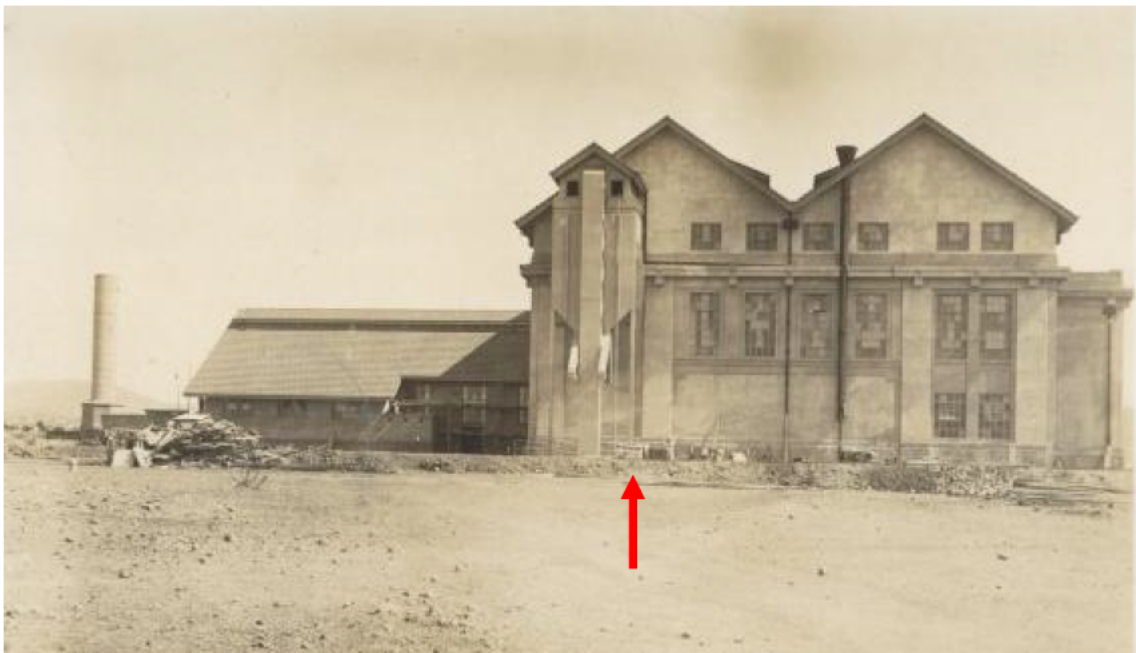


Figure 13 North-east elevation of the Power House c. 1915. The rail embankment is indicated.
Source: National Library of Australia.



Figure 14 The Power House and Fitters' Workshop viewed from the west, c. 1916.
Source: National Library of Australia.



Figure 15 Oblique aerial from the south-east, 1925.
Source: National Library of Australia.



Figure 16 View of the former Transport Depot from the Power House, 1929.
Source: National Archives of Australia.



Figure 17 View looking north from the Capitol Theatre, Manuka, 1928. The Power House is indicated.
Source: National Archives of Australia.

1920s

Development within and around the Power House precinct during the 1920s included Government stores, a temporary Government saw mill, the Government Printing Office, a fire station, a concrete mixing works near the Molonglo River and residential development, including cottages to the north-east of the Power House and camps to the south-west (Figure 15).

In 1926, the Federal Capital Commission (FCC) announced the construction of the Eastlake Garage, 'a large brick garage to accommodate 13 cars and 23 lorries,' to the south of the Power House. The building was constructed around an open-air courtyard (vehicle turning courtyard) with brick external walls to all sides except a section of the north-east façade, facing the rail line. There were stepped brick parapets to the north-west and south-east elevations (Figure 16). Shelter for the fleet of four buses, 13 cars and 18 trucks was provided by skillion-roofed enclosures sloping towards the turning area. Mess rooms, toilets and stores were provided in the corners of the building, and two offices were located to the north-west (front) wall. There were two fuel pumps within the turning area.¹⁴ The original railway station, at the site of the present station (south of Kingston Section 49), was also constructed in 1926-27.

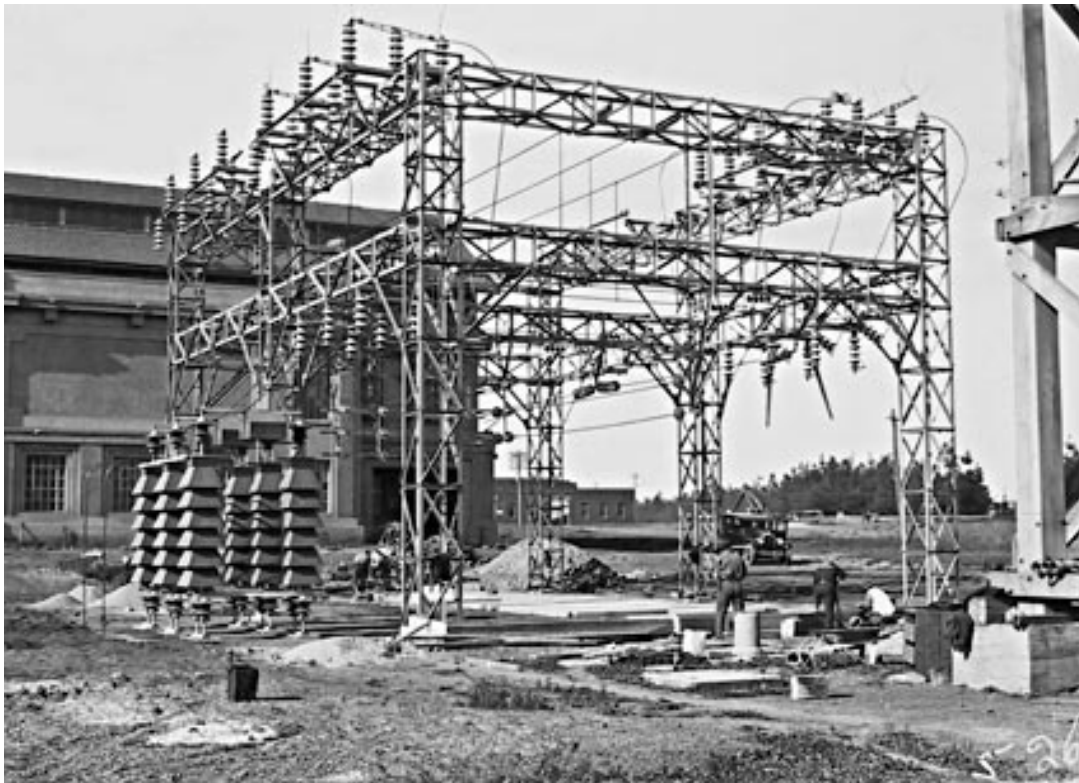


Figure 18 The Electricity Transmission Switch Yard at the Kingston Power Station was constructed in 1929 for receiving power from the Burrinjuck hydro-electric scheme. Note the c. 1915 timber platform to the right of the picture. Source: National Library of Australia.

Despite increasing demand, and the introduction (in 1927) of a British Thomson Houston (BTH) type turbo-alternator, significantly increasing the generating capacity of the Power House, the cost of power generated at Kingston was high. In 1929, when the Burrinjuck hydro-electric scheme in NSW came online, the Federal Capital Authority elected to source electricity from this cheaper source.¹⁵ The Kingston Power House was kept on stand-by in the event of problems at Burrinjuck. However, from 1929, after only 13 years in operation, the Kingston Power House was closed down. The site retained its connection with the distribution of power to Canberra and beyond through the introduction of a power line from the Burrinjuck dam to a new bulk substation north-west of the Kingston Power House. This bulk substation (or Electricity Transmission Switch Yard) received, controlled and stepped down the 66,000 volt supply for distribution to the domestic market (Figure 18).¹⁶

1930s-'40s

The 1930s and '40s saw the consolidation of Kingston as a government services and infrastructure hub. The printing office was expanded, a new hardwood saw mill was established (1947) to augment the existing softwood saw mill and a trades complex was set up south of the printing works, including facilities for joiners, plasterers etc, and a Trades School (see the 1940 sequential development plan, Figure 30).

The Transport Depot underwent a major expansion during this period. The building was extended to the north in 1936, and in 1940 a roof carried on a fully welded rigid steel portal frame was constructed over the original section of the depot. Also in 1940 an Administration Building was added to the west of the building, addressing Wentworth Avenue. The administration wing was designed in the inter-war functionalist style by Cuthbert Whitely, then Chief Architect of the Commonwealth Department of Works (Figure 19). Stylistically sympathetic additions were completed in 1945 and 1960.¹⁷

In 1945, Interlake Avenue was realigned, renamed (Wentworth Avenue) and widened to its present dimensions, including a wide median strip which was used for parking associated with expansion of the Transport Depot. The widening resulted in the removal of the windbreak, with the exception of trees at the intersection with Eastlake Parade and in proximity to the Power House (Figure 20 and Figure 22).

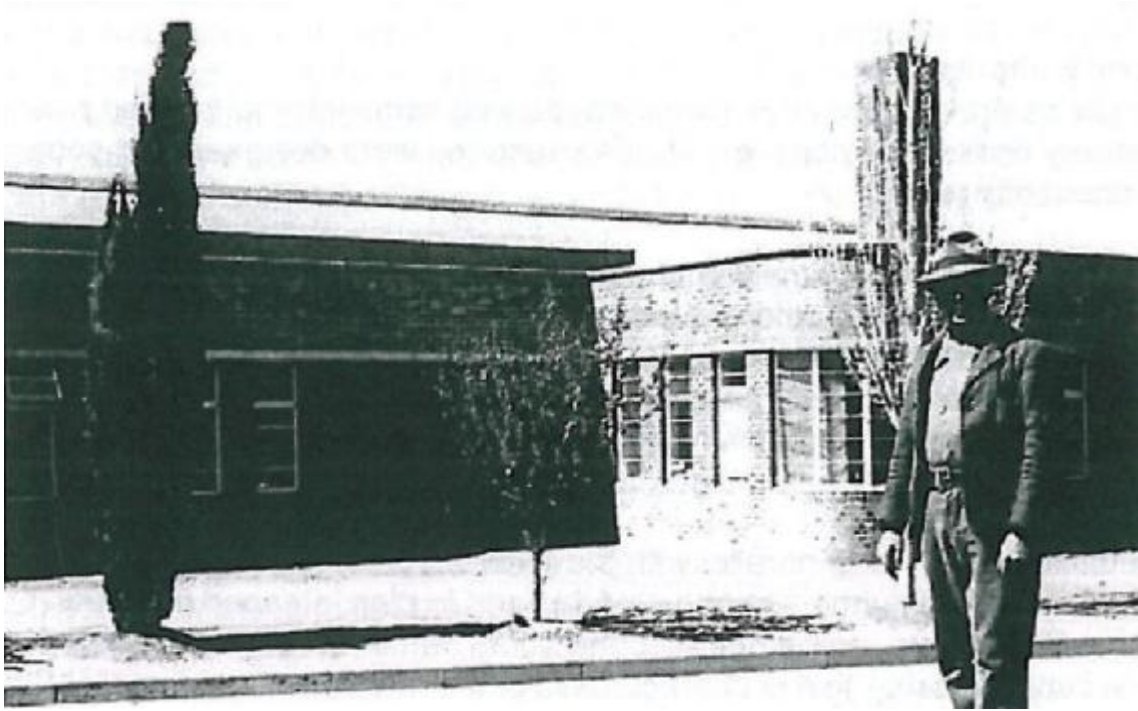


Figure 19 The Administration Building, west elevation, c. 1942.
Source: Heritage assessment of the former Transport Depot prepared by
Graeme Trickett (2010), p. 22.



Figure 20 The Power House viewed from Wentworth Avenue, 1951. The 1940s stack is in
the foreground.
Source: ACT Heritage Library.

The Power House operated intermittently during the 1930s and 1940s, during periods of high demand. Doubts about the strength of the Burrinjuck Dam wall in 1935 led to it being brought back into service between 1938 and 1942. Also in 1938, a 66,000 volt line was connected to the Canberra Switchyard from Goulburn.¹⁸ A small switch house building, located between the Power House and the bulk substation, was constructed to manage the increased load. This small face brick structure had a gabled roof, two windows to its south-east elevation and doors at each end.¹⁹ It included a seven-panel 11kV Westinghouse truck switchboard.²⁰ The 1938 Switch Room was demolished in the 2000s. During the 1940s the Power House complex was modified with a new electrical and mechanical workshop, and the height of the stack was increased from 7.6m (25ft) to 22.8m (75ft).

1950s-'70s

The final operational phase of the Power House (1948-1957) was brought about by increasing demand for electricity in New South Wales in the post WWII period. Infrastructure and new buildings constructed for this final phase included a new stack to the south-west of the economiser annex (Figure 20), a diesel generating power station and a new Switch Room (Figure 21).

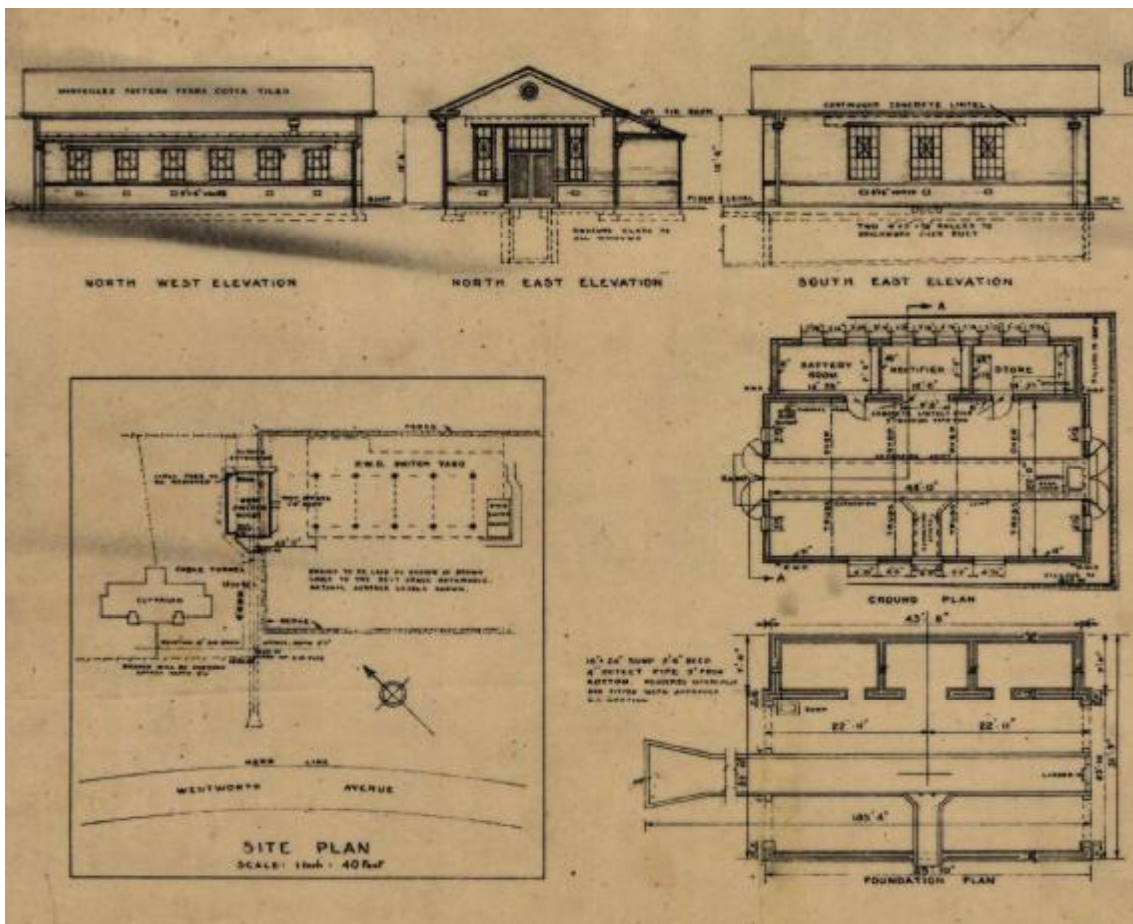


Figure 21 Elevations and plans for the New Switch House at the Electricity Supply Power Station, Kingston, 11 August 1947. Source: National Archives of Australia.

It is possible that the new Switch Room was constructed in anticipation of an increased requirement for the distribution and control of power associated with post-war demand. However, the 11kV switchgear was not designed and installed until 1960, three years after the closure of the Power House for the final time.²¹ It is assumed that the 1938 Switch Room remained operational up to 1960.

As built, the gabled roof of the single-storey face brick '1948 Switch Room' building was clad with Marseilles pattern terracotta tiles to match the Power House and Fitters' Workshop. This building has been extended and/or modified on at least three occasions. It was extended to accommodate additional switchgear prior to 1983.²² In the mid-1980s it was converted to an office – works included the adaptation of the doors to its north-east elevation to windows, and the construction of a porch at its north-west end.²³ And in 2008 it was adapted to residential accommodation, including a new fit-out.

The base of the late-1940s stack survives, surmounted by an interpretive glass-panel chimney. The diesel generating power station has been demolished.



Figure 22 Aerial view of the Power House precinct, 1950.
Source: ACTPLA.



Figure 23 Aerial 1975. The Engineering Services Workshop (1963) is indicated.
Source: ACTPLA.

The date that the rail sidings ceased to operate has not been established during research for this report. The embankment to the north-east of the Power House is evident on a 1950 aerial photograph (Figure 22), curving away from the Power House as it extends to the north-west. Rail tracks are not visible in this photograph. The alignment of the south-west rail siding was open space in 1950. The northern end of the alignment was partially built over in 1963, when the Engineering Services Workshop was complete (Figure 23).

A Senate Select Committee report (1955) into the development of Canberra expressed concern about the unplanned nature of development at Kingston, and recommended that no new industrial facilities should be constructed in Kingston and that existing industrial facilities/enterprises should be relocated to the new industrial suburb at Fyshwick. A further recommendation was that Kingston should be developed in accordance with Walter Burley Griffin's vision for Kingston as a residential suburb.²⁴ This recommendation was ignored by the National Capital Development Commission (NCDC) which was established under the *NCDC Act* of 1957 to assume control of Canberra's planning and development. In 1964 the NCDC prepared plans for the 'Kingston Government Services Area' which provided for the management of the Power House complex by the recently-formed ACT Electricity Authority (ACTEA). ACTEA and its successor body ACT Electricity and Water (ACTEW) remained *in situ* until the early 1990s. ACTEA oversaw the

demolition of a number of ancillary structures at the complex, and the construction of new facilities, including workshops and offices to the west of the site (see Figure 31).

During the 1960s, significant development around Section 49 included the construction of a major new Government Printing Office (1963) at the intersection of Wentworth Avenue and Dawes Street. The orientation of this large one and two-storey complex referred to the Griffin street plan for the area rather than the alignment of the rail sidings (Figure 24).

The other significant change during the 1960s was the creation of Lake Burley Griffin (the lake reached its planned level in April 1964). Contemporary with Lake Burley Griffin was the construction of the Kingston Foreshore Boat Harbour and a new access road (Mundaring Drive) from Wentworth Avenue. Subsequent development around the Boat Harbour included the Commonwealth Fish Management Fish Building (1970), the Lake Ecology Building (1971), the Forensic Medicine Building (1972) and a store for ACTEA (1972). (See the 1970 sequential development plan, Figure 31.)

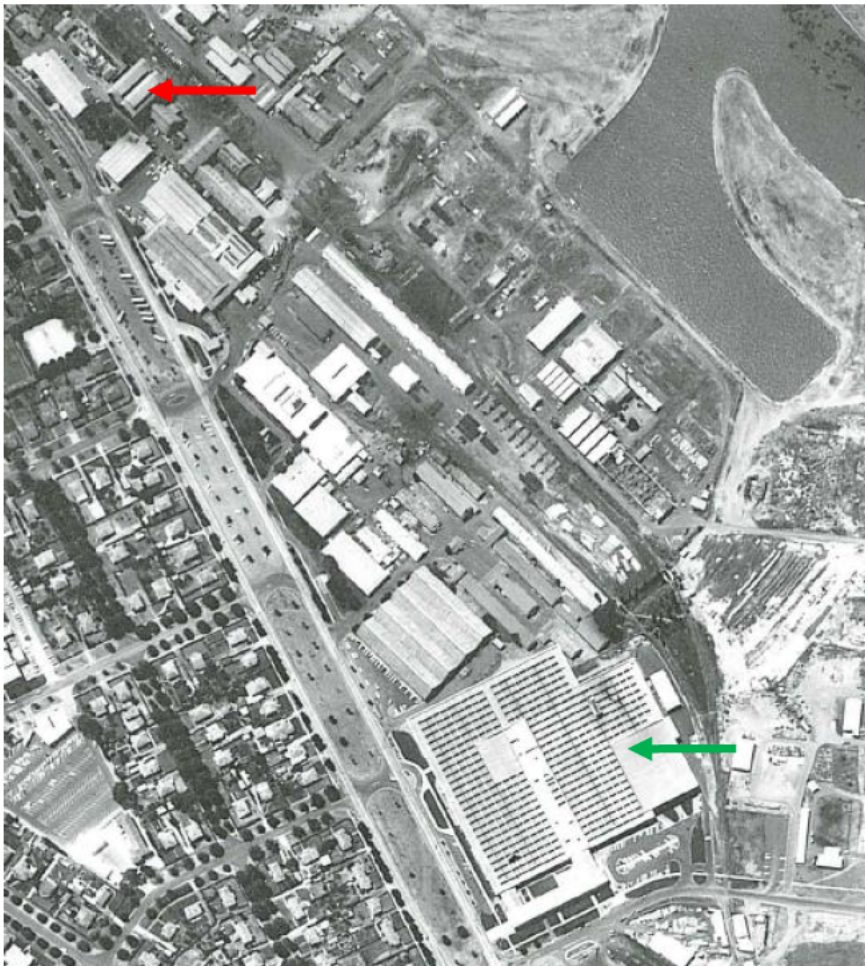


Figure 24 Aerial view 1965: The new Government Printing Office is indicated by the green arrow. The expanded Transport Depot is indicated by the red arrow. Source: ACTPLA.

The importance of transport (including new and improved roads, and enhanced bus networks) to the viability of the emerging national capital was emphasised in the early years of the NCDC administration. At the end of the 1950s, consideration was given to the demolition of the Transport Depot, by then expanded to almost its present extent (Figure 24).

1980s-'90s

In 1981 the Power House was classified by the National Trust of Australia (ACT). Two years later it was included in the Register of the National Estate. The Kingston Power House Precinct was included in the ACT Interim Heritage Places Register in 1998.

In the early 1980s, following discussions with the NCDC, ACTEA agreed to relocate from the Power House, and established new facilities in north and south Canberra. ACTEA also constructed a new substation north of the Power House. The Telopea Park Substation opened in 1984. Also at this time, a transformer and switching building was constructed. The agreement between the NCDC and ACTEA resulted in the release of the lakeside site for development. However, ACTEA retained tenure of the Power House, and was responsible for finding a buyer for the heritage place.

From 1989 to 1997 the Kingston Foreshore was controlled by the Federal Government. In May 1997 a land swap with the Acton Peninsula (then controlled by the ACT Government) was formalised, making the Kingston site Territory land.²⁵ The land swap set in train a process of transforming the industrial suburb into a residential area, as anticipated by Walter Burley Griffin. This process was guided by the Kingston Foreshore Development Authority (established in September 1995) and more recently by the Land Development Agency (LDA).

2000s

In 2002/03, 132kV electrical cables were re-routed from the south-east of the Telopea Park substation on a north-west to south-east alignment parallel with the former rail line to the north-east of the Power House. The cables are approximately 16m from the main building line of the Power House (Figure 25). There is a 3m-wide easement from the centreline of the cables, which are typically 3m below ground (Figure 27). A second trench carrying four 11kV cables runs parallel to the 132kV trench, approximately 8m to its north-east (Figure 25). The form of the embankment was modified as a result of these works. As evidenced by Navin Officer's archaeological survey of 2006, which includes photographs of rail lines, the introduction of the cables appears not to have disturbed remnants of the original tracks and sleepers (Figure 27).

In 2006-07, the Power House was adapted to the Canberra Glassworks by Tanner Architects (Sydney).

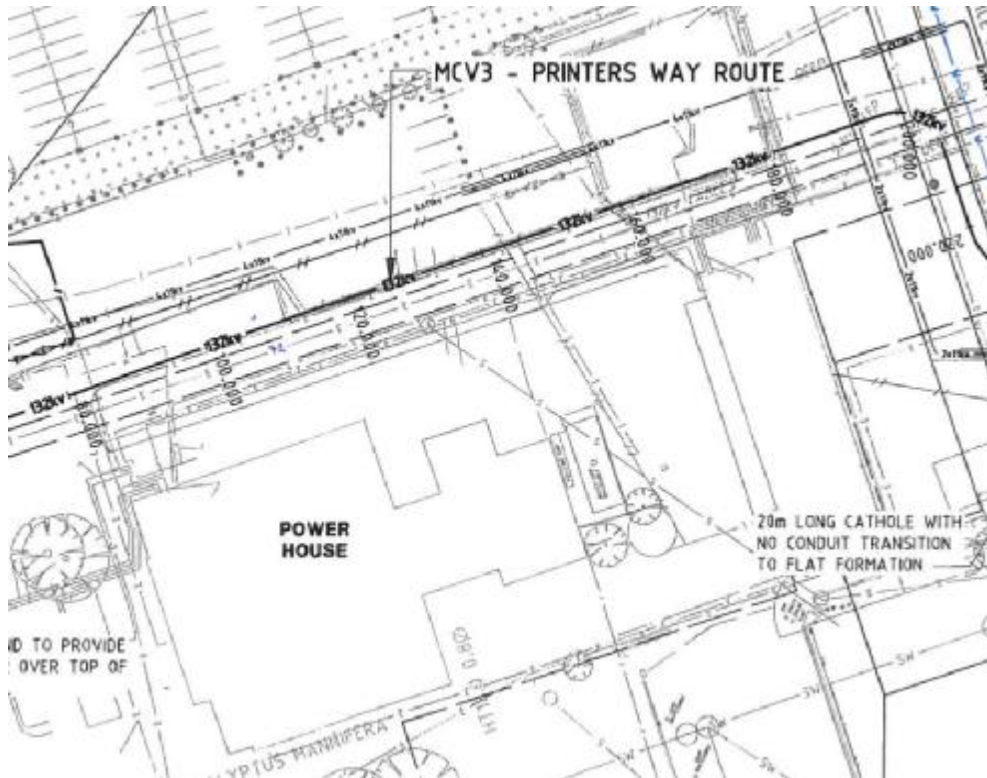


Figure 25 Detail of drawing showing 132kV relocation works in proximity to the Power House, 2003. North is at left.
 Source: Kingston Foreshore, 132kV Relocation Works drawings, SMEC, detail plan, drawing no.32108/508, 21 May 2003.

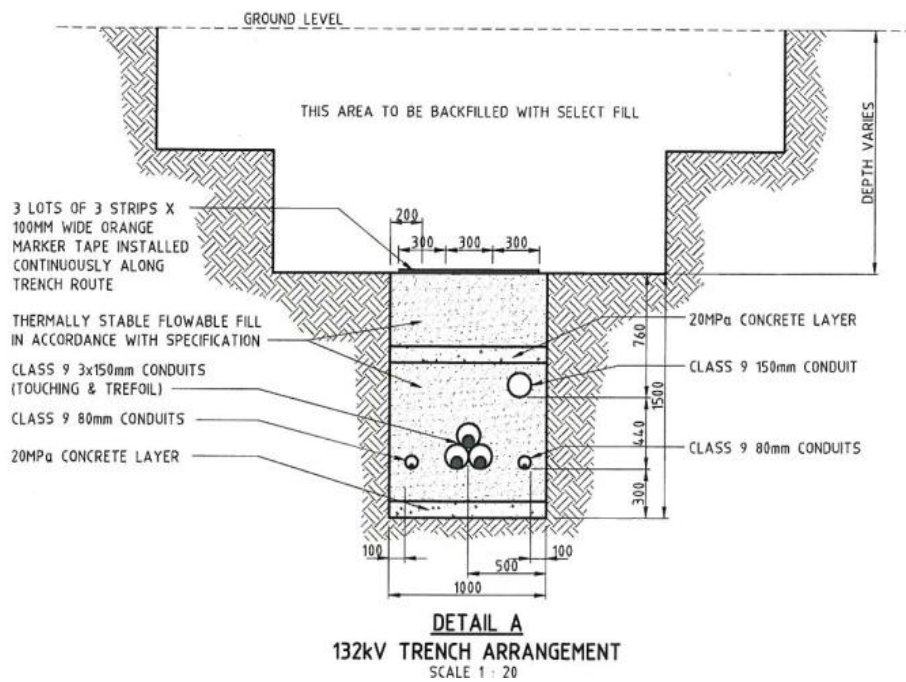


Figure 26 Typical trench section for the 132kV relocation works.
 Source: Kingston Foreshore, 132kV Relocation Works drawings, SMEC, typical trench and backfill details, drawing no.32108/502, 21 May 2003.



Figure 27 Oblique aerial looking south across Kingston Section 49 (c. 2003). The alignment of the 132kV cables is indicated.
Source: LDA.

3.3 Sequential development plans, 1911-1970

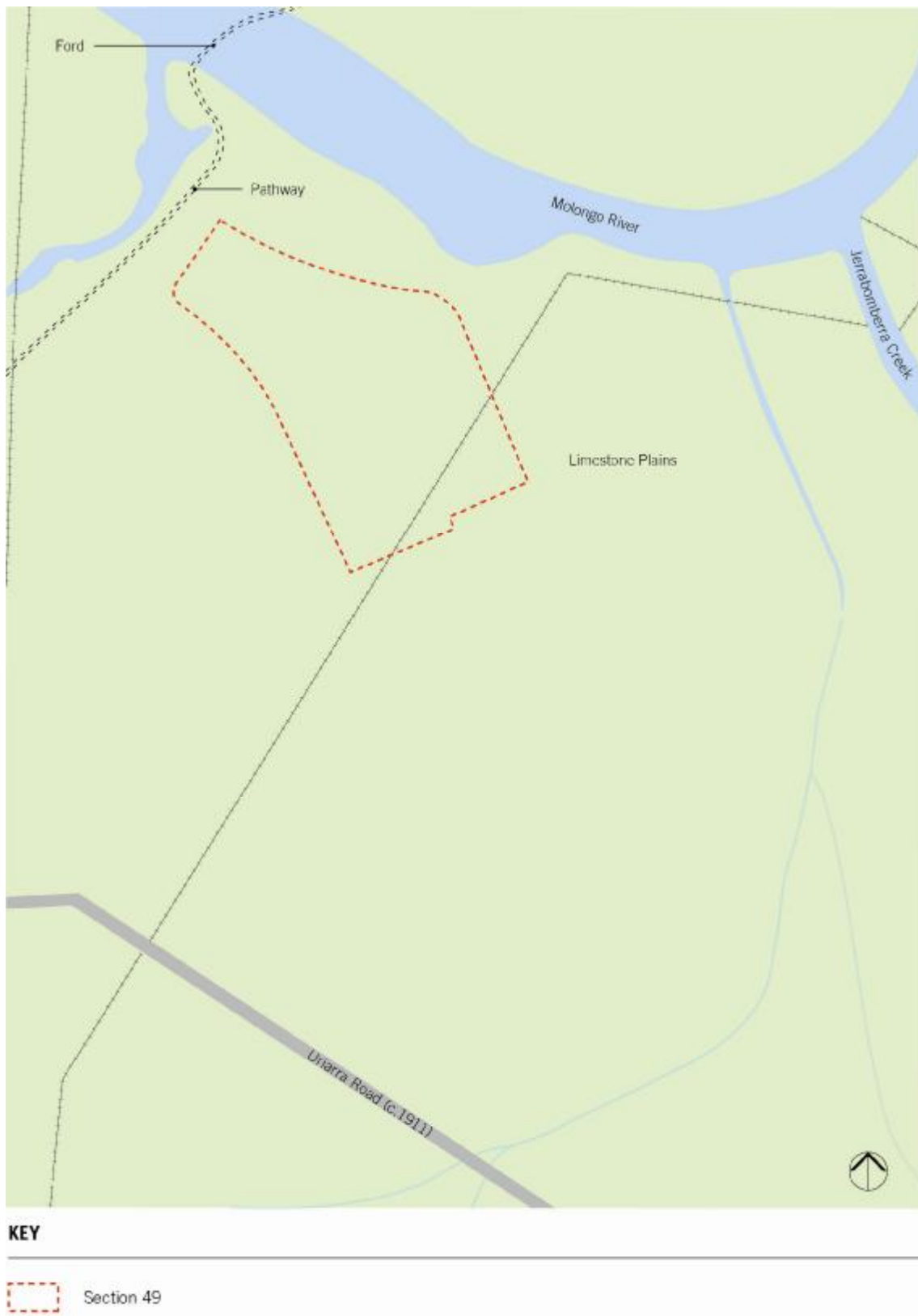
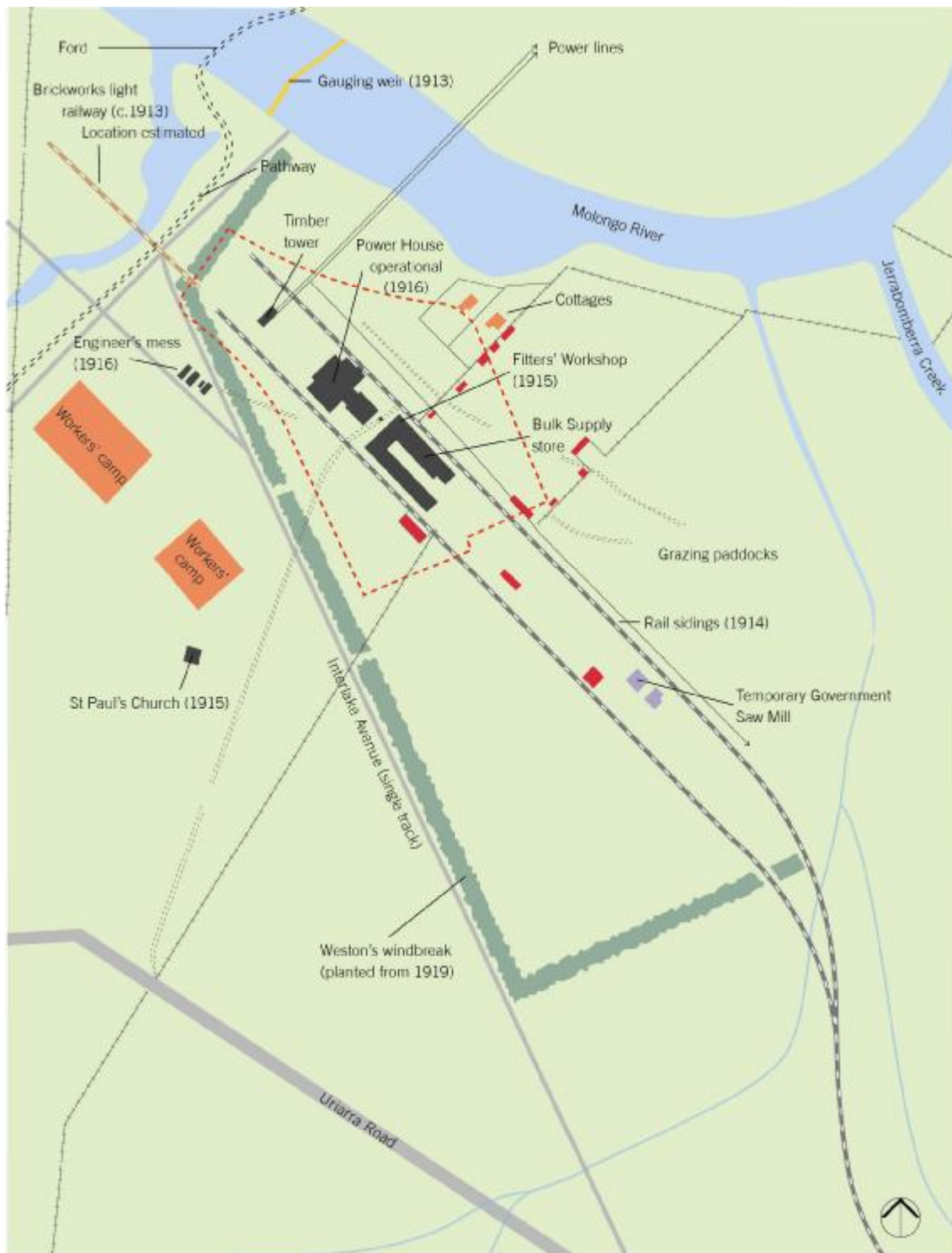


Figure 28 The Limestone Plains, 1911 (not to scale).



KEY

- | | | | |
|---|-------------|---|--|
|  | Section 49 |  | Temporary Government Saw Mill |
|  | Residential |  | Ancillary buildings (sheds, stores, garages etc) |

Figure 29 Sequential development drawing, 1920 (not to scale).

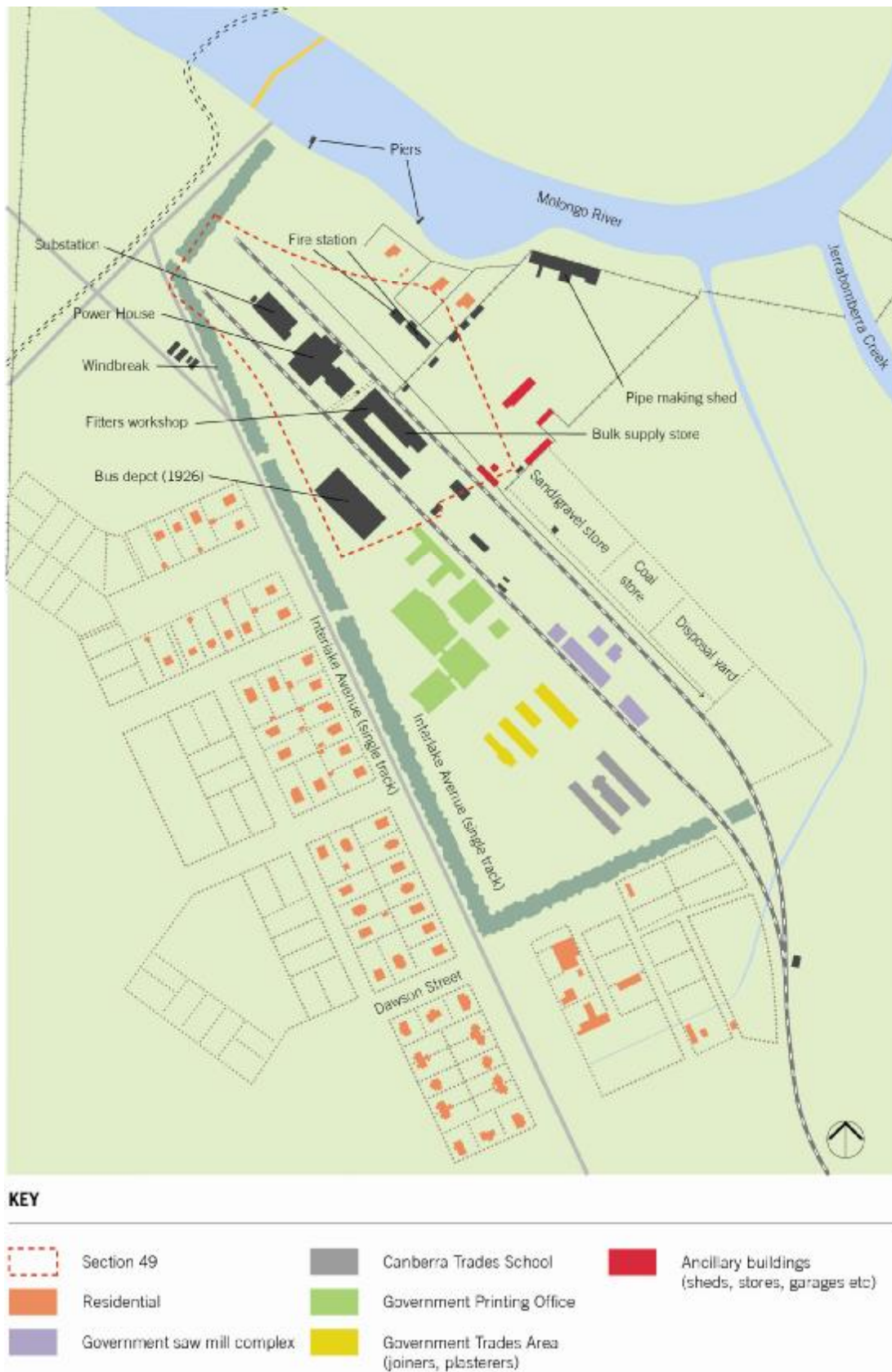


Figure 30 Sequential development drawing, 1940 (not to scale).



KEY

- | | | | | | |
|---|-----------------------------|---|-------------------------|--|--------------------------------|
|  | Section 49 |  | Canberra Trades College |  | Government services and stores |
|  | Residential |  | ACTEA complex | | |
|  | Government saw mill complex |  | Transport | | |

Figure 31 Sequential development drawing, 1970 (not to scale).

4.0 Components of the study area

Kingston Section 49 includes buildings, associated elements and soft landscape features which are included in the ACT Heritage Register pursuant to the *Heritage Act, 2004* (Part 3). These are:




- The 'Kingston Power Historic Precinct,' which contains the Kingston Power House, Fitters' Workshop, the 1948 Switch Room, former north rail embankment and landscape elements associated with 'Weston's windbreak' of the early 1920s; and
- The former Transport Depot, Kingston.




Elements within Section 49 that are not included in the ACT Heritage Register include the Telopea Park Substation and a large asphalt car park to the north-east of the Power House.

The following table provides a summary of site elements. For more detailed descriptions refer to the relevant CMP.

Element	Description	Pictures
Former Kingston Power House (Canberra Glassworks)	<p>The Power House was designed in 1911-12 by the chief architect of the Department of Works and Railways John Smith Murdoch. The body of the building comprises two gabled halls (the former boiler and engine bays). The ridges of the halls are 19m above ground level (RL 579). There is lower parapeted section to the north-west of the Power House, and a single storey economiser annex to the south-east, terminating at the base of the chimney (whose stack has been demolished and replaced with a modern glass sculpture).</p> <p>The Power House is steel-framed with walls of unreinforced concrete panels. The steeply pitched gables are clad with unglazed terracotta tiles. In 2006-07, the Power House was adapted to the Canberra Glassworks to designs by Tanner Architects. The works included the adaptation of the former boiler bay to a workshop for glass artists (bottom right).</p>	
Former Fitters' Workshop	<p>The Fitters' Workshop (built 1916) is a substantial structure constructed of unpainted concrete panels with a gabled roof clad with deep orange terracotta tiles. The entrance is at the south end of the north-west elevation. Historically, the area to the south-east of the Workshop (presently open space) accommodated a number of</p>	

Element	Description	Pictures
	<p>associated buildings. Internally, the space is a single volume.</p>	
<p>Former 1948 Switch Room (now accommodation for visiting glass artists)</p>	<p>The former Switch Room is a single-storey brick building with a pitched roof. It was constructed in 1948. In the post-World War II period there was a shortage of generating plant in New South Wales, and a significantly increased demand. This resulted in the Kingston Power House being brought back into service (from 1948-57). A new stack was built as part of the final operating phase of the Power House. The former Switch Room was constructed at the same time, presumably in anticipation of an increased requirement for the distribution and control of power. However, the 11kV switchgear was not designed and installed until 1960, three years after the closure of the Power House for the final time.²⁶ The building was later extended to accommodate additional switchgear.²⁷ It is assumed that the 1938 Switch Room remained operational prior to 1960.</p> <p>The 1948 Switch Room was adapted to an office in the mid-1980s, at which time the switchgear was removed, an extension was added to the west of the building and the original doorway to the east elevation was adapted to windows.²⁸ It is possible that the original terracotta tiles were replaced with the present dark concrete tiles at this time. More recently, the building has been adapted to accommodation for visiting glass artists.</p>	  

Element	Description	Pictures
Telopea Park Substation	<p>The substation is located at the north of Kingston Section 49. The brick structure was built in 1984, following an agreement between ACTEA and the NCDCC that the former would vacate the Power House and establish new premises elsewhere. The complex has not been identified as having heritage significance. However, its presence perpetuates the century-old connection between the site and the production of electricity.</p>	
Underground services	<p>132kV electrical cabling extends from the south-east corner of the Telopea Park substation and runs parallel with the embankment to the north-east the Power House. The trench is approximately 16m from the north-east elevation of the Power House. These works were completed in 2003. See thick green line (indicated) in plan at right.</p>	
Former Transport Depot	<p>The former Transport Depot is a large one and two-storey brick building constructed in multiple increments between 1926 and the 1980s. The original building (the Upper Hall) was constructed around an open-air vehicle turning courtyard. Parking was provided under skillion roofed enclosures to the sides. There were stepped parapets to the north-west and south-east elevations. Modifications in 1940 included the enclosure of the depot with a pitched roof carried on a fully welded rigid steel portal frame, and the construction of an administration wing in the Inter-War Functionalist style to the west elevation, addressing Wentworth Avenue. Subsequent additions saw the extension of the building to the north (Lower Hall), and included a two-storey workshop area at the south-east of the building (pictured right).</p>	

Element	Description	Pictures
Trees	Remnants of 'Weston's windbreak' (1920s) are located at the north-west of the site (top right) and opposite the entrance to Canberra Glassworks (bottom right). Respectively, these trees are Monterrey Pine (<i>Pinus radiata</i>) and White Brittle Gum (<i>Eucalyptus mannifera</i>).	
North-east rail siding and embankment	The embankment/rail siding, originally created in the 1914-16 period, is approximately 13-14m deep, and abuts the north-east elevation of the Power House. It is between c.700-1,000mm above the natural ground level, depending on the gradient (which slopes away to the north-east). Works for the 132kV cabling impacted on the form of the embankment, and some sections of the embankment have been regraded. An archaeological excavation carried out in 2006-07 revealed in situ remnants of original rail tracks and sleepers. ²⁹ A modern interpretive feature, including sections of steel rail line and timber sleepers, was installed in c. 2006/07 (right).	
South-west rail siding	The alignment of the former south rail siding is generally open space. With the exception of the rail platform (see below), there is no evidence of the rail tracks. The northern annex to the former Transport Depot (1980s) and part of the lower hall (1936 and 1951) are constructed on the alignment.	

Element	Description	Pictures
Rail platform	A section of the railway platform associated with the former south rail siding is located between the Fitters' Workshop and Lower Hall 3 (1951) of the former Transport Depot.	
Landscaping	A modern pedestrian pathway connects Wentworth Avenue to Eastlake Parade at the east of the site. South-west of the Glassworks this connection incorporates a landscaped area including the remnant White Brittle Gum (right top). North-east of the Glassworks two ramps manage the level change (approximately 1m) created by the rail embankment. The path itself is finishes in red bricks arranged in a herringbone pattern, and crushes brick (right bottom).	
At grade car parking	At grade car parks are located to the north-east of Section 49, and to the north-west of the Power House.	

4.1 Local context

Until the 1990s the Kingston foreshore retained an industrial character, with generally open views to Lake Burley Griffin. Redevelopment since then has seen its transformation as a primarily residential area, based on a masterplan prepared for the Kingston Foreshore Development Authority by Colin Stewart Architects in the late-1990s (Figure 32). Recent development includes medium-rise (three to five levels) apartment buildings in the blocks bounded by Eyre and Giles streets, Wentworth Avenue and Eastlake Parade (Figure 33) and the Waterfront Apartments and Aurora Residences addressing the lake (Figure 34).

Modern development, including the Waterfront Apartments, has largely blocked views to Lake Burley Griffin from Kingston Section 49 (Figure 34). The parapets of the penthouse suites to the Waterfront development are RL 578, consistent with the Development Code for the CZ5 Mixed Use Zone. A vista extends to the north-east between the Waterfront Apartments and the Aurora development (Figure 34). From the north of the lake visibility of historic buildings and elements at Kingston Section 49 is also constrained by modern development (Figure 35, Figure 36 and Figure 37).

Development to the west of Wentworth Avenue ranges from one to three storeys and generally dates from the 1970s, interspersed with some older properties (Figure 38).



Figure 32 Kingston Foreshore Masterplan, late-1990s: Kingston Section 49 is highlighted.



Figure 33 View of modern residential development to the south of Kingston Section 49.



Figure 34 View looking east from the embankment to the north-east of the Power House (March 2013): the Waterfront Apartments are to the left of the picture.



Figure 35 View of Kingston Section 49 from Grevillea Park, on the north bank of Lake Burley Griffin (October 2011).



Figure 36 Aerial view of Kingston Section 49, January 2010.
Source: www.nearmap.com



Figure 37 Aerial view of Kingston Section 49, July 2013.
Source: www.nearmap.com



Figure 38 View of the west side of Wentworth Avenue from the median strip.

5.0 Assessment of Significance

In the following section the former industrial/government services area at Kingston Section 49 is assessed against the ACT Heritage Register criteria included at Part 2 (10) of the *Heritage Act* 2004. This assessment has regard for the values of the former industrial area as a whole, and does not provide a comprehensive assessment of the values associated with the individual buildings (see individual ACT Heritage Register citations).

5.1 Assessment against heritage significance criteria

(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;

Buildings at Kingston Section 49 that demonstrate a high degree of creative achievement are the Power House and Fitters' Workshop, and the Administration Building at the Transport Depot. The portal frame at the Transport Depot is of technical significance.

The Power House and Fitters' Workshop buildings were designed by the chief architect of the Department of Works and Railways John Smith Murdoch, and completed by 1916. The buildings are related stylistically, being and distinguished early examples of the Stripped Classical (or 'Federal Capital') architectural style. The Power House is steel-framed with walls of unreinforced concrete panels. The Fitters' Workshop is a reinforced concrete structure with roughcast render walls. Both have steeply-pitched gabled roofs areas finished in unglazed terracotta tiles. Each building expresses its function. The two gabled halls of the Power House accommodated the boiler and engine bays. The Fitters' Workshop is a single volume, reflecting the requirement for a flexible space for maintenance of government plant and equipment.

The Administration Building of 1940 (with additions in 1945, 1960 and the 2000s) at the Transport Depot is of aesthetic significance as an example of the inter-war functionalist style

applied to an industrial building. The building was designed by Cuthbert Whitley during his brief tenure as Chief Architect of the Commonwealth Department of Works.

The fully welded rigid portal frame constructed in 1940 to enclose the Transport Depot is technically significant as an early example of its type in Australia.

(b) it exhibits outstanding design or aesthetic qualities valued by the community or a cultural group;

There is no evidence to indicate that the former industrial and government services area or its constituent components are valued by the community or a cultural group for reasons relating to design or aesthetics.

(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;

The former industrial/government services area at Kingston Section 49 is important as evidence of a distinctive land use of exceptional interest.

Kingston emerged as Canberra's industrial and government services area following the 1911 decision to locate a 'temporary' Power House on the south bank of the Molonglo River close to the Jerrabomberra Creek. This decision was driven by access to water (the pool created by the 1913 gauging weir provided a regular water supply for the Power House boilers) and by the proximity of the site to the anticipated rail line from Queanbeyan. The decision pre-dated the competition for the design of the Federal Capital. By the time Walter Burley Griffin was announced as the winner of the competition, the 'temporary' site had become permanent. Griffin had anticipated the area for residential development.

The Power House was operational by 1916. Coal for the facility was delivered to the site by rail sidings (1914) located to either side of the Power House and Fitters' Workshop. An embankment was created to the north-east of the buildings, to compensate for the slope down to the Molonglo River. The alignment of the rail sidings remains visible, and contributes to an understanding of the process of coal fired electrical power production.

During its brief period of operation (from 1916 to 1929), a large number of buildings and ancillary structures were constructed in proximity to the Power House. The planning of these structures was generally subordinate to the alignment of the rail sidings. This pattern continued to the south of the Power House during the 1920s and '30s, with development extending on a strong axial alignment from north-west to south-east. Later Government facilities included saw mills, the Government printing office and a trades school, reflecting the centralised provision of industrial and engineering services as part of the planned approach to the development of Canberra. The orientation of the Transport Depot (1926-27), located to the south of the Power House, was also subordinate to the rail siding, and reflected the consolidation of government services in the area.

Since the 1960s, the planning emphasis for the area has seen its gradual transformation from an industrial to a residential area. During this period the extent of the former industrial/government services area has been considerably reduced. The Power House, Fitters' Workshop, the former Transport Depot and the rail siding alignments and embankment survive as remnants of the area's former industrial character.

(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;

There is no evidence to indicate that the former industrial and government services area at Kingston, or its constituent components, is valued by the community or a cultural group for reasons of spiritual, cultural, educational or social associations.

(e) it is significant to the ACT because of its importance as part of local Aboriginal tradition;

The place does not meet this criterion.

(f) it is a rare or unique example of its kind, or is rare or unique in its comparative intactness;

The provision of a power station for a new settlement is not rare or unique. The Power Station building is predominantly intact externally, but the original power generating equipment has been removed. This criterion is not considered to apply.

(g) it is a notable example of a kind of place or object and demonstrates the main characteristics of that kind;

The place does not meet this criterion.

(h) it has strong or special associations with a person, group, event, development or cultural phase in local or national history;

The Power House has strong associations with the establishment phase of the Federal Capital. Following the decision in 1908 to construct the city at the Limestone Plains, consideration was given to the provision of water, power and construction materials in the isolated setting. The construction of a power station south of the Molonglo River and in proximity to the anticipated rail line from Queanbeyan was an outcome of this process.

The Power House and Fitters' Workshop were among the first permanent buildings constructed in the Federal Capital, and the space between them is believed to have been the first man-made environment in the emerging city.

Historically, the government services/industrial area was a self-contained compound, screened from view by a deep windbreak planted from 1919 under the direction of Thomas Weston. However, the body of the Power House building (approximately four storeys high) and its distinctive steep gabled roof forms were visibly prominent in the generally flat and largely denuded landscape. Notwithstanding new development in the area, the gabled roof forms remain visible today, particularly in views from the west, through the remnants of Weston's windbreak planted in the 1920s.

The remnants of the windbreak are significant as early plantings associated with Thomas Weston's tenure as officer in charge of afforestation at the National Capital between 1913 and 1926. They demonstrate his approach to landscaping and plantings that has been a major influence on the development of the national capital. They are also significant for their ability to demonstrate the intent to screen the industrial complex from view in the early period of the national capital.

The former Transport Depot was constructed in 1926-27 to accommodate Canberra's bus fleet and official government vehicles. It recalls the evolution of Canberra's public transport network in the development phase of the national capital.

(i) it is significant for understanding the evolution of natural landscapes, including significant geological features, landforms, biota or natural processes;

The place does not meet this criterion.

(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;

Subsurface artefacts at Kingston Section 49 have the potential to contribute to an understanding of the uses and operation of the largest and most significant industrial area in the early development of the national capital.

(k) the place exhibits unusual richness, diversity or significant transitions of flora, fauna or natural landscapes and their elements;

The place does not meet this criterion.

(l) the place is a significant ecological community, habitat or locality for any of the following:

- *the life cycle of native species;*
- *rare, threatened or uncommon species;*
- *species at the limits of their natural range; or*
- *distinct occurrences of species.*

The place does not meet this criterion.

5.2 Statement of significance

What is significant?

The former industrial and government services area at Kingston Section 49 is located approximately 2km east of Capital Hill in central Canberra. It is a remnant of a once much larger industrial area that extended south-east towards the present Canberra railway station. The primary surviving industrial/government services buildings at the area are the Power House (Canberra Glassworks), Fitters' Workshop and the former Transport Depot. These buildings are oriented north-west to south-east, their planning being subordinate to the rail sidings that ran either side of the Power House and Fitters' Workshop from 1914. The alignment of the rail sidings remains visible. To the west of Kingston Section 49, two groups of trees (Monterey Pine, *Pinus radiata* and White Brittle Gum, *Eucalyptus mannifera*) are remnants of a deep windbreak planted from 1919 under the direction of Thomas Weston, officer in charge of afforestation at the National Capital between 1913 and 1926.

How is it significant?

The former industrial and government services area at Kingston Section 49 is of historical significance. The Power House, Fitters' Workshop, remnants of Weston's windbreak and the Administration Building at the Transport Depot are of aesthetic significance. The upper bay of the former Transport Depot is of technical significance.

Why is it significant?

The former industrial and government services area at Kingston Section 49 is historically significant for its associations with the establishment phase of the Federal Capital.

Following the 1908 decision to construct the Federal Capital at the Limestone Plains, consideration was given to the provision of water, power and construction materials in the isolated setting. The construction of a power station south of the Molonglo River (the pool created by the 1913 gauging weir provided a constant source of water for the Power House boilers) and in proximity to the anticipated rail line from Queanbeyan was an outcome of this process, and was a critical factor in the emergence of Kingston as an industrial area. The decision also pre-dated the competition for the design of the Federal Capital. By the time Walter Burley Griffin was announced as the winner of the competition the 'temporary' site had become permanent. Griffin had anticipated the area for residential development.

The Power House and Fitters' Workshop were among the first permanent buildings constructed in the Federal Capital (completed in 1915 and 1916 respectively). The space between them is believed to have been the first man-made environment in the city.

Coal for the Power House was delivered to the site by rail sidings located to either side of the Power House and Fitters' Workshop. An embankment was created to the north-east of the buildings, to compensate for the slope down to the Molonglo River. The alignment of the rail sidings remains visible, and contributes to an understanding of the process of coal fired electrical power production.

During its brief period of operation (from 1916 to 1929), a large number of buildings and ancillary structures were constructed in proximity to the Power House. The planning of these structures was generally subordinate to the alignment of the rail sidings. This pattern continued to the south of the Power House during the 1920s and '30s, with development extending on a strong axial alignment from north-west to south-east. Later Government facilities included saw mills, the Government printing office and a trades school, reflecting the centralised provision of industrial and engineering services as part of the planned approach to the development of Canberra. The orientation of the Transport Depot (1926-27), located to the south of the Power House, was also subordinate to the rail siding, and reflected the consolidation of government services in the area.

The former Transport Depot (upper hall) is historically significant for its ability to recall the evolution of Canberra's public transport network in the development phase of the national capital.

Since the 1960s, the planning emphasis for the area has seen its gradual transformation from an industrial to a residential area. During this period the extent of the former industrial/government services area has been considerably reduced. The Power House, Fitters' Workshop, the former Transport Depot and the rail siding alignments and embankment survive as remnants of the area's industrial character. Subsurface artefacts at Kingston Section 49 have the potential to contribute to an understanding of the uses and operation of the industrial area in the early development of the national capital.

Historically, the government services/industrial area was a self-contained compound, screened from view by a deep windbreak planted from 1919 under the direction of Thomas Weston, officer in charge of afforestation at

the National Capital between 1913 and 1926. However, the body of the Power House building (approximately four storeys high) and its distinctive steep gabled roof forms were visibly prominent in the generally flat and largely denuded landscape. Notwithstanding new development in the area, the gabled roof forms remain visible today, particularly in views from the west, through the remnants of Weston's windbreak planted in the 1920s.

The remnants of the windbreak are significant as early plantings associated with Thomas Weston. They demonstrate his approach to landscaping and plantings that has exerted a major influence on the development of the national capital. They are also significant for their ability to demonstrate the intent to screen the industrial complex from view in the early period of the national capital.

The Power House and Fitters' Workshop are aesthetically significant. Both buildings were designed by chief architect of the Department of Works and Railways John Smith Murdoch, and were completed in 1915 and 1916 respectively. The buildings are related stylistically, being early examples of the Stripped Classical (or 'Federal Capital') architectural style. The Power House is steel-framed with walls of unreinforced concrete panels. The Fitters' Workshop is a reinforced concrete structure with roughcast render walls. Both have steeply-pitched gabled roofs areas finished in unglazed terracotta tiles. Each building expresses its function. The two gabled halls of the Power House accommodated the boiler and engine bays. The Fitters' Workshop is a single volume, reflecting the requirement for a flexible space for maintenance of government plant and equipment.

As built (1926-27), the former Transport Depot was a symmetrically composed brick structure with stepped parapets at each end and an open-air turning circle in the middle. The Administration is aesthetically significant as an example of the inter-war functionalist style applied to an industrial building. The fully welded rigid portal frame constructed in 1940 to enclose the Bus Depot is technically significant as an early example of its type in Australia.

6.0 Heritage strategy

6.1 Introduction

As noted in the introduction, Kingston Section 49 is proposed for development as an arts precinct. This chapter provides a summary of heritage values and elements at Kingston Section 49, and a suite of conservation policies and development guidelines to inform the proposed development. These guidelines have regard for the identified significance of the area, and the buildings and spaces within it. The principal heritage issues and considerations are illustrated at Figure 39.

6.2 Significant buildings and elements

The following assessment of significance follows a review of the CMPs for the Power House Precinct, the Fitters' Workshop and the Transport Depot (see Section 2.0). It also has regard for the respective ACT Heritage Register entries for these places, and the outcomes of the assessment of significance for the Kingston industrial/government services area undertaken for this heritage assessment.

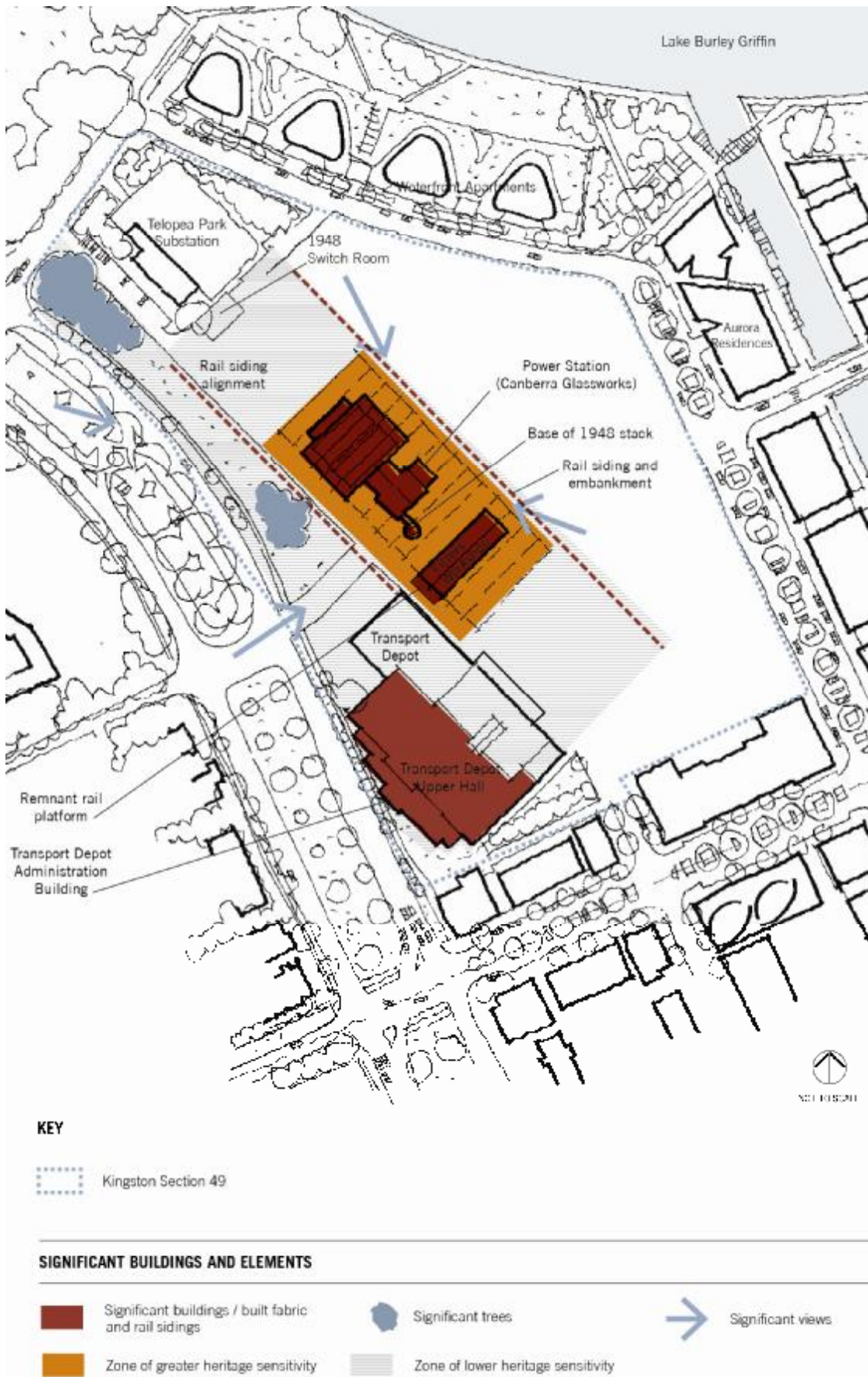


Figure 39 Significant buildings and elements.

Elements intrinsic to the significance of the place

Significant buildings and elements at Kingston Section 49 are associated with the development of Kingston as an industrial and government services area from 1913 when construction of the Power House commenced. They also include later elements of technical and architectural significance.

The significant buildings and elements at the place are as follows:

- the Power House (Canberra Glassworks), including the air raid siren and 'shift' whistle
- the Fitters' Workshop
- the rail siding alignments to the north-east and south-west of the Power House, the rail embankment to the north-east of the Power House and the section of railway platform to the south-west of the Fitters' Workshop
- the remnants of the 1920s windbreak to Wentworth Avenue, comprising Monterey pines (*Pinus radiata*) and White brittle gum (*Eucalyptus mannifera*)
- the upper hall of the Transport Depot, including the fully welded rigid portal frame (1940)
- the Transport Depot Administration Building (1940, 1945, 1960s)
- the base of the 1948 stack

'1948 Switch Room'

As compared to previous assessments, the major variation to the above is that the '1948 Switch Room' is not considered to be an element intrinsic to the significance of the heritage place. The reasons for this assessment are given below.

The ACT Heritage Register Statement of Significance for the Power House Precinct states that the '1948 Switch Room' is significant for its ability to provide evidence of the last phase of the reactivation of the Power House (1948-57). The building was graded C (on a grading system of A-D) in the *Kingston Power House Precinct, Conservation Management Plan Review*, 2001.³⁰

The reactivation of the Power House in 1948 required the construction of a new stack in order to support operations (the base of the stack survives). The Switch Room was also constructed at this time, but the 11kv switchgear was not designed and installed until 1960. Since then it has been extended and/or modified on at least three occasions, including an extension to the south-west in the mid-1980s and the replacement of the original Marseilles Pattern Terra Cotta Tiles. The switch gear had been removed by the mid-1980s. The most recent works – the fit-out to residential use – were carried out in 2008.

The context of the 1948 Switch Room has also changed since 2000, through the demolition of the two-storey engineering services workshop and the 1938 switch house (respectively graded D and C in the 2001 CMP Review). This has resulted in the 1948 Switch Room being physically isolated from the Power House and Fitters' Workshop. Today, in a planning sense, the building relates most directly to the modern Telopea Park substation (1984). This connection is reinforced through the design parallels between the 1948 Switch Room and the main entry to the substation, including the general scale of the buildings, their simple gabled roof forms, the use of face brick and dark concrete roof tiles (Figure 40).



Figure 40 The non-original south-west elevation of the 1948 switch room, pictured right.

The 1948 Switch Room is an extensively modified building. It was graded C in 2000, and further works have been carried out to it since then. Works to the building over time and the changed context, have diminished the significance of the former Switch Room, and reduced its ability to demonstrate the function for which it was designed. The building makes a limited contribution to an understanding of the activities and processes that occurred at the former Power House site during its period of operation, and does not have a direct connection with the final operational phase of the Power House.

Having regard to the above, it is considered that the building is not an element intrinsic to the significance of the Kingston Power House precinct.

6.3 Care and conservation of significant buildings and elements

The retention and conservation of significant buildings and elements should be a key consideration in the future management of the former industrial and government services area at Kingston.

Significant buildings, built fabric and elements, including trees, should be retained and conserved. These elements are generally associated with the development of Kingston as an industrial and government services area from 1913, when construction of the Power House commenced. They also include later elements of technical and architectural value (respectively, the portal frame to the Transport Depot Upper Hall and the administration wing of the Transport Depot).

Maintenance, future works and new uses should have regard for the CMPs prepared for these buildings.

6.4 Heritage curtilage and setting

The 'heritage curtilage' for a building, complex or site has been defined as:

... the area of land (including land covered by water) surrounding an item or area of heritage significance which is essential for retaining and interpreting its heritage significance. It can apply to either:

- land which is integral to the heritage significance of items of the built heritage; or
- a precinct which includes buildings, works, relics, trees or places and their setting.³¹

Setting is defined in the Burra Charter (Definitions, Article 1.12) as, 'the area around the place which may include the visual catchment'. The Charter's Conservation Principles for 'setting' (Article 8) expand on the definition: 'Conservation requires the retention of an appropriate visual setting and other relationships that contribute to the cultural significance of the place'.

A heritage curtilage should include the elements and areas that are critical to maintaining the heritage significance of the place. Identification of land to be included within a heritage curtilage does not preclude change within this area. Land within a heritage curtilage does, however, need to be managed so as not to adversely impact on setting, presentation or significance of a heritage place.

In the case of Kingston Section 49 two heritage curtilages have been identified; these are described as zones of greater and lesser sensitivity (illustrated at Figure 39).

6.4.1 Zone of greater sensitivity

The area surrounding the Power House and Fitters' Workshop is the zone of greater sensitivity. To the north-east and south-west this area is flanked by the former rail siding alignments; to the south-east and north-west it extends 15m from the main building lines of the historic buildings.

The retention of the zone of greater sensitivity as open space is critical to an appreciation of the architectural and planning relationship between the Power House and Fitters' Workshop, and to an understanding of the Kingston Section 49 as an industrial site. There is no potential for the introduction of new built form within the zone of greater sensitivity.

6.4.2 Zone of lesser sensitivity

The zone of lesser sensitivity captures all of the significant buildings and elements at Kingston Section 49. It is defined to the north-east by the former rail siding alignment and to the north and south-west by Wentworth Avenue. The southern extent is defined by the south-east elevation of the former Transport Depot.

New development can be contemplated within the zone of lesser sensitivity to the north-west of the Power House and south-east of the Fitters' Workshop. Development should not be contemplated within the landscaped open space to Wentworth Avenue (see also 'Views and vistas,' 6.5). Where new development is proposed within the zone of lesser sensitivity, the siting, massing and height of new built form should demonstrate a sensitive approach to the significant buildings and elements. Guidelines relating to new development within the zone of lesser sensitivity are at Section Figure 43.

In the event that demolition of the Lower Hall to the former Transport Depot is contemplated, it would be appropriate to open up views of the Fitters' Workshop from Wentworth Avenue.

Outside the zones of the heritage sensitivity

The area to the north-east of the Power House and Fitters' Workshop is outside the heritage curtilage. However, new development in this area should demonstrate a respectful approach to the Power House, including a minimum separation of 20m from the Power House. This approach will avoid impacts on oblique views of the Power House and Fitters' Workshop as seen along the alignment of the north-east rail siding.

6.5 Views and vistas

Key views to and within the former industrial and government services area at Kingston Section 49 are those that provide an understanding of the architectural, planning and functional relationship between Power House and the Fitters' Workshop. Future development should not impact upon or impede an appreciation of these views. Key views are illustrated at Figure 39.

The Power House was a large industrial facility built to provide an essential service. It was not a building designed to be 'viewed'. However, given its scale – it was built to accommodate five 600kW generators – and the generally flat terrain it has long been recognised as having 'landmark' qualities within Kingston and beyond. This remains the case today, particularly in views from the west.

From the 1920s until the 2000s the Power House complex was screened in views from the west, by both trees and built form. Between 1919 and 1923, a deep windbreak was planted to the west of the Power House, lining Interlake (Wentworth) Avenue. This formed a physical and visual barrier from the emerging residential district to the west. In the mid-1940s the present alignment of Wentworth Avenue was established, with a wide median strip for parking, and Plane trees to either side. However, in the immediate vicinity of the Power House the 1920s plantings – by then mature – survived (Figure 22). In the 1960s, workshop and office buildings were constructed for ACTEA in the triangular area to the west of the Power House. These were demolished in the 2000s. The present generally open views of the complex from the south-west and north-west date to this period, and provide the principal viewing point for the complex from the public domain (Figure 41).

Historically, views of the Power House complex from the north and east, across the Molonglo River (Lake Burley Griffin from 1964), were comparatively open. A 1941 conference attended by senior officers responsible for the various industrial functions in the Kingston area met to consider the future development of the area, which was considered unsightly and uncoordinated. The conference resolved that a strip of at least 135m (150 yards) should be reserved along the riverbank for a belt of trees to screen the area.³² However, this was not established.

The 2001 *CMP Review* for the Power House Precinct identified views of the Power House from Kings Avenue Bridge as a key 'vantage point'. However, recent development has largely blocked views from the north.

The 1997 masterplan for the Kingston foreshore prepared by Colin Stewart incorporated a view line looking north-east from the Power House through the new lakeside development towards the Jerrabomberra Wetlands. This view line is a modern introduction, and is not based on historic precedent. It is also noted that there is very limited visibility of the Power House from the wetlands – i.e. it is a view 'out', rather than 'in'.

From a heritage perspective, longer views of the Power House are fortuitous and of limited significance. The key consideration in terms of views and vistas are local views of the Power House and Fitters' Workshop as structures with a demonstrable visual, planning and functional relationship. The primary vantage points for these views are from the north-east, particularly viewed obliquely (Figure 42). Future development outside the zones of heritage sensitivity should not impact upon or impede an appreciation of these views.



Figure 41 View of the Power House looking south along Wentworth Avenue.



Figure 42 View of the Power House and Fitters' Workshop from the north-east.

6.6 New works and development

The former Kingston government services/industrial area has been subject to a high level of development over the past century (see the sequential development plans at Section 3.3). New development should have regard for historic patterns of development within the area, and should not impact on the Power House as the dominant built form in the area, or its architectural and planning relationship with the Fitters' Workshop.

The development guidelines are illustrated at Figure 43.

6.6.1 Siting

Zone of greater sensitivity

As noted, new development should not be introduced within the zone of greater sensitivity (see Figure 39).

Zone of lesser sensitivity

From a heritage perspective, key considerations for new development to the north-west of the Power House and the south-east of the Fitters' Workshop are that:

- built form is contained within the alignment of the former rail sidings
- development does not extend beyond the main building lines of the north-east and south-west elevations of the Power House and Fitters' Workshop
- development is set back no less than 15m from the north-west of the Power House and the south-east of the Fitters' Workshop

There is a lower level of sensitivity relating to the '1948 Switch Room' and the later additions to the north-east of the Transport Depot. In the event that they are retained, a set back of approximately 5m should be provided between new development and these elements.

Within the zone of lesser sensitivity, there is scope for the truncation of the rail alignments.

As noted at Section 6.5 ('Views and vistas') and at Section 6.7 ('Landscape'), the Wentworth Avenue frontage should be maintained as landscaped open space.

Outside the zones of the heritage sensitivity

New development on the large area to the north-east of Kingston Section 49 should demonstrate a respectful approach to the Power House and Fitters' Workshop, and should be setback a minimum of 20m from the main building line of the north-east elevation of the Power House.

6.6.2 Building height

Zone of lesser sensitivity

New development to the north-west of the Power House and south-east of the Fitters' Workshop should not extend above the eaves height of the Power House (RL 573.1), enabling the pitched roof forms to remain the dominant visual elements of the site in longer views (Figure 43, Figure 44 and Figure 45).

Subject to the relevant provisions of the Territory Plan, there is potential for development at the northern end of the block to the north-west of the Power House, and the southern end of the block to the south-east of the Fitters' Workshop to extend above this height. In the event that this is contemplated, sightline diagrams should be prepared to test the impact on key views of the Power House and Fitters' Workshop.

Outside the zones of the heritage sensitivity

There is a lower level of sensitivity for development on the large at-grade car park to the north-east of the Power House (Figure 43 and Figure 44). However, to avoid the potential for detracting from the Power House as the dominant built form in the area, development should be no higher than the underside of the Power House eaves (RL 573.1) to a distance of 30m from main building lines of the Power House and the Fitters' Workshop. To the north-east of this zone, new development should be no higher than the ridgeline of the Power House (typically RL 578.5m), subject to the relevant provisions of the Territory Plan.

The zones where these preferred heights control apply are shown at Figure 43.

6.6.3 Roof forms

A key heritage objective is to protect the distinctive steep gabled roof form of the Power House as a dominant feature of the local streetscape and in longer views. Roof forms to new buildings should demonstrate a respectful approach, and should not compete with the Power House.

6.6.4 Materials

The materials palette of new development should generally be light in tone and with limited diversity. The unglazed terracotta tiles of the Power house and Fitters' Workshop are very strong and should remain visually dominant. Reflective materials should be avoided.

6.7 Landscape

Weston's windbreak

The remnants of 'Weston's windbreak' are intrinsic to the heritage significance of the place. These trees are associated with the establishment of Canberra's landscape character under the guidance of Charles Weston. They were introduced from 1919 and included outer rows of acacias, an inner row of eucalypts and four rows of *Radiata pines*. Extant specimens are Monterey Pines (*Pinus radiata*) and White Brittle gums (*Eucalyptus mannifera*). These remnants should be celebrated and reinforced, accepting that Radiata pine is an ACT Declared Weed Species. The advice of an arborist should be sought to identify appropriate alternative species.

Future landscape character

New landscaping should be of a character and appearance that responds to the historic context with a balance of hard and soft landscaping.

Historically, the landscape of the former industrial and government services area was utilitarian, including areas of hard-paving, and included few if any decorative plantings. Consistent with the intention to redevelop the area as a publically-accessible arts hub, there is no requirement for future landscaping to maintain this sparse approach. Rather, new landscaping should be of a contemporary character and appearance that responds to the historic context with a balance of hard and soft landscaping. Extensive grassed areas should be avoided.

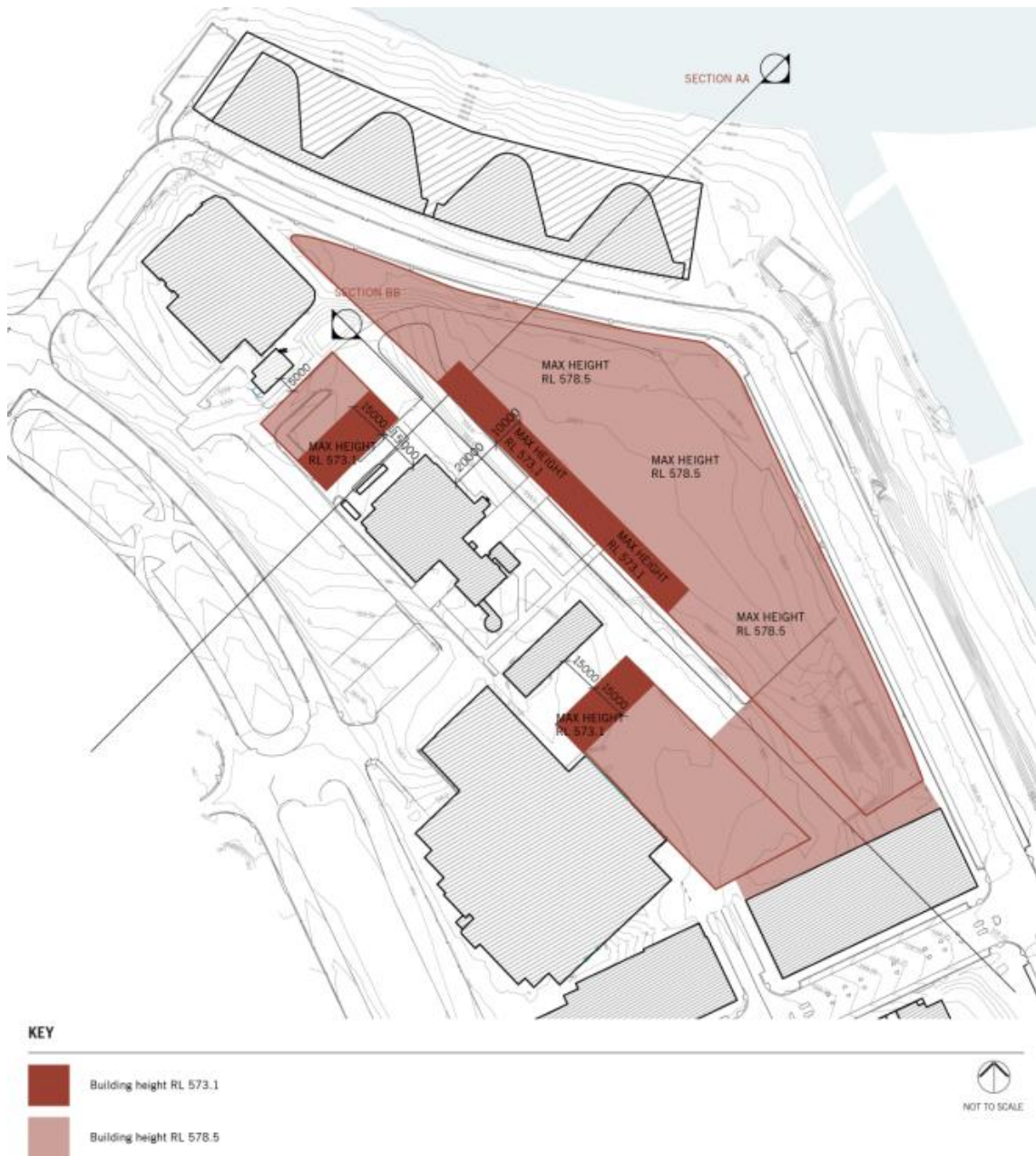


Figure 43 Plan showing maximum heights of future development at Kingston Section 49, and setbacks of new development from significant buildings and elements.

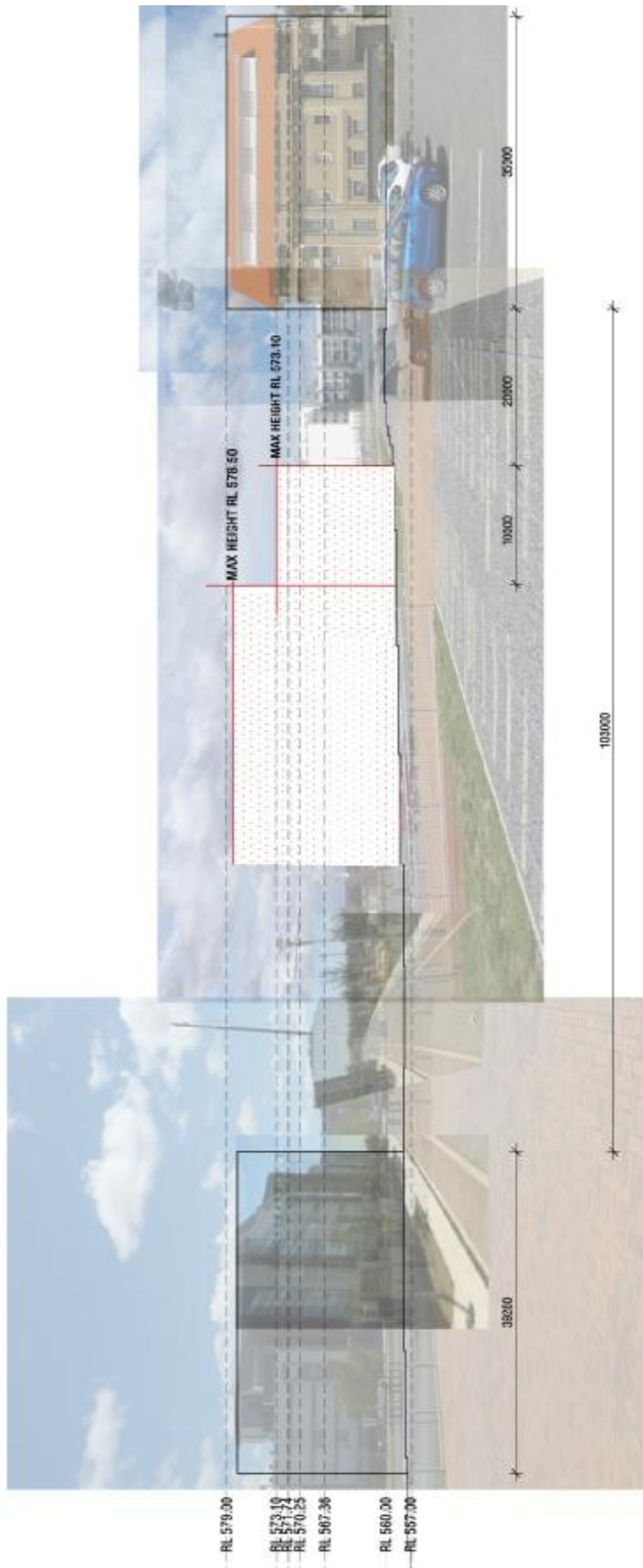


Figure 44 Section AA.

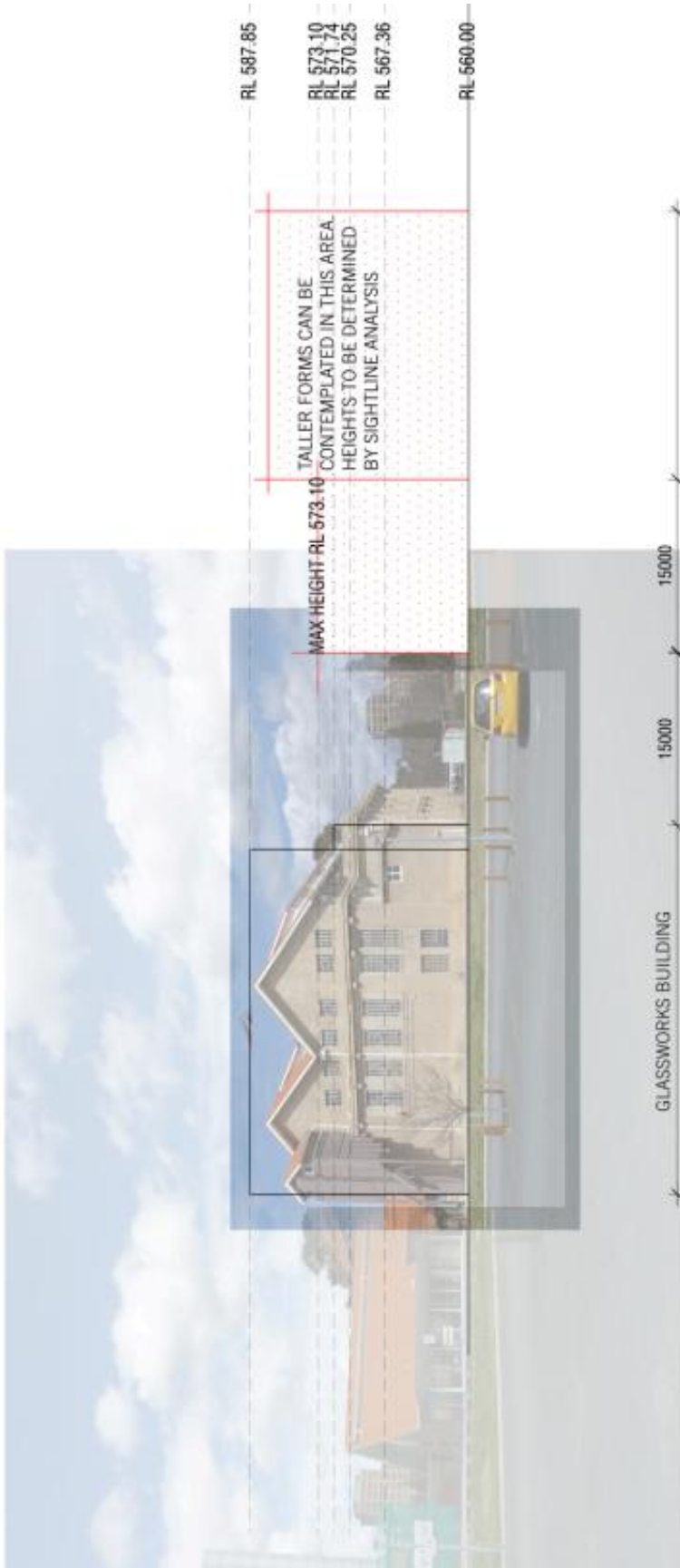


Figure 45 Section BB.

6.8 Archaeological potential

The archaeological potential of the area is noted in the *Kingston Power House Precinct CMP Review* (2001) and the *Fitters' Workshop CMP* (2011). Sub-surface built fabric and artefacts have the potential to enhance an understanding of the operation of place as an industrial precinct.

The CMP Review (2001) recommends that all excavation and landscaping works in the study area should be undertaken in accordance with approved archaeological procedures. This approach is supported.

The north-east rail embankment

An embankment was formed to the north-east of the Power House by 1915, to enable the delivery of coal (Figure 13). The height of the embankment varied from approximately 700 to approximately 1000mm, following the natural contours – the site slopes down towards the north and north-east. At the interface with the Power House, the embankment accommodated three rail lines. The north-easternmost line was approximately 12m from the base of the Power House.³³ The original width of the embankment has not been established during research for this report; in 2006, it extended approximately 14m from the base of the Power Station.

In 2002/03, works to install 132kV electrical cables were carried out close to the base of the embankment. An approximately 4m-wide trench was required to install the cables, and there is a 3m-wide easement to either side of the trench. The grade of the embankment was impacted by these works. Also, to the south of the Power House, the gradient of the embankment has been modified for the pedestrian paths and ramps that extend from Wentworth Avenue to Eastlake Parade.

Archaeological testing conducted in June, July and September 2006 exposed sections of the two original rail lines closest to the Power House. The archaeologists (Navin Officer) concluded that, 'There is significant historical and archaeological evidence ... to indicate that there are further remains of at least three sets of railway lines aligned in a northeast/southwest orientation, and a built-up railways embankment, in the area to the immediate northeast of the Power House and the Bulk Store [Fitters' Workshop]'.³⁴

In the event that works are contemplated in this area – including the introduction of a landscaped plaza between the Power House and future development on the site of the present at-grade car park – further archaeological tests should be undertaken to establish what remains of the original rail tracks and sleepers, and the original embankment itself.

6.9 Interpretation

The development of Kingston Section 49 should include a comprehensive interpretation plan relating to the history of the area as a remnant of Canberra's early industrial and government services area. This is recommendation of all the existing CMPs for buildings in the area. However, to date it has not been acted upon.

Within the study zone, existing interpretation devices are limited, and include story boards fixed to temporary hoardings along the Wentworth Avenue frontage. These boards were identified as popular elements during the community consultation process for the development of the masterplan.

Interpretation can be undertaken via a range of tools and methods. Information can be presented in a readable format (printed or electronic, including brochures, pamphlets, books and websites); through specific reference to buildings and landscape elements; through the display of objects, artefacts, and archaeological remains (where appropriate), and through art works or landscape treatment.

The interpretation can be any of, but not necessarily limited to, the following:

- § A mix of formal and informal interpretation;
- § Accessible via a website;
- § Supplemented via interpretive publications such as books, brochures and an interactive CD;
- § One which uses interpretive themes; and/or
- § Interpretation which is linked to the delivery of public art, events and festivals.

The adoption of the preferred approach will be determined to a large extent by the precise nature of the future use of the area.

Whatever its form, the interpretation plan at Kingston Section 49 should augment the physical evidence of the Kingston government services/industrial area, and enhance an appreciation of the processes and activities that occurred there, as well as emphasising the status of the Power House as the first permanent building in the national capital. A critical element of the plan should be to reinforce the alignment of the former rail sidings, being the elements that determined the planning of the area from 1913/14 to the 1960s (when the new Government Printing Office was constructed with reference to Griffin's plan for the area) and provide a common-denominator between the former Transport Depot and the Power House Fitters' Workshop. As noted, it is recommended that archaeological test trenches are dug to determine the original levels of the former rail sidings. This would also provide a means of communicating the extent to which the landscape has been shaped over time by human activities. The interpretation plan might also provide an indication of buildings at the site that have been demolished, and the significant change that occurred with the flooding of Lake Burley Griffin, at which point Kingston became a desirable lakeside setting. There is also potential for an interpretation plan to incorporate personal recollections of workers in the area.

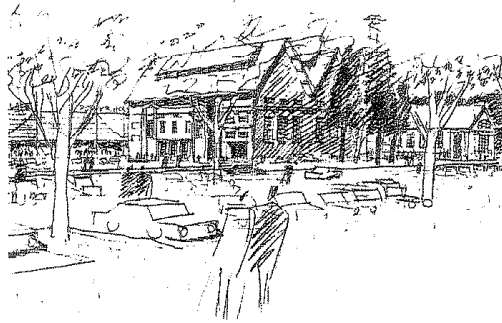
Endnotes

- 1 See *Kingston Arts Precinct Strategy* (March 2011) prepared for artsACT by Susan Conroy in association with Susan Davis, Sue Kyte, Eric Martin, David Moyle and Clare Middleton.
- 2 *Consolidated National Capital Plan*, September 2009, Section 4, p. 84.
- 3 Susan Conroy *et al*, *Kingston Arts Precinct Strategy*, March 2011, Appendix 1, pp. 5-6.
- 4 Duncan Marshall *et al*, *Fitters' Workshop, Conservation Management Plan*, 2011, p. 75.
- 5 Duncan Marshall *et al*, *Fitters' Workshop, Conservation Management Plan*, 2011, p. 24.
- 6 *Kingston Power House Precinct CMP Review* (2001), Peter Freeman, p. 13.
- 7 *Kingston Power House Precinct CMP Review* (2001), Peter Freeman, pp. 13-14.
- 8 Walter M Shellshear, 'Railways,' Canberra's Engineering Heritage, www.engineer.org.au/chapter02.html
- 9 *Kingston Power House Precinct CMP Review* (2001), Peter Freeman, pp. 15-16.
- 10 *Kingston Foreshore Site Cultural Mapping Stud* (June 1996), Freeman Collett & Partners, Volume 1, p. 10.
- 11 *Kingston Power House Precinct CMP Review* (2001), Peter Freeman, p. 19.
- 12 *Kingston Foreshore Site, Cultural Mapping Study* (1996), Freeman Collett & Partners, p. 13.
- 13 *Kingston Foreshore Site, Cultural Mapping Study* (1996), Freeman Collett & Partners, p. 15.
- 14 ACT Heritage Register citation for the Former Transport Depot, pp. 6-7 (see Appendix B).
- 15 Peter Freeman, *Kingston Power House Precinct, Conservation Management Plan Review*, 2001, p. 35.
- 16 Peter Freeman, *Kingston Power House Precinct, Conservation Management Plan Review*, 2001, p. 36; and H A Jones, 'Electricity,' Chapter 6 of *Canberra's Engineering Heritage*, Institution of Engineers, Canberra Division, 1990, p. 132.
- 17 Lovell Chen, Administration Building at the former Kingston Transport Depot, Assessment of Architectural Significance, prepared for the LDA, April 2012, pp. 5-9.
- 18 H A Jones, 'Electricity,' Chapter 6 of *Canberra's Engineering Heritage*, Institution of Engineers, Canberra Division, 1990, p. 130.
- 19 Freeman Collett & Partners, Brendan O'Keefe, Roger Hobbs and Vivid Histories, *Kingston Power House Precinct Conservation Management Plan*, June 1993, Volume 2, building data sheet 4. The data sheet includes two pictures.
- 20 H A Jones, 'Electricity,' Chapter 6 of *Canberra's Engineering Heritage*, Institution of Engineers, Canberra Division, 1990, p. 132.
- 21 H A Jones, 'Electricity,' Chapter 6 of *Canberra's Engineering Heritage*, Institution of Engineers, Canberra Division, 1990, p. 133.
- 22 H A Jones, 'Electricity,' Chapter 6 of *Canberra's Engineering Heritage*, Institution of Engineers, Canberra Division, 1990, p. 133.
- 23 Freeman Collett & Partners, Brendan O'Keefe, Roger Hobbs and Vivid Histories, *Kingston Power House Precinct Conservation Management Plan*, June 1993, Volume 2, building data sheet 4.

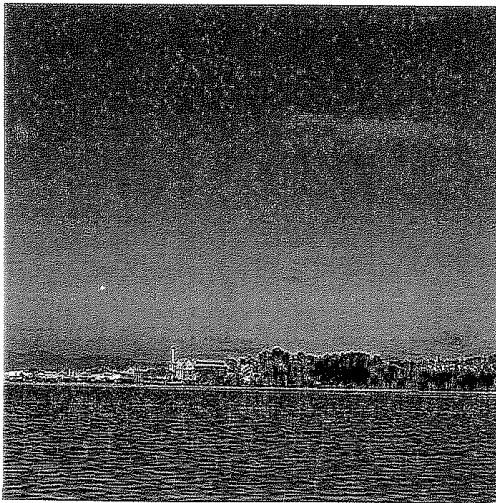
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- 24 *Kingston Foreshore Site, Cultural Mapping Study* (1996), Freeman Collett & Partners, p. 30.
- 25 Paul Reid, *Canberra following Griffin, A Design History of Australia's National Capital*, National Archives of Australia, 2002, p. 334.
- 26 H A Jones, 'Electricity,' Chapter 6 of *Canberra's Engineering Heritage*, Institution of Engineers, Canberra Division, 1990, p. 133.
- 27 H A Jones, 'Electricity,' Chapter 6 of *Canberra's Engineering Heritage*, Institution of Engineers, Canberra Division, 1990, p. 133.
- 28 Freeman Collett & Partners, Brendan O'Keefe, Roger Hobbs and Vivid Histories, *Kingston Power House Precinct Conservation Management Plan*, June 1993, Volume 2, building data sheet 5.
- 29 Navin Officer, *Kingston Power House Original Railways Lines, Archival Recording*, September 2006.
- 30 *Kingston Power House Precinct, Conservation Management Plan Review*, 2001, Peter Freeman Pty Lt, p. 56.
- 31 Heritage Office, *Heritage Curtilages*, Department of Urban Affairs and Planning, New South Wales, 1996, p.3.
- 32 Duncan Marshall et al, *Fitters' Workshop, Conservation Management Plan*, 2011, p. 30.
- 33 Navin Officer, *Kingston Power House Original Railways Lines, Archival Recording*, September 2006, p.4.
- 34 Navin Officer, *Kingston Power House Original Railways Lines, Archival Recording*, September 2006, p.9.

APPENDIX A

**EXTRACTS FROM THE KINGSTON FORESHORE
DEVELOPMENT CONTROL PLAN (2003)**



Power House from Wentworth Avenue



Power House from Central National Area. Clough, R
Used with permission of Nation Library of Australia

POWER HOUSE HERITAGE PRECINCT

" To preserve and protect the heritage significant buildings and elements in a manner which encourages adaptive reuse, public access to and experience and understanding of the heritage significance of the place."
TPV113

The Power House and the Bulk Store comprise the heritage-building group. This building group is to be retained and adaptively reused. These buildings will be the focal element in a lively pedestrian precinct that will have an open landscape frontage and forecourt to Wentworth Avenue. The distinctive gabled tile roof of the Power House will remain the dominant landmark building of the Foreshore development and will be visible from most vantage points particularly from across the lake and from Kings Avenue Bridge. There is an opportunity for the construction of a new structure on the site of the original chimney. For example, a viewing tower providing a wonderful vantage point for visitors to view the entire Foreshore could project above the Power House ridgeline.

The Power House heritage precinct is subject of a Conservation Management Plan that establish principles for protecting and conserving the heritage values of these architecturally and culturally significant buildings and structures.

Development principles for the Power House precinct set out in Part 3 Private Domain Urban Design Guidelines define the building zones for new development in this Power House precinct and the relationship with the reused existing heritage structures.

Development to the southwest of the Power House will be restricted to maintain clear views of the principal building facades from Wentworth Avenue. A market square will extend through to Wentworth Avenue to create a forecourt to the Power House.

The geometry of this square is generated from the orientation of the Power House. It sits at an oblique angle to the predominant street grid. This creates a sequence of distinctive transitional spaces as the street grid meets the curve of the lake foreshore. The change in the geometry opens up vistas past the Power House to Telopea Park and into the site from Wentworth Avenue.

As well as adaptively reusing the existing structures it is intended to reinvent and reinvigorate the surrounding area as a lively centre of workshops and markets with the creation of a new building to house these activities.

It is envisaged that these new buildings will be differentiated from the heritage buildings by development of more "industrial" architectural quality intended to form a contrasting backdrop to the heritage structures. Ultimately, it is envisaged that the lively activities like the Bus Depot Markets would be located in these buildings.

POWERHOUSE

POWER HOUSE PRECINCT SITE PLANNING

Block Layout

New buildings and structures may be located to the north east of the existing railway line except for the Bulk Store extension for which the building envelope is defined. No new major structures or buildings are to be built to the south of the Power House complex.

Access

Vehicular access to the site will be from Mundaring Street and the secondary street leading to the Giles Street extension. Service vehicles only will be permitted to use the shared zone of the Power House Complex forecourt.

Pedestrian access will be from the Wentworth Avenue frontage and from surrounding streets. Design of the forecourt should also accommodate access by people with disabilities from Wentworth Avenue

On Site Parking

On site parking is to be accommodated in the short term as surface parking. In the long term a parking structure servicing this precinct and the surrounding areas is to be located on this site within the market buildings envelope. Surface parking is to be designed to incorporate landscaping with trees of medium to large canopy to provide shade to parked cars, visual softening and partial screening to surrounding residences. Surface parking must be designed for casual surveillance by adjacent buildings.

Landscaping

The existing heritage listed trees are to be retained where their condition makes this appropriate. The forecourt and spaces immediately around the heritage buildings are to be kept free of trees to maximise the visibility of the structures. The buildings themselves will provide shade to the squares created. High quality hard landscape finishes are preferred in order to create a refined clean urban design. Trees are to be restricted to street trees to the development bounding the precinct to the south.

Soft landscaping should be used to create a park like setting for buildings north east of the Power House on Mundaring Street.

Heritage Elements

The railway line is to be marked out on the site. Likewise a structure to mark the location of the demolished chimney is to be constructed. Interpretative material is to be provided to the entire precinct in accordance with the Power House interpretative plan currently being prepared.

Section PH01 Bulk Store Extension

POWERHOUSE PRECINCT SECTIONS

Section PH01 Bulk Store Extension.

Intent

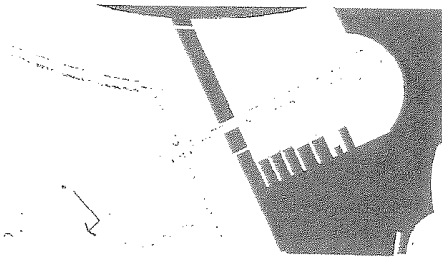
To extend the Bulk Store in order to provide a viable and competitive adaptable reuse for this building. It is intended that this building will house arts / cultural activities or other appropriate uses.

Mandatory Measures

- Build to zero lot line to parapet level
- One storey (with mezzanine permitted)
- Building height of the extension is to be no higher than the Bulk Store ridge line.

Guidelines

- All services plant to be concealed / screened integrally to the architectural roof form or building mass.
- High quality of fine detailing to street create interest at pedestrian scale
- Awnings are permitted at street level to provide street level protection in a form to complement the architecture on the southwest façade.
- Building mass and detailing are to complement the existing structure. Imitation of the existing Bulk Store masonry construction is not seen as appropriate as it will detract from a clear reading of the heritage component ie. Robust / industrial aesthetic is anticipated for any Bulk Store extension
- Extension to the Bulk Store should be designed as an appropriate termination for the vista along the secondary street running parallel to Wentworth Avenue.



Section PH02

Arts / Market Buildings.

Intent

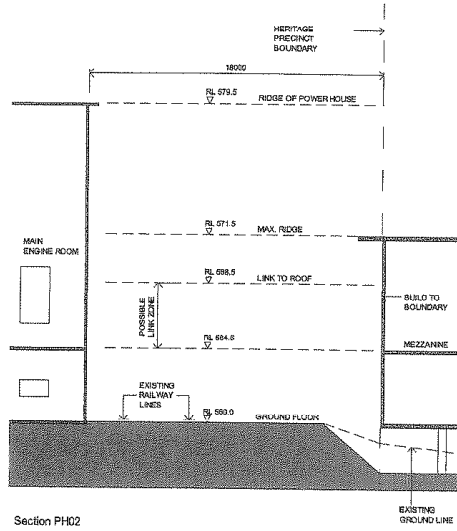
To create buildings to accommodate markets and arts / craft/cultural activities.

Mandatory Measures

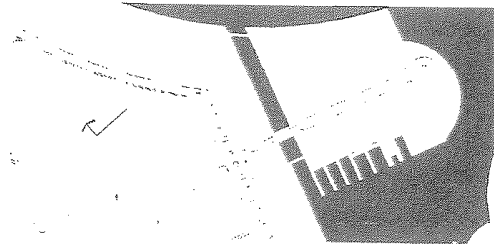
- Maximum two storey Undercroft / basement public parking to be provided

Guidelines

- Potential upper level link to Power House on entry axis from the market buildings is to be allowed for.
- Market building complex is anticipated to be a robust industrial aesthetic and to create, in effect, a backdrop to the Power House and Bulk Store as seen from Wentworth Avenue. This could be achieved either by developing a continuous frontage or creating a two storey walkway / colonnade element linking a series of buildings to a line parallel to the existing railway line.



Section PH02



**POWER HOUSE PRECINCT MATERIALS /
ELEMENT PALETTE**

Materials

Intent

It is anticipated that a robust industrial aesthetic be utilised for the Bulk Store extension and the Markets / Arts building.

Select materials, and create details, to reflect a contemporary interpretation of a marketplace that creates an environment suitable to house innovative arts, craft and cultural practices and enterprise.

Achieve a high quality of finish that is durable and low maintenance with detailing that is purposeful and adds compositional interest and clarity to the building facades.

Mandatory Measures

Robust industrial materials which are compatible with the rendered masonry and red tile roofs of the existing heritage buildings but do not replicate them.

Materials and finishes should generally be light in tone.

Guidelines

Use of 'industrial' materials such as steel, glazing and light weight infill panels or a similar suite of contrasting materials should be considered.

Judicious use of high tone colours in detail elements to contrast with the predominant light tone such as exposed structure, metalwork and the like.

**APPENDIX B ACT HERITAGE REGISTER CITATION FOR THE KINGSTON
POWERHOUSE HISTORIC PRECINCT (2000)**



ACT Heritage Council

Entry to the ACT Heritage Register

Heritage Act 2004

20048. Kingston Powerhouse Historic Precinct

Section 8, Blocks, 8, 11, 14, & 24

KINGSTON

This document has been prepared by the ACT Heritage Council.

This entry which was previously part of the old heritage places or the old heritage objects registers (as defined in the ***Heritage Act 2004***), as the case may be, is taken to be registered under the ***Heritage Act 2004***.

Conservation Requirements (including Specific Requirements), as defined under the ***Heritage Act 2004***, that are contained within this document are taken to be Heritage Guidelines applying to this place or object, as the case may be.

Information restricted under ***the old heritage places register or old heritage objects register*** is restricted under the ***Heritage Act 2004***.

Contact: ACT Heritage Council c/o Secretary PO Box 144
Enquiries: phone 02 6207 2164 fax 02 6207 5715

Lyneham ACT 2602
e-mail heritage@act.gov.au



Helpline: 02 6207 9777
Website : www.cmd.act.gov.au
E-mail: EnvironmentACT@act.gov.au

48. Kingston Power House Historic Precinct, Kingston [V113]¹

Location

District of Central Canberra, Division of Kingston, Section 8, Blocks, 8, 11, 14, & 24 as identified on Figure 48 and indicated on the Territory Plan Map by the Heritage Places Register Overlay H48.

Features Intrinsic To The Heritage Significance Of The Place

The Place comprises the following significant features identified on Figure 48a

- a) Power House building, together with significant internal fabric identified at Schedule 1 and Figure 48b;
- b) Fitters' Workshop (Bulk Supply Store);
- c) original alignment of the railway and existing railway track and embankment
- d) landscape elements: Monterey pine (*Pinus radiata*- A), White brittle gum (*Eucalyptus mannifera* - B);
- e) base of the second chimney stack;
- f) fabric and operation of the siren and whistle; and
- g) 1948 Switch Room.

Statement Of Significance

The Power House and Fitters' Workshop are of industrial and architectural significance. Other intrinsic features assist in demonstrating the industrial use of the site for power generation. The Power House is a landmark structure in its Lakeside setting.

The Power House generated the first power to the Federal Capital in 1915. The Power House and its associated Fitters' Workshop are early examples of buildings that housed coal fired steam powered electricity generation equipment. The Power House, Fitters' Workshop, base of the second chimney stack and remnant railway embankment and existing railway track to the north west of the Power House demonstrate the technology and process of early electricity generation in the Federal Capital. The siren and whistle located on the main power house building was an important soundscape feature throughout Kingston. The landscape elements are remnants of Thomas Charles Weston's 1920s windbreak plantation along Interlake (now Wentworth) Avenue and have an evident relationship with the establishment and development phases of the Federal Capital.

The Power House was the first permanent public building in the Federal Capital. Its existence was fundamental to the development and establishment of the City. It is an example of early 20th century industrial architecture and the first building in the Federal Capital designed by John Smith Murdoch, a major figure in the creation of the 'Federal Capital' architectural style. The Power House retains numerous internal fittings demonstrating its substantial industrial use.

The Fitters' Workshop (Bulk Supply Store) is the second permanent structure in Canberra designed by J. S. Murdoch. The remnant railway embankment and existing railway track are part of the original rail system and were associated with the delivery of coal to the Power House.

The Power House ceased to provide power to the National Capital in 1929 when a cheaper source of electric power became available. It was reactivated for short periods in the years 1936-42 when repairs to the Burrinjuck Dam (which supplied water to the Burrinjuck Hydro Electric Scheme then servicing Canberra) were required, and in 1948-57 when post war construction in NSW placed severe strain on the NSW Grid. The 1948 switch room provides evidence of this later period of reactivation.

Specific Requirements

In accordance with s54(1) of the *Land (Planning and Environment) Act 1991* the following requirements are identified as essential to the conservation of the heritage significance of the place. These requirements are prepared to implement the following conservation policy for the place:

¹ [V113: Added to Heritage Places Register Number 48 08/06/2000 (Variation Number 113)]

The place is to be conserved and appropriately maintained consistent with its heritage significance. In conserving the place, its prior use as an industrial site for the generation of electricity should continue to be evident and accessible to the public.

i) Buildings including alterations and additions

- a) The Power House is to remain the dominant feature of the Precinct in any future development.
- b) The industrial character, form and scale of the Power House and Fitters' Workshop shall be retained. External additions to the Power House, Fitters' Workshop and 1948 Switch Room shall only be permitted if the proposed additions do not adversely affect the heritage significance of the place.
- c) External alterations to the Power House, Fitters' Workshop and 1948 Switch Room, including alterations to external finishes, shall reflect and complement the architectural style of the buildings.
- d) Internal alterations or additions to the Power House and Fitters' Workshop will respect proportions of space and may only be permitted where it can be demonstrated that they will not adversely affect the heritage significance of the place. Any alterations or additions shall be undertaken in accordance with a Conservation Management Plan approved by the ACT Heritage Council and any subsequent amendment of that plan. Any proposed works which will require the alteration or removal of the significant internal fabric identified at Schedule 1 will require a Development Application.
- e) Any new buildings or elements shall be consistent with the architectural character of the place, and where possible, shall positively enhance the public's ability to understand its former industrial use and historic role in the development of the National Capital. New construction shall only be permitted where it can be demonstrated that it will not adversely affect the heritage significance of the place and will not affect the landmark qualities of the Power House and Fitters' Workshop.
- f) The base of the second chimney stack shall be conserved in its current location. If the base of the first chimney stack is uncovered during development works this shall be conserved and protected from disturbance.
- g) The siren and whistle shall be conserved and retained in its current location on the roof of the Power House and maintained in working order. Consideration shall be given to future operation for interpretive purposes or new use.

ii) Demolition of Buildings

- a) Demolition of the Power House, Fitters' Workshop, base of the second chimney stack and 1948 Switch Room shall not be permitted, other than in exceptional circumstances, including circumstances in which the buildings are structurally unsound and beyond economic repair or where there are significant public health and safety reasons to warrant demolition. Demolition shall not be permitted unless it can be demonstrated that there is no prudent and feasible alternative.
- b) Demolition of any part of the original fabric of the above features shall only be allowed in the context of sympathetic conservation of the place, including any alterations and additions.
- c) Accurate recording of any building or structure shall be undertaken prior to any demolition or removal of fabric.

iii) Landscape

- a) The plantings on the corner of Mundaring Drive and Wentworth Avenue of Monterey Pine (A) and White Brittle Gum (B), and those to the west of the Power House of White Brittle Gum (B), are to be conserved and when appropriate, replaced with the same species of tree. All are to be maintained.
- b) The alignment of the former railway and existing railway track should be retained as a linear open space and appropriately expressed in future landscaping treatment. An indicative portion of the existing railway track should be retained, conserved and interpreted *in situ*.
- c) The immediate spaces surrounding the Power House, Fitters' Workshop and railway alignment that demonstrate the industrial servicing and operation of these buildings shall be retained and appropriately landscaped.
- d) Significant visual links shall be retained between the Power House and (i) East Basin and (ii) Bowen Park. The prominent gables and roof form of the Power House shall be visible from potential water transport links to and from the Kingston Foreshore area.

- e) Excavation and landscaping works shall be undertaken in accordance with approved archaeological procedures.

Figure 48: Kingston Power House Precinct: Location

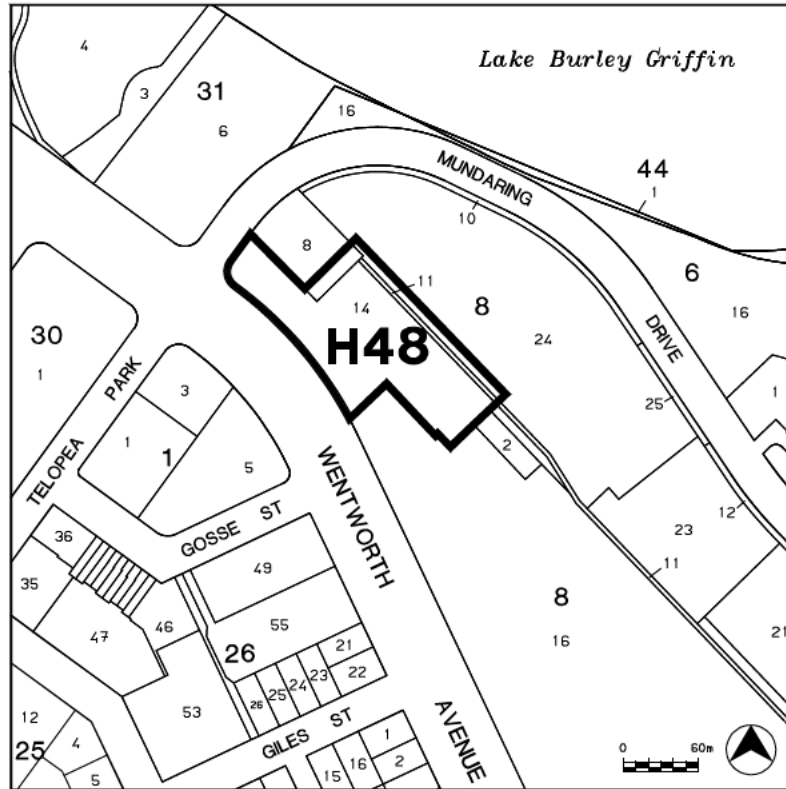
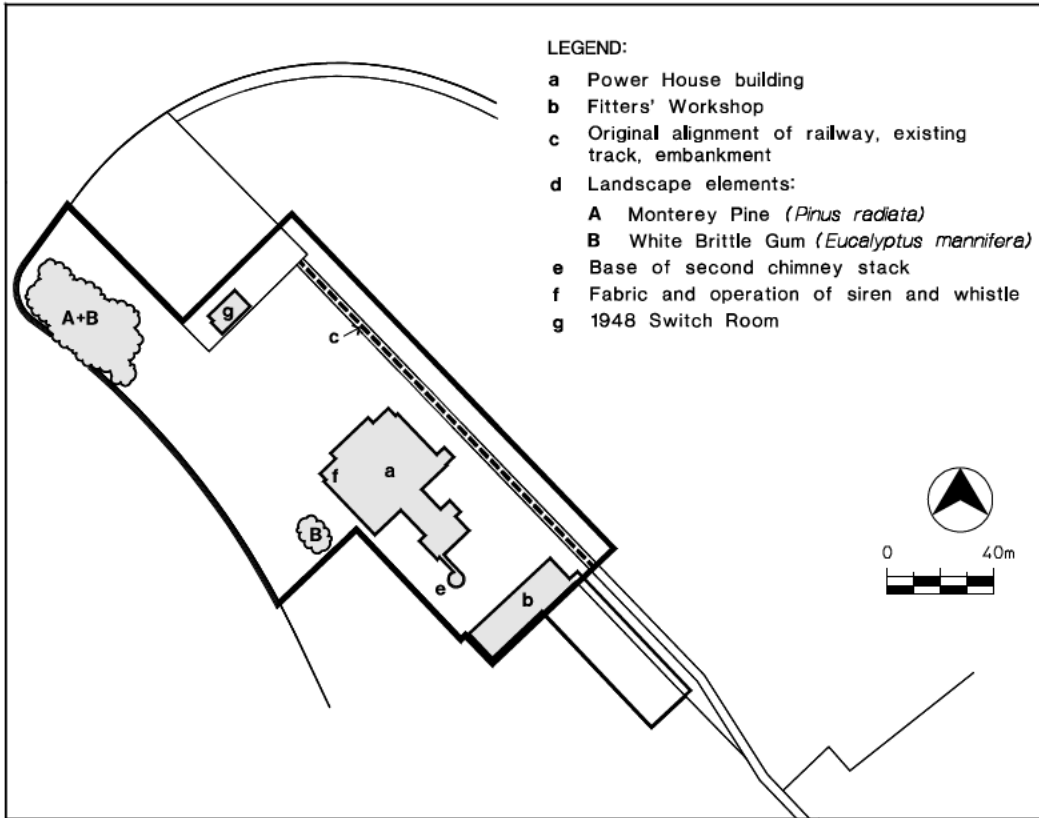


Figure 48a: Kingston Power House Precinct: Significant Features



SCHEDULE 1
SIGNIFICANT INTERNAL FABRIC: POWER HOUSE

Stairwell (Ground and 1st Floors)

- Steps, railings, handrails, cupboards beneath stairs (1)
- Original light fittings (8)

Basement (Ground Floor)

- Condensing pits (2)
- Light fitting on central beam (4)
- Ladder to 1st floor and into condensing pit (5)
- Ash chutes (6)
- Coal elevator (7)
- Original light fittings (8)

Battery Room (Ground Floor)

- Original joinery and 3 phase switch on right hand side of door as you enter, ceiling and cable terminating boxes and cable rack

Economiser Room (Ground Floor)

- Trusses
- Drill press (9)
- Position of flue (10)

Engine Room (1st Floor)

- Floor, ripple iron ceiling, trusses, fenestration, louvres and gantry, sign, columns, beams, and services (external electrical wiring)
- Internal operating mechanism for siren and whistle (11)
- Building services switch board (12)

Tea Room (1st Floor)

- Windows and door and wall framing

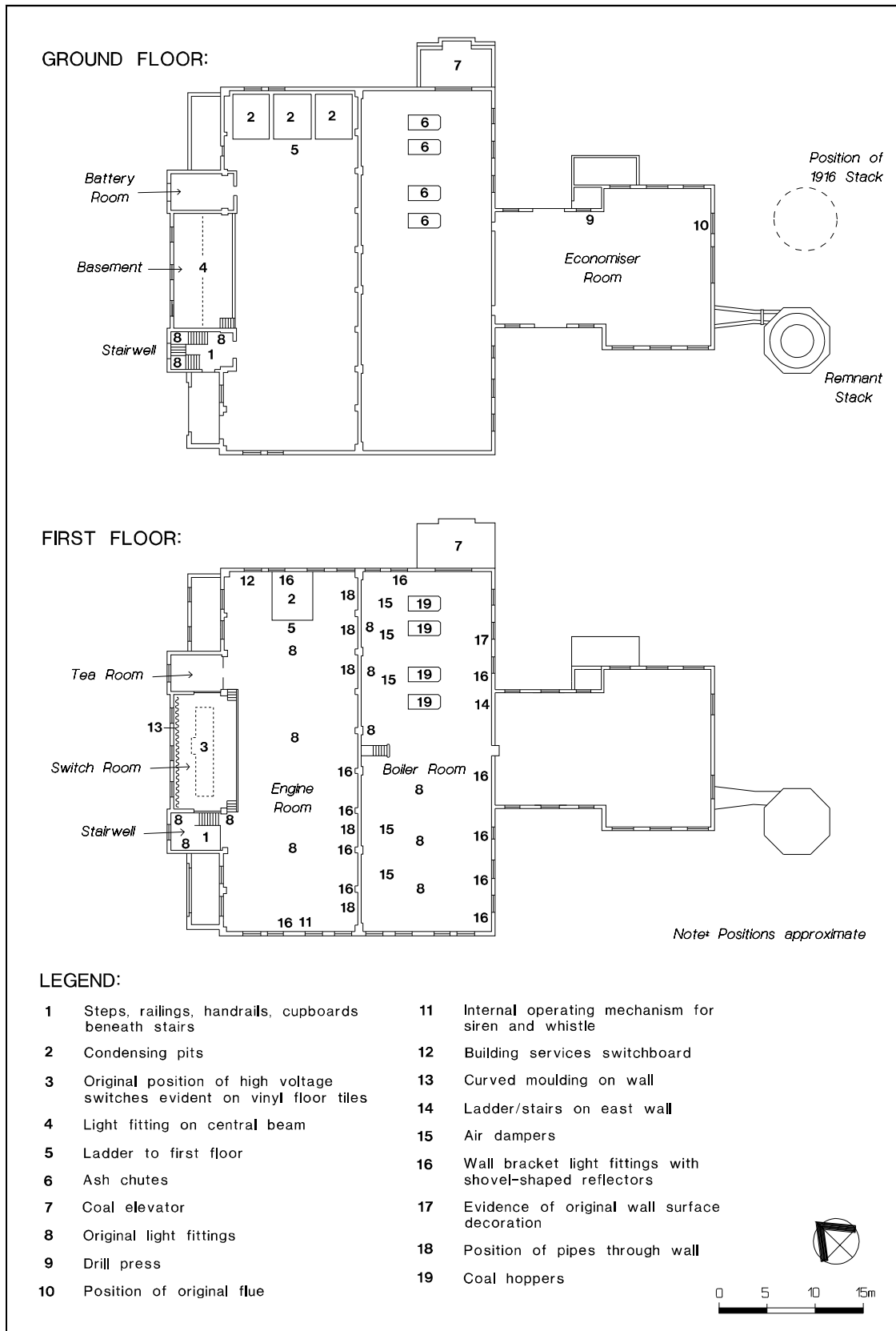
Switch Room (1st Floor)

- Original position of high voltage switches evident on the vinyl floor tiles (3)
- Curved moulding on the wall (13)

Boiler Room (1st Floor)

- Walls, ceiling
- Coal hopper (19)
- Coal elevator (7)
- Ladder/stairs on east wall (14)
- Air dampers (15)
- Wall bracket light fittings with shovel shaped reflectors (16)
- Original light fittings (8)
- Evidence on east wall of original wall surface decoration featuring red section from floor finished with a black line below cement washed walls (17)
- Portion of pipes through west wall of Boiler Room into the Engine Room (18)

Figure 48b: Kingston Powerhouse Precinct: Significant Internal Fabric of Power House Building



**APPENDIX C ACT HERITAGE REGISTER CITATION FOR THE FORMER
KINGSTON TRANSPORT DEPOT**

Australian Capital Territory

Heritage (Decision about Registration of former Transport Depot, Kingston) Notice 2010 -

Notifiable Instrument NI 2010—595

made under the

Heritage Act 2004 section 42 Notice of Decision about Registration

1. Revocation

This instrument replaces NI 2010 – 385

2. Name of instrument

This instrument is the Heritage (Decision about Registration for former Transport Depot, Kingston) Notice 2010 -

3. Registration details of the place

Registration details of the place are at Attachment A: Register entry for the former Transport Depot, Kingston.

4. Reason for decision


The ACT Heritage Council has decided that the former Transport Depot, Kingston meets one or more of the heritage significance criteria at s 10 of the *Heritage Act 2004*. The register entry is at Attachment A.

5. Date of Registration

21 October 2010

Gerhard Zatschler
Secretary
ACT Heritage Council

21 October 2010

 <p>ACT Heritage Council</p>	<p>AUSTRALIAN CAPITAL TERRITORY</p> <p>HERITAGE REGISTER (Registration Details)</p> <p>Place No:</p>
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The following is mandatory:

For the purposes of s. 41 of the *Heritage Act 2004*, an entry to the heritage register has been prepared by the ACT Heritage Council for the following place:

Former Transport Depot, Wentworth Avenue, Kingston
(Part of) Block 13, Section 49, Kingston, Canberra Central

DATE OF REGISTRATION

Notified: 21 October 2010 Notifiable Instrument: [2010]/[Number]

Copies of the Register Entry are available for inspection at the ACT Heritage Unit. For further information please contact:

The Secretary
ACT Heritage Council
GPO Box 158, Canberra, ACT 2601

Telephone: 13 22 81 Facsimile: (02) 6207 2229

IDENTIFICATION OF THE PLACE

Former Transport Depot, Wentworth Avenue, Kingston, ACT.
(Part of) Block 13, Section 49, Kingston, Canberra Central

STATEMENT OF HERITAGE SIGNIFICANCE

The former Transport Depot, Kingston is of heritage significance as the engineering and construction of the 1940-41 fully welded rigid portal frame exhibits a high degree of technical achievement and design quality, demonstrating new invention and application in Australia at the time.

The design of the fully welded rigid portal frame is of exceptional interest as the earliest notable example of a steel fully welded rigid portal frame in Australia.

There were two fully welded steel structures prior to this in Australia, though these were bridges rather than portal frames.

The design of fully welded rigid steel portal frames went on to achieve a high level of use in its ability to span wide spaces in an economical way.

The former Transport Depot is a key element in the original public works precinct with value to transport workers and their families.

The former Transport Depot is also of significance for its strong association with the cultural phase of transport history in the early and continuing development of Canberra.

The former Transport Depot is also of significance for its strong association with the foundational transport history of Canberra.

FEATURES INTRINSIC TO THE HERITAGE SIGNIFICANCE OF THE PLACE

The attributes listed below are assessed as features intrinsic to the heritage significance of the place:

- a) fully welded rigid steel portal frames;
 - b) the presence of former Transport Depot buildings with open spaces defined by the portal frames; and
 - c) the orientation of the building in relation to the former railway siding and Wentworth Avenue.
-

APPLICABLE HERITAGE GUIDELINES

The Heritage Guidelines adopted under s27 of the *Heritage Act* 2004 are applicable to the conservation of the former Transport Depot, Kingston.

The guiding conservation objective is that the former Transport Depot, Kingston, shall be conserved and appropriately managed in a manner respecting its 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 (and / or other heritage values) 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) informed by an up-to-date conservation management plan.

REASON FOR PROVISIONAL REGISTRATION

The former Transport Depot Kingston has been assessed against the heritage significance criteria and been found to have heritage significance when assessed against four criteria under the ACT Heritage Act.

ASSESSMENT AGAINST THE HERITAGE SIGNIFICANCE CRITERIA

Pursuant to s.10 of the *Heritage Act 2004*, a place or object has heritage significance if it satisfies one or more of the following criteria. Significance has been determined by research as accessed in the references below. Future research may alter the findings of this assessment.

- (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;**

The technical achievement of the engineers at the Department of Works, Canberra, is apparent in the design of the fully welded rigid portal frame to roof over the existing main structure and its south eastern extension, which was innovative when compared with other steel structures built in Australia at that time.

The design of the fully welded rigid portal frame in 1940 represented a new structural system in Australia at the time and exemplifies the heritage theme of developing an Australian engineering and construction industry.

It would appear that this is one of the earliest examples in the world of a fully welded rigid portal frame of any great size and is the first Australian example. The design and construction of this structure demonstrates a very high degree of technical achievement by the government structural engineers representing a new achievement of the time.

The technical interest and significance of the technology of the fully welded portal frame is acknowledged.

The former Transport Depot, Kingston meets this criterion.

- (b) it exhibits outstanding design or aesthetic qualities valued by the community or a cultural group;**

The place does not meet this criterion.

- (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;**

The design of the fully welded rigid portal frame is of exceptional interest in that its advanced technology reflected a departure from the normal bolted truss structural frame design of the time to a structurally more complex but more efficient and economical design.

It demonstrates an important advance in building construction during and after WWII and is important as evidence of developing an engineering and construction industry.

No other structures were built in Australia prior to WWII that incorporated a fully welded rigid steel portal frame.

The former Transport Depot, Kingston meets this criterion.

(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;

Establishment of the Transport Depot at Kingston and of Canberra's first railway station created a transport precinct that gives the site strong associations with the city's transportation history, evident in its value to transport workers and their families.

The former Transport Depot, Kingston meets this criterion.

(e) it is significant to the ACT because of its importance as part of local Aboriginal tradition

Not applicable

(f) it is a rare or unique example of its kind, or is rare or unique in its comparative intactness

The place does not meet this criterion.

(g) it is a notable example of a kind of place or object and demonstrates the main characteristics of that kind

The place does not meet this criterion.

(h) it has strong or special associations with a person, group, event, development or cultural phase in local or national history

The former Transport Depot has a strong association with early transport history in the early and continuing development of Canberra. The former Transport Depot remains testament to the former transport precinct here,.

The establishment and operation of the Transport Depot continued the associations with public transport at this site for some 70 years. The orientation of the Transport Depot buildings indicates the relationship of the former transport precinct with the railway sidings.

The former Transport Depot, Kingston meets this criterion.

(h) it is significant for understanding the evolution of natural landscapes, including significant geological features, landforms, biota or natural processes

Not applicable.

(i) 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

The place does not meet this criterion.

(j) for a place—it exhibits unusual richness, diversity or significant transitions of flora, fauna or natural landscapes and their elements

Not applicable

(k) for a place—it is a significant ecological community, habitat or locality for any of the following:

- (i) the life cycle of native species;
- (ii) rare, threatened or uncommon species;
- (iii) species at the limits of their natural range;
- (iv) distinct occurrences of species.

Not applicable

The following criteria were found not to be applicable: b, e, f, g, i, j, k, and l

**SUMMARY OF THE PLACE
HISTORY AND PHYSICAL DESCRIPTION**

History

The Commonwealth Department of Works began an omnibus service in 1923 to transport workers, using two Graham Dodge char-a-bancs. The initial sale of leases in the Territory occurred the following year on December 12, 1924, for Giles Street, Eastlake (now Kingston).

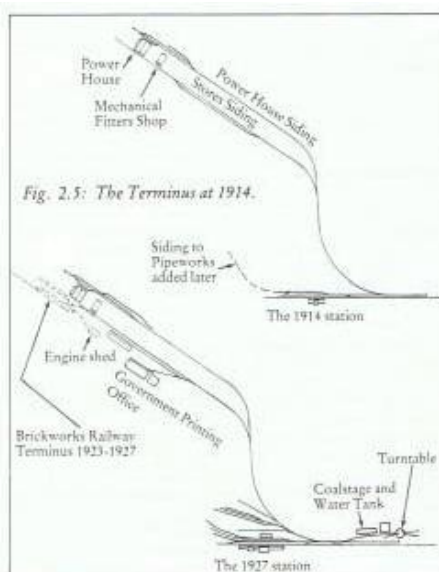
The railway branch line from Queanbeyan to Canberra was in use from 24 May 1914, with passenger services from October 1923 apparently terminating at the Powerhouse siding, the site Walter Burley Griffin had preferred for Canberra's railway station.

In 1916 the Public Works Committee recognised that the railway was a strategic component in the city plan: *'It is essential that the route of the railway should be definitely settled to permit the location of those elements of the life of the city which depend upon... the railways. The experience of cities in other parts of the world has been that the main railway station has become the point of central focus in the life of the city... In the case of Canberra, it is probable that the railway will be a much more powerful factor in determining the growth of the town than anything else'* (Reid, 2002: 138-41).

There had been three arrival /departure buildings at the Kingston Railway Station, with the first dating from 1913. In 1924 a 60m platform was constructed to cater for the large number of construction workers commuting daily. The second passenger station was completed in 1927 in time for the opening of Provisional Parliament House. The third and final station building was constructed in the 1960s.

The prominence of this site as Canberra's transport precinct, and the careful planning and siting of buildings in this location in relation to the railway is evident in the alignment of the former Transport Depot with the railway siding.

The establishment in this public works precinct of the city's railway station made it the gateway to Canberra from 1923, with most travellers from Sydney arriving by train. The establishment and operation of the Transport Depot developed the precinct's associations with public transport for some 70 years.



Walter Shellshear diagram

After Telopea Park school opened in 1923 the FCC closed schools at Acton, Ainslie and Narrabundah, making bus transport essential. From the winter of 1925 a school bus service ran from Hostel No.1 [the Hotel Canberra from 1927] and in the summer of 1926 parents at Mount Stromlo settlement protested that the bus meant to transport the seven Telopea students broke down more often than not and six months later parents at the Cotter complained about the dilapidated Graham Dodge 'char-a-bancs' servicing the route.

The first public omnibus transportation in Canberra began in 1925 when Mrs H Barton started a service between Canberra and Queanbeyan. Other than taxi services, and the train from Sydney, private transportation was dominated by the horse over gravel streets.

On the 19th of July 1926 the Federal Capital Commission (FCC) started a limited public city omnibus service using a second hand omnibus. The transport section was responsible at this time for transporting daily 350 workmen, 130 staff members, and between 300 and 350 school children. The section was 'also employed in connection with social service activities & during the next few weeks a City Bus Service will be operating throughout the day and the evening, thus affording a much needed convenience to the increased population of the Territory'.

There were at this time two public bus routes in Canberra with a small three-space bus-parking depot constructed at Corroboree Park, Ainslie, at the end of one bus route.

In August 1926, a bus service was introduced and over the following year approximately 246,000 passengers were carried. Four additional omnibuses had been added to the public bus service.

Within the FCC Annual Report of 1926 the *Report of the Architect's Department* stated amongst the buildings it had designed the '*Eastlake Garage*—A large brick garage to accommodate 13 cars and 23 lorries is being erected opposite the Power House, by the Building Construction Department'.

The *Eastlake Garage*, the original Transport Depot, was designed by the Architect's Department in 1926 and was constructed in 1927, as was the railway station for the Queanbeyan-Canberra railway line, making this precinct the gateway to Canberra, with most travellers from Sydney arriving by train.

The building was constructed around a vehicle turning courtyard with brick external walls to all sides except along part of the north eastern façade that faced onto the railway lines and Molonglo River, and away from the Avenue. A continuous brick parapet concealed the skillion roofs that sloped inward to the unroofed vehicle turning area. The parapet stepped up in the centre of the north western and south eastern elevations.

The 'Garage at Kingston', plan number Ag 313, shows that it was designed to provide undercover shelter for 4 buses, 13 cars and 18 lorries. At the four corners of the depot were rooms used as storage, toilets and a mess room. At the main entry, on the north western side, were two centrally located offices. The fuel pumps were located in the northern half of the turning area.

The fifth 'Annual Report of the FCC, Year Ended 30th June 1929', reported on the provision of 'a complete city bus service'. It states that practically the whole of the government departments rely on the Transport Department for the transport of goods and passengers with cars used to meet the requirements of parliament (special duty cars) and commonwealth departments, and that the goods transport service conducted for all government purposes was by means of the vehicles from the depot.

The requirements for construction were maintained, including road material transported by the depot lorries. The report noted the addition of three 31 seat Daimler omnibuses bringing the total number of buses to 12. It noted that 761,000 passengers were carried including 110,500 school children and that this was running at a 'considerable annual loss'. There were 26 passenger cars including ministerial (chauffeur) cars. The number of employees was now 64 full time and 3 casual.

The transport requirements continued to expand into the 1930s and by the end of the Great Depression the depot required what was described by the, July 7 and July 9, 1936, Canberra Times, as considerable" extensions to the "Transport Depot". The extension consisted of a new lower level covered workshop to the east of the centre of the depot, designed in 1936 by the Commonwealth Department of Works Branch 5. It was constructed with a bolted steel trussed double gabled roof supported on steel columns. Freestanding brick walls were built along the railway line to separate the workshop from the line and to enclose unroofed yards at either end.

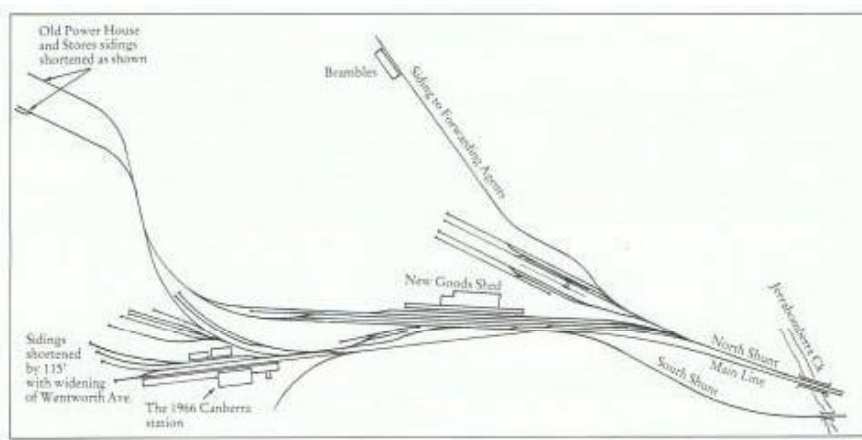
The vehicles, requiring maintenance, were driven into the workshop area at the lower level through new roller shutters located between the staggered freestanding brick walls. The new workshop housed the mechanics and provided a covered area for lubricating and general repair work. Five vehicle inspection pits were constructed in the central northeast section next to the original building, at the upper level, to allow the mechanics to work on the underside of the vehicles from the new lower level workshop. Offices were located on the opposite side of the building and in the southern corner.

Canberra Times articles reported that 'The additions have been necessitated by the growing demand of transport services, and, by the desirability of co-ordinating the various repair departments in one unit. The present repair shop will be transferred from the engineering and fitting department to the new building when completed', and that 'provision will be made for staff recreation room, repair pits, store rooms, offices, fitting shop and garages for housing of trucks and buses'.

The department had determined that major improvements were necessary by the late 1930s. A number of their administrative staff were to be located at the depot and there was a need for basic protection of the workforce and vehicles from the elements, including provision of an environment that was conducive to keeping the large number of vehicles clean.

For this purpose, the fully welded rigid portal frame and roof over the existing main structure and its south eastern extension was designed by the Department of Works for the Department of the Interior, Canberra, in January 1940.

The 1927 railway station served until 1966 when a new building was constructed.



Walter Shellshear diagram

At the time the depot was closed in 1992 there were 168 bus drivers and an additional 81 car drivers working out of the Kingston Transport Depot.

The building development runs parallel with the development of government transport in Canberra, both public transport and commonwealth cars, from its very beginning in the 1920s, continuing as the only workshop for Government buses, trucks and cars for most of its existence.

Steel portal frame

In the early days of steel framed industrial buildings, the economic solution was a column-and truss configuration. However, since truss fabrication is inherently labour intensive, rising labour costs have now made this system less economical.

In response to the need for a roofed structure at the former Transport Depot, Kingston, the Civil Engineering Section of the Commonwealth Department of Interior Works Branch designed the fully welded rigid joint steel portal frame over the circulation area in early 1940, using an exceptionally high degree of creative and technical skill.

The use of a steel fully welded rigid portal frame as the structure to support the roof was innovative at that time not only in Australia but also in the world generally. Prior to WWII, in Australia, only two fully welded steel structures appear to have been built. These were bridges in Tasmania, not portal frames.

Internationally this structural system was still in its exploratory stage as evidenced in two reports in the *Commonwealth Engineer Journal*. The first, September 1, 1941, p42, titled 'Welding and the War' reported on an address to the Institute of Welding, in London, by Dr H J Gough, Director of Scientific Research at the Ministry of Supply, who reviewed the progress of welding in industry. The report stated 'Dr Gough did well to mention a branch of research which does not appear to have received the official attention that its present importance warrants. This research comprises investigations into the strength and behaviour of steel frame-work with rigid joints. It has now been shown that the load carrying capacity of such rigid steel frames exceeds that of a similar structure with flexible joints by as much as 30%'.

The other report, March 1, 1943, p187 titled 'Welded Frames Cut Cost and Save Steel' reported on an article in the *USA Engineering News-Record*, November 1942; 'Twenty percent saving using welded rigid frame design and other economies accrue because the shop fabrication and field costs are much lower than on the conventional truss design'. The photograph accompanying the report showed new storage and shipping facilities for the Commercial Book-binding Company, Cleveland, Ohio, constructed using fully welded rigid frames with spans of 33' (this was a simple beam structure not a rigid portal frame).

The article continued; "In addition to the important savings in steel, the use of welded rigid frames eliminates...lateral bracing, and knee-braces,...and is easy to clean and paint".

Miles Lewis (n.d., <http://mileslewis.net>) further reports that 'in about 1936 W D Chapman wrote of the potential use of rigid welded joints for Vierendeel trusses, and one gathers that there were as yet no examples in Australia'. Chapman continues on to state that 'open web joists became increasingly common after World War II, and began to be produced in standard sizes for uses such as industrial buildings and garages'.

It is also believed that a portal frame of the width demonstrated the former Transport Depot, Kingston, even if bolted and not welded, would have been very rare in Australia before WWII because engineers at that time did not fully understand the dynamics of a portal frame.

The depot's portal frame knee fabrication and the column base pin joint detail would most probably have been shop welded and possibly transported to site using the rail system, which passed directly next to the depot. The spliced joints at the ridge, rafter to haunch and haunch to column would have been site welded.

From about the mid 1950s to the 1990s the rigid portal frame was often the most economical structural solution in spans between 15 metres and 45 metres. Although the portal frame may require a greater mass of steel than the equivalent column-and-truss structure, the savings in the cost of fabrication and erection due to the relative simplicity of the work nearly always make it the optimum system. Almost all portal frame structures built in Australia are custom designed and manufactured.

A rigid portal frame is generally designed to span the full width of the structure requiring no additional internal supports. For spans over 20 metres haunching of the rafters near the columns is usually required.

Each rigid frame consists of a rafter in two segments and two columns with the maximum depth of the section occurring at each haunch.

In a typical portal frame designed in recent times the major connection at the knee joint is designed with haunches fabricated from cut universal beams spliced to the columns using either splice plates shop welded to the ends of the haunch and connected to the column using high strength bolts, rather than site welding, or shop welded haunch joints and bolted rafter splices beyond the haunch zone.

Site welding is generally avoided since it is more economical to bolt connections on site rather than to weld. With large steel framed buildings, however, the cost of welding may be spread over many connections and may be considered as an economical solution.

The base connection is generally designed as a pin joint and is usually connected using only commercial bolts.

Computers are now used to carry out the complex analysis and determination of section sizes for a rigid frame structure. Stiffness analysis programs have been developed in the past 50 years to alleviate the complex calculations required for steel portal frame design. Before the advent of the computer, engineers often used formulae produced by Professor Kleinlogel to calculate moments, shears and support reactions for specific load cases.

Fillet welding of large structural steel frames was a new procedure before the 1950s in Australia. The process requires minimum edge preparation and probably would have been done on the depot site using manual metal arc welding.

Description

The Kingston Transport Depot is located in the Kingston Foreshore area, on Wentworth Avenue, which was a relatively large, and Canberra's first, industrial site dating from around 1915.

The location of the depot in the industrial area provided a convenient point of departure: close to two main shopping areas, Kingston and Manuka; close to the railway siding for materials and goods; the railway station; other industrial infrastructure, and on a major road that connected Canberra to Queanbeyan.

The depot building is not set parallel with Wentworth Avenue (formerly Interlake Avenue). The siting of nearly all the buildings on the industrial site was related to the two sets of railway tracks that extended through the site rather than the avenue.

The depot generally comprises two large joined sheds with some internal bricked rooms and an attached single storey brick office complex. These structures were designed and constructed over a period of about fifty years.

Directly behind this office area is the main turning and parking area of the depot, referred to on the 1940 drawing as the 'Garage'. Most of the doors that were present when the depot was in use appear to have been closed off. The 1940 plan shows the main entry leading directly through into the garage. There were also several other secondary entries from the front office and staff areas. The vehicle entries are to the northwest and the southeast via large roller shutters.

The footprint of the garage is based on the overall floor area of the original 1926 building with the addition of 9.75 metres to the south. The entry, from the northwest, opens into a large portal framed space.

The main garage level is constructed from a fully welded rigid portal frame. Generally this space is about 85 metres long. The engineering drawings show that the end portals have a span of approximately 31 metres and the typical portal spans 29.7 metres. The central portal spans approximately 35.5 metres.

The typical portal frame is constructed from 600x200 mm I sections with the shaped knee and the shaped pin joint base of the column fabricated from welded plate. The central portal has slightly smaller rafters with 820x360mm columns fabricated from welded plate.

The base of the central column differs from the typical column in that it has not been fabricated as a pin joint but appears to be designed as a moment joint. The roof purlins are I sections fully welded to the rafters. The roof is clad in corrugated fibre cement sheet and skylights extend along both sides of the roof. There are various pipes and heating appliances attached to the frame. This part of the building structure is well maintained and is in good condition.

The integrity of the fully welded portal frame is intact.

References

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NON-STATUTORY BACKGROUND INFORMATION

The following information is taken *verbatim* from the nomination by the RAI.

Oral histories and social value

John Harold Benson & Recollections of Val Emerton, John's daughter.

John (Jack) Benson was first employed as a fitter at the Electrical Workshop when he moved from Sydney to Canberra in 1926. He married Agnes Prowse in 1928 at the newly constructed Ainslie Methodist Church.

Jack was a keen photographer recording much of the social and working life associated with the early years of the depot and Kingston, some of these have been incorporated in this document. Benson's value to the early years of the depot's functioning can be appreciated when reading the *Memorandum* (reference) written by C E F Roach, Transport Officer in 1936. John Benson had transferred to the Transport Section in 1932 where he "built up the necessary equipment and instruments" to maintain "ninety-eight (98) vehicles in Transport, Governor General's fleet, Post Office fleet, Police fleet and electrical appliances connected with the mechanical plant".

Benson also taught the apprentices "the electrical side of the trade". Roach's point of view was that since Benson had "grown with the fleet and is fully conversant with the past and present history of same" that he was not supporting Benson moving to another section but rather requesting that Benson gain a wage increase to match that of the proposed other position. Roach goes on to conclude; "A great deal of the satisfactory performance of the Government Fleet and mechanical plant's performance is due to Benson's work". Following are Val's recollections of the people and events she holds close to her in association with the depot. It begins with her description of the physical conditions at the time of her early childhood in her short story titled "The Swing under the Pine Trees".

"There were no roads (bitumen) and nice green lawns around Canberra then, it was a dusty bare paddock where the winds whipped up the dry grass and dirt until it rained, and then there was a great old muddy mess that father and the boys tramped into the house."

The transport depot was the centre of operations and maintenance for all government vehicles, cars, buses and trucks. She has kept a record of the Canberra Times article of July 22, 1927, that reported "The bus services of Canberra are in the melting pot. Within the next few weeks, suburbs will be occupied by civil servants and the rapid expansion and alteration of the public needs in city transport have necessitated an entirely new bus system".

At the same time as the bus fleet was expanding the government was building up a collection of official cars and much-needed trucks.

Mr Gargett was the first senior Transport Officer; later Mr C E Roach took over and was responsible for many innovations to the new building. Other early transport officers were Harry Knight, who was second in charge, Jack Traynor, Eugene Desmet, and Harold Strachan, Alf Milton, Milton Purcell, Alf Barber, George Edwards, Perce Jolley, Alf Stafford and Ken Dinnerville. One of the original workers at the depot was Jack Saunders, who came to Canberra in 1925 when he became the chauffeur to Sir John Butters, Chief Commissioner of the FCC. He worked in this position until the Commission was disbanded in 1930 when Saunders became the first Leading Hand of the Transport Department.

Jack Saunders and his family lived in one of the three houses built behind the Power House, and were provided with a rare facility in those days, a phone. The phone, No 57, was part of the job, to take messages for parliamentarians wanting a car or other transport arrangements. Jack Saunders' daughter, Jene, was one of the first three women bus conductors during WWII. She joined in 1941, and worked

shifts either during day or night for two and a half years. (Refer later Jack Saunders & Jene Baker). Val remembers these women as ground breakers, knowing that they could work along side men.

Jack Traynor joined the Transport Department as one of the first three bus drivers and worked there until he retired in 1953. He went from being a bus driver to traffic inspector and during WWII was put in charge of all the drivers and conductors. He once drove an old grey ambulance to pick up a politician, Sir George Pearce, at the railway station.

Harold Strachan also drove the ambulance before he was made Leading Hand. Harold had a long career in the Transport Department and was presented to the Queen in 1954 in appreciation of his work in organizing the cars for several royal tours.

Ken Dinnerville was working at the Fitters' and Turners' shop near the Powerhouse when Mr Roach began to set up his own fitters shop at the depot. He took the young Ken Dinnerville out to Duntroun when the RMC had relocated to Sydney during the Depression years, and here Ken managed to find some very acceptable machinery which had been left behind; including a lathe.

The new fire/ambulance station was opened in 1923 behind the Power House, a series of temporary galvanized sheds clustered around a workshop where all government vehicles were maintained.

In 1926 a Social Services Association had been established by the FCC, which amongst other things arranged for the construction of playgrounds for children, sporting and other facilities for adults in the new suburbs. Materials were provided and labour was voluntary. Besides the hall the Association also constructed a pavilion and two tennis courts; the beginnings of the Eastlake Tennis Club. It was a close-knit community which helped one another; besides which you knew just about everybody in town – and usually met them all on Saturday mornings at the Kingston shops. Some of us are still living in Canberra and remain friends today.

Women's services were another facility provided by the Social Service Association and the first Mothercraft Centre was opened in 1927. Mothers living on the north side often pushed their prams all the way to Eastlake on the dusty roads to seek advice from the local sister. The church hall (St Paul's galvanized hall), playgrounds, tennis courts and the Mothercraft Centre were all provided by the Social Services Association and built by voluntary labour...they were the start of a vibrant community which moulded the present suburb of Kingston.

The Trades and Labour Day picnics were held at the Cotter River starting in the 1930s with depot buses taking women and children while the preferred transport was on the back of the depot lorries.

Keith Carnall & Recollections of Eddie Carnall; two generation that worked at the depot.

Keith Carnall joined the Transport Section of the Department of the Interior as a clerk in the workshop in April 1939. He was responsible for instigating improvements to the welfare of the workforce at the depot with the formation of the Transport Section Canberra Benefit Fund (known as the 'Sick Fund') to assist the transport workers. At the beginning, in 1939, the subscription was 2/- per pay. The object of the fund was to assist members during loss of work through sickness or accident not covered by sick leave or later the Workers Compensation Act.

A funeral benefit of £75 was also paid; this was later increased to £125. So that benefits could be managed equitably the administration of the fund required the recording of names, commencement dates and addresses of all of the car drivers, bus drivers, conductors, lorry drivers, cleaners, bus supervisors, leading hands, mechanics, panel beaters, and other ancillary workers such as carpenters, vulcanisers, spray painters, etc. This record also assisted in determining seniority for promotion. Over the years many members obtained benefits from this fund. These records are retained as part of the clubs memorabilia.

Keith was a member of the Transport Rugby Club known as the 'Frothblowers', they were the dominant team in the Inter-Departmental Competition. Refer Plate 19. Keith played many sports in depot teams,